

| Register NAME   | MODBUS Register    | Register VALUE   | DATA TYPE | DO WRITE |
|---|--------------------|--|-----------|----------|
| <b>ASCII COMMANDS</b>   |                    |  |           |          |
| HEART BEAT  | ASCII READ COMMAND | #HB<CR><br>Result:<br>#HB<CR>  | ASCII     |          |
|   | TX                 | #255,HB<CR>  |           |          |
|   | RX                 | #255,HB<CR>  |           |          |
| Sends an Heartbeat to test the communication  |                    |  |           |          |
| GET VERSION   | ASCII READ COMMAND | #VERSION<CR><br>Result:<br>#VERSION:<VersionHi>,<VersionMed>,<VersionLo><CR> | ASCII     |          |
|   | TX                 | #255,VERSION<CR>   |           |          |
|   | RX                 | #255,VERSION:1.1.0<CR>   |           |          |
|   |                    | Actual SW version:1.1.0  |           |          |
| Returns the version number of the module<br>VersionHi: Version number high (1..255)<br>VersionMed: Version number medium (1..255)<br>VersionLo: Version number low (1..255) |                    |  |           |          |
| GET TYPE  | ASCII READ COMMAND | #TYPE<CR><br>Result:<br>#TYPE:<Type><CR>                                     | ASCII     |          |
|   | TX                 | #255,TYPE<CR>  |           |          |
|   | RX                 | #255,TYPE:RESI-C4-A<CR>  |           |          |
|   |                    | Actual module type:RESI-C4-A   |           |          |
| Returns the actual module type  |                    |  |           |          |
| GET FEATURES  | ASCII READ COMMAND | #FTRS<CR><br>Result:<br>#FTRS:<Type><CR>                                     | ASCII     |          |
|   | TX                 | #255,FTRS<CR>  |           |          |
|   | RX                 | #255,FTRS:RESI-C4-A,RS485<CR>  |           |          |
|   |                    | Actual module type:RESI-C4-A   |           |          |
|   |                    | Number of digital inputs:RS485   |           |          |
|   |                    | Type of digital inputs:N/A   |           |          |
| Returns the actual module features  |                    |  |           |          |
| GET OWNER   | ASCII READ COMMAND | #OWNER<CR><br>Result:<br>#OWNER:<Owner><CR>                                  | ASCII     |          |
|   | TX                 | #255,OWNER<CR>   |           |          |
|   | RX                 | #255,OWNER:RESI<CR>  |           |          |
|   |                    | Actual owner:RESI  |           |          |
| Returns the actual owner of the module  |                    |  |           |          |

|  |                           |   |       |     |
|--|---------------------------|---|-------|-----|
| GET CREATOR  | ASCII<br>READ<br>COMMAND  | #CREATOR<CR><br>Result:<br>#CREATOR:<Creator><CR>                 | ASCII |     |
|  | TX                        | #255,CREATOR<CR>  |       |     |
|  | RX                        | #255,CREATOR:DI HC SIGL,MSC<CR>                                   |       |     |
|  |                           | Actual creator:DI HC SIGL,MSC                                     |       |     |
| Returns the actual creator of the module   |                           |   |       |     |
| GET COPYRIGHT  | ASCII<br>READ<br>COMMAND  | #COPYRIGHT<CR><br>Result:<br>#COPYRIGHT:<Copyright><CR>           | ASCII |     |
|  | TX                        | #255,COPYRIGHT<CR>  |       |     |
|  | RX                        | #255,COPYRIGHT:2015-24 BY RESI AND DI HC SIGL,MSC WWW.RESI.CC<CR> |       |     |
|  |                           | Actual copyright:2015-24 BY RESI AND DI HC SIGL,MSC WWW.RESI.CC   |       |     |
| Returns the actual copyright of the module   |                           |   |       |     |
| GET SERIAL NUMBER  | ASCII<br>READ<br>COMMAND  | #SN<CR><br>Result:<br>#SN:<Serial><CR>                            | ASCII |     |
|  | TX                        | #255,SN<CR>   |       |     |
|  | RX                        | #255,SN:220018001357435031343620<CR>                              |       |     |
|  |                           | Actual serial number:220018001357435031343620                     |       |     |
| Returns the actual serial number of the module   |                           |   |       |     |
| SET BOX NAME   | ASCII<br>WRITE<br>COMMAND | #SETBOXNAME:<BOXNAME><CR><br>Result:<br>#OK<CR>                   | ASCII | YES |
|  | BOXNAME                   | MYBOX   |       |     |
|  | TX                        | #255,SETBOXNAME:MYBOX<CR>   |       |     |
|  | RX                        | N/A   |       |     |
| Sets a new box name for the controller   |                           |   |       |     |
| GET BOX NAME   | ASCII<br>READ<br>COMMAND  | #BOXNAME<CR><br>Result:<br>#BOXNAME:<BoxName><CR>                 | ASCII |     |
|  | TX                        | #255,BOXNAME<CR>  |       |     |
|  | RX                        | #255,BOXNAME:NONAME<CR>   |       |     |
|  |                           | Actual box name:NONAME  |       |     |
| Returns the actual box name of the module. If no box name is defined, the value NONAME is returned |                           |   |       |     |
| GET INTERNAL STATUS  | ASCII<br>READ<br>COMMAND  | #INTSTAT<CR><br>Result:<br>#INTSTAT:<Status><CR>                  | ASCII |     |
|  | TX                        | #255,INTSTAT<CR>  |       |     |
|  | RX                        | #255,INTSTAT:I2C1:0,I2C2:0<CR>                                    |       |     |
|  |                           | Actual internal status:I2C1                                       |       |     |
| Returns the device specific internal status  |                           |   |       |     |

|  |                           |   |       |    |
|--|---------------------------|---|-------|----|
| GET DIP SWITCH   | ASCII<br>READ<br>COMMAND  | #GDIP<CR><br>Result:<br>#GDIP:<DIPSwitchDec>,<DIPSwitchHex><CR> | ASCII |    |
|  | TX                        | #255,GDIP<CR>   |       |    |
|  | RX                        | #255,GDIP:255,0xFF<CR>  |       |    |
|  |                           | Actual DIP SWITCH settings:11111111                             |       |    |
| Returns the actual setting of the Dip switches as decimal number and as hexadecimal number.<br>DIPSwitchDec<br>DIPSwitchHex<br>The current value of the DIP switches:<br>Bit 0: DIP Switch 1 (=0:OFF, =1:ON)<br>Bit 1: DIP Switch 2 (=0:OFF, =1:ON)<br>Bit 2: DIP Switch 3 (=0:OFF, =1:ON)<br>Bit 3: DIP Switch 4 (=0:OFF, =1:ON)<br>Bit 4: DIP Switch 5 (=0:OFF, =1:ON)<br>Bit 5: DIP Switch 6 (=0:OFF, =1:ON)<br>Bit 6: DIP Switch 7(=0:OFF, =1:ON)<br>Bit 7: DIP Switch 8 (=0:OFF, =1:ON) |                           |   |       |    |
| <b>SYSTEM COMMANDS</b>   |                           |   |       |    |
| RESET  | ASCII<br>WRITE<br>COMMAND | #RST<CR><br>Result:<br>#OK<CR>                                  | ASCII | NO |
|  | TX                        | #255,RST<CR>  |       |    |
|  | RX                        | N/A   |       |    |
| Executes a software reset (Reboot) of the module. Be aware that you will lose all serial interfaces in USB!!!  |                           |   |       |    |
| FACTORY RESET  | ASCII<br>WRITE<br>COMMAND | #FRST<CR><br>Result:<br>#OK<CR>                                 | ASCII | NO |
|  | TX                        | #255,FRST<CR>   |       |    |
|  | RX                        | N/A   |       |    |
| Executes a factory reset of the module   |                           |   |       |    |
| WATCHDOG TIMER   | ASCII<br>WRITE<br>COMMAND | #WD:<WDTIME><CR><br>Result:<br>#OK<CR>                          | ASCII | NO |
|  | WDTIME                    | 10  |       |    |
|  | TX                        | #255,WD:10<CR>  |       |    |
|  | RX                        | N/A   |       |    |
| Enables or disables the WATCHDOG Timer for the Raspberry Pi module.<br>WDTIME:<br>1..3600000: Time for Watchdog in Milliseconds (Maximum 60 Minutes)<br>=0: No Watchdog is generated<br>HINT: The Watchdog is internally handled every 10ms, so every value below 10 will reset immediately the Raspberry Pi computer.   |                           |   |       |    |
| SET IO WATCHDOG TIMER  | ASCII<br>WRITE<br>COMMAND | #SIOWATCHDOG:<IOWDTIME><CR><br>Result:<br>#OK<CR>               | ASCII | NO |
|  | IOWDTIME                  | 10  |       |    |
|  | TX                        | #255,SIOWATCHDOG:10<CR>   |       |    |

|   |                          |  |       |  |
|---|--------------------------|--|-------|--|
|   | RX                       | N/A  |       |  |
| Sets a new time for the internal IO WATCHDOG Timer. <IOWDTIME> is a time in 100ms.<br>=0: No IO Watchdog is used<br>HINT: The Watchdog is internally handled every 100ms, if the Timer reaches 0, all internal IOS will be set to a preconfigured state. Every ASCII command or MODBUS request will reset this timer.         |                          |  |       |  |
| GET IO WATCHDOG TIMER   | ASCII<br>READ<br>COMMAND | #GIOWATCHDOG<CR><br>Result:<br>#GIOWATCHDOG::<IOWDTIME><CR>  | ASCII |  |
|   | TX                       | #255,GIOWATCHDOG<CR>   |       |  |
|   | RX                       | #255,GIOWATCHDOG:0,0x0<CR>                                   |       |  |
| Returns the actual time for the internal IO WATCHDOG Timer. <IOWDTIME> is a time in 100ms.<br>=0: No IO Watchdog is used<br>HINT: The Watchdog is internally handled every 100ms, if the Timer reaches 0, all internal IOS will be set to a preconfigured state. Every ASCII command or MODBUS request will reset this timer. |                          |  |       |  |
| <b>CPU PARAMETERS</b>   |                          |  |       |  |
| GET CPU VOLTAGE   | ASCII<br>READ<br>COMMAND | #GCPUTEMP<CR><br>Result:<br>#GCPUTEMP:<CPUTemp><CR>          | ASCII |  |
|   | TX                       | #255,GCPUTEMP<CR>  |       |  |
|   | RX                       | #255,GCPUTEMP:54.3877<CR>                                    |       |  |
|   |                          | Actual internal temperature of CPU:54.3877°C                 |       |  |
| Current internal temperature of CPU in ° Celsius.   |                          |  |       |  |
| GET CPU VOLTAGE   | ASCII<br>READ<br>COMMAND | #GCPUVOLT<CR><br>Result:<br>#GCPUVOLT:<CPUVoltage><CR>       | ASCII |  |
|   | TX                       | #255,GCPUVOLT<CR>  |       |  |
|   | RX                       | #255,GCPUVOLT:3.3364<CR>                                     |       |  |
|   |                          | Actual supply voltage of CPU:3.3364V                         |       |  |
| Current internal supply voltage of CPU in Volt.   |                          |  |       |  |
| GET CPU BACKUP  | ASCII<br>READ<br>COMMAND | #GCPUBACK<CR><br>Result:<br>#GCPUBACK:<CPUBackupVoltage><CR> | ASCII |  |
|   | TX                       | #255,GCPUBACK<CR>  |       |  |
|   | RX                       | #255,GCPUBACK:3.1871<CR>                                     |       |  |
|   |                          | Actual backup voltage of CPU for RTC:3.1871V                 |       |  |
| Current internal backup voltage of CPU for the RTC in Volt.   |                          |  |       |  |

| Register NAME  | MODBUS Register     | Register VALUE  | DATA TYPE | DO WRITE |
|--|---------------------|---|-----------|----------|
| <b>ASCII COMMANDS:REAL TIME CLOCK</b>                  |                     |   |           |          |
| GET REAL TIME CLOCK                                    | ASCII READ COMMAND  | #GRTC<CR><br>Result:<br>#GRTC:YMD,<YEAR>,<MONTH>,<DAY>,HMS,<HOUR>,<MINUTE>,<SECOND>,<WEEKDAY><br>,DOK,<DATEOK>,TOK,<TIMEOK><CR> | ASCII     |          |
|  | TX                  | #255,GRTC<CR>   |           |          |
|  | RX                  | #255,GRTC:YMD,24,1,1,HMS,0,3,3,MON,DOK,1,TOK,1<CR>  |           |          |
|  |                     | Actual date DD.MM.YYYY:1.1.2024   |           |          |
|  |                     | Actual time HH.MM.SS (24h):00:03:03   |           |          |
|  |                     | Actual Weekday:MON  |           |          |
|  |                     | Battery buffered date is ok:YES   |           |          |
|  |                     | Battery buffered time is ok:YES   |           |          |
| Shows current RTC time of battery backup RTC on module |                     |   |           |          |
| <b>ASCII COMMANDS:REAL TIME CLOCK</b>                  |                     |   |           |          |
| SET REAL TIME CLOCK                                    | ASCII WRITE COMMAND | #SRTC:YMD,<YEAR>,<MONTH>,<DAY>,HMS,<HOUR>,<MINUTE>,<SECOND>,<WEEKDAY><CR><br>Result:<br>#OK<CR>                                 | ASCII     | YES      |
|  | YEAR                | 2024  |           |          |
|  | MONTH               | 04  |           |          |
|  | DAY                 | 13  |           |          |
|  | HOUR                | 18  |           |          |
|  | MINUTE              | 12  |           |          |
|  | SECOND              | 38  |           |          |
|  | WEEKDAY             | SAT   |           |          |
|  | TX                  | #255,SRTC:YMD,24,04,13,HMS,18,12,38,SAT<CR>   |           |          |
|  | RX                  | N/A   |           |          |
| Executes a software reset (Reboot) of the module.      |                     |   |           |          |

| Register NAME   | MODBUS Register    | Register VALUE  | DATA TYPE | DO WRITE |
|---|--------------------|---|-----------|----------|
| <b>ASCII COMMANDS:FRAM</b>  |                    |   |           |          |
| GET FRAMSIZE  | ASCII READ COMMAND | #GFRAMSIZE <CR><br>Result:<br>#GFRAMSIZE:<FRAMType>,<FRAMSize>,<UsedSizeDEC>,<UsedSizeHEX> <CR>   | ASCII     |          |
|   | TX                 | #255,GFRAMSIZE <CR>   |           |          |
|   | RX                 | #255,GFRAMSIZE:FM25L16B_G,2kB,2,0x2 <CR>  |           |          |
| Reads the actual type and size of the used FRAM. The <UsedSize> describes the internal used space in bytes of the FRAM          |                    |   |           |          |
| <b>ASCII COMMANDS:FRAM</b>  |                    |   |           |          |
| GET FRAM16  | ASCII READ COMMAND | #GFRAM16:<INDEX> <CR><br>Result:<br>#GFRAM16:<INDEXDEC>,<VALUEDEC>,<INDEXHEX>,<VALUEHEX> <CR> or<br>#GFRAM16:<INDEXDEC>,<ERR>,<INDEXHEX>,<ERR><CR>    | ASCII     |          |
|   | INDEX              | 350   |           |          |
|   | TX                 | #255,GFRAM16:350 <CR>   |           |          |
|   | RX                 | #255,GFRAM16:350,0,0x15E,0x0 <CR>   |           |          |
|   |                    | FRAM Index in bytes:350   |           |          |
|   |                    | FRAM Value in decimal:0   |           |          |
| Reads the actual UINT16 value (2 bytes) of FRAM memory <INDEX>.<br><INDEX> is a BYTE index in the FRAM strogae starting with 0. |                    |   |           |          |
| GET FRAM32  | ASCII READ COMMAND | #GFRAM32:<INDEX> <CR><br>Result:<br>#GFRAM32:<INDEXDEC>,<VALUEDEC>,<INDEXHEX>,<VALUEHEX> <CR> or<br>#GFRAM32:<INDEXDEC>,<ERR>,<INDEXHEX>,<ERR><CR>    | ASCII     |          |
|   | INDEX              | 350   |           |          |
|   | TX                 | #255,GFRAM32:350 <CR>   |           |          |
|   | RX                 | #255,GFRAM32:350,0,0x15E,0x0 <CR>   |           |          |
|   |                    | FRAM Index in bytes:350   |           |          |
|   |                    | FRAM Value in decimal:0   |           |          |
| Reads the actual UINT32 value 4 bytes) of FRAM memory <INDEX>.<br><INDEX> is a BYTE index in the FRAM strogae starting with 0.  |                    |   |           |          |
| GET FRAMDBL   | ASCII READ COMMAND | #GFRAMDBL:<INDEX> <CR><br>Result:<br>#GFRAMDBL:<INDEXDEC>,<VALUEDBL>,<INDEXHEX>,<VALUEDBL> <CR> or<br>#GFRAMDBL:<INDEXDEC>,<ERR>,<INDEXHEX>,<ERR><CR> | ASCII     |          |
|   | INDEX              | 400   |           |          |
|   | TX                 | #255,GFRAMDBL:400 <CR>  |           |          |
|   | RX                 | #255,GFRAMDBL:400,0,0x190,0 <CR>  |           |          |
|   |                    | FRAM Index in bytes:400   |           |          |
|   |                    | FRAM Value in decimal:0   |           |          |
| Reads the actual DOUBLE value 8 bytes) of FRAM memory <INDEX>.<br><INDEX> is a BYTE index in the FRAM strogae starting with 0.  |                    |   |           |          |
| <b>ASCII COMMANDS:FRAM</b>  |                    |   |           |          |

|  |                           |  |       |     |
|--|---------------------------|--|-------|-----|
| SET FRAM16   | ASCII<br>WRITE<br>COMMAND | #SFRAM16:<INDEX>,<VALUE><CR><br>Result:<br>#SFRAM16:OK<CR> or<br>#SFRAM16:ERR<CR>          | ASCII | YES |
|  | INDEX                     | 350  |       |     |
|  | VALUE                     | 1234   |       |     |
|  | TX                        | #255,SFRAM16:350,1234<CR>  |       |     |
|  | RX                        | N/A  |       |     |
| Writes a new UINT16 value (2 byte) into FRAM memory <INDEX>.<br><INDEX> is a BYTE index in the FRAM strogae starting with 0. |                           |  |       |     |
| SET FRAM32   | ASCII<br>WRITE<br>COMMAND | #SFRAM32:<INDEX>,<VALUE><CR><br>Result:<br>#SFRAM32:OK<CR> or<br>#SFRAM32:ERR<CR>          | ASCII | YES |
|  | INDEX                     | 350  |       |     |
|  | VALUE                     | 123456   |       |     |
|  | TX                        | #255,SFRAM32:350,123456<CR>  |       |     |
|  | RX                        | N/A  |       |     |
| Writes a new UINT32 value (4 byte) into FRAM memory <INDEX>.<br><INDEX> is a BYTE index in the FRAM strogae starting with 0. |                           |  |       |     |
| SET FRAMDBL  | ASCII<br>WRITE<br>COMMAND | #SFRAMDBL:<INDEX>,<DOUBLEVALUE><CR><br>Result:<br>#SFRAMDBL:OK<CR> or<br>#SERAMDBL:ERR<CR> | ASCII | YES |
|  | INDEX                     | 400  |       |     |
|  | DOUBLEVALUE               | 3,1415926  |       |     |
|  | TX                        | #255,SFRAMDBL:400,3.1415926<CR>  |       |     |
|  | RX                        | N/A  |       |     |
| Writes a new DOUBLE value (8 byte) into FRAM memory <INDEX>.<br><INDEX> is a BYTE index in the FRAM strogae starting with 0. |                           |  |       |     |

| Register NAME  | MODBUS Register           | Register VALUE  | DATA TYPE | DO WRITE |
|--|---------------------------|---|-----------|----------|
| <b>LED STATUS:LED1:GREEN</b>   |                           |   |           |          |
| GET LED1   | ASCII<br>READ<br>COMMAND  | #GLED1<CR><br>Result:<br>#GLED1:<LEDMode>,<LEDStateDec>,<LEDStateHex><CR> | ASCII     |          |
|  | TX                        | #255,GLED1<CR>  |           |          |
|  | RX                        | #255,GLED1:OFF,0,0x0<CR>  |           |          |
|  |                           | Actual LED state:OFF<br>LED ist currently 0                               |           |          |
| Returns the actual state of the LED1:GREEN on the cover of module  |                           |   |           |          |
| <b>LED COMMANDS:LED1:GREEN</b>   |                           |   |           |          |
| SET LED1 OFF   | ASCII<br>WRITE<br>COMMAND | #SL1OFF<CR><br>Result:<br>#OK<CR>   | ASCII     | YES      |
|  | TX                        | #255,SL1OFF<CR>   |           |          |
|  | RX                        | N/A   |           |          |
| Sets the current state of the LED1:GREEN on the cover of module to OFF   |                           |   |           |          |
| SET LED1 ON  | ASCII<br>WRITE<br>COMMAND | #SL1ON<CR><br>Result:<br>#OK<CR>  | ASCII     | YES      |
|  | TX                        | #255,SL1ON<CR>  |           |          |
|  | RX                        | N/A   |           |          |
| Sets the current state of the LED1:GREEN on the cover of module to ON  |                           |   |           |          |
| SET LED1 INVERT  | ASCII<br>WRITE<br>COMMAND | #SL1INV<CR><br>Result:<br>#OK<CR>   | ASCII     | YES      |
|  | TX                        | #255,SL1INV<CR>   |           |          |
|  | RX                        | N/A   |           |          |
| Inverts the current state of the LED1:GREEN on the cover of module from ON to OFF or from OFF to ON  |                           |   |           |          |
| SET LED1 PULSE   | ASCII<br>WRITE<br>COMMAND | #SL1PULSE:<PULSETIME><CR><br>Result:<br>#OK<CR>                           | ASCII     | YES      |
|  | PULSETIME                 | 1000  |           |          |
|  | TX                        | #255,SL1PULSE:1000<CR>  |           |          |
|  | RX                        | N/A   |           |          |
| Sets the current state of the LED1:GREEN on the cover of module to PULSE and defines the one time pulse duration in Milliseconds between 1 and 60000 |                           |   |           |          |
| SET LED1 BLINK   | ASCII<br>WRITE<br>COMMAND | #SL1BLINK:<BLINKTIME><CR><br>Result:<br>#OK<CR>                           | ASCII     | YES      |
|  | BLINKTIME                 | 1000  |           |          |
|  | TX                        | #255,SL1BLINK:1000<CR>  |           |          |
|  | RX                        | N/A   |           |          |



Sets the current state of the LED1:GREEN on the cover of module to PULSE and defines the one time pulse duration in Milliseconds between 1 and 60000

|                |                           |  |       |     |
|----------------|---------------------------|--|-------|-----|
| SET LED1 FLASH | ASCII<br>WRITE<br>COMMAND | #SL1FLASH:<ONTIME>,<OFFTIME><CR><br>Result:<br>#OK<CR> | ASCII | YES |
|                | ONTIME                    | 200  |       |     |
|                | OFFTIME                   | 3000   |       |     |
|                | TX                        | #255,SL1FLASH:200,3000<CR>                             |       |     |
|                | RX                        | N/A  |       |     |

Sets the current state of the LED1:GREEN on the cover of module to FLASH and defines the on and off intervals in Milliseconds between 20 and 600000

| Register NAME  | MODBUS Register           | Register VALUE  | DATA TYPE | DO WRITE |
|--|---------------------------|---|-----------|----------|
| <b>LED STATUS:LED2:WHITE</b>   |                           |   |           |          |
| GET LED2   | ASCII<br>READ<br>COMMAND  | #GLED2<CR><br>Result:<br>#GLED2:<LEDMode>,<LEDStateDec>,<LEDStateHex><CR> | ASCII     |          |
|  | TX                        | #255,GLED2<CR>  |           |          |
|  | RX                        | #255,GLED2:OFF,0,0x0<CR>  |           |          |
|  |                           | Actual LED state:OFF<br>LED ist currently 0                               |           |          |
| Returns the actual state of the LED2:WHITE on the cover of module  |                           |   |           |          |
| <b>LED COMMANDS:LED2:WHITE</b>   |                           |   |           |          |
| SET LED2 OFF   | ASCII<br>WRITE<br>COMMAND | #SL2OFF<CR><br>Result:<br>#OK<CR>   | ASCII     | YES      |
|  | TX                        | #255,SL2OFF<CR>   |           |          |
|  | RX                        | N/A   |           |          |
| Sets the current state of the LED2:WHITE on the cover of module to OFF   |                           |   |           |          |
| SET LED2 ON  | ASCII<br>WRITE<br>COMMAND | #SL2ON<CR><br>Result:<br>#OK<CR>  | ASCII     | YES      |
|  | TX                        | #255,SL2ON<CR>  |           |          |
|  | RX                        | N/A   |           |          |
| Sets the current state of the LED2:WHITE on the cover of module to ON  |                           |   |           |          |
| SET LED2 INVERT  | ASCII<br>WRITE<br>COMMAND | #SL2INV<CR><br>Result:<br>#OK<CR>   | ASCII     | YES      |
|  | TX                        | #255,SL2INV<CR>   |           |          |
|  | RX                        | N/A   |           |          |
| Inverts the current state of the LED2:WHITE on the cover of module from ON to OFF or from OFF to ON  |                           |   |           |          |
| SET LED2 PULSE   | ASCII<br>WRITE<br>COMMAND | #SL2PULSE:<PULSETIME><CR><br>Result:<br>#OK<CR>                           | ASCII     | YES      |
|  | PULSETIME                 | 1000  |           |          |
|  | TX                        | #255,SL2PULSE:1000<CR>  |           |          |
|  | RX                        | N/A   |           |          |
| Sets the current state of the LED2:WHITE on the cover of module to PULSE and defines the one time pulse duration in Milliseconds between 1 and 60000 |                           |   |           |          |
| SET LED2 BLINK   | ASCII<br>WRITE<br>COMMAND | #SL2BLINK:<BLINKTIME><CR><br>Result:<br>#OK<CR>                           | ASCII     | YES      |
|  | BLINKTIME                 | 1000  |           |          |
|  | TX                        | #255,SL2BLINK:1000<CR>  |           |          |
|  | RX                        | N/A   |           |          |

Sets the current state of the LED2:WHITE on the cover of module to PULSE and defines the one time pulse duration in Milliseconds between 1 and 60000

|                |                           |  |       |     |
|----------------|---------------------------|--|-------|-----|
| SET LED2 FLASH | ASCII<br>WRITE<br>COMMAND | #SL2FLASH:<ONTIME>,<OFFTIME><CR><br>Result:<br>#OK<CR> | ASCII | YES |
|                | ONTIME                    | 200  |       |     |
|                | OFFTIME                   | 3000   |       |     |
|                | TX                        | #255,SL2FLASH:200,3000<CR>                             |       |     |
|                | RX                        | N/A  |       |     |

Sets the current state of the LED2:WHITE on the cover of module to FLASH and defines the on and off intervals in Milliseconds between 20 and 600000

| Register NAME  | MODBUS Register           | Register VALUE  | DATA TYPE | DO WRITE |
|--|---------------------------|---|-----------|----------|
| <b>LED STATUS:LED3:RED</b>   |                           |   |           |          |
| GET LED3   | ASCII<br>READ<br>COMMAND  | #GLED3<CR><br>Result:<br>#GLED3:<LEDMode>,<LEDStateDec>,<LEDStateHex><CR> | ASCII     |          |
|  | TX                        | #255,GLED3<CR>  |           |          |
|  | RX                        | #255,GLED3:OFF,0,0x0<CR>  |           |          |
|  |                           | Actual LED state:OFF<br>LED ist currently 0                               |           |          |
| Returns the actual state of the LED3:RED on the cover of module  |                           |   |           |          |
| <b>LED COMMANDS:LED3:RED</b>   |                           |   |           |          |
| SET LED3 OFF   | ASCII<br>WRITE<br>COMMAND | #SL3OFF<CR><br>Result:<br>#OK<CR>   | ASCII     | YES      |
|  | TX                        | #255,SL3OFF<CR>   |           |          |
|  | RX                        | N/A   |           |          |
| Sets the current state of the LED3:RED on the cover of module to OFF   |                           |   |           |          |
| SET LED3 ON  | ASCII<br>WRITE<br>COMMAND | #SL3ON<CR><br>Result:<br>#OK<CR>  | ASCII     | YES      |
|  | TX                        | #255,SL3ON<CR>  |           |          |
|  | RX                        | N/A   |           |          |
| Sets the current state of the LED3:RED on the cover of module to ON  |                           |   |           |          |
| SET LED3 INVERT  | ASCII<br>WRITE<br>COMMAND | #SL3INV<CR><br>Result:<br>#OK<CR>   | ASCII     | YES      |
|  | TX                        | #255,SL3INV<CR>   |           |          |
|  | RX                        | N/A   |           |          |
| Inverts the current state of the LED3:RED on the cover of module from ON to OFF or from OFF to ON  |                           |   |           |          |
| SET LED3 PULSE   | ASCII<br>WRITE<br>COMMAND | #SL3PULSE:<PULSETIME><CR><br>Result:<br>#OK<CR>                           | ASCII     | YES      |
|  | PULSETIME                 | 1000  |           |          |
|  | TX                        | #255,SL3PULSE:1000<CR>  |           |          |
|  | RX                        | N/A   |           |          |
| Sets the current state of the LED3:RED on the cover of module to PULSE and defines the one time pulse duration in Milliseconds between 1 and 60000 |                           |   |           |          |
| SET LED3 BLINK   | ASCII<br>WRITE<br>COMMAND | #SL3BLINK:<BLINKTIME><CR><br>Result:<br>#OK<CR>                           | ASCII     | YES      |
|  | BLINKTIME                 | 1000  |           |          |
|  | TX                        | #255,SL3BLINK:1000<CR>  |           |          |
|  | RX                        | N/A   |           |          |

Sets the current state of the LED3:RED on the cover of module to PULSE and defines the one time pulse duration in Milliseconds between 1 and 60000

|                |                           |  |       |     |
|----------------|---------------------------|--|-------|-----|
| SET LED3 FLASH | ASCII<br>WRITE<br>COMMAND | #SL3FLASH:<ONTIME>,<OFFTIME><CR><br>Result:<br>#OK<CR> | ASCII | YES |
|                | ONTIME                    | 200  |       |     |
|                | OFFTIME                   | 3000   |       |     |
|                | TX                        | #255,SL3FLASH:200,3000<CR>                             |       |     |
|                | RX                        | N/A  |       |     |

Sets the current state of the LED3:RED on the cover of module to FLASH and defines the on and off intervals in Milliseconds between 20 and 600000

| Register NAME   | MODBUS Register           | Register VALUE  | DATA TYPE | DO WRITE |
|---|---------------------------|---|-----------|----------|
| <b>LED STATUS:LED4:YELLOW</b>   |                           |   |           |          |
| GET LED4  | ASCII<br>READ<br>COMMAND  | #GLED4<CR><br>Result:<br>#GLED4:<LEDMode>,<LEDStateDec>,<LEDStateHex><CR> | ASCII     |          |
|   | TX                        | #255,GLED4<CR>  |           |          |
|   | RX                        | #255,GLED4:OFF,0,0x0<CR>  |           |          |
|   |                           | Actual LED state:OFF<br>LED ist currently 0                               |           |          |
| Returns the actual state of the LED4:YELLOW on the cover of module  |                           |   |           |          |
| <b>LED COMMANDS:LED4:YELLOW</b>   |                           |   |           |          |
| SET LED4 OFF  | ASCII<br>WRITE<br>COMMAND | #SL4OFF<CR><br>Result:<br>#OK<CR>   | ASCII     | YES      |
|   | TX                        | #255,SL4OFF<CR>   |           |          |
|   | RX                        | N/A   |           |          |
| Sets the current state of the LED4:YELLOW on the cover of module to OFF   |                           |   |           |          |
| SET LED4 ON   | ASCII<br>WRITE<br>COMMAND | #SL4ON<CR><br>Result:<br>#OK<CR>  | ASCII     | YES      |
|   | TX                        | #255,SL4ON<CR>  |           |          |
|   | RX                        | N/A   |           |          |
| Sets the current state of the LED4:YELLOW on the cover of module to ON  |                           |   |           |          |
| SET LED4 INVERT   | ASCII<br>WRITE<br>COMMAND | #SL4INV<CR><br>Result:<br>#OK<CR>   | ASCII     | YES      |
|   | TX                        | #255,SL4INV<CR>   |           |          |
|   | RX                        | N/A   |           |          |
| Inverts the current state of the LED4:YELLOW on the cover of module from ON to OFF or from OFF to ON  |                           |   |           |          |
| SET LED4 PULSE  | ASCII<br>WRITE<br>COMMAND | #SL4PULSE:<PULSETIME><CR><br>Result:<br>#OK<CR>                           | ASCII     | YES      |
|   | PULSETIME                 | 1000  |           |          |
|   | TX                        | #255,SL4PULSE:1000<CR>  |           |          |
|   | RX                        | N/A   |           |          |
| Sets the current state of the LED4:YELLOW on the cover of module to PULSE and defines the one time pulse duration in Milliseconds between 1 and 60000 |                           |   |           |          |
| SET LED4 BLINK  | ASCII<br>WRITE<br>COMMAND | #SL4BLINK:<BLINKTIME><CR><br>Result:<br>#OK<CR>                           | ASCII     | YES      |
|   | BLINKTIME                 | 1000  |           |          |
|   | TX                        | #255,SL4BLINK:1000<CR>  |           |          |
|   | RX                        | N/A   |           |          |

Sets the current state of the LED4:YELLOW on the cover of module to PULSE and defines the one time pulse duration in Milliseconds between 1 and 60000

|                |                           |  |       |     |
|----------------|---------------------------|--|-------|-----|
| SET LED4 FLASH | ASCII<br>WRITE<br>COMMAND | #SL4FLASH:<ONTIME>,<OFFTIME><CR><br>Result:<br>#OK<CR> | ASCII | YES |
|                | ONTIME                    | 200  |       |     |
|                | OFFTIME                   | 3000   |       |     |
|                | TX                        | #255,SL4FLASH:200,3000<CR>                             |       |     |
|                | RX                        | N/A  |       |     |

Sets the current state of the LED4:YELLOW on the cover of module to FLASH and defines the on and off intervals in Milliseconds between 20 and 600000

| Register NAME  | MODBUS Register               | Register VALUE                         | NEW REAL VALUE | NEW VALUE | DATA TYPE     | DO WRITE |
|--|-------------------------------|--|----------------|-----------|---------------|----------|
| <b>PRODUCT INFO</b>                                  |                               |  |                |           |               |          |
| HW_GROUP   | 3x65201<br>4x65201<br>I:65200 | 50176,0xC400<br>B:C4 00                |                |           | UINT16<br>R/O |          |
| This is the group of hardware of the current product |                               |  |                |           |               |          |
| HW_TYPE  | 3x65202<br>4x65202<br>I:65201 | 1,0x0001<br>B:00 01                    |                |           | UINT16<br>R/O |          |
| This is the type of hardware of the current product  |                               |  |                |           |               |          |
| SW_VERSION   | 3x65203<br>4x65203<br>I:65202 | 272,0x0110<br>B:01 10                  |                |           | UINT16<br>R/O |          |
| SW VERSION:0.1.0                                     |                               |  |                |           |               |          |
| This is the current software version of the firmware |                               |  |                |           |               |          |
| SW_AUTHOR  | 3x65204<br>4x65204<br>I:65203 | 21321,0x5349<br>B:53 49                |                |           | UINT16<br>R/O |          |
| This is the current software author of the firmware  |                               |  |                |           |               |          |
| MANUFACTURER   | 3x65205<br>4x65205<br>I:65204 | 1380275017,0x52455349<br>B:52 45 53 49 |                |           | UINT32<br>R/O |          |
| This is the current software author of the firmware  |                               |  |                |           |               |          |
| NUMBER OF DIGITAL INPUTS                             | 3x65207<br>4x65207<br>I:65206 | 0,0x0000<br>B:00 00                    |                |           | UINT16<br>R/O |          |
| Number of DIS:0                                      |                               |  |                |           |               |          |
| This is the current software version of the firmware |                               |  |                |           |               |          |
| NUMBER OF DIGITAL OUTPUTS                            | 3x65208<br>4x65208<br>I:65207 | 0,0x0000<br>B:00 00                    |                |           | UINT16<br>R/O |          |
| Number of DOS:0                                      |                               |  |                |           |               |          |
| This is the current software version of the firmware |                               |  |                |           |               |          |
| NUMBER OF ANALOG INPUTS                              | 3x65209<br>4x65209<br>I:65208 | 0,0x0000<br>B:00 00                    |                |           | UINT16<br>R/O |          |
| Number of AIS:0                                      |                               |  |                |           |               |          |
| This is the current software version of the firmware |                               |  |                |           |               |          |
| NUMBER OF ANALOG OUTPUTS                             | 3x65210<br>4x65210<br>I:65209 | 0,0x0000<br>B:00 00                    |                |           | UINT16<br>R/O |          |
| Number of AOS:0                                      |                               |  |                |           |               |          |



|   |                               |                             |  |  |               |  |
|---|-------------------------------|-----------------------------|--|--|---------------|--|
| This is the current software version of the firmware  |                               |                             |  |  |               |  |
| NUMBER OF UNIVERSAL IN/OUTPUTS  | 3x65211<br>4x65211<br>I:65210 | 0,0x0000<br>B:00 00         |  |  | UINT16<br>R/O |  |
|   |                               | Number of AIOX:0            |  |  |               |  |
| This is the current software version of the firmware  |                               |                             |  |  |               |  |
| NUMBER OF SPECIAL INPUTS  | 3x65212<br>4x65212<br>I:65211 | 0,0x0000<br>B:00 00         |  |  | UINT16<br>R/O |  |
|   |                               | Number of special inputs:0  |  |  |               |  |
| This is the current software version of the firmware  |                               |                             |  |  |               |  |
| NUMBER OF SPECIAL OUTPUTS   | 3x65213<br>4x65213<br>I:65212 | 0,0x0000<br>B:00 00         |  |  | UINT16<br>R/O |  |
|   |                               | Number of special outputs:0 |  |  |               |  |
| This is the current software version of the firmware  |                               |                             |  |  |               |  |
| FEATURE1  | 3x65214<br>4x65214<br>I:65213 | 2,0x0002<br>B:00 02         |  |  | UINT16<br>R/O |  |
|   |                               | Feature:RS485               |  |  |               |  |
| This is the feature list of the controller:<br>0:NONE, 1:RS232, 2:RS485, 3:KNX, 4:DALI, 5:MBUS, 6:LORA, 7:LTE, 8:2xETHERNET |                               |                             |  |  |               |  |
| FEATURE2  | 3x65215<br>4x65215<br>I:65214 | 0,0x0000<br>B:00 00         |  |  | UINT16<br>R/O |  |
|   |                               | Feature:NONE                |  |  |               |  |
| FEATURE3  | 3x65216<br>4x65216<br>I:65215 | 0,0x0000<br>B:00 00         |  |  | UINT16<br>R/O |  |
|   |                               | Feature:NONE                |  |  |               |  |
| FEATURE4  | 3x65217<br>4x65217<br>I:65216 | 0,0x0000<br>B:00 00         |  |  | UINT16<br>R/O |  |
|   |                               | Feature:NONE                |  |  |               |  |
| FEATURE5  | 3x65218<br>4x65218<br>I:65217 | 0,0x0000<br>B:00 00         |  |  | UINT16<br>R/O |  |
|   |                               | Feature:NONE                |  |  |               |  |
| FEATURE6  | 3x65219<br>4x65219<br>I:65218 | 0,0x0000<br>B:00 00         |  |  | UINT16<br>R/O |  |
|   |                               | Feature:NONE                |  |  |               |  |
| FEATURE7  | 3x65220<br>4x65220<br>I:65219 | 0,0x0000<br>B:00 00         |  |  | UINT16<br>R/O |  |

|   |                               |   |  |    |               |    |
|---|-------------------------------|---|--|----|---------------|----|
|   |                               | Feature:NONE                                |  |    |               |    |
| FEATURE8  | 3x65221<br>4x65221<br>l:65220 | 0,0x0000<br>B:00 00                         |  |    | UINT16<br>R/O |    |
|   |                               | Feature:NONE                                |  |    |               |    |
| <b>MODBUS WATCHDOG</b>  |                               |   |  |    |               |    |
| MODBUS WATCHDOG TIME  | 3x65222<br>4x65222<br>l:65221 | 0,0x0000<br>B:00 00                         |  | 50 | UINT16<br>R/W | NO |
|   |                               | Actual watchdog time in 1/100s:0 -> 0,0s    |  |    |               |    |
| <p>Writing a value onto this register defines a new time for the internal communication watchdog timer. The value is a timespan in 1/100s.<br/>         =0: The communication watchdog is disabled<br/>         =1..65535: Communication watchdog will be triggered after x 1/100s pause on communication line</p> <p>In case of an communication watchdog, the module sets all outputs to the states defined in the configuration output registers</p> <p>Reading this register will return the current stored time from the internal FRAM</p> |                               |   |  |    |               |    |
| RASPBERRY PI WATCHDOG TIMER   | 3x65223<br>4x65223<br>l:65222 | 0,0x0000<br>B:00 00                         |  | 50 | UINT16<br>R/W | NO |
|   |                               | remaining watchdog time in 10ms:0 -> 0,000s |  |    |               |    |
| <p>Enables or disables the WATCHDOG Timer for the Raspberry Pi module.<br/>         1..65535: Time for Watchdog in x10 Milliseconds (Maximum 655,35 seconds)<br/>         =0: No Watchdog is generated</p>  |                               |   |  |    |               |    |
| <b>FRAM</b>   |                               |   |  |    |               |    |
| GET FRAM TYPE   | 3x65224<br>4x65224<br>l:65223 | 2,0x0002<br>B:00 02                         |  |    | UINT16<br>R/O |    |
|   |                               | FRAM size & type:FM25L16 2kB                |  |    |               |    |
| <p>Returns the current type of the FRAM and its total size<br/>         =2:FM25L16B_G, 2kB<br/>         =64:FM25V05, 64kB<br/>         =128:FM25V10, 128kB</p>  |                               |   |  |    |               |    |
| GET FRAM USED BYTES   | 3x65225<br>4x65225<br>l:65224 | 166,0x00A6<br>B:00 A6                       |  |    | UINT16<br>R/O |    |
|   |                               | FRAM used bytes:166                         |  |    |               |    |
| Returns the amount of used bytes from system in FRAM  |                               |   |  |    |               |    |
| <b>RTC REAL TIME CLOCK</b>  |                               |   |  |    |               |    |
| RTC YEAR  | 3x65231<br>4x65231<br>l:65230 | 24,0x0018<br>B:00 18                        |  | 24 | UINT16<br>R/W | NO |
|   |                               | Actual RTC year:24                          |  |    |               |    |
| <p>Returns the actual year of the internal real time clock in the range of 24 to 99.<br/>         Writing to this register prepares the setting of a new time.</p>  |                               |   |  |    |               |    |

|   |                               |                         |  |                    |  |               |    |
|---|-------------------------------|-------------------------|--|--------------------|--|---------------|----|
| RTC MONTH   | 3x65232<br>4x65232<br>l:65231 | 2,0x0002<br>B:00 02     |  | 1                  |  | UINT16<br>R/W | NO |
|   |                               | Actual RTC month:2      |  |                    |  |               |    |
| Returns the actual month of the internal real time clock in the range of 1 to 12<br>Writing to this register prepares the setting of a new time.                                    |                               |                         |  |                    |  |               |    |
| RTC DAY   | 3x65233<br>4x65233<br>l:65232 | 29,0x001D<br>B:00 1D    |  | 1                  |  | UINT16<br>R/W | NO |
|   |                               | Actual RTC day:29       |  |                    |  |               |    |
| Returns the actual day of the internal real time clock in the range of 1 to 31<br>Writing to this register prepares the setting of a new time.                                      |                               |                         |  |                    |  |               |    |
| RTC HOUR  | 3x65234<br>4x65234<br>l:65233 | 18,0x0012<br>B:00 12    |  | 12                 |  | UINT16<br>R/W | NO |
|   |                               | Actual RTC month:18     |  |                    |  |               |    |
| Returns the actual hour of the internal real time clock in the range of 0 to 23<br>Writing to this register prepares the setting of a new time.                                     |                               |                         |  |                    |  |               |    |
| RTC MINUTE  | 3x65235<br>4x65235<br>l:65234 | 0,0x0000<br>B:00 00     |  | 45                 |  | UINT16<br>R/W | NO |
|   |                               | Actual RTC hour:0       |  |                    |  |               |    |
| Returns the actual minute of the internal real time clock in the range of 0 to 59<br>Writing to this register prepares the setting of a new time.                                   |                               |                         |  |                    |  |               |    |
| RTC SECOND  | 3x65236<br>4x65236<br>l:65235 | 23,0x0017<br>B:00 17    |  | 30                 |  | UINT16<br>R/W | NO |
|   |                               | Actual RTC second:23    |  |                    |  |               |    |
| Returns the actual second of the internal real time clock in the range of 0 to 59<br>Writing to this register prepares the setting of a new time.                                   |                               |                         |  |                    |  |               |    |
| RTC DAY OF WEEK   | 3x65237<br>4x65237<br>l:65236 | 4,0x0004<br>B:00 04     |  | 5:FRIDAY           |  | UINT16<br>R/W | NO |
|   |                               | Actual RTC week day:THU |  | SELECT DAY OF WEEK |  |               |    |
| Returns the actual day of week in the range 1 to 7<br>1:MON, 2:TUE, 3:WED, 4:THU, 5:FRI, 6:SAT, 7:SUN<br>Writing to this register writes a new date and time and weekday to the RTC |                               |                         |  |                    |  |               |    |
| <b>DIP SWITCH STATUS</b>  |                               |                         |  |                    |  |               |    |
| DIP SWITCH  | 3x65501<br>4x65501<br>l:65500 | 85,0x0055<br>B:00 55    |  |                    |  | UINT16<br>R/O |    |

Returns the actual setting of the Dip switches.

Bit 0: DIP Switch 1 (=0:OFF, =1:ON)  
 Bit 1: DIP Switch 2 (=0:OFF, =1:ON)  
 Bit 2: DIP Switch 3 (=0:OFF, =1:ON)  
 Bit 3: DIP Switch 4 (=0:OFF, =1:ON)  
 Bit 4: DIP Switch 5 (=0:OFF, =1:ON)  
 Bit 5: DIP Switch 6 (=0:OFF, =1:ON)  
 Bit 6: DIP Switch 7 (=0:OFF, =1:ON)  
 Bit 7: DIP Switch 8 (=0:OFF, =1:ON)

**CPU DATA**

|  |                               |  |  |  |               |  |
|--|-------------------------------|--|--|--|---------------|--|
| SERIAL1  | 3x65521<br>4x65521<br>I:65520 | 34,0x0022<br>B:00 22                       |  |  | UINT16<br>R/O |  |
| Serial number of module as 96 bit unsigned integer number                  |                               |  |  |  |               |  |
| SERIAL2  | 3x65522<br>4x65522<br>I:65521 | 24,0x0018<br>B:00 18                       |  |  | UINT16<br>R/O |  |
| SERIAL3  | 3x65523<br>4x65523<br>I:65522 | 22291,0x5713<br>B:57 13                    |  |  | UINT16<br>R/O |  |
| SERIAL4  | 3x65524<br>4x65524<br>I:65523 | 20547,0x5043<br>B:50 43                    |  |  | UINT16<br>R/O |  |
| SERIAL5  | 3x65525<br>4x65525<br>I:65524 | 13361,0x3431<br>B:34 31                    |  |  | UINT16<br>R/O |  |
| SERIAL6  | 3x65526<br>4x65526<br>I:65525 | 8246,0x2036<br>B:20 36                     |  |  | UINT16<br>R/O |  |
|  |                               | SERIAL:220018001357435031343620            |  |  |               |  |
| Serial number of module as 96 bit unsigned integer number                  |                               |  |  |  |               |  |
| CPU TEMPERATURE  | 3x65527<br>4x65527<br>I:65526 | 5061,0x13C5<br>B:13 C5                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual internal temperature of CPU:50,61°C |  |  |               |  |
| Current internal temperature of CPU in ° Celsius multiplied by 100.        |                               |  |  |  |               |  |
| CPU VOLTAGE  | 3x65528<br>4x65528<br>I:65527 | 333,0x014D<br>B:01 4D                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual supply voltage of CPU:3,33V         |  |  |               |  |
| Current internal supply voltage of CPU in Volt multiplied by 1000.         |                               |  |  |  |               |  |
| CPU BACKUP   | 3x65529<br>4x65529<br>I:65528 | 311,0x0137<br>B:01 37                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual backup voltage of CPU for RTC:3,11V |  |  |               |  |
| Current internal backup voltage of CPU for RTC in Volt multiplied by 1000. |                               |  |  |  |               |  |

**RESETs**

|   |                               |                     |  |                              |               |    |
|---|-------------------------------|---------------------|--|------------------------------|---------------|----|
| RASPBERRY PI RESET  | 3x65534<br>4x65534<br>I:65533 | 0,0x00<br>B:00 00   |  | 1:PERFORM RASPBERRY PI RESET | BIT<br>R/W    | NO |
| Resets the Raspberry Pi   |                               |                     |  |                              |               |    |
| RASPBERRY PI RESET  | 3x65534<br>4x65534<br>I:65533 | 0,0x0000<br>B:00 00 |  | 1:PERFORM RASPBERRY PI RESET | UINT16<br>R/W | NO |
| Resets the Raspberry Pi   |                               |                     |  |                              |               |    |
| FACTORY RESET   | 1x65535<br>2x65535<br>I:65534 | 0,0x00<br>B:00      |  | 1:PERFORM FACTORY RESET      | BIT<br>R/W    | NO |
| Performs a factory reset of all internal saved parameters   |                               |                     |  |                              |               |    |
| FACTORY RESET   | 3x65535<br>4x65535<br>I:65534 | 0,0x0000<br>B:00 00 |  | 1:PERFORM FACTORY RESET      | UINT16<br>R/W | NO |
| Performs a factory reset of all internal saved parameters   |                               |                     |  |                              |               |    |
| RESET   | 1x65536<br>2x65536<br>I:65535 | 0,0x00<br>B:00      |  | 1:PERFORM ARM RESET          | BIT<br>R/W    | NO |
| Performs a software reset, whenever 1 is written to this register. If the host writes to this register 1, the module executes a soft reset (reboot).<br>Be aware that you will lose all serial interfaces in USB!!! |                               |                     |  |                              |               |    |
| RESET   | 3x65536<br>4x65535<br>I:65535 | 0,0x0000<br>B:00 00 |  | 1:PERFORM ARM RESET          | UINT16<br>R/W | NO |
| Performs a software reset, whenever 1 is written to this register. If the host writes to this register 1, the module executes a soft reset (reboot).<br>Be aware that you will lose all serial interfaces in USB!!! |                               |                     |  |                              |               |    |

| Register NAME  | MODBUS Register               | Register VALUE | NEW REAL VALUE | NEW VALUE      | DATA TYPE  | DO WRITE |
|--|-------------------------------|----------------|----------------|----------------|------------|----------|
| <b>DIP SWITCH STATUS</b>   |                               |                |                |                |            |          |
| DIP SWITCH DIP1  | 1x65001<br>2x65001<br>I:65000 | ????           |                |                | BIT<br>R/O |          |
| Returns the actual setting of the Dip switches.<br>=0: DIP is OFF<br>=1: DIP is ON |                               |                |                |                |            |          |
| DIP SWITCH DIP2  | 1x65002<br>2x65002<br>I:65001 | ????           |                |                | BIT<br>R/O |          |
| DIP SWITCH DIP3  | 1x65003<br>2x65003<br>I:65002 | ????           |                |                | BIT<br>R/O |          |
| DIP SWITCH DIP4  | 1x65004<br>2x65004<br>I:65003 | ????           |                |                | BIT<br>R/O |          |
| DIP SWITCH DIP5  | 1x65005<br>2x65005<br>I:65004 | ????           |                |                | BIT<br>R/O |          |
| DIP SWITCH DIP6  | 1x65006<br>2x65006<br>I:65005 | ????           |                |                | BIT<br>R/O |          |
| DIP SWITCH DIP7  | 1x65007<br>2x65007<br>I:65006 | ????           |                |                | BIT<br>R/O |          |
| DIP SWITCH DIP8  | 1x65008<br>2x65008<br>I:65007 | ????           |                |                | BIT<br>R/O |          |
| <b>LED1:GREEN</b>  |                               |                |                |                |            |          |
| LED1:GREEN<br>SET TO OFF   | 1x65009<br>2x65009<br>I:65008 | ????           |                | N/A:DO NOTHING | BIT<br>W/O | NO       |
| Writing 1 to this coil sets the LED to OFF   |                               |                |                |                |            |          |
| LED1:GREEN<br>SET TO ON  | 1x65010<br>2x65010<br>I:65009 | ????           |                | N/A:DO NOTHING | BIT<br>W/O | NO       |
| Writing 1 to this coil sets the LED to ON  |                               |                |                |                |            |          |
| LED1:GREEN<br>INVERT LED STATE   | 1x65011<br>2x65011<br>I:65010 | ????           |                | N/A:DO NOTHING | BIT<br>W/O | NO       |
| Writing 1 to this coil inverts the actual LED state                                |                               |                |                |                |            |          |
| LED1:GREEN<br>BLINK  | 1x65012<br>2x65012<br>I:65011 | ????           |                | N/A:DO NOTHING | BIT<br>W/O | NO       |

|   |                               |      |  |                |            |    |
|---|-------------------------------|------|--|----------------|------------|----|
| Writing 1 to this coil start symmetrical blinking of LED with last defined time         |                               |      |  |                |            |    |
| LED1:GREEN<br>FLASH   | 1x65013<br>2x65013<br>I:65012 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with last defined times       |                               |      |  |                |            |    |
| LED1:GREEN<br>PULSE   | 1x65014<br>2x65014<br>I:65013 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with last defined time               |                               |      |  |                |            |    |
| LED1:GREEN<br>BLINK 5s  | 1x65015<br>2x65015<br>I:65014 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 5s ON-5s OFF cycle        |                               |      |  |                |            |    |
| LED1:GREEN<br>BLINK 1s  | 1x65016<br>2x65016<br>I:65015 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 1s ON-1s OFF cycle        |                               |      |  |                |            |    |
| LED1:GREEN<br>BLINK 250ms   | 1x65017<br>2x65017<br>I:65016 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 250ms ON-250ms OFF cycle  |                               |      |  |                |            |    |
| LED1:GREEN<br>BLINK 50ms  | 1x65018<br>2x65018<br>I:65017 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 50ms ON-50ms OFF cycle    |                               |      |  |                |            |    |
| LED1:GREEN<br>FLASH 5s-1s   | 1x65019<br>2x65019<br>I:65018 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 5s ON-1s OFF cycle       |                               |      |  |                |            |    |
| LED1:GREEN<br>FLASH 1s-250ms  | 1x65020<br>2x65020<br>I:65019 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 1s ON-250ms OFF cycle    |                               |      |  |                |            |    |
| LED1:GREEN<br>FLASH 500ms-100ms   | 1x65021<br>2x65021<br>I:65020 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 500ms ON-100ms OFF cycle |                               |      |  |                |            |    |
| LED1:GREEN<br>FLASH 300ms-50ms  | 1x65022<br>2x65022<br>I:65021 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 300ms ON-50ms OFF cycle  |                               |      |  |                |            |    |
| LED1:GREEN<br>PULSE 1s  | 1x65023<br>2x65023<br>I:65022 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 1s ON                           |                               |      |  |                |            |    |

|   |                               |      |  |                |            |    |
|---|-------------------------------|------|--|----------------|------------|----|
| LED1:GREEN<br>PULSE 500ms   | 1x65024<br>2x65024<br>I:65023 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 500ms ON                  |                               |      |  |                |            |    |
| LED1:GREEN<br>PULSE 250ms   | 1x65025<br>2x65025<br>I:65024 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 250ms ON                  |                               |      |  |                |            |    |
| LED1:GREEN<br>PULSE 100ms   | 1x65026<br>2x65026<br>I:65025 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 100ms ON                  |                               |      |  |                |            |    |
| LED1:GREEN<br>PULSE 20ms  | 1x65027<br>2x65027<br>I:65026 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 20ms ON                   |                               |      |  |                |            |    |
| <b>LED2:WHITE</b>   |                               |      |  |                |            |    |
| LED2:WHITE<br>SET TO OFF  | 1x65029<br>2x65029<br>I:65028 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil sets the LED to OFF  |                               |      |  |                |            |    |
| LED2:WHITE<br>SET TO ON   | 1x65030<br>2x65030<br>I:65029 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil sets the LED to ON   |                               |      |  |                |            |    |
| LED2:WHITE<br>INVERT LED STATE  | 1x65031<br>2x65031<br>I:65030 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil inverts the actual LED state                               |                               |      |  |                |            |    |
| LED2:WHITE<br>BLINK   | 1x65032<br>2x65032<br>I:65031 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with last defined time   |                               |      |  |                |            |    |
| LED2:WHITE<br>FLASH   | 1x65033<br>2x65033<br>I:65032 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with last defined times |                               |      |  |                |            |    |
| LED2:WHITE<br>PULSE   | 1x65034<br>2x65034<br>I:65033 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with last defined time         |                               |      |  |                |            |    |
| LED2:WHITE<br>BLINK 5s  | 1x65035<br>2x65035<br>I:65034 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 5s ON-5s OFF cycle  |                               |      |  |                |            |    |



|   |                               |      |  |                |            |    |
|---|-------------------------------|------|--|----------------|------------|----|
| LED2:WHITE<br>BLINK 1s  | 1x65036<br>2x65036<br>I:65035 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 1s ON-1s OFF cycle        |                               |      |  |                |            |    |
| LED2:WHITE<br>BLINK 250ms   | 1x65037<br>2x65037<br>I:65036 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 250ms ON-250ms OFF cycle  |                               |      |  |                |            |    |
| LED2:WHITE<br>BLINK 50ms  | 1x65038<br>2x65038<br>I:65037 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 50ms ON-50ms OFF cycle    |                               |      |  |                |            |    |
| LED2:WHITE<br>FLASH 5s-1s   | 1x65039<br>2x65039<br>I:65038 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 5s ON-1s OFF cycle       |                               |      |  |                |            |    |
| LED2:WHITE<br>FLASH 1s-250ms  | 1x65040<br>2x65040<br>I:65039 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 1s ON-250ms OFF cycle    |                               |      |  |                |            |    |
| LED2:WHITE<br>FLASH 500ms-100ms   | 1x65041<br>2x65041<br>I:65040 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 500ms ON-100ms OFF cycle |                               |      |  |                |            |    |
| LED2:WHITE<br>FLASH 300ms-50ms  | 1x65042<br>2x65042<br>I:65041 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 300ms ON-50ms OFF cycle  |                               |      |  |                |            |    |
| LED2:WHITE<br>PULSE 1s  | 1x65043<br>2x65043<br>I:65042 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 1s ON                           |                               |      |  |                |            |    |
| LED2:WHITE<br>PULSE 500ms   | 1x65044<br>2x65044<br>I:65043 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 500ms ON                        |                               |      |  |                |            |    |
| LED2:WHITE<br>PULSE 250ms   | 1x65045<br>2x65045<br>I:65044 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 250ms ON                        |                               |      |  |                |            |    |
| LED2:WHITE<br>PULSE 100ms   | 1x65046<br>2x65046<br>I:65045 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 100ms ON                        |                               |      |  |                |            |    |

|  |                               |      |  |                |            |    |
|--|-------------------------------|------|--|----------------|------------|----|
| LED2:WHITE<br>PULSE 20ms   | 1x65047<br>2x65047<br>I:65046 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 20ms ON                        |                               |      |  |                |            |    |
| <b>LED3:RED</b>  |                               |      |  |                |            |    |
| LED3:RED<br>SET TO OFF   | 1x65049<br>2x65049<br>I:65048 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil sets the LED to OFF   |                               |      |  |                |            |    |
| LED3:RED<br>SET TO ON  | 1x65050<br>2x65050<br>I:65049 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil sets the LED to ON  |                               |      |  |                |            |    |
| LED3:RED<br>INVERT LED STATE   | 1x65051<br>2x65051<br>I:65050 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil inverts the actual LED state                                    |                               |      |  |                |            |    |
| LED3:RED<br>BLINK  | 1x65052<br>2x65052<br>I:65051 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with last defined time        |                               |      |  |                |            |    |
| LED3:RED<br>FLASH  | 1x65053<br>2x65053<br>I:65052 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with last defined times      |                               |      |  |                |            |    |
| LED3:RED<br>PULSE  | 1x65054<br>2x65054<br>I:65053 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with last defined time              |                               |      |  |                |            |    |
| LED3:RED<br>BLINK 5s   | 1x65055<br>2x65055<br>I:65054 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 5s ON-5s OFF cycle       |                               |      |  |                |            |    |
| LED3:RED<br>BLINK 1s   | 1x65056<br>2x65056<br>I:65055 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 1s ON-1s OFF cycle       |                               |      |  |                |            |    |
| LED3:RED<br>BLINK 250ms  | 1x65057<br>2x65057<br>I:65056 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 250ms ON-250ms OFF cycle |                               |      |  |                |            |    |
| LED3:RED<br>BLINK 50ms   | 1x65058<br>2x65058<br>I:65057 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 50ms ON-50ms OFF cycle   |                               |      |  |                |            |    |

|   |                               |      |  |                |            |    |
|---|-------------------------------|------|--|----------------|------------|----|
| LED3:RED<br>FLASH 5s-1s   | 1x65059<br>2x65059<br>I:65058 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 5s ON-1s OFF cycle       |                               |      |  |                |            |    |
| LED3:RED<br>FLASH 1s-250ms  | 1x65060<br>2x65060<br>I:65059 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 1s ON-250ms OFF cycle    |                               |      |  |                |            |    |
| LED3:RED<br>FLASH 500ms-100ms   | 1x65061<br>2x65061<br>I:65060 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 500ms ON-100ms OFF cycle |                               |      |  |                |            |    |
| LED3:RED<br>FLASH 300ms-50ms  | 1x65062<br>2x65062<br>I:65061 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 300ms ON-50ms OFF cycle  |                               |      |  |                |            |    |
| LED3:RED<br>PULSE 1s  | 1x65063<br>2x65063<br>I:65062 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 1s ON                           |                               |      |  |                |            |    |
| LED3:RED<br>PULSE 500ms   | 1x65064<br>2x65064<br>I:65063 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 500ms ON                        |                               |      |  |                |            |    |
| LED3:RED<br>PULSE 250ms   | 1x65065<br>2x65065<br>I:65064 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 250ms ON                        |                               |      |  |                |            |    |
| LED3:RED<br>PULSE 100ms   | 1x65066<br>2x65066<br>I:65065 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 100ms ON                        |                               |      |  |                |            |    |
| LED3:RED<br>PULSE 20ms  | 1x65067<br>2x65067<br>I:65066 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with 20ms ON                         |                               |      |  |                |            |    |
| <b>LED4:YELLOW</b>  |                               |      |  |                |            |    |
| LED4:YELLOW<br>SET TO OFF   | 1x65069<br>2x65069<br>I:65068 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil sets the LED to OFF  |                               |      |  |                |            |    |
| LED4:YELLOW<br>SET TO ON  | 1x65070<br>2x65070<br>I:65069 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil sets the LED to ON   |                               |      |  |                |            |    |

|   |                               |      |  |                |            |    |
|---|-------------------------------|------|--|----------------|------------|----|
| LED4:YELLOW<br>INVERT LED STATE   | 1x65071<br>2x65071<br>I:65070 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil inverts the actual LED state                                     |                               |      |  |                |            |    |
| LED4:YELLOW<br>BLINK  | 1x65072<br>2x65072<br>I:65071 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with last defined time         |                               |      |  |                |            |    |
| LED4:YELLOW<br>FLASH  | 1x65073<br>2x65073<br>I:65072 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with last defined times       |                               |      |  |                |            |    |
| LED4:YELLOW<br>PULSE  | 1x65074<br>2x65074<br>I:65073 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start one time pulse of LED with last defined time               |                               |      |  |                |            |    |
| LED4:YELLOW<br>BLINK 5s   | 1x65075<br>2x65075<br>I:65074 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 5s ON-5s OFF cycle        |                               |      |  |                |            |    |
| LED4:YELLOW<br>BLINK 1s   | 1x65076<br>2x65076<br>I:65075 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 1s ON-1s OFF cycle        |                               |      |  |                |            |    |
| LED4:YELLOW<br>BLINK 250ms  | 1x65077<br>2x65077<br>I:65076 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 250ms ON-250ms OFF cycle  |                               |      |  |                |            |    |
| LED4:YELLOW<br>BLINK 50ms   | 1x65078<br>2x65078<br>I:65077 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start symmetrical blinking of LED with 50ms ON-50ms OFF cycle    |                               |      |  |                |            |    |
| LED4:YELLOW<br>FLASH 5s-1s  | 1x65079<br>2x65079<br>I:65078 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 5s ON-1s OFF cycle       |                               |      |  |                |            |    |
| LED4:YELLOW<br>FLASH 1s-250ms   | 1x65080<br>2x65080<br>I:65079 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 1s ON-250ms OFF cycle    |                               |      |  |                |            |    |
| LED4:YELLOW<br>FLASH 500ms-100ms  | 1x65081<br>2x65081<br>I:65080 | ???? |  | N/A:DO NOTHING | BIT<br>W/O | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 500ms ON-100ms OFF cycle |                               |      |  |                |            |    |

|   |                               |                   |  |                |               |    |
|---|-------------------------------|-------------------|--|----------------|---------------|----|
| LED4:YELLOW<br>FLASH 300ms-50ms   | 1x65082<br>2x65082<br>I:65081 | ????              |  | N/A:DO NOTHING | BIT<br>W/O    | NO |
| Writing 1 to this coil start asymmetrical flashing of LED with 300ms ON-50ms OFF cycle  |                               |                   |  |                |               |    |
| LED4:YELLOW<br>PULSE 1s   | 1x65083<br>2x65083<br>I:65082 | ????              |  | N/A:DO NOTHING | BIT<br>W/O    | NO |
| Writing 1 to this coil start one time pulse of LED with 1s ON   |                               |                   |  |                |               |    |
| LED4:YELLOW<br>PULSE 500ms  | 1x65084<br>2x65084<br>I:65083 | ????              |  | N/A:DO NOTHING | BIT<br>W/O    | NO |
| Writing 1 to this coil start one time pulse of LED with 500ms ON  |                               |                   |  |                |               |    |
| LED4:YELLOW<br>PULSE 250ms  | 1x65085<br>2x65085<br>I:65084 | ????              |  | N/A:DO NOTHING | BIT<br>W/O    | NO |
| Writing 1 to this coil start one time pulse of LED with 250ms ON  |                               |                   |  |                |               |    |
| LED4:YELLOW<br>PULSE 100ms  | 1x65086<br>2x65086<br>I:65085 | ????              |  | N/A:DO NOTHING | BIT<br>W/O    | NO |
| Writing 1 to this coil start one time pulse of LED with 100ms ON  |                               |                   |  |                |               |    |
| LED4:YELLOW<br>PULSE 20ms   | 1x65087<br>2x65087<br>I:65086 | ????              |  | N/A:DO NOTHING | BIT<br>W/O    | NO |
| Writing 1 to this coil start one time pulse of LED with 20ms ON   |                               |                   |  |                |               |    |
| <b>DIP SWITCH STATUS</b>  |                               |                   |  |                |               |    |
| DIP SWITCH  | 3x65501<br>4x65501<br>I:65500 | ????              |  |                | UINT16<br>R/O |    |
| Returns the actual setting of the Dip switches.<br>Bit 0: DIP Switch 1 (=0:OFF, =1:ON)<br>Bit 1: DIP Switch 2 (=0:OFF, =1:ON)<br>Bit 2: DIP Switch 3 (=0:OFF, =1:ON)<br>Bit 3: DIP Switch 4 (=0:OFF, =1:ON)<br>Bit 4: DIP Switch 5 (=0:OFF, =1:ON)<br>Bit 5: DIP Switch 6 (=0:OFF, =1:ON)<br>Bit 6: DIP Switch 7 (=0:OFF, =1:ON)<br>Bit 7: DIP Switch 8 (=0:OFF, =1:ON) |                               |                   |  |                |               |    |
| <b>LED1:GREEN</b>   |                               |                   |  |                |               |    |
| LED1:GREEN<br>STATE   | 3x65502<br>4x65502<br>I:65501 | ????              |  | 1:SET TO ON    | UINT16<br>R/W | NO |
|   |                               | State of LED:???? |  |                |               |    |

Returns the actual state of the LED

Writing to this register will set a new state for the LED

0: Switch LED permanent OFF

1: Switch LED permanent ON

2: Invert last state of LED

3: Start symmetrical blinking of LED with TIME1 ON and TIME1 OFF

4: Start asymmetrical flashing of LED with TIME1 ON and TIME2 OFF

5: Start one time pulse of LED with TIME1 ON and infinite OFF

|                     |                               |                       |  |      |               |     |
|---------------------|-------------------------------|-----------------------|--|------|---------------|-----|
| LED1:GREEN<br>TIME1 | 3x65503<br>4x65503<br>I:65502 | ????                  |  | 1000 | UINT16<br>R/W | YES |
|                     |                               | Actual time 1 in ms:0 |  |      |               |     |

Returns the actual time1 for blink,flash and pulse ON time in Milliseconds

Writing to this register sets a new time in the range 20-65534ms

|                     |                               |                       |  |      |               |     |
|---------------------|-------------------------------|-----------------------|--|------|---------------|-----|
| LED1:GREEN<br>TIME2 | 3x65504<br>4x65504<br>I:65503 | ????                  |  | 2000 | UINT16<br>R/W | YES |
|                     |                               | Actual time 2 in ms:0 |  |      |               |     |

Returns the actual time2 for blink and flash OFF time in Milliseconds

Writing to this register sets a new time in the range 20-65534ms

**LED2:WHITE**

|                     |                               |                   |  |             |               |    |
|---------------------|-------------------------------|-------------------|--|-------------|---------------|----|
| LED2:WHITE<br>STATE | 3x65505<br>4x65505<br>I:65504 | ????              |  | 1:SET TO ON | UINT16<br>R/W | NO |
|                     |                               | State of LED:???? |  |             |               |    |

Returns the actual state of the LED

Writing to this register will set a new state for the LED

0: Switch LED permanent OFF

1: Switch LED permanent ON

2: Invert last state of LED

3: Start symmetrical blinking of LED with TIME1 ON and TIME1 OFF

4: Start asymmetrical flashing of LED with TIME1 ON and TIME2 OFF

5: Start one time pulse of LED with TIME1 ON and infinite OFF

|                     |                               |                       |  |      |               |     |
|---------------------|-------------------------------|-----------------------|--|------|---------------|-----|
| LED2:WHITE<br>TIME1 | 3x65506<br>4x65506<br>I:65505 | ????                  |  | 1000 | UINT16<br>R/W | YES |
|                     |                               | Actual time 1 in ms:0 |  |      |               |     |

Returns the actual time1 for blink,flash and pulse ON time in Milliseconds

Writing to this register sets a new time in the range 20-65534ms

|                     |                               |                       |  |      |               |     |
|---------------------|-------------------------------|-----------------------|--|------|---------------|-----|
| LED2:WHITE<br>TIME2 | 3x65507<br>4x65507<br>I:65506 | ????                  |  | 2000 | UINT16<br>R/W | YES |
|                     |                               | Actual time 2 in ms:0 |  |      |               |     |

Returns the actual time2 for blink and flash OFF time in Milliseconds

Writing to this register sets a new time in the range 20-65534ms

**LED3:RED**

|                   |                               |      |  |             |               |    |
|-------------------|-------------------------------|------|--|-------------|---------------|----|
| LED3:RED<br>STATE | 3x65508<br>4x65508<br>I:65507 | ???? |  | 1:SET TO ON | UINT16<br>R/W | NO |
|-------------------|-------------------------------|------|--|-------------|---------------|----|

|  |                               |                       |  |             |               |     |
|--|-------------------------------|-----------------------|--|-------------|---------------|-----|
|  |                               | State of LED:????     |  |             |               |     |
| Returns the actual state of the LED<br>Writing to this register will set a new state for the LED<br>0: Switch LED permanent OFF<br>1: Switch LED permanent ON<br>2: Invert last state of LED<br>3: Start symmetrical blinking of LED with TIME1 ON and TIME1 OFF<br>4: Start asymmetrical flashing of LED with TIME1 ON and TIME2 OFF<br>5: Start one time pulse of LED with TIME1 ON and infinite OFF |                               |                       |  |             |               |     |
| LED3:RED<br>TIME1  | 3x65509<br>4x65509<br>1:65508 | ????                  |  | 1000        | UINT16<br>R/W | YES |
|  |                               | Actual time 1 in ms:0 |  |             |               |     |
| Returns the actual time1 for blink,flash and pulse ON time in Milliseconds<br>Writing to this register sets a new time in the range 20-65534ms   |                               |                       |  |             |               |     |
| LED3:RED<br>TIME2  | 3x65510<br>4x65510<br>1:65509 | ????                  |  | 2000        | UINT16<br>R/W | YES |
|  |                               | Actual time 2 in ms:0 |  |             |               |     |
| Returns the actual time2 for blink and flash OFF time in Milliseconds<br>Writing to this register sets a new time in the range 20-65534ms  |                               |                       |  |             |               |     |
| <b>LED4:YELLOW</b>   |                               |                       |  |             |               |     |
| LED4:YELLOW<br>STATE   | 3x65511<br>4x65511<br>1:65510 | ????                  |  | 1:SET TO ON | UINT16<br>R/W | NO  |
|  |                               | State of LED:????     |  |             |               |     |
| Returns the actual state of the LED<br>Writing to this register will set a new state for the LED<br>0: Switch LED permanent OFF<br>1: Switch LED permanent ON<br>2: Invert last state of LED<br>3: Start symmetrical blinking of LED with TIME1 ON and TIME1 OFF<br>4: Start asymmetrical flashing of LED with TIME1 ON and TIME2 OFF<br>5: Start one time pulse of LED with TIME1 ON and infinite OFF |                               |                       |  |             |               |     |
| LED4:YELLOW<br>TIME1   | 3x65512<br>4x65512<br>1:65511 | ????                  |  | 1000        | UINT16<br>R/W | YES |
|  |                               | Actual time 1 in ms:0 |  |             |               |     |
| Returns the actual time1 for blink,flash and pulse ON time in Milliseconds<br>Writing to this register sets a new time in the range 20-65534ms   |                               |                       |  |             |               |     |
| LED4:YELLOW<br>TIME2   | 3x65513<br>4x65513<br>1:65512 | ????                  |  | 2000        | UINT16<br>R/W | YES |
|  |                               | Actual time 2 in ms:0 |  |             |               |     |
| Returns the actual time2 for blink and flash OFF time in Milliseconds<br>Writing to this register sets a new time in the range 20-65534ms  |                               |                       |  |             |               |     |

| Command NAME   | ASCII command type | ASCII command structure   | NEW REAL VALUE | NEW VALUE | DATA TYPE | DO WRITE |
|--|--------------------|---|----------------|-----------|-----------|----------|
| <b>ASCII COMMANDS</b>  |                    |   |                |           |           |          |
| <b>DIGITAL INPUTS</b>  |                    |   |                |           |           |          |
| GET DIGITAL INPUTS   | ASCII READ COMMAND | #GDIS<CR><br>Result:<br>#GDIS:<DISDec>,<DISHex><CR>                     |                |           | ASCII     |          |
|  | TX                 | #255,GDIS<CR>   |                |           |           |          |
|  | RX                 | #255,GDIS:0,0x0<CR>   |                |           |           |          |
|  |                    | Actual status of digital inputs:0000.0000.0000.0000.0000.0000.0000.0000 |                |           |           |          |
| Returns the actual state of all digital inputs as decimal number and as hexadecimal number.<br>DISDec, DISHex<br>The current state of all digital inputs:<br>Bit 0: State of DI1 (=0:OFF, =1:ON)<br>Bit 1: State of DI2 (=0:OFF, =1:ON)<br>Bit 2: State of DI3 (=0:OFF, =1:ON)<br>...<br>Bit 29: State of DI30 (=0:OFF, =1:ON)<br>Bit 30: State of DI31 (=0:OFF, =1:ON)<br>Bit 31: State of DI32 (=0:OFF, =1:ON) |                    |   |                |           |           |          |
| GET DIGITAL INPUT DIx  | ASCII READ COMMAND | #GDI<DINR> <CR><br>Result:<br>#GDI<DINR>:<DlxDec>,<DlxHex> <CR>         |                |           | ASCII     |          |
|  | DINR               | 1   |                |           |           |          |
|  | TX                 | #255,GDI1<CR>   |                |           |           |          |
|  | RX                 | #255,GDI1:0,0x0<CR>   |                |           |           |          |
|  |                    | Actual status of digital input DI1:0=OFF                                |                |           |           |          |
| <DINR>: 1=DI1..32=DI32   |                    |   |                |           |           |          |
| Returns the actual state of the digital input DIx as decimal number and as hexadecimal number.<br>DlxDec, DlxHex:<br>The current state of the digital input x:<br>=0: Digital input is OFF<br>=1: Digital input is ON  |                    |   |                |           |           |          |
| GET ALL CHANGES  | ASCII READ COMMAND | #GAC <CR><br>Result:<br>#GAC:<ChangesDec>,<ChangesHex> <CR>             |                |           | ASCII     |          |
|  | TX                 | #255,GAC <CR>   |                |           |           |          |
|  | RX                 | #255,GAC:64,0x40 <CR>   |                |           |           |          |
|  |                    | Actual change counter:64  |                |           |           |          |
| Returns the counter for changes on all digital inputs.<br>As soon as the module detects a short keypress or long key press or long key release event, this counter is incremented by 1.<br>If this values has changed since the last polling request, the host knows, that at least one digital input has changed its state.   |                    |   |                |           |           |          |





|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
| SHORT KEY ALL DIS<br>PART x  | ASCII<br>READ<br>COMMAND | #SKADISP<PART><CR><br>Result:<br>#SKADISP<PART>:<ShortKeyDInDec>,...,<ShortKeyDIn+15Dec>,<br><ShortKeyDInHex>,...,<ShortKeyDIn+15Hex><CR>                   | ASCII |  |
|  | PART                     | 2   |       |  |
|  | TX                       | #255,SKADISP2<CR>   |       |  |
|  | RX                       | #255,SKADISP2:0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0<CR>                                   |       |  |
|  |                          | Actual counter for short keypress events on DI17:0  |       |  |
|  |                          | Actual counter for short keypress events on DI18:0  |       |  |
|  |                          | Actual counter for short keypress events on DI19:0  |       |  |
|  |                          | Actual counter for short keypress events on DI20:0  |       |  |
|  |                          | Actual counter for short keypress events on DI21:0  |       |  |
|  |                          | Actual counter for short keypress events on DI22:0  |       |  |
|  |                          | Actual counter for short keypress events on DI23:0  |       |  |
|  |                          | Actual counter for short keypress events on DI24:0  |       |  |
|  |                          | Actual counter for short keypress events on DI25:0  |       |  |
|  |                          | Actual counter for short keypress events on DI26:0  |       |  |
|  |                          | Actual counter for short keypress events on DI27:0  |       |  |
|  |                          | Actual counter for short keypress events on DI28:0  |       |  |
|  |                          | Actual counter for short keypress events on DI29:0  |       |  |
|  |                          | Actual counter for short keypress events on DI30:0  |       |  |
|  |                          | Actual counter for short keypress events on DI31:0  |       |  |
|  |                          | Actual counter for short keypress events on DI32:0  |       |  |
| <PART>: 1..2, 1=DI1-DI16, 2=DI17-DI32  |                          |   |       |  |
| Returns for each digital input the counter for short keypress events. As soon as the module detects a short keypress on a digital input, the counter for the affected digital input is incremented by 1. |                          |   |       |  |
| The parameter <PART> defines the part of the digital inputs. The command returns maximal 16 digital inputs.  |                          |   |       |  |
| SHORT KEY DIx  | ASCII<br>READ<br>COMMAND | #SKDI<DINR><CR><br>Result:<br>#SKDI<DINR>:<ShortKeyDec>,<ShortKeyHex><CR>   | ASCII |  |
|  | DINR                     | 1   |       |  |
|  | TX                       | #255,SKDI1<CR>  |       |  |
|  | RX                       | #255,SKDI1:2,0x2<CR>  |       |  |
|  |                          | Actual counter for short keypress events on digital input DI1:2   |       |  |
| <DINR>: 1=DI1..32=DI32   |                          |   |       |  |
| Returns for digital input <DINR> the counter for short keypress events.  |                          |   |       |  |
| As soon as the module detects a short keypress on a digital input, the counter for the affected digital input is incremented by 1.   |                          |   |       |  |
| LONG KEY START ALL DIS<br>PART x   | ASCII<br>READ<br>COMMAND | #LKSADISP<PART><CR><br>Result:<br>#LKSADISP<PART>:<LongKeyStartDInDec>,...,<LongKeyStartDIn+15Dec>,<br><LongKeyStartDInHex>,...,<LongKeyStartDIn+15Hex><CR> | ASCII |  |
|  | PART                     | 2   |       |  |
|  | TX                       | #255,LKSADISP2<CR>  |       |  |







<PART>: 1..2, 1=DI1-DI16, 2=DI17-DI32

Returns for each digital input the counter for falling edges. As soon as the module detects a falling edge on a digital input, the falling edge counter for the affected digital input is incremented by 1.

The parameter <PART> defines the part of the digital inputs. The command returns maximal 16 digital inputs.

|          |                          |  |       |  |
|----------|--------------------------|--|-------|--|
| FALL Dlx | ASCII<br>READ<br>COMMAND | #FDI<DINR> <CR><br>Result:<br>#FDI<DINR>:<FallDec>, <FallHex> <CR> | ASCII |  |
|          | DINR                     | 1  |       |  |
|          | TX                       | #255,FDI1<CR>  |       |  |
|          | RX                       | #255,FDI1:3,0x3 <CR>   |       |  |
|          |                          | Actual counter for falling edges on digital input DI1:3            |       |  |

<DINR>: 1=DI1..32=DI32

Returns for digital input <DINR> the counter for falling edges.

As soon as the module detects a falling edge on a digital input, the falling edge counter for the affected digital input is incremented by 1.

|                |                           |                                 |       |    |
|----------------|---------------------------|---------------------------------|-------|----|
| RESET COUNTERS | ASCII<br>WRITE<br>COMMAND | #RC <CR><br>Result:<br>#OK <CR> | ASCII | NO |
|                | TX                        | #255,RC <CR>                    |       |    |
|                | RX                        | N/A                             |       |    |

Resets all internal counters for digital inputs and events on this digital inputs to 0.

#### DIGITAL INPUTS EVENTS

|           |                           |                                    |       |    |
|-----------|---------------------------|------------------------------------|-------|----|
| EVENTS ON | ASCII<br>WRITE<br>COMMAND | #EVTON <CR><br>Result:<br>#OK <CR> | ASCII | NO |
|           | TX                        | #255,EVTON <CR>                    |       |    |
|           | RX                        | #1,OK <CR>                         |       |    |

Activates event sending of changes on digital inputs

Whenever a change is detected on the digital inputs, the IO module sends immediately

#<BusAdr>,EVT:DIS:<AllDISasDec>,<AllDISasHex> <CR>

|            |                           |                                     |       |    |
|------------|---------------------------|-------------------------------------|-------|----|
| EVENTS OFF | ASCII<br>WRITE<br>COMMAND | #EVTOFF <CR><br>Result:<br>#OK <CR> | ASCII | NO |
|            | TX                        | #255,EVTOFF <CR>                    |       |    |
|            | RX                        | #1,OK <CR>                          |       |    |

Deactivates event sending of changes on digital inputs

Whenever a change is detected on the digital inputs, the IO module sends immediately

#<BusAdr>,EVT:DIS:<AllDISasDec>,<AllDISasHex> <CR>

| Command NAME                      | ASCII command type  | ASCII command structure   | NEW REAL VALUE | NEW VALUE | DATA TYPE | DO WRITE |
|-----------------------------------|---------------------|---|----------------|-----------|-----------|----------|
| <b>ASCII COMMANDS</b>             |                     |   |                |           |           |          |
| <b>DIGITAL OUTPUTS</b>            |                     |   |                |           |           |          |
| UPDATE DIGITAL INPUTS AND OUTPUTS | ASCII WRITE COMMAND | #UDIOS:<OutAllDOS> <CR><br>Result:<br>#UDIOS:<InAllDISDec>,<InAllDISHex> <CR> |                |           | ASCII     | YES      |
|                                   | DO1                 | 0:OFF   |                |           |           |          |
|                                   | DO2                 | 0:OFF   |                |           |           |          |
|                                   | DO3                 | 0:OFF   |                |           |           |          |
|                                   | DO4                 | 0:OFF   |                |           |           |          |
|                                   | DO5                 | 0:OFF   |                |           |           |          |
|                                   | DO6                 | 0:OFF   |                |           |           |          |
|                                   | DO7                 | 0:OFF   |                |           |           |          |
|                                   | DO8                 | 0:OFF   |                |           |           |          |
|                                   | DO9                 | 0:OFF   |                |           |           |          |
|                                   | DO10                | 0:OFF   |                |           |           |          |
|                                   | DO11                | 0:OFF   |                |           |           |          |
|                                   | DO12                | 0:OFF   |                |           |           |          |
|                                   | DO13                | 0:OFF   |                |           |           |          |
|                                   | DO14                | 0:OFF   |                |           |           |          |
|                                   | DO15                | 0:OFF   |                |           |           |          |
|                                   | DO16                | 0:OFF   |                |           |           |          |
|                                   | DO17                | 0:OFF   |                |           |           |          |
|                                   | DO18                | 0:OFF   |                |           |           |          |
|                                   | DO19                | 0:OFF   |                |           |           |          |
|                                   | DO20                | 0:OFF   |                |           |           |          |
|                                   | DO21                | 0:OFF   |                |           |           |          |
|                                   | DO22                | 0:OFF   |                |           |           |          |
|                                   | DO23                | 0:OFF   |                |           |           |          |
|                                   | DO24                | 0:OFF   |                |           |           |          |
|                                   | DO25                | 0:OFF   |                |           |           |          |
|                                   | DO26                | 0:OFF   |                |           |           |          |
|                                   | DO27                | 0:OFF   |                |           |           |          |
|                                   | DO28                | 0:OFF   |                |           |           |          |
|                                   | DO29                | 0:OFF   |                |           |           |          |
|                                   | DO30                | 0:OFF   |                |           |           |          |
|                                   | TX                  | #255,UDIOS:0<CR>  |                |           |           |          |
|                                   | RX                  | #255,UDIOS:0,0xFFFFFFFF <CR>  |                |           |           |          |
|                                   |                     | Actual status of digital inputs:1111.1111.1111.1111.1111.1111.1111.1111       |                |           |           |          |

Sets all digital outputs to the new state OutAllDOS and gives back the current status of all digital inputs InAllDIS as decimal and hexadecimal value

OutAllDOS: The new state for all digital outputs

Bit 0: State of DO1 (=0:OFF, =1:ON)

Bit 1: State of DO2 (=0:OFF, =1:ON)

Bit 2: State of DO3 (=0:OFF, =1:ON)

...

Bit 27: State of DO28 (=0:OFF, =1:ON)

Bit 28: State of DO29 (=0:OFF, =1:ON)

Bit 29: State of DO30 (=0:OFF, =1:ON)

InAllDIS: The current state for all digital inputs

Bit 0: State of DI1 (=0:OFF, =1:ON)

Bit 1: State of DI2 (=0:OFF, =1:ON)

Bit 2: State of DI3 (=0:OFF, =1:ON)

...

Bit 29: State of DI30 (=0:OFF, =1:ON)

Bit 30: State of DI31 (=0:OFF, =1:ON)

Bit 31: State of DI32 (=0:OFF, =1:ON)

| SET DIGITAL OUTPUTS | ASCII<br>WRITE<br>COMMAND | #SDOS:<OutAllDOS> <CR><br>Result:<br>#OK<CR> | ASCII | YES |
|---------------------|---------------------------|--|-------|-----|
|                     | DO1                       | 0:OFF  |       |     |
|                     | DO2                       | 0:OFF  |       |     |
|                     | DO3                       | 0:OFF  |       |     |
|                     | DO4                       | 0:OFF  |       |     |
|                     | DO5                       | 0:OFF  |       |     |
|                     | DO6                       | 0:OFF  |       |     |
|                     | DO7                       | 0:OFF  |       |     |
|                     | DO8                       | 0:OFF  |       |     |
|                     | DO9                       | 0:OFF  |       |     |
|                     | DO10                      | 0:OFF  |       |     |
|                     | DO11                      | 0:OFF  |       |     |
|                     | DO12                      | 0:OFF  |       |     |
|                     | DO13                      | 0:OFF  |       |     |
|                     | DO14                      | 0:OFF  |       |     |
|                     | DO15                      | 0:OFF  |       |     |
|                     | DO16                      | 0:OFF  |       |     |
|                     | DO17                      | 0:OFF  |       |     |
|                     | DO18                      | 0:OFF  |       |     |
|                     | DO19                      | 0:OFF  |       |     |
|                     | DO20                      | 0:OFF  |       |     |
|                     | DO21                      | 0:OFF  |       |     |
|                     | DO22                      | 0:OFF  |       |     |
|                     | DO23                      | 0:OFF  |       |     |
|                     | DO24                      | 0:OFF  |       |     |
|                     | DO25                      | 0:OFF  |       |     |



|  |      |                 |  |  |
|--|------|-----------------|--|--|
|  | DO26 | 0:OFF           |  |  |
|  | DO27 | 0:OFF           |  |  |
|  | DO28 | 0:OFF           |  |  |
|  | DO29 | 0:OFF           |  |  |
|  | DO30 | 0:OFF           |  |  |
|  | TX   | #255,SDOS:0<CR> |  |  |
|  | RX   | #255,OK<CR>     |  |  |

Sets all digital outputs to the new state OutAllDOS

The new state for all digital outputs

Bit 0: State of DO1 (=0:OFF, =1:ON)

Bit 1: State of DO2 (=0:OFF, =1:ON)

Bit 2: State of DO3 (=0:OFF, =1:ON)

...

Bit 27: State of DO28 (=0:OFF, =1:ON)

Bit 28: State of DO29 (=0:OFF, =1:ON)

Bit 29: State of DO30 (=0:OFF, =1:ON)

|                        |                           |   |       |    |
|------------------------|---------------------------|---|-------|----|
| SET DIGITAL OUTPUT DOx | ASCII<br>WRITE<br>COMMAND | #SDO<DONR>:<Out> <CR><br>Result:<br>#OK<CR> | ASCII | NO |
|                        | DONR                      | 2   |       |    |
|                        | DOx                       | 0:OFF                                       |       |    |
|                        | TX                        | #255,SDO2:0<CR>                             |       |    |
|                        | RX                        | N/A   |       |    |

<DONR>: 1=DO1..30=DO30

Sets the new state for digital output DOx. The state is defined with <Out>.

Out

The new state of the digital output DOx:

=0: digital output is OFF

=1: digital output is ON

|                     |                          |  |       |  |
|---------------------|--------------------------|--|-------|--|
| GET DIGITAL OUTPUTS | ASCII<br>READ<br>COMMAND | #GDOS<CR><br>Result:<br>#GDOS:<DOSDec>,<DOSHex> <CR>                   | ASCII |  |
|                     | TX                       | #255,GDOS<CR>  |       |  |
|                     | RX                       | #255,GDOS:0,0x0<CR>  |       |  |
|                     |                          | Actual status of digital outputs:00.0000.0000.0000.0000.0000.0000.0000 |       |  |

Returns the actual state of the digital outputs as decimal number and as hexadecimal number.

DOSDec, DOSHex

The current state of the digital outputs:

Bit 0: State of DO1 (=0:OFF, =1:ON)

Bit 1: State of DO2 (=0:OFF, =1:ON)

Bit 2: State of DO3 (=0:OFF, =1:ON)

...

Bit 27: State of DO28 (=0:OFF, =1:ON)

Bit 28: State of DO29 (=0:OFF, =1:ON)

Bit 29: State of DO30 (=0:OFF, =1:ON)

|                        |                          |   |       |  |
|------------------------|--------------------------|---|-------|--|
| GET DIGITAL OUTPUT DOx | ASCII<br>READ<br>COMMAND | #GDO<DONR> <CR><br>Result:<br>#GDO<DONR>:<DOxDec>,<DOxHex> <CR> | ASCII |  |
|                        | DONR                     | 2   |       |  |
|                        | TX                       | #255,GDO2 <CR>  |       |  |
|                        | RX                       | #255,GDO2:0,0x0 <CR>  |       |  |
|                        |                          | Actual status of digital output DO2:0=OFF                       |       |  |

Returns the actual state of the digital output DOx as decimal number and as hexadecimal number.

DOxDec, DOxHex

The current state of the digital output DOx:

=0: relay output is OFF

=1: relay output is ON

#### DIGITAL OUTPUTS: PULSE OUTPUT

|           |                           |   |       |     |
|-----------|---------------------------|---|-------|-----|
| PULSE DOx | ASCII<br>WRITE<br>COMMAND | #PDO<DONR>:<Time> <CR><br>Result:<br>#OK <CR> | ASCII | YES |
|           | DONR                      | 2   |       |     |
|           | TIME                      | 200   |       |     |
|           | TX                        | #255,PDO2:200 <CR>                            |       |     |
|           | RX                        | #255,OK <CR>                                  |       |     |

<DONR>: 1=DO1..30=DO30

<Time>: 0..65535\*100ms

This command switches the digital output DOx on for the pulse duration <PulseTimeIn100ms>\*100ms.

PulseTimeIn100ms: A duration in 100ms units.

The corresponding digital output is switched on for this time period.

|                     |                          |   |       |  |
|---------------------|--------------------------|---|-------|--|
| GET PULSE TIMER DOx | ASCII<br>READ<br>COMMAND | #GPT<DONR> <CR><br>Result:<br>#GPT:<TimeDec>,<TimeHex> <CR> | ASCII |  |
|                     | DONR                     | 2   |       |  |
|                     | TX                       | #255,GPT2 <CR>  |       |  |
|                     | RX                       | #255,GPT2:19937,0x4DE1 <CR>                                 |       |  |
|                     |                          | Actual pulse time for DO2:19,9s                             |       |  |

<DONR>: 1=DO1..30=DO30

Returns the remaining timer value of the pulse for digital output DOx in ms.

PulseTimeInMSDec, PulseTimeInMSHex

The remaining time of the pulse in Milliseconds

| Command NAME  | ASCII command type        | ASCII command structure                              | NEW REAL VALUE | NEW VALUE | DATA TYPE | DO WRITE |
|---|---------------------------|--|----------------|-----------|-----------|----------|
| <b>ASCII COMMANDS</b>   |                           |  |                |           |           |          |
| <b>DIGITAL OUTPUTS</b>  |                           |  |                |           |           |          |
| <b>DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION WHILE ON</b>   |                           |  |                |           |           |          |
| SET DIGITAL OUTPUTS<br>ENABLE OPEN WIRE<br>DETECTION WHILE ON | ASCII<br>WRITE<br>COMMAND | #SDOEOWDONS:<OpenWireDOS> <CR><br>Result:<br>#OK<CR> |                |           | ASCII     | YES      |
|   | DO1                       | 0:OFF  |                |           |           |          |
|   | DO2                       | 0:OFF  |                |           |           |          |
|   | DO3                       | 0:OFF  |                |           |           |          |
|   | DO4                       | 0:OFF  |                |           |           |          |
|   | DO5                       | 0:OFF  |                |           |           |          |
|   | DO6                       | 0:OFF  |                |           |           |          |
|   | DO7                       | 0:OFF  |                |           |           |          |
|   | DO8                       | 0:OFF  |                |           |           |          |
|   | DO9                       | 0:OFF  |                |           |           |          |
|   | DO10                      | 0:OFF  |                |           |           |          |
|   | DO11                      | 0:OFF  |                |           |           |          |
|   | DO12                      | 0:OFF  |                |           |           |          |
|   | DO13                      | 0:OFF  |                |           |           |          |
|   | DO14                      | 0:OFF  |                |           |           |          |
|   | DO15                      | 0:OFF  |                |           |           |          |
|   | DO16                      | 0:OFF  |                |           |           |          |
|   | DO17                      | 0:OFF  |                |           |           |          |
|   | DO18                      | 0:OFF  |                |           |           |          |
|   | DO19                      | 0:OFF  |                |           |           |          |
|   | DO20                      | 0:OFF  |                |           |           |          |
|   | DO21                      | 0:OFF  |                |           |           |          |
|   | DO22                      | 0:OFF  |                |           |           |          |
|   | DO23                      | 0:OFF  |                |           |           |          |
|   | DO24                      | 0:OFF  |                |           |           |          |
|   | DO25                      | 0:OFF  |                |           |           |          |
|   | DO26                      | 0:OFF  |                |           |           |          |
|   | DO27                      | 0:OFF  |                |           |           |          |
|   | DO28                      | 0:OFF  |                |           |           |          |
|   | DO29                      | 0:OFF  |                |           |           |          |
|   | DO30                      | 0:OFF  |                |           |           |          |
|   | TX                        | #255,SDOEOWDONS:0<CR>                                |                |           |           |          |
|   | RX                        | N/A  |                |           |           |          |

Sets the open wire mode for all digital outputs to the new mode OpenWireDOS. This enables the diagnostic of open wire while the digital output is ON.

The new state for all digital outputs

Bit 0: New mode for DO1 (=0:DISABLED, =1:ENABLED)

Bit 1: New mode for DO2 (=0:DISABLED, =1:ENABLED)

...

Bit 28: New mode for DO29 (=0:DISABLED, =1:ENABLED)

Bit 29: New mode for DO30 (=0:DISABLED, =1:ENABLED)

|  |                           |  |       |     |
|--|---------------------------|--|-------|-----|
| SET DIGITAL OUTPUT<br>ENABLE OPEN WIRE<br>DETECTION WHILE ON | ASCII<br>WRITE<br>COMMAND | #SDOEOWDON<DONR>:<OpenWireDOx><CR><br>Result:<br>#OK<CR> | ASCII | YES |
|  | DONR                      | 2  |       |     |
|  | DOx                       | 0:DISABLE  |       |     |
|  | TX                        | #255,SDOEOWDON2:0<CR>                                    |       |     |
|  | RX                        | N/A  |       |     |

<DONR>: 1=DO1..30=DO30

<OpenWireDOx>: 0=DISABLE..1=ENABLE

Sets the open wire mode for digital output DOx to the new mode OpenWireDOx. This enables the diagnostic of open wire while the digital output is ON.

The new mode of the digital output DOx:

=0: diagnostic mode for digital output is DISABLED

=1: diagnostic mode for digital output is ENABLED

|   |                          |   |       |  |
|---|--------------------------|---|-------|--|
| GET DIGITAL OUTPUTS<br>ENABLE OPEN WIRE<br>DETECTION WHILE ON | ASCII<br>READ<br>COMMAND | #GDOEOWDONS<CR><br>Result:<br>#GDOEOWDONS:<OpenWireDOSDec>,<OpenWireDOSHex><CR>                                     | ASCII |  |
|   | TX                       | #255,GDOEOWDONS<CR>   |       |  |
|   | RX                       | #255,GDOEOWDONS:0,0x0<CR>   |       |  |
|   |                          | Actual mode for open wire diagnostic while ON of digital outputs:<br>DO1-DO30:00.0000.0000.0000.0000.0000.0000.0000 |       |  |

Returns the actual mode for open wire diagnostic while digital output is ON as decimal number and as hexadecimal number.

OpenWireDOSDec, OpenWireDOSHex

The current mode for open wire diagnostic while ON of the digital outputs:

Bit 0: Open wire diagnostic mode of DO1 (=0:DISABLED, =1:ENABLED)

Bit 1: Open wire diagnostic mode of DO2 (=0:DISABLED, =1:ENABLED)

...

Bit 28: Open wire diagnostic mode of DO29 (=0:DISABLED, =1:ENABLED)

Bit 29: Open wire diagnostic mode of DO30 (=0:DISABLED, =1:ENABLED)

|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
| GET DIGITAL OUTPUT<br>ENABLE OPEN WIRE<br>DETECTION WHILE ON | ASCII<br>READ<br>COMMAND | #GDOEOWDON<DONR><CR><br>Result:<br>#GDOEOWDON<DONR>:<OpenWireDOxDec>,<OpenWireDOxHex><CR> | ASCII |  |
|  | DONR                     | 2   |       |  |
|  | TX                       | #255,GDOEOWDON2<CR>   |       |  |
|  | RX                       | #255,GDOEOWDON2:0,0x0<CR>   |       |  |
|  |                          | Actual open wire diagnostic mode while ON of digital output DO2:0=DISABLED                |       |  |

<DONR>: 1=DO1..30=DO30

Returns the actual open wire diagnostic mode while ON of the digital output DOx as decimal number and as hexadecimal number.

OpenWireDOxDec, OpenWireDOxHex

The current diagnostic mode of the digital output DOx:

=0: open wire diagnostic mode for digital output is DISABLED

=1: open wire diagnostic mode for digital output is ENABLED

**DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION WHILE OFF**

| SET DIGITAL OUTPUTS<br>ENABLE OPEN WIRE<br>DETECTION WHILE OFF   | ASCII<br>WRITE<br>COMMAND | #SDOEOWDOFFS:<OpenWireDOS> <CR><br>Result:<br>#OK<CR>      | ASCII | YES |
|--|---------------------------|--|-------|-----|
|  | DO1                       | 0:OFF  |       |     |
|  | DO2                       | 0:OFF  |       |     |
|  | DO3                       | 0:OFF  |       |     |
|  | DO4                       | 0:OFF  |       |     |
|  | DO5                       | 0:OFF  |       |     |
|  | DO6                       | 0:OFF  |       |     |
|  | DO7                       | 0:OFF  |       |     |
|  | DO8                       | 0:OFF  |       |     |
|  | DO9                       | 0:OFF  |       |     |
|  | DO10                      | 0:OFF  |       |     |
|  | DO11                      | 0:OFF  |       |     |
|  | DO12                      | 0:OFF  |       |     |
|  | DO13                      | 0:OFF  |       |     |
|  | DO14                      | 0:OFF  |       |     |
|  | DO15                      | 0:OFF  |       |     |
|  | DO16                      | 0:OFF  |       |     |
|  | DO17                      | 0:OFF  |       |     |
|  | DO18                      | 0:OFF  |       |     |
|  | DO19                      | 0:OFF  |       |     |
|  | DO20                      | 0:OFF  |       |     |
|  | DO21                      | 0:OFF  |       |     |
|  | DO22                      | 0:OFF  |       |     |
|  | DO23                      | 0:OFF  |       |     |
|  | DO24                      | 0:OFF  |       |     |
|  | DO25                      | 0:OFF  |       |     |
|  | DO26                      | 0:OFF  |       |     |
|  | DO27                      | 0:OFF  |       |     |
|  | DO28                      | 0:OFF  |       |     |
|  | DO29                      | 0:OFF  |       |     |
|  | DO30                      | 0:OFF  |       |     |
|  | TX                        | #255,SDOEOWDOFFS:0<CR>                                     |       |     |
|  | RX                        | N/A  |       |     |
| Sets the open wire mode for all digital outputs to the new mode OpenWireDOS. This enables the diagnostic of open wire while the digital output is OFF.<br>The new state for all digital outputs<br>Bit 0: New mode for DO1 (=0:DISABLED, =1:ENABLED)<br>Bit 1: New mode for DO2 (=0:DISABLED, =1:ENABLED)<br>...<br>Bit 28: New mode for DO29 (=0:DISABLED, =1:ENABLED)<br>Bit 29: New mode for DO30 (=0:DISABLED, =1:ENABLED) |                           |  |       |     |
| SET DIGITAL OUTPUT<br>ENABLE OPEN WIRE<br>DETECTION WHILE OFF  | ASCII<br>WRITE<br>COMMAND | #SDOEOWDOFF<DONR>:<OpenWireDOx> <CR><br>Result:<br>#OK<CR> | ASCII | YES |

|   |                           |   |       |     |
|---|---------------------------|---|-------|-----|
|   | DONR                      | 2   |       |     |
|   | DOx                       | 0:DISABLE   |       |     |
|   | TX                        | #255,SDOEOWDOFF2:0<CR>  |       |     |
|   | RX                        | N/A   |       |     |
| <DONR>: 1=DO1..30=DO30  |                           |   |       |     |
| <OpenWireDOx>: 0=DISABLE..1=ENABLE  |                           |   |       |     |
| Sets the open wire mode for digital output DOx to the new mode OpenWireDOx. This enables the diagnostic of open wire while the digital output is OFF.<br>The new mode of the digital output DOx:<br>=0: diagnostic mode for digital output is DISABLED<br>=1: diagnostic mode for digital output is ENABLED   |                           |   |       |     |
| GET DIGITAL OUTPUTS<br>ENABLE OPEN WIRE<br>DETECTION WHILE OFF  | ASCII<br>READ<br>COMMAND  | #GDOEOWDOFFS<CR><br>Result:<br>#GDOEOWDOFFS:<OpenWireDOSDec>,<OpenWireDOSHex><CR>                               | ASCII |     |
|   | TX                        | #255,GDOEOWDOFFS<CR>  |       |     |
|   | RX                        | #255,GDOEOWDOFFS:0,0x0<CR>  |       |     |
|   |                           | Actual mode for open wire diagnostic while OFF of digital outputs:<br>DO1-DO30:00.0000.0000.0000.0000.0000.0000 |       |     |
| Returns the actual mode for open wire diagnostic while digital output is OFF as decimal number and as hexadecimal number.<br>OpenWireDOSDec, OpenWireDOSHex<br>The current mode for open wire diagnostic while OFF of the digital outputs:<br>Bit 0: Open wire diagnostic mode of DO1 (=0:DISABLED, =1:ENABLED)<br>Bit 1: Open wire diagnostic mode of DO2 (=0:DISABLED, =1:ENABLED)<br>...<br>Bit 28: Open wire diagnostic mode of DO29 (=0:DISABLED, =1:ENABLED)<br>Bit 29: Open wire diagnostic mode of DO30 (=0:DISABLED, =1:ENABLED) |                           |   |       |     |
| GET DIGITAL OUTPUT<br>ENABLE OPEN WIRE<br>DETECTION WHILE OFF   | ASCII<br>READ<br>COMMAND  | #GDOEOWDOFF<DONR><CR><br>Result:<br>#GDOEOWDOFF<DONR>:<OpenWireDOxDec>,<OpenWireDOxHex><CR>                     | ASCII |     |
|   | DONR                      | 2   |       |     |
|   | TX                        | #255,GDOEOWDOFF2<CR>  |       |     |
|   | RX                        | #255,GDOEOWDOFF2:0,0x0<CR>  |       |     |
|   |                           | Actual open wire diagnostic mode while OFF of digital output DO2:0=DISABLED                                     |       |     |
| <DONR>: 1=DO1..30=DO30  |                           |   |       |     |
| Returns the actual open wire diagnostic mode while OFF of the digital output DOx as decimal number and as hexadecimal number.<br>OpenWireDOxDec, OpenWireDOxHex<br>The current diagnostic mode of the digital output DOx:<br>=0: open wire diagnostic mode for digital output is DISABLED<br>=1: open wire diagnostic mode for digital output is ENABLED  |                           |   |       |     |
| <b>DIGITAL OUTPUTS: ENABLE SHORTCUT TO VDD DETECTION WHILE OFF</b>  |                           |   |       |     |
| SET DIGITAL OUTPUTS<br>ENABLE SHORTCUT TO VDD<br>DETECTION WHILE OFF  | ASCII<br>WRITE<br>COMMAND | #SDOESVDDS:<ShortCutDOS><CR><br>Result:<br>#OK<CR>  | ASCII | YES |
|   | DO1                       | 0:OFF   |       |     |
|   | DO2                       | 0:OFF   |       |     |
|   | DO3                       | 0:OFF   |       |     |
|   | DO4                       | 0:OFF   |       |     |
|   | DO5                       | 0:OFF   |       |     |
|   | DO6                       | 0:OFF   |       |     |

|  |      |                      |  |  |
|--|------|----------------------|--|--|
|  | DO7  | 0:OFF                |  |  |
|  | DO8  | 0:OFF                |  |  |
|  | DO9  | 0:OFF                |  |  |
|  | DO10 | 0:OFF                |  |  |
|  | DO11 | 0:OFF                |  |  |
|  | DO12 | 0:OFF                |  |  |
|  | DO13 | 0:OFF                |  |  |
|  | DO14 | 0:OFF                |  |  |
|  | DO15 | 0:OFF                |  |  |
|  | DO16 | 0:OFF                |  |  |
|  | DO17 | 0:OFF                |  |  |
|  | DO18 | 0:OFF                |  |  |
|  | DO19 | 0:OFF                |  |  |
|  | DO20 | 0:OFF                |  |  |
|  | DO21 | 0:OFF                |  |  |
|  | DO22 | 0:OFF                |  |  |
|  | DO23 | 0:OFF                |  |  |
|  | DO24 | 0:OFF                |  |  |
|  | DO25 | 0:OFF                |  |  |
|  | DO26 | 0:OFF                |  |  |
|  | DO27 | 0:OFF                |  |  |
|  | DO28 | 0:OFF                |  |  |
|  | DO29 | 0:OFF                |  |  |
|  | DO30 | 0:OFF                |  |  |
|  | TX   | #255,SDOESVDDS:0<CR> |  |  |
|  | RX   | N/A                  |  |  |

Sets the shortcut to VDD detection mode for all digital outputs to the new mode ShortCutDOS. This enables the diagnostic of shortcut to VDD while the digital output is OFF.

The new state for all digital outputs

Bit 0: New mode for DO1 (=0:DISABLED, =1:ENABLED)

Bit 1: New mode for DO2 (=0:DISABLED, =1:ENABLED)

...

Bit 28: New mode for DO29 (=0:DISABLED, =1:ENABLED)

Bit 29: New mode for DO30 (=0:DISABLED, =1:ENABLED)

|   |  |  |       |     |
|---|--|--|-------|-----|
| SET DIGITAL OUTPUT<br>ENABLE SHORTCUT TO VDD<br>DETECTION WHILE OFF | ASCII<br>WRITE<br>COMMAND<br>DONR<br>DOx<br>TX<br>RX | #SDOESVDD<DONR>:<ShortCutDOx><CR><br>Result:<br>#OK<CR><br>2<br>0:DISABLE<br>#255,SDOESVDD2:0<CR><br>N/A | ASCII | YES |
|---|--|--|-------|-----|

<DONR>: 1=DO1..30=DO30

<ShortCutDOx>: 0=DISABLE..1=ENABLE

Sets the shortcut to VDD mode for digital output DOx to the new mode ShortCutDOx. This enables the diagnostic of shortcut to VDD while the digital output is OFF.

The new mode of the digital output DOx:

=0: diagnostic mode for digital output is DISABLED

=1: diagnostic mode for digital output is ENABLED

|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
| GET DIGITAL OUTPUTS<br>ENABLE SHORT CUT TO VDD<br>DETECTION WHILE OFF  | ASCII<br>READ<br>COMMAND | #GDOESVDDS<CR><br>Result:<br>#GDOESDDS:<ShortCutDOSDec>,<ShortCutDOSHex><CR>            | ASCII |  |
|  | TX                       | #255,GDOESVDDS<CR>  |       |  |
|  | RX                       | #255,GDOESVDDS:0,0x0<CR>  |       |  |
|  |                          | Actual mode for shortcut to VDD diagnostic while OFF of digital outputs:                |       |  |
|  |                          | DO1-DO30:00.0000.0000.0000.0000.0000.0000   |       |  |
| Returns the actual mode for shortcut to VDD diagnostic while digital output is OFF as decimal number and as hexadecimal number.<br>ShortCutDOSDec, ShortCutDOSHex<br>The current mode for shortcut diagnostic while OFF of the digital outputs:<br>Bit 0: Open wire diagnostic mode of DO1 (=0:DISABLED, =1:ENABLED)<br>Bit 1: Open wire diagnostic mode of DO2 (=0:DISABLED, =1:ENABLED)<br>...<br>Bit 28: Open wire diagnostic mode of DO29 (=0:DISABLED, =1:ENABLED)<br>Bit 29: Open wire diagnostic mode of DO30 (=0:DISABLED, =1:ENABLED)                                 |                          |   |       |  |
| GET DIGITAL OUTPUT<br>ENABLE SHORT CUT TO VDD<br>DETECTION WHILE OFF   | ASCII<br>READ<br>COMMAND | #GDOESVDD<DONR><CR><br>Result:<br>#GDOESVDD<DONR>:<ShortCutDOxDec>,<ShortCutDOxHex><CR> | ASCII |  |
|  | DONR                     | 2   |       |  |
|  | TX                       | #255,GDOESVDD2<CR>  |       |  |
|  | RX                       | #255,GDOESVDD2:0,0x0<CR>  |       |  |
|  |                          | Actual shortcut to VDD diagnostic mode while OFF of digital output DO2:0=DISABLED       |       |  |
| <DONR>: 1=DO1..30=DO30   |                          |   |       |  |
| Returns the actual short cut to VDD diagnostic mode while OFF of the digital output DOx as decimal number and as hexadecimal number.<br>ShortCutDOxDec, ShortCutDOxHex<br>The current diagnostic mode of the digital output DOx:<br>=0: open wire diagnostic mode for digital output is DISABLED<br>=1: open wire diagnostic mode for digital output is ENABLED  |                          |   |       |  |
| <b>DIGITAL OUTPUTS: SPI STATUS</b>   |                          |   |       |  |
| GET SPI STATUS<br>DIGITAL OUTPUT GROUPS  | ASCII<br>READ<br>COMMAND | #GSSDOGS<CR><br>Result:<br>#GSSDOGS:<SPIDOGSDec>,<SPIDOGSHex><CR>                       | ASCII |  |
|  | TX                       | #255,GSSDOGS<CR>  |       |  |
|  | RX                       | #255,GSSDOGS:0,0x0<CR>  |       |  |
|  |                          | Actual SPI status of digital output groups:0000   |       |  |
| digital output group #1, chip #1:DO1-DO8<br>digital output group #2, chip #2:DO9-DO15<br>digital output group #3, chip #3:DO16-DO23<br>digital output group #4, chip #4:DO24-DO30  |                          |   |       |  |
| Returns the actual SPI communication state of the corresponding output group as decimal number and as hexadecimal number.<br>SPIDOGSDec,SPIDOGSHex<br>The current SPI communication state of the digital output group:<br>Bit 0: SPI communication state for digital output group #1 (=0:NO FAULT, =1:FAULT)<br>Bit 1: SPI communication state for digital output group #2 (=0:NO FAULT, =1:FAULT)<br>Bit 2: SPI communication state for digital output group #3 (=0:NO FAULT, =1:FAULT)<br>Bit 3: SPI communication state for digital output group #4 (=0:NO FAULT, =1:FAULT) |                          |   |       |  |
| GET SPI STATUS<br>DIGITAL OUTPUT GROUPx  | ASCII<br>READ<br>COMMAND | #GSSDOG<DOGRP><CR><br>Result:<br>#GSSDOG<DOGRP>:<SPIDOGxDec>,<SPIDOGxHex><CR>           | ASCII |  |



|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
|  | DOGRP                    | 4   |       |  |
|  | TX                       | #255,GSSDOG4<CR>  |       |  |
|  | RX                       | #255,GSSDOG4:0,0x0<CR>  |       |  |
|  |                          | Actual SPI status of digital output group DOG4:0=NO FAULT                                     |       |  |
| <DOGRP>: 1=CHIP1..4=CHIP4  |                          |   |       |  |
| digital output group #1, chip #1:DO1-DO8<br>digital output group #2, chip #2:DO9-DO15<br>digital output group #3, chip #3:DO16-DO23<br>digital output group #4, chip #4:DO24-DO30  |                          |   |       |  |
| Returns the actual SPI communication state of the digital output group DOGRP as decimal number and as hexadecimal number.<br>SPIDOGxDec, SPIDOGxHex<br>The current SPI communication state of the digital output group DOGRP:<br>=0: SPI communication state for output group is OK (NO FAULT)<br>=1: SPI communication state for output group is FAULT  |                          |   |       |  |
| <b>DIGITAL OUTPUTS: INTERRUPT STATUS</b>   |                          |   |       |  |
| GET DIGITAL OUTPUTS<br>INTERRUPT STATUS  | ASCII<br>READ<br>COMMAND | #GDOINTS<CR><br>Result:<br>#GDOINTS:<InterruptStatusDec>,<InterruptStatusHex><CR>             | ASCII |  |
|  | TX                       | #255,GDOINTS<CR>  |       |  |
|  | RX                       | #255,GDOINTS:0,0x0<CR>  |       |  |
|  |                          | Actual interrupt status of all digital output groups:   |       |  |
|  |                          | CHIP #1:0000.0000   |       |  |
|  |                          | CHIP #2:0000.0000   |       |  |
|  |                          | CHIP #3:0000.0000   |       |  |
|  |                          | CHIP #4:0000.0000   |       |  |
| digital output group #1, chip #1:DO1-DO8<br>digital output group #2, chip #2:DO9-DO15<br>digital output group #3, chip #3:DO16-DO23<br>digital output group #4, chip #4:DO24-DO30  |                          |   |       |  |
| Returns the actual interrupt state of all output groups as decimal number and as hexadecimal number.<br>InterruptStatusDec,InterruptStatusHex: The current interrupt state of digital output group 1-4 (CHIP1-4):<br>For each chip 8 bits are used: CHIP#1:Bits 0-7, CHIP#2:Bits 8-15, CHIP#3:Bits 16-23, CHIP#4:Bits 24-31<br><br>Bit 0: Overload detected (0=OK,1=FAULT)<br>Bit 1: Current limit detected(0=OK,1=FAULT)<br>Bit 2: Open wire while OFF detected (0=OK,1=FAULT)<br>Bit 3: Open wire while ON detected (0=OK,1=FAULT)<br>Bit 4: Short to VDD while ON detected (0=OK,1=FAULT)<br>Bit 5: Thermal error detected-shutdown (0=OK,1=FAULT)<br>Bit 6: Supply error detected (0=OK,1=FAULT)<br>Bit 7: Communication error detected (0=OK,1=FAULT) |                          |   |       |  |
| GET DIGITAL OUTPUT GROUPx<br>INTERRUPT STATUS  | ASCII<br>READ<br>COMMAND | #GDOINT<DOGRP><CR><br>Result:<br>#GDOINT<DOGRP>:<InterruptStatusDec>,<InterruptStatusHex><CR> | ASCII |  |
|  | DOGRP                    | 2   |       |  |
|  | TX                       | #255,GDOINT2<CR>  |       |  |
|  | RX                       | #255,GDOINT2:0,0x0<CR>  |       |  |
|  |                          | Actual interrupt status of digital output group 2:0000.0000                                   |       |  |
| <DOGRP>: 1=CHIP1..4=CHIP4  |                          |   |       |  |

digital output group #1, chip #1:DO1-DO8  
 digital output group #2, chip #2:DO9-DO15  
 digital output group #3, chip #3:DO16-DO23  
 digital output group #4, chip #4:DO24-DO30

Returns the actual interrupt state of the digital output group DOGRP as decimal number and as hexadecimal number.

InterruptStatusDec, InterruptStatusHex  
 Bit 0:Overload detected (0=OK,1=FAULT)  
 Bit 1:Current limit detected(0=OK,1=FAULT)  
 Bit 2:Open wire while OFF detected (0=OK,1=FAULT)  
 Bit 3:Open wire while ON detected (0=OK,1=FAULT)  
 Bit 4:Short to VDD while ON detected (0=OK,1=FAULT)  
 Bit 5:Thermal error detected-shutdown (0=OK,1=FAULT)  
 Bit 6:Supply error detected (0=OK,1=FAULT)  
 Bit 7:Communication error detected (0=OK,1=FAULT)

### DIGITAL OUTPUTS: GLOBAL ERRORS

| GET DIGITAL OUTPUTS<br>GLOBAL ERRORS | ASCII<br>READ<br>COMMAND | #GDOERRS<CR><br>Result:<br>#GDOERRS:<GlobalErrorsDec>,<GlobalErrorsHex><CR> | ASCII |  |
|--------------------------------------|--------------------------|---|-------|--|
|                                      | TX                       | #255,GDOERRS<CR>  |       |  |
|                                      | RX                       | #255,GDOERRS:0,0x0<CR>  |       |  |
|                                      |                          | Actual global errors of all digital output groups:                          |       |  |
|                                      |                          | CHIP #1:0000.0000   |       |  |
|                                      |                          | CHIP #2:0000.0000   |       |  |
|                                      |                          | CHIP #3:0000.0000   |       |  |
|                                      |                          | CHIP #4:0000.0000   |       |  |

digital output group #1, chip #1:DO1-DO8  
 digital output group #2, chip #2:DO9-DO15  
 digital output group #3, chip #3:DO16-DO23  
 digital output group #4, chip #4:DO24-DO30

Returns the actual global error state of all output groups as decimal number and as hexadecimal number.

GlobalErrorsDec,GlobalErrorsHex: The current global error of all digital output groups 1-4 (CHIP1-4)  
 For each chip 8 bits are used: CHIP#1:Bits 0-7, CHIP#2:Bits 8-15, CHIP#3:Bits 16-23, CHIP#4:Bits 24-31

Bit 0: Internal under voltage detected (0=OK,1=FAULT)  
 Bit 1: VA under voltage detected (<2.3V) (0=OK,1=FAULT)  
 Bit 2: VDD not good detected (<17V) (0=OK,1=FAULT)  
 Bit 3: VDD warning detected (<12V) (0=OK,1=FAULT)  
 Bit 4: VDD under voltage detected (<8V) (0=OK,1=FAULT)  
 Bit 5: Thermal shutdown (0=OK,1=FAULT)  
 Bit 6: Synchronisation error detected (0=OK,1=FAULT)  
 Bit 7: Watchdog error detected (0=OK,1=FAULT)

| GET DIGITAL OUTPUT GROUPx<br>GLOBAL ERRORS | ASCII<br>READ<br>COMMAND | #GDOERR<DOGRP><CR><br>Result:<br>#GDOERR<DOGRP>:<GlobalErrorsDec>,<GlobalErrorsHex><CR> | ASCII |  |
|--|--------------------------|---|-------|--|
|  | DOGRP                    | 2   |       |  |
|  | TX                       | #255,GDOERR2<CR>  |       |  |
|  | RX                       | #255,GDOERR2:0,0x0<CR>  |       |  |
|  |                          | Actual global errors of digital output group 2:0000.0000                                |       |  |

<DOGRP>: 1=CHIP1..4=CHIP4

digital output group #1, chip #1:DO1-DO8  
 digital output group #2, chip #2:DO9-DO15  
 digital output group #3, chip #3:DO16-DO23  
 digital output group #4, chip #4:DO24-DO30

Returns the actual interrupt state of the digital output group DOGRP as decimal number and as hexadecimal number.

InterruptStatusDec, InterruptStatusHex

Bit 0:Internal under voltage detected (0=OK,1=FAULT)  
 Bit 1:VA under voltage detected (<2.3V) (0=OK,1=FAULT)  
 Bit 2:VDD not good detected (<17V) (0=OK,1=FAULT)  
 Bit 3:VDD warning detected (<12V) (0=OK,1=FAULT)  
 Bit 4:VDD under voltage detected (<8V) (0=OK,1=FAULT)  
 Bit 5:Thermal shutdown (0=OK,1=FAULT)  
 Bit 6:Synchronisation error detected (0=OK,1=FAULT)  
 Bit 7:Watchdog error detected (0=OK,1=FAULT)

#### DIGITAL OUTPUTS: THERMAL OVERLOAD DETECTION

|  |                          |  |       |  |
|--|--------------------------|--|-------|--|
| GET DIGITAL OUTPUTS<br>THERMAL OVERLOAD<br>DETECTION | ASCII<br>READ<br>COMMAND | #GDOTOS<CR><br>Result:<br>#GDOTOS:<StatusDOSDec>,<StatusDOSHex><CR>  | ASCII |  |
|  | TX                       | #255,GDOTOS<CR>  |       |  |
|  | RX                       | #255,GDOTOS:0,0x0<CR>  |       |  |
|  |                          | Actual thermal overload detection status of digital outputs:<br>DO1-DO30:00.0000.0000.0000.0000.0000.0000.0000 |       |  |

Returns the actual state of the thermal overload detection for all digital outputs as decimal number and as hexadecimal number.

StatusDOSDec, StatusDOSHex

The current detection state of the digital outputs:

Bit 0: Thermal overload detected on DO1 (=0:NO, =1:YES)  
 Bit 1: Thermal overload detected on DO2 (=0:NO, =1:YES)  
 ...  
 Bit 28: Thermal overload detected on DO29 (=0:NO, =1:YES)  
 Bit 29: Thermal overload detected on DO30 (=0:NO, =1:YES)

|   |                          |   |       |  |
|---|--------------------------|---|-------|--|
| GET DIGITAL OUTPUT DOx<br>THERMAL OVERLOAD<br>DETECTION | ASCII<br>READ<br>COMMAND | #GDOTO<DONR><CR><br>Result:<br>#GDOTO<DONR>:<StatusDOxDec>,<StatusDOxHex><CR> | ASCII |  |
|   | DONR                     | 2   |       |  |
|   | TX                       | #255,GDOTO2<CR>   |       |  |
|   | RX                       | #255,GDOTO2:0,0x0<CR>   |       |  |
|   |                          | Thermal overload detected on DO2:0=NO   |       |  |

<DONR>: 1=DO1..30=DO30

Returns the actual state of the thermal overload detection for digital output DOx as decimal number and as hexadecimal number.

StatusDOxDec, StatusDOxHex

The current detection state for digital output DOx:

=0: digital output is OK  
 =1: FAULT detected on digital output

#### DIGITAL OUTPUTS: CURRENT LIMIT DETECTION

|   |                          |   |       |  |
|---|--------------------------|---|-------|--|
| GET DIGITAL OUTPUTS<br>CURRENT LIMIT<br>DETECTION | ASCII<br>READ<br>COMMAND | #GDOCLS<CR><br>Result:<br>#GDOCLS:<StatusDOSDec>,<StatusDOSHex><CR> | ASCII |  |
|   | TX                       | #255,GDOCLS<CR>   |       |  |
|   | RX                       | #255,GDOCLS:0,0x0<CR>   |       |  |

|  |                          |  |       |  |
|--|--------------------------|--|-------|--|
|  |                          | Actual current limit detection status of digital outputs:<br>DO1-DO30:00.0000.0000.0000.0000.0000.0000.0000            |       |  |
| Returns the actual state of the current limit detection for all digital outputs as decimal number and as hexadecimal number.<br>StatusDOSDec, StatusDOSHex<br>The current detection state of the digital outputs:<br>Bit 0: Current limit reached for DO1 (=0:NO, =1:YES)<br>Bit 1: Current limit reached for DO2 (=0:NO, =1:YES)<br>...<br>Bit 28: Current limit reached for DO29 (=0:NO, =1:YES)<br>Bit 29: Current limit reached for DO30 (=0:NO, =1:YES) |                          |  |       |  |
| GET DIGITAL OUTPUT DOx<br>CURRENT LIMIT<br>DETECTION   | ASCII<br>READ<br>COMMAND | #GDOCL<DONR><CR><br>Result:<br>#GDOCL<DONR>:<StatusDOxDec>,<StatusDOxHex><CR>  | ASCII |  |
|  | DONR                     | 2  |       |  |
|  | TX                       | #255,GDOCL2<CR>  |       |  |
|  | RX                       | #255,GDOCL2:0,0x0<CR>  |       |  |
|  |                          | Actual current limit detection status of DO2:0=OK  |       |  |
| <DONR>: 1=DO1..30=DO30   |                          |  |       |  |
| Returns the actual state of the current limit detection for digital output DOx as decimal number and as hexadecimal number.<br>StatusDOxDec, StatusDOxHex<br>The current detection state for digital output DOx:<br>=0: digital output is OK<br>=1: FAULT detected on digital output   |                          |  |       |  |
| <b>DIGITAL OUTPUTS: OPEN WIRE DETECTION WHILE ON</b>   |                          |  |       |  |
| GET DIGITAL OUTPUTS<br>OPEN WIRE FAULT<br>DETECTION WHILE ON   | ASCII<br>READ<br>COMMAND | #GDOOWFONS<CR><br>Result:<br>#GDOOWFONS:<StatusDOSDec>,<StatusDOSHex><CR>  | ASCII |  |
|  | TX                       | #255,GDOOWFONS<CR>   |       |  |
|  | RX                       | #255,GDOOWFONS:0,0x0<CR>   |       |  |
|  |                          | Actual open wire fault detection status while ON of digital outputs:<br>DO1-DO30:00.0000.0000.0000.0000.0000.0000.0000 |       |  |
| Returns the actual state of the open wire fault detection while ON for all digital outputs as decimal number and as hexadecimal number.<br>StatusDOSDec, StatusDOSHex<br>The current detection state of the digital outputs:<br>Bit 0: State of DO1 (=0:OK, =1:FAULT)<br>Bit 1: State of DO2 (=0:OK, =1:FAULT)<br>...<br>Bit 28: State of DO29 (=0:OK, =1:FAULT)<br>Bit 29: State of DO30 (=0:OK, =1:FAULT)  |                          |  |       |  |
| GET DIGITAL OUTPUT DOx<br>OPEN WIRE FAULT<br>DETECTION WHILE ON  | ASCII<br>READ<br>COMMAND | #GDOOWFON<DONR><CR><br>Result:<br>#GDOOWFON<DONR>:<StatusDOxDec>,<StatusDOxHex><CR>                                    | ASCII |  |
|  | DONR                     | 2  |       |  |
|  | TX                       | #255,GDOOWFON2<CR>   |       |  |
|  | RX                       | #255,GDOOWFON2:0,0x0<CR>   |       |  |
|  |                          | Actual open wire fault detection status while ON of DO2:0=OK   |       |  |
| <DONR>: 1=DO1..30=DO30   |                          |  |       |  |

Returns the actual state of the open wire fault detection while ON for digital output DOx as decimal number and as hexadecimal number.

StatusDOxDec, StatusDOxHex

The current detection state for digital output DOx:

=0: digital output is OK

=1: FAULT detected on digital output

#### DIGITAL OUTPUTS: OPEN WIRE DETECTION WHILE OFF

|   |                          |   |       |  |
|---|--------------------------|---|-------|--|
| GET DIGITAL OUTPUTS<br>OPEN WIRE FAULT<br>DETECTION WHILE OFF | ASCII<br>READ<br>COMMAND | #GDOOWFOFFS<CR><br>Result:<br>#GDOOWFOFFS:<StatusDOSDec>,<StatusDOSHex><CR> | ASCII |  |
|   | TX                       | #255,GDOOWFOFFS<CR>   |       |  |
|   | RX                       | #255,GDOOWFOFFS:0,0x0<CR>   |       |  |
|   |                          | Actual open wire fault detection status while OFF of digital outputs:       |       |  |
|   |                          | DO1-DO30:00.0000.0000.0000.0000.0000.0000.0000                              |       |  |

Returns the actual state of the open wire fault detection while OFF for all digital outputs as decimal number and as hexadecimal number.

StatusDOSDec, StatusDOSHex

The current detection state of the digital outputs:

Bit 0: State of DO1 (=0:OK, =1:FAULT)

Bit 1: State of DO2 (=0:OK, =1:FAULT)

...

Bit 28: State of DO29 (=0:OK, =1:FAULT)

Bit 29: State of DO30 (=0:OK, =1:FAULT)

|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
| GET DIGITAL OUTPUT DOx<br>OPEN WIRE FAULT<br>DETECTION WHILE OFF | ASCII<br>READ<br>COMMAND | #GDOOWFOFF<DONR><CR><br>Result:<br>#GDOOWFOFF<DONR>:<StatusDOxDec>,<StatusDOxHex><CR> | ASCII |  |
|  | DONR                     | 2   |       |  |
|  | TX                       | #255,GDOOWFOFF2<CR>   |       |  |
|  | RX                       | #255,GDOOWFOFF2:0,0x0<CR>   |       |  |
|  |                          | Actual open wire fault detection status while OFF of DO2:0=OK                         |       |  |

<DONR>: 1=DO1..30=DO30

Returns the actual state of the open wire fault detection while OFF for digital output DOx as decimal number and as hexadecimal number.

StatusDOxDec, StatusDOxHex

The current detection state for digital output DOx:

=0: digital output is OK

=1: FAULT detected on digital output

#### DIGITAL OUTPUTS: SHORTCUT TO VDD DETECTION WHILE OFF

|   |                          |   |       |  |
|---|--------------------------|---|-------|--|
| GET DIGITAL OUTPUTS<br>SHORTCUT TO VDD FAULT<br>DETECTION WHILE OFF | ASCII<br>READ<br>COMMAND | #GDOSVDDS<CR><br>Result:<br>#GDOSVDDS:<StatusDOSDec>,<StatusDOSHex><CR>     | ASCII |  |
|   | TX                       | #255,GDOSVDDS<CR>   |       |  |
|   | RX                       | #255,GDOSVDDS:0,0x0<CR>   |       |  |
|   |                          | Actual shortcut to VDD fault detection status while OFF of digital outputs: |       |  |
|   |                          | DO1-DO30:00.0000.0000.0000.0000.0000.0000.0000                              |       |  |

Returns the actual state of the shortcut to VDD fault detection while OFF for all digital outputs as decimal number and as hexadecimal number.

StatusDOSDec, StatusDOSHex

The current detection state of the digital outputs:

Bit 0: State of DO1 (=0:OK, =1:FAULT)

Bit 1: State of DO2 (=0:OK, =1:FAULT)

...

Bit 28: State of DO29 (=0:OK, =1:FAULT)

Bit 29: State of DO30 (=0:OK, =1:FAULT)

|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
| GET DIGITAL OUTPUT DOx<br>SHORTCUT TO VDD FAULT<br>DETECTION WHILE OFF   | ASCII<br>READ<br>COMMAND | #GDOSVDD<DONR> <CR><br>Result:<br>#GDOSVDD<DONR>:<StatusDOxDec>,<StatusDOxHex> <CR> | ASCII |  |
|  | DONR                     | 2   |       |  |
|  | TX                       | #255,GDOSVDD2<CR>   |       |  |
|  | RX                       | #255,GDOSVDD1:0,0x0<CR>   |       |  |
|  |                          | Actual shortcut to VDD fault detection status while OFF of DO2:0=OK                 |       |  |
| <DONR>: 1=DO1..30=DO30   |                          |   |       |  |
| Returns the actual state of the shortcut to VDD fault detection while OFF for digital output DOx as decimal number and as hexadecimal number.<br>StatusDOxDec, StatusDOxHex<br>The current detection state for digital output DOx:<br>=0: digital output is OK<br>=1: FAULT detected on digital output |                          |   |       |  |
| GET DIGITAL OUTPUTS<br>CHIPSET NAME  | ASCII<br>READ<br>COMMAND | #GDOCHIPSET<CR><br>Result:<br>#GDOCHIPSET:<ChipSetName>                             | ASCII |  |
|  | TX                       | #255,GDOCHIPSET<CR>   |       |  |
|  | RX                       | #255,GDOCHIPSET:MAX14915<CR>  |       |  |
|  |                          | Actual name of chipset for digital outputs:MAX14915                                 |       |  |
| Returns the actual name of the chipset of the digital outputs  |                          |   |       |  |

| Command NAME                                     | ASCII command type  | ASCII command structure                       | NEW REAL VALUE | NEW VALUE | DATA TYPE | DO WRITE |
|--|---------------------|---|----------------|-----------|-----------|----------|
| ASCII COMMANDS                                   |                     |   |                |           |           |          |
| DIGITAL OUTPUTS                                  |                     |   |                |           |           |          |
| INITIAL & WATCHDOG STATE FOR DIGITAL OUTPUTS     |                     |   |                |           |           |          |
| SET INITIAL & WATCHDOG STATE FOR DIGITAL OUTPUTS | ASCII WRITE COMMAND | #SCDOS:<OutAllDOS> <CR><br>Result:<br>#OK<CR> |                |           | ASCII     | YES      |
|  | DO1                 | 0:OFF   |                |           |           |          |
|  | DO2                 | 0:OFF   |                |           |           |          |
|  | DO3                 | 0:OFF   |                |           |           |          |
|  | DO4                 | 0:OFF   |                |           |           |          |
|  | DO5                 | 0:OFF   |                |           |           |          |
|  | DO6                 | 0:OFF   |                |           |           |          |
|  | DO7                 | 0:OFF   |                |           |           |          |
|  | DO8                 | 0:OFF   |                |           |           |          |
|  | DO9                 | 0:OFF   |                |           |           |          |
|  | DO10                | 0:OFF   |                |           |           |          |
|  | DO11                | 0:OFF   |                |           |           |          |
|  | DO12                | 0:OFF   |                |           |           |          |
|  | DO13                | 0:OFF   |                |           |           |          |
|  | DO14                | 0:OFF   |                |           |           |          |
|  | DO15                | 0:OFF   |                |           |           |          |
|  | DO16                | 0:OFF   |                |           |           |          |
|  | DO17                | 0:OFF   |                |           |           |          |
|  | DO18                | 0:OFF   |                |           |           |          |
|  | DO19                | 0:OFF   |                |           |           |          |
|  | DO20                | 0:OFF   |                |           |           |          |
|  | DO21                | 0:OFF   |                |           |           |          |
|  | DO22                | 0:OFF   |                |           |           |          |
|  | DO23                | 0:OFF   |                |           |           |          |
|  | DO24                | 0:OFF   |                |           |           |          |
|  | DO25                | 0:OFF   |                |           |           |          |
|  | DO26                | 0:OFF   |                |           |           |          |
|  | DO27                | 0:OFF   |                |           |           |          |
|  | DO28                | 0:OFF   |                |           |           |          |
|  | DO29                | 0:OFF   |                |           |           |          |
|  | DO30                | 0:OFF   |                |           |           |          |
|  | TX                  | #255,SCDOS:0<CR>                              |                |           |           |          |
|  | RX                  | #255,OK<CR>                                   |                |           |           |          |

This command sets all digital outputs to a new state for controller restart and watchdog function. The state is saved in FRAM.  
This state is used after power on and after a communication watchdog timeout, if a watchdog time is configured.

OutAllDOS

The new state for the digital outputs:

Bit 0: New state of DO1 (=0:OFF, =1:ON)

Bit 1: New state of DO2 (=0:OFF, =1:ON)

...

Bit 28: New state of DO29 (=0:OFF, =1:ON)

Bit 29: New state of DO30 (=0:OFF, =1:ON)

|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
| GET INITIAL & WATCHDOG STATE FOR DIGITAL OUTPUTS | ASCII<br>READ<br>COMMAND | #GCDOS<CR><br>Result:<br>#GCDOS:<DOSDec>,<DOSHex><CR> | ASCII |  |
|  | TX                       | #255,GCDOS<CR>  |       |  |
|  | RX                       | #255,GDOS:0,0x0<CR>                                   |       |  |
|  |                          | Init & watchdog configuration for digital outputs:    |       |  |
|  |                          | DO1-DO30:00.0000.0000.0000.0000.0000.0000             |       |  |

Returns the actual initial and watchdog state of the digital outputs as decimal number and as hexadecimal number. This state is used after power on and after a communication watchdog timeout, if a watchdog time is configured

DOSDec, DOSHex

The current state of the digital outputs:

Bit 0: State of DO1 (=0:OFF, =1:ON)

Bit 1: State of DO2 (=0:OFF, =1:ON)

...

Bit 28: State of DO29 (=0:OFF, =1:ON)

Bit 29: State of DO30 (=0:OFF, =1:ON)

#### DIGITAL OUTPUTS: INIT & WATCHDOG ENABLE OPEN WIRE DETECTION WHILE ON

|  |                           |  |       |     |
|--|---------------------------|--|-------|-----|
| SET CONFIG DIGITAL OUTPUTS<br>ENABLE OPEN WIRE<br>DETECTION WHILE ON | ASCII<br>WRITE<br>COMMAND | #SCDOEOWDONS:<OpenWireDOS><CR><br>Result:<br>#OK<CR> | ASCII | YES |
|  | DO1                       | 1:ENABLE   |       |     |
|  | DO2                       | 1:ENABLE   |       |     |
|  | DO3                       | 1:ENABLE   |       |     |
|  | DO4                       | 1:ENABLE   |       |     |
|  | DO5                       | 1:ENABLE   |       |     |
|  | DO6                       | 1:ENABLE   |       |     |
|  | DO7                       | 1:ENABLE   |       |     |
|  | DO8                       | 1:ENABLE   |       |     |
|  | DO9                       | 1:ENABLE   |       |     |
|  | DO10                      | 1:ENABLE   |       |     |
|  | DO11                      | 1:ENABLE   |       |     |
|  | DO12                      | 1:ENABLE   |       |     |
|  | DO13                      | 1:ENABLE   |       |     |
|  | DO14                      | 1:ENABLE   |       |     |
|  | DO15                      | 1:ENABLE   |       |     |
|  | DO16                      | 1:ENABLE   |       |     |



|   |                           |  |       |     |
|---|---------------------------|--|-------|-----|
|   | DO17                      | 1:ENABLE   |       |     |
|   | DO18                      | 1:ENABLE   |       |     |
|   | DO19                      | 1:ENABLE   |       |     |
|   | DO20                      | 1:ENABLE   |       |     |
|   | DO21                      | 1:ENABLE   |       |     |
|   | DO22                      | 1:ENABLE   |       |     |
|   | DO23                      | 1:ENABLE   |       |     |
|   | DO24                      | 1:ENABLE   |       |     |
|   | DO25                      | 1:ENABLE   |       |     |
|   | DO26                      | 1:ENABLE   |       |     |
|   | DO27                      | 1:ENABLE   |       |     |
|   | DO28                      | 1:ENABLE   |       |     |
|   | DO29                      | 1:ENABLE   |       |     |
|   | DO30                      | 1:ENABLE   |       |     |
|   | TX                        | #255,SCDOEOWDONS:1073741823<CR>  |       |     |
|   | RX                        | #255,OK<CR>  |       |     |
| Sets the open wire mode for all digital outputs to the new mode OpenWireDOS for init & watchdog. This enables the diagnostic of open wire while the digital output is ON.<br>This state is used after power on and after a communication watchdog timeout, if a watchdog time is configured<br>The new state for all digital outputs<br>Bit 0: New mode for DO1 (=0:DISABLED, =1:ENABLED)<br>Bit 1: New mode for DO2 (=0:DISABLED, =1:ENABLED)<br>...<br>Bit 28: New mode for DO29 (=0:DISABLED, =1:ENABLED)<br>Bit 29: New mode for DO30 (=0:DISABLED, =1:ENABLED)   |                           |  |       |     |
| GET CONFIG DIGITAL OUTPUTS<br>ENABLE OPEN WIRE<br>DETECTION WHILE ON  | ASCII<br>READ<br>COMMAND  | #GCDOEOWDONS<CR><br>Result:<br>#GCDOEOWDONS:<OpenWireDOSDec>,<OpenWireDOSHex><CR>  | ASCII |     |
|   | TX                        | #255,GCDOEOWDONS<CR>   |       |     |
|   | RX                        | #255,GCDOEOWDONS:0,0x0<CR>   |       |     |
|   |                           | Init & watchdog configuration for open wire diagnostic while ON of digital outputs:<br>DO1-DO30:00.0000.0000.0000.0000.0000.0000 |       |     |
| Returns the actual mode for open wire diagnostic while digital output is ON as decimal number and as hexadecimal number.<br>This values are used after power on of the module an after a watchdog event.<br>OpenWireDOSDec, OpenWireDOSHex<br>The current mode for open wire diagnostic while ON of the digital outputs:<br>Bit 0: Open wire diagnostic mode of DO1 (=0:DISABLED, =1:ENABLED)<br>Bit 1: Open wire diagnostic mode of DO2 (=0:DISABLED, =1:ENABLED)<br>...<br>Bit 28: Open wire diagnostic mode of DO29 (=0:DISABLED, =1:ENABLED)<br>Bit 29: Open wire diagnostic mode of DO30 (=0:DISABLED, =1:ENABLED) |                           |  |       |     |
| <b>DIGITAL OUTPUTS: INIT &amp; WATCHDOG ENABLE OPEN WIRE DETECTION WHILE OFF</b>  |                           |  |       |     |
| SET CONFIG DIGITAL OUTPUTS<br>ENABLE OPEN WIRE<br>DETECTION WHILE OFF   | ASCII<br>WRITE<br>COMMAND | #SCDOEOWDOFFS:<OpenWireDOS><CR><br>Result:<br>#OK<CR>  | ASCII | YES |
|   | DO1                       | 1:ENABLE   |       |     |
|   | DO2                       | 1:ENABLE   |       |     |

|  |      |                                   |  |  |
|--|------|-----------------------------------|--|--|
|  | DO3  | 1:ENABLE                          |  |  |
|  | DO4  | 1:ENABLE                          |  |  |
|  | DO5  | 1:ENABLE                          |  |  |
|  | DO6  | 1:ENABLE                          |  |  |
|  | DO7  | 1:ENABLE                          |  |  |
|  | DO8  | 1:ENABLE                          |  |  |
|  | DO9  | 1:ENABLE                          |  |  |
|  | DO10 | 1:ENABLE                          |  |  |
|  | DO11 | 1:ENABLE                          |  |  |
|  | DO12 | 1:ENABLE                          |  |  |
|  | DO13 | 1:ENABLE                          |  |  |
|  | DO14 | 1:ENABLE                          |  |  |
|  | DO15 | 1:ENABLE                          |  |  |
|  | DO16 | 1:ENABLE                          |  |  |
|  | DO17 | 1:ENABLE                          |  |  |
|  | DO18 | 1:ENABLE                          |  |  |
|  | DO19 | 1:ENABLE                          |  |  |
|  | DO20 | 1:ENABLE                          |  |  |
|  | DO21 | 1:ENABLE                          |  |  |
|  | DO22 | 1:ENABLE                          |  |  |
|  | DO23 | 1:ENABLE                          |  |  |
|  | DO24 | 1:ENABLE                          |  |  |
|  | DO25 | 1:ENABLE                          |  |  |
|  | DO26 | 1:ENABLE                          |  |  |
|  | DO27 | 1:ENABLE                          |  |  |
|  | DO28 | 1:ENABLE                          |  |  |
|  | DO29 | 1:ENABLE                          |  |  |
|  | DO30 | 1:ENABLE                          |  |  |
|  | TX   | #255,SCDOEOWDOFFS:1073741823 <CR> |  |  |
|  | RX   | #255,OK <CR>                      |  |  |

Sets the open wire mode for all digital outputs to the new mode OpenWireDOS for init & watchdog. This enables the diagnostic of open wire while the digital output is OFF.  
This state is used after power on and after a communication watchdog timeout, if a watchdog time is configured

The new state for all digital outputs

Bit 0: New mode for DO1 (=0:DISABLED, =1:ENABLED)

Bit 1: New mode for DO2 (=0:DISABLED, =1:ENABLED)

...

Bit 28: New mode for DO29 (=0:DISABLED, =1:ENABLED)

Bit 29: New mode for DO30 (=0:DISABLED, =1:ENABLED)

|                            |         |  |       |  |
|----------------------------|---------|--|-------|--|
| GET CONFIG DIGITAL OUTPUTS | ASCII   | #GCDOEOWDOFFS<CR>  | ASCII |  |
| ENABLE OPEN WIRE           | READ    | Result:  |       |  |
| DETECTION WHILE OFF        | COMMAND | #GCDOEOWDOFFS:<OpenWireDOSDec>, <OpenWireDOSHex><CR>                                 |       |  |
|                            | TX      | #255,GCDOEOWDOFFS<CR>  |       |  |
|                            | RX      | #255,GCDOEOWDOFFS:0,0x0<CR>  |       |  |
|                            |         | Init & watchdog configuration for open wire diagnostic while OFF of digital outputs: |       |  |

|   |                           | DO1-DO30:00.0000.0000.0000.0000.0000.0000.0000       |       |     |
|---|---------------------------|--|-------|-----|
| Returns the actual mode for open wire diagnostic while digital output is OFF as decimal number and as hexadecimal number.<br>This values are used after power on of the module an after a watchdog event.<br>OpenWireDOSDec, OpenWireDOSHex<br>The current mode for open wire diagnostic while OFF of the digital outputs:<br>Bit 0: Open wire diagnostic mode of DO1 (=0:DISABLED, =1:ENABLED)<br>Bit 1: Open wire diagnostic mode of DO2 (=0:DISABLED, =1:ENABLED)<br>...<br>Bit 28: Open wire diagnostic mode of DO29 (=0:DISABLED, =1:ENABLED)<br>Bit 29: Open wire diagnostic mode of DO30 (=0:DISABLED, =1:ENABLED) |                           |  |       |     |
| <b>DIGITAL OUTPUTS: INIT &amp; WATCHDOG ENABLE SHORTCUT TO VDD DETECTION WHILE OFF</b>  |                           |  |       |     |
| SET CONFIG DIGITAL OUTPUTS<br>ENABLE SHORTCUT TO VDD<br>DETECTION WHILE OFF   | ASCII<br>WRITE<br>COMMAND | #SCDOESVDDS:<ShortCutDOS> <CR><br>Result:<br>#OK<CR> | ASCII | YES |
|   | DO1                       | 1:ENABLE   |       |     |
|   | DO2                       | 1:ENABLE   |       |     |
|   | DO3                       | 1:ENABLE   |       |     |
|   | DO4                       | 1:ENABLE   |       |     |
|   | DO5                       | 1:ENABLE   |       |     |
|   | DO6                       | 1:ENABLE   |       |     |
|   | DO7                       | 1:ENABLE   |       |     |
|   | DO8                       | 1:ENABLE   |       |     |
|   | DO9                       | 1:ENABLE   |       |     |
|   | DO10                      | 1:ENABLE   |       |     |
|   | DO11                      | 1:ENABLE   |       |     |
|   | DO12                      | 1:ENABLE   |       |     |
|   | DO13                      | 1:ENABLE   |       |     |
|   | DO14                      | 1:ENABLE   |       |     |
|   | DO15                      | 1:ENABLE   |       |     |
|   | DO16                      | 1:ENABLE   |       |     |
|   | DO17                      | 1:ENABLE   |       |     |
|   | DO18                      | 1:ENABLE   |       |     |
|   | DO19                      | 1:ENABLE   |       |     |
|   | DO20                      | 1:ENABLE   |       |     |
|   | DO21                      | 1:ENABLE   |       |     |
|   | DO22                      | 1:ENABLE   |       |     |
|   | DO23                      | 1:ENABLE   |       |     |
|   | DO24                      | 1:ENABLE   |       |     |
|   | DO25                      | 1:ENABLE   |       |     |
|   | DO26                      | 1:ENABLE   |       |     |
|   | DO27                      | 1:ENABLE   |       |     |
|   | DO28                      | 1:ENABLE   |       |     |
|   | DO29                      | 1:ENABLE   |       |     |
|   | DO30                      | 1:ENABLE   |       |     |

|   |                                   |  |       |  |
|---|-----------------------------------|--|-------|--|
|   | <b>TX</b>                         | #255,SCDOESVDDS:1073741823<CR>   |       |  |
|   | <b>RX</b>                         | #255,OK<CR>  |       |  |
| <p>Sets the shortcut to VDD detection mode for all digital outputs to the new mode ShortCutDOS for init &amp; watchdog.<br/> This enables the diagnostic of shortcut to VDD while the digital output is OFF.<br/> This state is used after power on and after a communication watchdog timeout, if a watchdog time is configured<br/> The new state for all digital outputs<br/> Bit 0: New mode for DO1 (=0:DISABLED, =1:ENABLED)<br/> Bit 1: New mode for DO2 (=0:DISABLED, =1:ENABLED)<br/> ...<br/> Bit 28: New mode for DO29 (=0:DISABLED, =1:ENABLED)<br/> Bit 29: New mode for DO30 (=0:DISABLED, =1:ENABLED)</p>                              |                                   |  |       |  |
| GET CONFIG DIGITAL OUTPUTS<br>ENABLE SHORT CUT TO VDD<br>DETECTION WHILE OFF  | <b>ASCII<br/>READ<br/>COMMAND</b> | #GCDOESVDDS<CR><br>Result:<br>#GCDOESDDS:<ShortCutDOSDec>,<ShortCutDOSHex><CR>             | ASCII |  |
|   | <b>TX</b>                         | #255,GCDOESVDDS<CR>  |       |  |
|   | <b>RX</b>                         | #255,GCDOESVDDS:0,0x0<CR>  |       |  |
|   |                                   | Init & watchdog configuration for shortcut to VDD diagnostic while OFF of digital outputs: |       |  |
|   |                                   | DO1-DO30:00.0000.0000.0000.0000.0000.0000.0000   |       |  |
| <p>Returns the actual mode for shortcut to VDD diagnostic while digital output is OFF as decimal number and as hexadecimal number.<br/> This values are used after power on of the module an after a watchdog event.<br/> ShortCutDOSDec, ShortCutDOSHex<br/> The current mode for shortcut diagnostic while OFF of the digital outputs:<br/> Bit 0: Open wire diagnostic mode of DO1 (=0:DISABLED, =1:ENABLED)<br/> Bit 1: Open wire diagnostic mode of DO2 (=0:DISABLED, =1:ENABLED)<br/> ...<br/> Bit 28: Open wire diagnostic mode of DO29 (=0:DISABLED, =1:ENABLED)<br/> Bit 29: Open wire diagnostic mode of DO30 (=0:DISABLED, =1:ENABLED)</p> |                                   |  |       |  |

| Register NAME<br>Command NAME                                       | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE  | DO<br>WRITE |
|---|--|---------------------------------|-------------------|--------------|------------|-------------|
| <b>STATUS DIGITAL INPUTS</b>  |  |                                 |                   |              |            |             |
| DI1   | 1x00001<br>2x00001<br>I:0              | ????                            |                   |              | BIT<br>R/O |             |
| Actual state of DI1:0=OFF   |  |                                 |                   |              |            |             |
| Current state of the digital input DIx<br>=0:DI is OFF, =1:DI is ON |  |                                 |                   |              |            |             |
| DI2   | 1x00002<br>2x00002<br>I:1              | ????                            |                   |              | BIT<br>R/O |             |
| Actual state of DI2:0=OFF   |  |                                 |                   |              |            |             |
| DI3   | 1x00003<br>2x00003<br>I:2              | ????                            |                   |              | BIT<br>R/O |             |
| Actual state of DI3:0=OFF   |  |                                 |                   |              |            |             |
| DI4   | 1x00004<br>2x00004<br>I:3              | ????                            |                   |              | BIT<br>R/O |             |
| Actual state of DI4:0=OFF   |  |                                 |                   |              |            |             |
| DI5   | 1x00005<br>2x00005<br>I:4              | ????                            |                   |              | BIT<br>R/O |             |
| Actual state of DI5:0=OFF   |  |                                 |                   |              |            |             |
| DI6   | 1x00006<br>2x00006<br>I:5              | ????                            |                   |              | BIT<br>R/O |             |
| Actual state of DI6:0=OFF   |  |                                 |                   |              |            |             |
| DI7   | 1x00007<br>2x00007<br>I:6              | ????                            |                   |              | BIT<br>R/O |             |
| Actual state of DI7:0=OFF   |  |                                 |                   |              |            |             |
| DI8   | 1x00008<br>2x00008<br>I:7              | ????                            |                   |              | BIT<br>R/O |             |
| Actual state of DI8:0=OFF   |  |                                 |                   |              |            |             |
| DI9   | 1x00009<br>2x00009<br>I:8              | ????                            |                   |              | BIT<br>R/O |             |
| Actual state of DI9:0=OFF   |  |                                 |                   |              |            |             |
| DI10  | 1x00010<br>2x00010<br>I:9              | ????                            |                   |              | BIT<br>R/O |             |

|      |                            |                            |  |  |            |  |
|------|----------------------------|----------------------------|--|--|------------|--|
|      |                            | Actual state of DI10:0=OFF |  |  |            |  |
| DI11 | 1x00011<br>2x00011<br>I:10 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI11:0=OFF |  |  |            |  |
| DI12 | 1x00012<br>2x00012<br>I:11 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI12:0=OFF |  |  |            |  |
| DI13 | 1x00013<br>2x00013<br>I:12 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI13:0=OFF |  |  |            |  |
| DI14 | 1x00014<br>2x00014<br>I:13 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI14:0=OFF |  |  |            |  |
| DI15 | 1x00015<br>2x00015<br>I:14 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI15:0=OFF |  |  |            |  |
| DI16 | 1x00016<br>2x00016<br>I:15 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI16:0=OFF |  |  |            |  |
| DI17 | 1x00017<br>2x00017<br>I:16 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI17:0=OFF |  |  |            |  |
| DI18 | 1x00018<br>2x00018<br>I:17 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI18:0=OFF |  |  |            |  |
| DI19 | 1x00019<br>2x00019<br>I:18 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI19:0=OFF |  |  |            |  |
| DI20 | 1x00020<br>2x00020<br>I:19 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI20:0=OFF |  |  |            |  |
| DI21 | 1x00021<br>2x00021<br>I:20 | ????                       |  |  | BIT<br>R/O |  |
|      |                            | Actual state of DI21:0=OFF |  |  |            |  |

|                               |                            |                            |  |  |            |  |
|-------------------------------|----------------------------|----------------------------|--|--|------------|--|
| DI22                          | 1x00022<br>2x00022<br>I:21 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI22:0=OFF |  |  |            |  |
| DI23                          | 1x00023<br>2x00023<br>I:22 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI23:0=OFF |  |  |            |  |
| DI24                          | 1x00024<br>2x00024<br>I:23 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI24:0=OFF |  |  |            |  |
| DI25                          | 1x00025<br>2x00025<br>I:24 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI25:0=OFF |  |  |            |  |
| DI26                          | 1x00026<br>2x00026<br>I:25 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI26:0=OFF |  |  |            |  |
| DI27                          | 1x00027<br>2x00027<br>I:26 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI27:0=OFF |  |  |            |  |
| DI28                          | 1x00028<br>2x00028<br>I:27 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI28:0=OFF |  |  |            |  |
| DI29                          | 1x00029<br>2x00029<br>I:28 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI29:0=OFF |  |  |            |  |
| DI30                          | 1x00030<br>2x00030<br>I:29 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI30:0=OFF |  |  |            |  |
| DI31                          | 1x00031<br>2x00031<br>I:30 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI31:0=OFF |  |  |            |  |
| DI32                          | 1x00032<br>2x00032<br>I:31 | ????                       |  |  | BIT<br>R/O |  |
|                               |                            | Actual state of DI32:0=OFF |  |  |            |  |
| <b>STATUS DIGITAL OUTPUTS</b> |                            |                            |  |  |            |  |

|  |                            |                            |  |                          |            |    |
|--|----------------------------|----------------------------|--|--------------------------|------------|----|
| DO1  | 1x00033<br>2x00033<br>I:32 | ????                       |  | 1                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO1:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| Current state of the digital output DOx<br>=0:DO is OFF, =1:DO is ON |                            |                            |  |                          |            |    |
| Writing on this register changes the state of the digital output     |                            |                            |  |                          |            |    |
| DO2  | 1x00034<br>2x00034<br>I:33 | ????                       |  | 0                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO2:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO3  | 1x00035<br>2x00035<br>I:34 | ????                       |  | 0                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO3:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO4  | 1x00036<br>2x00036<br>I:35 | ????                       |  | 0                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO4:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO5  | 1x00037<br>2x00037<br>I:36 | ????                       |  | 0                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO5:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO6  | 1x00038<br>2x00038<br>I:37 | ????                       |  | 0                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO6:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO7  | 1x00039<br>2x00039<br>I:38 | ????                       |  | 0                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO7:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO8  | 1x00040<br>2x00040<br>I:39 | ????                       |  | 0                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO8:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO9  | 1x00041<br>2x00041<br>I:40 | ????                       |  | 0                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO9:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO10   | 1x00042<br>2x00042<br>I:41 | ????                       |  | 0                        | BIT<br>R/W | NO |
|  |                            | Actual state of DO10:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO11   | 1x00043<br>2x00043<br>I:42 | ????                       |  | 0                        | BIT<br>R/W | NO |



|      |                            |                            |  |                          |            |    |
|------|----------------------------|----------------------------|--|--------------------------|------------|----|
|      |                            | Actual state of DO11:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO12 | 1x00044<br>2x00044<br>I:43 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO12:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO13 | 1x00045<br>2x00045<br>I:44 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO13:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO14 | 1x00046<br>2x00046<br>I:45 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO14:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO15 | 1x00047<br>2x00047<br>I:46 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO15:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO16 | 1x00048<br>2x00048<br>I:47 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO16:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO17 | 1x00049<br>2x00049<br>I:48 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO17:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO18 | 1x00050<br>2x00050<br>I:49 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO18:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO19 | 1x00051<br>2x00051<br>I:50 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO19:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO20 | 1x00052<br>2x00052<br>I:51 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO20:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO21 | 1x00053<br>2x00053<br>I:52 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO21:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO22 | 1x00054<br>2x00054<br>I:53 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                            | Actual state of DO22:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |

|   |                            |  |  |                               |            |    |
|---|----------------------------|--|--|-------------------------------|------------|----|
| DO23  | 1x00055<br>2x00055<br>I:54 | ????   |  | 0                             | BIT<br>R/W | NO |
|   |                            | Actual state of DO23:0=OFF                                       |  | ENTER NEW STATE (0 or 1)      |            |    |
| DO24  | 1x00056<br>2x00056<br>I:55 | ????   |  | 0                             | BIT<br>R/W | NO |
|   |                            | Actual state of DO24:0=OFF                                       |  | ENTER NEW STATE (0 or 1)      |            |    |
| DO25  | 1x00057<br>2x00057<br>I:56 | ????   |  | 0                             | BIT<br>R/W | NO |
|   |                            | Actual state of DO25:0=OFF                                       |  | ENTER NEW STATE (0 or 1)      |            |    |
| DO26  | 1x00058<br>2x00058<br>I:57 | ????   |  | 0                             | BIT<br>R/W | NO |
|   |                            | Actual state of DO26:0=OFF                                       |  | ENTER NEW STATE (0 or 1)      |            |    |
| DO27  | 1x00059<br>2x00059<br>I:58 | ????   |  | 0                             | BIT<br>R/W | NO |
|   |                            | Actual state of DO27:0=OFF                                       |  | ENTER NEW STATE (0 or 1)      |            |    |
| DO28  | 1x00060<br>2x00060<br>I:59 | ????   |  | 0                             | BIT<br>R/W | NO |
|   |                            | Actual state of DO28:0=OFF                                       |  | ENTER NEW STATE (0 or 1)      |            |    |
| DO29  | 1x00061<br>2x00061<br>I:60 | ????   |  | 0                             | BIT<br>R/W | NO |
|   |                            | Actual state of DO29:0=OFF                                       |  | ENTER NEW STATE (0 or 1)      |            |    |
| DO30  | 1x00062<br>2x00062<br>I:61 | ????   |  | 0                             | BIT<br>R/W | NO |
|   |                            | Actual state of DO30:0=OFF                                       |  | ENTER NEW STATE (0 or 1)      |            |    |
| <b>DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION ON</b>   |                            |  |  |                               |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO1  | 1x00063<br>2x00063<br>I:62 | ????   |  | 1                             | BIT<br>R/W | NO |
|   |                            | Actual setup of open wire detection for state ON<br>of DO1:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |            |    |
| Enables/disabled detection of an open wire in DO state ON for the digital output DOx<br>=0:Open wire detection is OFF, =1:Open wire detection is ON |                            |  |  |                               |            |    |
| Writing on this register changes the state of the open wire detection for this output   |                            |  |  |                               |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO2  | 1x00064<br>2x00064<br>I:63 | ????   |  | 1                             | BIT<br>R/W | NO |
|   |                            | Actual setup of open wire detection for state ON<br>of DO2:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |            |    |

|                                       |                            |   |  |                               |  |            |    |
|---------------------------------------|----------------------------|---|--|-------------------------------|--|------------|----|
| ENABLE OPEN WIRE<br>DETECTION ON DO3  | 1x00065<br>2x00065<br>I:64 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO3:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO4  | 1x00066<br>2x00066<br>I:65 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO4:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO5  | 1x00067<br>2x00067<br>I:66 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO5:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO6  | 1x00068<br>2x00068<br>I:67 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO6:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO7  | 1x00069<br>2x00069<br>I:68 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO7:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO8  | 1x00070<br>2x00070<br>I:69 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO8:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO9  | 1x00071<br>2x00071<br>I:70 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO9:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO10 | 1x00072<br>2x00072<br>I:71 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO10:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO11 | 1x00073<br>2x00073<br>I:72 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO11:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |

|                                       |                            |   |  |                               |  |            |    |
|---------------------------------------|----------------------------|---|--|-------------------------------|--|------------|----|
| ENABLE OPEN WIRE<br>DETECTION ON DO12 | 1x00074<br>2x00074<br>I:73 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO12:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO13 | 1x00075<br>2x00075<br>I:74 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO13:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO14 | 1x00076<br>2x00076<br>I:75 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO14:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO15 | 1x00077<br>2x00077<br>I:76 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO15:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO16 | 1x00078<br>2x00078<br>I:77 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO16:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO17 | 1x00079<br>2x00079<br>I:78 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO17:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO18 | 1x00080<br>2x00080<br>I:79 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO18:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO19 | 1x00081<br>2x00081<br>I:80 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO19:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO20 | 1x00082<br>2x00082<br>I:81 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO20:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |

|                                       |                            |   |  |                               |  |            |    |
|---------------------------------------|----------------------------|---|--|-------------------------------|--|------------|----|
| ENABLE OPEN WIRE<br>DETECTION ON DO21 | 1x00083<br>2x00083<br>I:82 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO21:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO22 | 1x00084<br>2x00084<br>I:83 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO22:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO23 | 1x00085<br>2x00085<br>I:84 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO23:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO24 | 1x00086<br>2x00086<br>I:85 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO24:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO25 | 1x00087<br>2x00087<br>I:86 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO25:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO26 | 1x00088<br>2x00088<br>I:87 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO26:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO27 | 1x00089<br>2x00089<br>I:88 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO27:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO28 | 1x00090<br>2x00090<br>I:89 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO28:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO29 | 1x00091<br>2x00091<br>I:90 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO29:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |

|  |                            |   |  |                               |  |            |    |
|--|----------------------------|---|--|-------------------------------|--|------------|----|
| ENABLE OPEN WIRE<br>DETECTION ON DO30  | 1x00092<br>2x00092<br>I:91 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state ON<br>of DO30:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| <b>DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION OFF</b>   |                            |   |  |                               |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO1  | 1x00093<br>2x00093<br>I:92 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO1:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| Enables/disabled detection of an open wire in DO state OFF for the digital output DOx<br>=0:Open wire detection is OFF, =1:Open wire detection is ON |                            |   |  |                               |  |            |    |
| Writing on this register changes the state of the open wire detection for this output  |                            |   |  |                               |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO2  | 1x00094<br>2x00094<br>I:93 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO2:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO3  | 1x00095<br>2x00095<br>I:94 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO3:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO4  | 1x00096<br>2x00096<br>I:95 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO4:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO5  | 1x00097<br>2x00097<br>I:96 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO5:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO6  | 1x00098<br>2x00098<br>I:97 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO6:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO7  | 1x00099<br>2x00099<br>I:98 | ????  |  | 1                             |  | BIT<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO7:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO8  | 1x00100<br>2x00100<br>I:99 | ????  |  | 1                             |  | BIT<br>R/W | NO |

|                                     |                             |   |                               |         |    |
|-------------------------------------|-----------------------------|---|-------------------------------|---------|----|
|                                     |                             | Actual setup of open wire detection for state OFF of DO8:0=OFF  | ENTER NEW SETUP MODE (0 or 1) |         |    |
| ENABLE OPEN WIRE DETECTION OFF DO9  | 1x00101<br>2x00101<br>I:100 | ????  | 1                             | BIT R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO9:0=OFF  | ENTER NEW SETUP MODE (0 or 1) |         |    |
| ENABLE OPEN WIRE DETECTION OFF DO10 | 1x00102<br>2x00102<br>I:101 | ????  | 1                             | BIT R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO10:0=OFF | ENTER NEW SETUP MODE (0 or 1) |         |    |
| ENABLE OPEN WIRE DETECTION OFF DO11 | 1x00103<br>2x00103<br>I:102 | ????  | 1                             | BIT R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO11:0=OFF | ENTER NEW SETUP MODE (0 or 1) |         |    |
| ENABLE OPEN WIRE DETECTION OFF DO12 | 1x00104<br>2x00104<br>I:103 | ????  | 1                             | BIT R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO12:0=OFF | ENTER NEW SETUP MODE (0 or 1) |         |    |
| ENABLE OPEN WIRE DETECTION OFF DO13 | 1x00105<br>2x00105<br>I:104 | ????  | 1                             | BIT R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO13:0=OFF | ENTER NEW SETUP MODE (0 or 1) |         |    |
| ENABLE OPEN WIRE DETECTION OFF DO14 | 1x00106<br>2x00106<br>I:105 | ????  | 1                             | BIT R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO14:0=OFF | ENTER NEW SETUP MODE (0 or 1) |         |    |
| ENABLE OPEN WIRE DETECTION OFF DO15 | 1x00107<br>2x00107<br>I:106 | ????  | 1                             | BIT R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO15:0=OFF | ENTER NEW SETUP MODE (0 or 1) |         |    |
| ENABLE OPEN WIRE DETECTION OFF DO16 | 1x00108<br>2x00108<br>I:107 | ????  | 1                             | BIT R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO16:0=OFF | ENTER NEW SETUP MODE (0 or 1) |         |    |
| ENABLE OPEN WIRE DETECTION OFF DO17 | 1x00109<br>2x00109<br>I:108 | ????  | 1                             | BIT R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO17:0=OFF | ENTER NEW SETUP MODE (0 or 1) |         |    |

|  |                             |  |  |                               |  |            |    |
|--|-----------------------------|--|--|-------------------------------|--|------------|----|
| ENABLE OPEN WIRE<br>DETECTION OFF DO18 | 1x00110<br>2x00110<br>I:109 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO18:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO19 | 1x00111<br>2x00111<br>I:110 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO19:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO20 | 1x00112<br>2x00112<br>I:111 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO20:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO21 | 1x00113<br>2x00113<br>I:112 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO21:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO22 | 1x00114<br>2x00114<br>I:113 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO22:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO23 | 1x00115<br>2x00115<br>I:114 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO23:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO24 | 1x00116<br>2x00116<br>I:115 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO24:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO25 | 1x00117<br>2x00117<br>I:116 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO25:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO26 | 1x00118<br>2x00118<br>I:117 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO26:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |



|   |                             |  |  |                               |  |            |    |
|---|-----------------------------|--|--|-------------------------------|--|------------|----|
| ENABLE OPEN WIRE<br>DETECTION OFF DO27  | 1x00119<br>2x00119<br>l:118 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO27:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO28  | 1x00120<br>2x00120<br>l:119 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO28:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO29  | 1x00121<br>2x00121<br>l:120 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO29:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO30  | 1x00122<br>2x00122<br>l:121 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO30:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| <b>DIGITAL OUTPUTS: ENABLE SHORT TO VDD DETECTION</b>   |                             |  |  |                               |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO1  | 1x00123<br>2x00123<br>l:122 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO1:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| Enables/disabled detection of a shortcut to VDD in DO state OFF for the digital output DOx<br>=0:Shortcut to VDD detection is OFF, =1:Shortcut to VDD detection is ON |                             |  |  |                               |  |            |    |
| Writing on this register changes the state of the shortcut detection for this output  |                             |  |  |                               |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO2  | 1x00124<br>2x00124<br>l:123 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO2:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO3  | 1x00125<br>2x00125<br>l:124 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO3:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO4  | 1x00126<br>2x00126<br>l:125 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO4:0=OFF  |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO5  | 1x00127<br>2x00127<br>l:126 | ????   |  | 1                             |  | BIT<br>R/W | NO |

|                                       |                             |   |                               |            |    |
|---------------------------------------|-----------------------------|---|-------------------------------|------------|----|
|                                       |                             | Actual setup of open wire detection for state OFF of DO5:0=OFF  | ENTER NEW SETUP MODE (0 or 1) |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO6  | 1x00128<br>2x00128<br>I:127 | ????  | 1                             | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF of DO6:0=OFF  | ENTER NEW SETUP MODE (0 or 1) |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO7  | 1x00129<br>2x00129<br>I:128 | ????  | 1                             | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF of DO7:0=OFF  | ENTER NEW SETUP MODE (0 or 1) |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO8  | 1x00130<br>2x00130<br>I:129 | ????  | 1                             | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF of DO8:0=OFF  | ENTER NEW SETUP MODE (0 or 1) |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO9  | 1x00131<br>2x00131<br>I:130 | ????  | 1                             | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF of DO9:0=OFF  | ENTER NEW SETUP MODE (0 or 1) |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO10 | 1x00132<br>2x00132<br>I:131 | ????  | 1                             | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF of DO10:0=OFF | ENTER NEW SETUP MODE (0 or 1) |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO11 | 1x00133<br>2x00133<br>I:132 | ????  | 1                             | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF of DO11:0=OFF | ENTER NEW SETUP MODE (0 or 1) |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO12 | 1x00134<br>2x00134<br>I:133 | ????  | 1                             | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF of DO12:0=OFF | ENTER NEW SETUP MODE (0 or 1) |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO13 | 1x00135<br>2x00135<br>I:134 | ????  | 1                             | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF of DO13:0=OFF | ENTER NEW SETUP MODE (0 or 1) |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO14 | 1x00136<br>2x00136<br>I:135 | ????  | 1                             | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF of DO14:0=OFF | ENTER NEW SETUP MODE (0 or 1) |            |    |

|                                       |                             |  |  |                               |  |            |    |
|---------------------------------------|-----------------------------|--|--|-------------------------------|--|------------|----|
| ENABLE SHORT TO VDD<br>DETECTION DO15 | 1x00137<br>2x00137<br>I:136 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO15:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO16 | 1x00138<br>2x00138<br>I:137 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO16:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO17 | 1x00139<br>2x00139<br>I:138 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO17:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO18 | 1x00140<br>2x00140<br>I:139 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO18:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO19 | 1x00141<br>2x00141<br>I:140 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO19:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO20 | 1x00142<br>2x00142<br>I:141 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO20:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO21 | 1x00143<br>2x00143<br>I:142 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO21:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO22 | 1x00144<br>2x00144<br>I:143 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO22:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO23 | 1x00145<br>2x00145<br>I:144 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO23:0=OFF |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |

|   |                             |  |  |                               |  |            |    |
|---|-----------------------------|--|--|-------------------------------|--|------------|----|
| ENABLE SHORT TO VDD<br>DETECTION DO24   | 1x00146<br>2x00146<br>I:145 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO24:0=OFF       |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO25   | 1x00147<br>2x00147<br>I:146 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO25:0=OFF       |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO26   | 1x00148<br>2x00148<br>I:147 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO26:0=OFF       |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO27   | 1x00149<br>2x00149<br>I:148 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO27:0=OFF       |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO28   | 1x00150<br>2x00150<br>I:149 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO28:0=OFF       |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO29   | 1x00151<br>2x00151<br>I:150 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO29:0=OFF       |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| ENABLE SHORT TO VDD<br>DETECTION DO30   | 1x00152<br>2x00152<br>I:151 | ????   |  | 1                             |  | BIT<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO30:0=OFF       |  | ENTER NEW SETUP MODE (0 or 1) |  |            |    |
| <b>DIGITAL OUTPUTS: OPEN WIRE DETECTION STATUS WHILE ON</b>   |                             |  |  |                               |  |            |    |
| OPEN WIRE FAULT<br>WHILE ON DO1   | 1x00153<br>2x00153<br>I:152 | ????   |  |                               |  | BIT<br>R/O |    |
|   |                             | Actual detection state of an open wire fault<br>in state ON for DO1:0=OK |  |                               |  |            |    |
| The current detection state of an open wire in the output state ON for the digital output DOx<br>=0:No fault, =1:Fault-open wire detected |                             |  |  |                               |  |            |    |
| OPEN WIRE FAULT<br>WHILE ON DO2   | 1x00154<br>2x00154<br>I:153 | ????   |  |                               |  | BIT<br>R/O |    |

|                                  |                             |   |  |  |            |
|----------------------------------|-----------------------------|---|--|--|------------|
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO2:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE ON DO3  | 1x00155<br>2x00155<br>I:154 | ????  |  |  | BIT<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO3:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE ON DO4  | 1x00156<br>2x00156<br>I:155 | ????  |  |  | BIT<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO4:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE ON DO5  | 1x00157<br>2x00157<br>I:156 | ????  |  |  | BIT<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO5:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE ON DO6  | 1x00158<br>2x00158<br>I:157 | ????  |  |  | BIT<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO6:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE ON DO7  | 1x00159<br>2x00159<br>I:158 | ????  |  |  | BIT<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO7:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE ON DO8  | 1x00160<br>2x00160<br>I:159 | ????  |  |  | BIT<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO8:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE ON DO9  | 1x00161<br>2x00161<br>I:160 | ????  |  |  | BIT<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO9:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE ON DO10 | 1x00162<br>2x00162<br>I:161 | ????  |  |  | BIT<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO10:0=OK |  |  |            |
| OPEN WIRE FAULT<br>WHILE ON DO11 | 1x00163<br>2x00163<br>I:162 | ????  |  |  | BIT<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO11:0=OK |  |  |            |

|                                  |                             |   |  |  |            |  |
|----------------------------------|-----------------------------|---|--|--|------------|--|
| OPEN WIRE FAULT<br>WHILE ON DO12 | 1x00164<br>2x00164<br>I:163 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO12:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO13 | 1x00165<br>2x00165<br>I:164 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO13:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO14 | 1x00166<br>2x00166<br>I:165 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO14:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO15 | 1x00167<br>2x00167<br>I:166 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO15:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO16 | 1x00168<br>2x00168<br>I:167 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO16:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO17 | 1x00169<br>2x00169<br>I:168 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO17:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO18 | 1x00170<br>2x00170<br>I:169 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO18:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO19 | 1x00171<br>2x00171<br>I:170 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO19:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO20 | 1x00172<br>2x00172<br>I:171 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO20:0=OK |  |  |            |  |

|                                  |                             |   |  |  |            |  |
|----------------------------------|-----------------------------|---|--|--|------------|--|
| OPEN WIRE FAULT<br>WHILE ON DO21 | 1x00173<br>2x00173<br>I:172 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO21:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO22 | 1x00174<br>2x00174<br>I:173 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO22:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO23 | 1x00175<br>2x00175<br>I:174 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO23:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO24 | 1x00176<br>2x00176<br>I:175 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO24:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO25 | 1x00177<br>2x00177<br>I:176 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO25:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO26 | 1x00178<br>2x00178<br>I:177 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO26:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO27 | 1x00179<br>2x00179<br>I:178 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO27:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO28 | 1x00180<br>2x00180<br>I:179 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO28:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE ON DO29 | 1x00181<br>2x00181<br>I:180 | ????  |  |  | BIT<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO29:0=OK |  |  |            |  |

|  |                             |   |  |  |            |  |
|--|-----------------------------|---|--|--|------------|--|
| OPEN WIRE FAULT<br>WHILE ON DO30   | 1x00182<br>2x00182<br>I:181 | ????  |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state ON for DO30:0=OK |  |  |            |  |
| <b>DIGITAL OUTPUTS: OPEN WIRE DETECTION STATUS WHILE OFF</b>   |                             |   |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO1   | 1x00183<br>2x00183<br>I:182 | ????  |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO1:0=OK |  |  |            |  |
| The current detection state of an open wire in the output state OFF for the digital output DOx<br>=0:No fault, =1:Fault-open wire detected |                             |   |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO2   | 1x00184<br>2x00184<br>I:183 | ????  |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO2:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO3   | 1x00185<br>2x00185<br>I:184 | ????  |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO3:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO4   | 1x00186<br>2x00186<br>I:185 | ????  |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO4:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO5   | 1x00187<br>2x00187<br>I:186 | ????  |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO5:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO6   | 1x00188<br>2x00188<br>I:187 | ????  |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO6:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO7   | 1x00189<br>2x00189<br>I:188 | ????  |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO7:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO8   | 1x00190<br>2x00190<br>I:189 | ????  |  |  | BIT<br>R/O |  |



|                                   |                             |  |  |  |            |
|-----------------------------------|-----------------------------|--|--|--|------------|
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO8:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE OFF DO9  | 1x00191<br>2x00191<br>I:190 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO9:0=OK  |  |  |            |
| OPEN WIRE FAULT<br>WHILE OFF DO10 | 1x00192<br>2x00192<br>I:191 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO10:0=OK |  |  |            |
| OPEN WIRE FAULT<br>WHILE OFF DO11 | 1x00193<br>2x00193<br>I:192 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO11:0=OK |  |  |            |
| OPEN WIRE FAULT<br>WHILE OFF DO12 | 1x00194<br>2x00194<br>I:193 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO12:0=OK |  |  |            |
| OPEN WIRE FAULT<br>WHILE OFF DO13 | 1x00195<br>2x00195<br>I:194 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO13:0=OK |  |  |            |
| OPEN WIRE FAULT<br>WHILE OFF DO14 | 1x00196<br>2x00196<br>I:195 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO14:0=OK |  |  |            |
| OPEN WIRE FAULT<br>WHILE OFF DO15 | 1x00197<br>2x00197<br>I:196 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO15:0=OK |  |  |            |
| OPEN WIRE FAULT<br>WHILE OFF DO16 | 1x00198<br>2x00198<br>I:197 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO16:0=OK |  |  |            |
| OPEN WIRE FAULT<br>WHILE OFF DO17 | 1x00199<br>2x00199<br>I:198 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO17:0=OK |  |  |            |

|                                   |                             |  |  |  |            |  |
|-----------------------------------|-----------------------------|--|--|--|------------|--|
| OPEN WIRE FAULT<br>WHILE OFF DO18 | 1x00200<br>2x00200<br>I:199 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO18:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO19 | 1x00201<br>2x00201<br>I:200 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO19:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO20 | 1x00202<br>2x00202<br>I:201 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO20:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO21 | 1x00203<br>2x00203<br>I:202 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO21:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO22 | 1x00204<br>2x00204<br>I:203 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO22:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO23 | 1x00205<br>2x00205<br>I:204 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO23:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO24 | 1x00206<br>2x00206<br>I:205 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO24:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO25 | 1x00207<br>2x00207<br>I:206 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO25:0=OK |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO26 | 1x00208<br>2x00208<br>I:207 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO26:0=OK |  |  |            |  |

|   |                             |   |  |  |            |  |
|---|-----------------------------|---|--|--|------------|--|
| OPEN WIRE FAULT<br>WHILE OFF DO27   | 1x00209<br>2x00209<br>I:208 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of an open wire fault<br>in state OFF for DO27:0=OK      |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO28   | 1x00210<br>2x00210<br>I:209 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of an open wire fault<br>in state OFF for DO28:0=OK      |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO29   | 1x00211<br>2x00211<br>I:210 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of an open wire fault<br>in state OFF for DO29:0=OK      |  |  |            |  |
| OPEN WIRE FAULT<br>WHILE OFF DO30   | 1x00212<br>2x00212<br>I:211 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of an open wire fault<br>in state OFF for DO30:0=OK      |  |  |            |  |
| <b>DIGITAL OUTPUTS: SHORTCUT DETECTION STATUS TO VDD WHILE OFF</b>  |                             |   |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO1  | 1x00213<br>2x00213<br>I:212 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO1:0=OK |  |  |            |  |
| The current detection state of a shortcut to VDD in the output state OFF for the digital output DOx<br>=0:No fault, =1:Fault-shortcut to VDD detected |                             |   |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO2  | 1x00214<br>2x00214<br>I:213 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO2:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO3  | 1x00215<br>2x00215<br>I:214 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO3:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO4  | 1x00216<br>2x00216<br>I:215 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO4:0=OK |  |  |            |  |

|                                   |                             |  |  |  |            |  |
|-----------------------------------|-----------------------------|--|--|--|------------|--|
| OPEN WIRE SHORTCUT TO VDD<br>DO5  | 1x00217<br>2x00217<br>I:216 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO5:0=OK  |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO6  | 1x00218<br>2x00218<br>I:217 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO6:0=OK  |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO7  | 1x00219<br>2x00219<br>I:218 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO7:0=OK  |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO8  | 1x00220<br>2x00220<br>I:219 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO8:0=OK  |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO9  | 1x00221<br>2x00221<br>I:220 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO9:0=OK  |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO10 | 1x00222<br>2x00222<br>I:221 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO10:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO11 | 1x00223<br>2x00223<br>I:222 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO11:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO12 | 1x00224<br>2x00224<br>I:223 | ????   |  |  | BIT<br>R/O |  |

|                                   |                             |  |  |  |            |
|-----------------------------------|-----------------------------|--|--|--|------------|
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO12:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO13 | 1x00225<br>2x00225<br>I:224 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO13:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO14 | 1x00226<br>2x00226<br>I:225 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO14:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO15 | 1x00227<br>2x00227<br>I:226 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO15:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO16 | 1x00228<br>2x00228<br>I:227 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO16:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO17 | 1x00229<br>2x00229<br>I:228 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO17:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO18 | 1x00230<br>2x00230<br>I:229 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO18:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO19 | 1x00231<br>2x00231<br>I:230 | ????   |  |  | BIT<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO19:0=OK |  |  |            |

|                                   |                             |  |  |  |            |  |
|-----------------------------------|-----------------------------|--|--|--|------------|--|
| OPEN WIRE SHORTCUT TO VDD<br>DO20 | 1x00232<br>2x00232<br>I:231 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO20:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO21 | 1x00233<br>2x00233<br>I:232 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO21:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO22 | 1x00234<br>2x00234<br>I:233 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO22:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO23 | 1x00235<br>2x00235<br>I:234 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO23:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO24 | 1x00236<br>2x00236<br>I:235 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO24:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO25 | 1x00237<br>2x00237<br>I:236 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO25:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO26 | 1x00238<br>2x00238<br>I:237 | ????   |  |  | BIT<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO26:0=OK |  |  |            |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO27 | 1x00239<br>2x00239<br>I:238 | ????   |  |  | BIT<br>R/O |  |

|   |                             |  |  |  |            |
|---|-----------------------------|--|--|--|------------|
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO27:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO28   | 1x00240<br>2x00240<br>I:239 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO28:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO29   | 1x00241<br>2x00241<br>I:240 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO29:0=OK |  |  |            |
| OPEN WIRE SHORTCUT TO VDD<br>DO30   | 1x00242<br>2x00242<br>I:241 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO30:0=OK |  |  |            |
| <b>DIGITAL OUTPUTS: THERMAL OVERLOAD DETECTION STATUS</b>   |                             |  |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO1  | 1x00243<br>2x00243<br>I:242 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload<br>for DO1:0=OK                     |  |  |            |
| The current detection state of a thermal overload for the digital output DOx<br>=0:No fault, =1:Fault-thermal overload detected |                             |  |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO2  | 1x00244<br>2x00244<br>I:243 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload<br>for DO2:0=OK                     |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO3  | 1x00245<br>2x00245<br>I:244 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload<br>for DO3:0=OK                     |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO4  | 1x00246<br>2x00246<br>I:245 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload<br>for DO4:0=OK                     |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO5  | 1x00247<br>2x00247<br>I:246 | ????   |  |  | BIT<br>R/O |

|   |                             |  |  |  |            |
|---|-----------------------------|--|--|--|------------|
|   |                             | Actual detection state of a thermal overload for DO5:0=OK  |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO6  | 1x00248<br>2x00248<br>I:247 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload for DO6:0=OK  |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO7  | 1x00249<br>2x00249<br>I:248 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload for DO7:0=OK  |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO8  | 1x00250<br>2x00250<br>I:249 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload for DO8:0=OK  |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO9  | 1x00251<br>2x00251<br>I:250 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload for DO9:0=OK  |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO10 | 1x00252<br>2x00252<br>I:251 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload for DO10:0=OK |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO11 | 1x00253<br>2x00253<br>I:252 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload for DO11:0=OK |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO12 | 1x00254<br>2x00254<br>I:253 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload for DO12:0=OK |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO13 | 1x00255<br>2x00255<br>I:254 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload for DO13:0=OK |  |  |            |
| THERMAL OVERLOAD<br>DETECTION STATUS DO14 | 1x00256<br>2x00256<br>I:255 | ????   |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a thermal overload for DO14:0=OK |  |  |            |



|   |                             |   |  |  |            |  |
|---|-----------------------------|---|--|--|------------|--|
| THERMAL OVERLOAD<br>DETECTION STATUS DO15 | 1x00257<br>2x00257<br>I:256 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO15:0=OK |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO16 | 1x00258<br>2x00258<br>I:257 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO16:0=OK |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO17 | 1x00259<br>2x00259<br>I:258 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO17:0=OK |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO18 | 1x00260<br>2x00260<br>I:259 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO18:0=OK |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO19 | 1x00261<br>2x00261<br>I:260 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO19:0=OK |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO20 | 1x00262<br>2x00262<br>I:261 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO20:0=OK |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO21 | 1x00263<br>2x00263<br>I:262 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO21:0=OK |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO22 | 1x00264<br>2x00264<br>I:263 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO22:0=OK |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO23 | 1x00265<br>2x00265<br>I:264 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO23:0=OK |  |  |            |  |

|   |                             |  |  |  |            |  |
|---|-----------------------------|--|--|--|------------|--|
| THERMAL OVERLOAD<br>DETECTION STATUS DO24   | 1x00266<br>2x00266<br>I:265 | ????   |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO24:0=OK      |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO25   | 1x00267<br>2x00267<br>I:266 | ????   |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO25:0=OK      |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO26   | 1x00268<br>2x00268<br>I:267 | ????   |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO26:0=OK      |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO27   | 1x00269<br>2x00269<br>I:268 | ????   |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO27:0=OK      |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO28   | 1x00270<br>2x00270<br>I:269 | ????   |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO28:0=OK      |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO29   | 1x00271<br>2x00271<br>I:270 | ????   |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO29:0=OK      |  |  |            |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO30   | 1x00272<br>2x00272<br>I:271 | ????   |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO30:0=OK      |  |  |            |  |
| <b>DIGITAL OUTPUTS: CURRENT LIMIT DETECTION STATUS WHILE ON</b>   |                             |  |  |  |            |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO1  | 1x00273<br>2x00273<br>I:272 | ????   |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO1:0=OK |  |  |            |  |
| The current detection state of a current limit while output is ON for the digital output DOx<br>=0:No fault, =1:Fault-current limit error |                             |  |  |  |            |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO2  | 1x00274<br>2x00274<br>I:273 | ????   |  |  | BIT<br>R/O |  |

|   |                             |   |  |  |            |
|---|-----------------------------|---|--|--|------------|
|   |                             | Actual detection state of a current limit while ON<br>for DO2:0=OK  |  |  |            |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO3  | 1x00275<br>2x00275<br>I:274 | ????  |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO3:0=OK  |  |  |            |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO4  | 1x00276<br>2x00276<br>I:275 | ????  |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO4:0=OK  |  |  |            |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO5  | 1x00277<br>2x00277<br>I:276 | ????  |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO5:0=OK  |  |  |            |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO6  | 1x00278<br>2x00278<br>I:277 | ????  |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO6:0=OK  |  |  |            |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO7  | 1x00279<br>2x00279<br>I:278 | ????  |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO7:0=OK  |  |  |            |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO8  | 1x00280<br>2x00280<br>I:279 | ????  |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO8:0=OK  |  |  |            |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO9  | 1x00281<br>2x00281<br>I:280 | ????  |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO9:0=OK  |  |  |            |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO10 | 1x00282<br>2x00282<br>I:281 | ????  |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO10:0=OK |  |  |            |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO11 | 1x00283<br>2x00283<br>I:282 | ????  |  |  | BIT<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO11:0=OK |  |  |            |

|  |                             |  |  |  |            |  |
|--|-----------------------------|--|--|--|------------|--|
| CURRENT LIMIT DETECTION STATUS WHILE ON DO12 | 1x00284<br>2x00284<br>I:283 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO12:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO13 | 1x00285<br>2x00285<br>I:284 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO13:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO14 | 1x00286<br>2x00286<br>I:285 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO14:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO15 | 1x00287<br>2x00287<br>I:286 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO15:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO16 | 1x00288<br>2x00288<br>I:287 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO16:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO17 | 1x00289<br>2x00289<br>I:288 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO17:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO18 | 1x00290<br>2x00290<br>I:289 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO18:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO19 | 1x00291<br>2x00291<br>I:290 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO19:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO20 | 1x00292<br>2x00292<br>I:291 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO20:0=OK |  |  |            |  |

|  |                             |  |  |  |            |  |
|--|-----------------------------|--|--|--|------------|--|
| CURRENT LIMIT DETECTION STATUS WHILE ON DO21 | 1x00293<br>2x00293<br>I:292 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO21:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO22 | 1x00294<br>2x00294<br>I:293 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO22:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO23 | 1x00295<br>2x00295<br>I:294 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO23:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO24 | 1x00296<br>2x00296<br>I:295 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO24:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO25 | 1x00297<br>2x00297<br>I:296 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO25:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO26 | 1x00298<br>2x00298<br>I:297 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO26:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO27 | 1x00299<br>2x00299<br>I:298 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO27:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO28 | 1x00300<br>2x00300<br>I:299 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO28:0=OK |  |  |            |  |
| CURRENT LIMIT DETECTION STATUS WHILE ON DO29 | 1x00301<br>2x00301<br>I:300 | ????   |  |  | BIT<br>R/O |  |
|  |                             | Actual detection state of a current limit while ON for DO29:0=OK |  |  |            |  |

|   |                             |   |  |  |            |  |
|---|-----------------------------|---|--|--|------------|--|
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO30   | 1x00302<br>2x00302<br>I:301 | ????  |  |  | BIT<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO30:0=OK |  |  |            |  |
| <b>DIGITAL OUTPUTS: GLOBAL ERRORS</b>   |                             |   |  |  |            |  |
| <b>CHIP #1:DO1-DO8</b>  |                             |   |  |  |            |  |
| GLOBAL ERRORS<br>BIT 0  | 1x00303<br>2x00303<br>I:302 | ????  |  |  | BIT<br>R/O |  |
|   |                             | BIT 0:Internal under voltage detected:0=OK                          |  |  |            |  |
| GLOBAL ERRORS<br>BIT 1  | 1x00304<br>2x00304<br>I:303 | ????  |  |  | BIT<br>R/O |  |
|   |                             | BIT 1:VA under voltage detected (<2.3V):0=OK                        |  |  |            |  |
| GLOBAL ERRORS<br>BIT 2  | 1x00305<br>2x00305<br>I:304 | ????  |  |  | BIT<br>R/O |  |
|   |                             | BIT 2:VDD not good detected (<17V):0=OK                             |  |  |            |  |
| GLOBAL ERRORS<br>BIT 3  | 1x00306<br>2x00306<br>I:305 | ????  |  |  | BIT<br>R/O |  |
|   |                             | BIT 3:VDD warning detected (<12V):0=OK                              |  |  |            |  |
| GLOBAL ERRORS<br>BIT 4  | 1x00307<br>2x00307<br>I:306 | ????  |  |  | BIT<br>R/O |  |
|   |                             | BIT 4:VDD under voltage detected (<8V):0=OK                         |  |  |            |  |
| GLOBAL ERRORS<br>BIT 5  | 1x00308<br>2x00308<br>I:307 | ????  |  |  | BIT<br>R/O |  |
|   |                             | BIT 5:Thermal shutdown:0=OK   |  |  |            |  |
| GLOBAL ERRORS<br>BIT 6  | 1x00309<br>2x00309<br>I:308 | ????  |  |  | BIT<br>R/O |  |
|   |                             | BIT 6:Synchronisation error detected:0=OK                           |  |  |            |  |
| GLOBAL ERRORS<br>BIT 7  | 1x00310<br>2x00310<br>I:309 | ????  |  |  | BIT<br>R/O |  |
|   |                             | BIT 7:Watchdog error detected:0=OK                                  |  |  |            |  |
| The global error state for the output group. Each bit stands for a different error<br>=0:No fault, =1:Fault |                             |   |  |  |            |  |
| <b>DIGITAL OUTPUTS: GLOBAL ERRORS</b>   |                             |   |  |  |            |  |
| <b>CHIP #2:DO9-DO15</b>   |                             |   |  |  |            |  |
| GLOBAL ERRORS<br>BIT 0  | 1x00311<br>2x00311<br>I:310 | ????  |  |  | BIT<br>R/O |  |
|   |                             | BIT 0:Internal under voltage detected:0=OK                          |  |  |            |  |

|   |                             |  |  |  |            |  |
|---|-----------------------------|--|--|--|------------|--|
| GLOBAL ERRORS<br>BIT 1  | 1x00312<br>2x00312<br>I:311 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 1:VA under voltage detected (<2.3V):0=OK |  |  |            |  |
| GLOBAL ERRORS<br>BIT 2  | 1x00313<br>2x00313<br>I:312 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 2:VDD not good detected (<17V):0=OK      |  |  |            |  |
| GLOBAL ERRORS<br>BIT 3  | 1x00314<br>2x00314<br>I:313 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 3:VDD warning detected (<12V):0=OK       |  |  |            |  |
| GLOBAL ERRORS<br>BIT 4  | 1x00315<br>2x00315<br>I:314 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 4:VDD under voltage detected (<8V):0=OK  |  |  |            |  |
| GLOBAL ERRORS<br>BIT 5  | 1x00316<br>2x00316<br>I:315 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 5:Thermal shutdown:0=OK                  |  |  |            |  |
| GLOBAL ERRORS<br>BIT 6  | 1x00317<br>2x00317<br>I:316 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 6:Synchronisation error detected:0=OK    |  |  |            |  |
| GLOBAL ERRORS<br>BIT 7  | 1x00318<br>2x00318<br>I:317 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 7:Watchdog error detected:0=OK           |  |  |            |  |
| The global error state for the output group. Each bit stands for a different error<br>=0:No fault, =1:Fault |                             |  |  |  |            |  |
| <b>DIGITAL OUTPUTS: GLOBAL ERRORS</b>   |                             |  |  |  |            |  |
| <b>CHIP #3:DO16-DO23</b>  |                             |  |  |  |            |  |
| GLOBAL ERRORS<br>BIT 0  | 1x00319<br>2x00319<br>I:318 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 0:Internal under voltage detected:0=OK   |  |  |            |  |
| GLOBAL ERRORS<br>BIT 1  | 1x00320<br>2x00320<br>I:319 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 1:VA under voltage detected (<2.3V):0=OK |  |  |            |  |
| GLOBAL ERRORS<br>BIT 2  | 1x00321<br>2x00321<br>I:320 | ????   |  |  | BIT<br>R/O |  |
|   |                             | BIT 2:VDD not good detected (<17V):0=OK      |  |  |            |  |
| GLOBAL ERRORS<br>BIT 3  | 1x00322<br>2x00322<br>I:321 | ????   |  |  | BIT<br>R/O |  |

|                        |                             |   |  |  |            |  |
|------------------------|-----------------------------|---|--|--|------------|--|
|                        |                             | BIT 3:VDD warning detected (<12V):0=OK      |  |  |            |  |
| GLOBAL ERRORS<br>BIT 4 | 1x00323<br>2x00323<br>I:322 | ????  |  |  | BIT<br>R/O |  |
|                        |                             | BIT 4:VDD under voltage detected (<8V):0=OK |  |  |            |  |
| GLOBAL ERRORS<br>BIT 5 | 1x00324<br>2x00324<br>I:323 | ????  |  |  | BIT<br>R/O |  |
|                        |                             | BIT 5:Thermal shutdown:0=OK                 |  |  |            |  |
| GLOBAL ERRORS<br>BIT 6 | 1x00325<br>2x00325<br>I:324 | ????  |  |  | BIT<br>R/O |  |
|                        |                             | BIT 6:Synchronisation error detected:0=OK   |  |  |            |  |
| GLOBAL ERRORS<br>BIT 7 | 1x00326<br>2x00326<br>I:325 | ????  |  |  | BIT<br>R/O |  |
|                        |                             | BIT 7:Watchdog error detected:0=OK          |  |  |            |  |

The global error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: GLOBAL ERRORS****CHIP #4:DO24-DO30**

|                        |                             |  |  |  |            |  |
|------------------------|-----------------------------|--|--|--|------------|--|
| GLOBAL ERRORS<br>BIT 0 | 1x00327<br>2x00327<br>I:326 | ????   |  |  | BIT<br>R/O |  |
|                        |                             | BIT 0:Internal under voltage detected:0=OK   |  |  |            |  |
| GLOBAL ERRORS<br>BIT 1 | 1x00328<br>2x00328<br>I:327 | ????   |  |  | BIT<br>R/O |  |
|                        |                             | BIT 1:VA under voltage detected (<2.3V):0=OK |  |  |            |  |
| GLOBAL ERRORS<br>BIT 2 | 1x00329<br>2x00329<br>I:328 | ????   |  |  | BIT<br>R/O |  |
|                        |                             | BIT 2:VDD not good detected (<17V):0=OK      |  |  |            |  |
| GLOBAL ERRORS<br>BIT 3 | 1x00330<br>2x00330<br>I:329 | ????   |  |  | BIT<br>R/O |  |
|                        |                             | BIT 3:VDD warning detected (<12V):0=OK       |  |  |            |  |
| GLOBAL ERRORS<br>BIT 4 | 1x00331<br>2x00331<br>I:330 | ????   |  |  | BIT<br>R/O |  |
|                        |                             | BIT 4:VDD under voltage detected (<8V):0=OK  |  |  |            |  |
| GLOBAL ERRORS<br>BIT 5 | 1x00332<br>2x00332<br>I:331 | ????   |  |  | BIT<br>R/O |  |
|                        |                             | BIT 5:Thermal shutdown:0=OK                  |  |  |            |  |



|                        |                             |   |  |  |            |  |
|------------------------|-----------------------------|---|--|--|------------|--|
| GLOBAL ERRORS<br>BIT 6 | 1x00333<br>2x00333<br>I:332 | ????                                      |  |  | BIT<br>R/O |  |
|                        |                             | BIT 6:Synchronisation error detected:0=OK |  |  |            |  |
| GLOBAL ERRORS<br>BIT 7 | 1x00334<br>2x00334<br>I:333 | ????                                      |  |  | BIT<br>R/O |  |
|                        |                             | BIT 7:Watchdog error detected:0=OK        |  |  |            |  |

The global error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: INTERRUPT STATUS**

|                           |                             |  |  |  |            |  |
|---------------------------|-----------------------------|--|--|--|------------|--|
| <b>CHIP #1:DO1-DO8</b>    |                             |  |  |  |            |  |
| INTERRUPT STATUS<br>BIT 0 | 1x00335<br>2x00335<br>I:334 | ????                                       |  |  | BIT<br>R/O |  |
|                           |                             | BIT 0:Overload detected:0=OK               |  |  |            |  |
| INTERRUPT STATUS<br>BIT 1 | 1x00336<br>2x00336<br>I:335 | ????                                       |  |  | BIT<br>R/O |  |
|                           |                             | BIT 1:Current limit detected:0=OK          |  |  |            |  |
| INTERRUPT STATUS<br>BIT 2 | 1x00337<br>2x00337<br>I:336 | ????                                       |  |  | BIT<br>R/O |  |
|                           |                             | BIT 2:Open wire while OFF detected:0=OK    |  |  |            |  |
| INTERRUPT STATUS<br>BIT 3 | 1x00338<br>2x00338<br>I:337 | ????                                       |  |  | BIT<br>R/O |  |
|                           |                             | BIT 3:Open wire while ON detected:0=OK     |  |  |            |  |
| INTERRUPT STATUS<br>BIT 4 | 1x00339<br>2x00339<br>I:338 | ????                                       |  |  | BIT<br>R/O |  |
|                           |                             | BIT 4:Short to VDD while ON detected:0=OK  |  |  |            |  |
| INTERRUPT STATUS<br>BIT 5 | 1x00340<br>2x00340<br>I:339 | ????                                       |  |  | BIT<br>R/O |  |
|                           |                             | BIT 5:Thermal error detected-shutdown:0=OK |  |  |            |  |
| INTERRUPT STATUS<br>BIT 6 | 1x00341<br>2x00341<br>I:340 | ????                                       |  |  | BIT<br>R/O |  |
|                           |                             | BIT 6:Supply error detected:0=OK           |  |  |            |  |
| INTERRUPT STATUS<br>BIT 7 | 1x00342<br>2x00342<br>I:341 | ????                                       |  |  | BIT<br>R/O |  |
|                           |                             | BIT 7:Communication error detected:0=OK    |  |  |            |  |

The global interrupt error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: INTERRUPT STATUS**

| CHIP #2:DO9-DO15                           |                             |      |  |  |            |  |
|--|-----------------------------|------|--|--|------------|--|
| INTERRUPT STATUS<br>BIT 0                  | 1x00343<br>2x00343<br>I:342 | ???? |  |  | BIT<br>R/O |  |
| BIT 0:Overload detected:0=OK               |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 1                  | 1x00344<br>2x00344<br>I:343 | ???? |  |  | BIT<br>R/O |  |
| BIT 1:Current limit detected:0=OK          |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 2                  | 1x00345<br>2x00345<br>I:344 | ???? |  |  | BIT<br>R/O |  |
| BIT 2:Open wire while OFF detected:0=OK    |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 3                  | 1x00346<br>2x00346<br>I:345 | ???? |  |  | BIT<br>R/O |  |
| BIT 3:Open wire while ON detected:0=OK     |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 4                  | 1x00347<br>2x00347<br>I:346 | ???? |  |  | BIT<br>R/O |  |
| BIT 4:Short to VDD while ON detected:0=OK  |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 5                  | 1x00348<br>2x00348<br>I:347 | ???? |  |  | BIT<br>R/O |  |
| BIT 5:Thermal error detected-shutdown:0=OK |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 6                  | 1x00349<br>2x00349<br>I:348 | ???? |  |  | BIT<br>R/O |  |
| BIT 6:Supply error detected:0=OK           |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 7                  | 1x00350<br>2x00350<br>I:349 | ???? |  |  | BIT<br>R/O |  |
| BIT 7:Communication error detected:0=OK    |                             |      |  |  |            |  |

The global interrupt error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

#### DIGITAL OUTPUTS: INTERRUPT STATUS

| CHIP #3:DO16-DO23                 |                             |      |  |  |            |  |
|-----------------------------------|-----------------------------|------|--|--|------------|--|
| INTERRUPT STATUS<br>BIT 0         | 1x00351<br>2x00351<br>I:350 | ???? |  |  | BIT<br>R/O |  |
| BIT 0:Overload detected:0=OK      |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 1         | 1x00352<br>2x00352<br>I:351 | ???? |  |  | BIT<br>R/O |  |
| BIT 1:Current limit detected:0=OK |                             |      |  |  |            |  |

|  |                             |      |  |  |            |  |
|--|-----------------------------|------|--|--|------------|--|
| INTERRUPT STATUS<br>BIT 2                  | 1x00353<br>2x00353<br>I:352 | ???? |  |  | BIT<br>R/O |  |
| BIT 2:Open wire while OFF detected:0=OK    |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 3                  | 1x00354<br>2x00354<br>I:353 | ???? |  |  | BIT<br>R/O |  |
| BIT 3:Open wire while ON detected:0=OK     |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 4                  | 1x00355<br>2x00355<br>I:354 | ???? |  |  | BIT<br>R/O |  |
| BIT 4:Short to VDD while ON detected:0=OK  |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 5                  | 1x00356<br>2x00356<br>I:355 | ???? |  |  | BIT<br>R/O |  |
| BIT 5:Thermal error detected-shutdown:0=OK |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 6                  | 1x00357<br>2x00357<br>I:356 | ???? |  |  | BIT<br>R/O |  |
| BIT 6:Supply error detected:0=OK           |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 7                  | 1x00358<br>2x00358<br>I:357 | ???? |  |  | BIT<br>R/O |  |
| BIT 7:Communication error detected:0=OK    |                             |      |  |  |            |  |

The global interrupt error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: INTERRUPT STATUS****CHIP #4:DO24-DO30**

|   |                             |      |  |  |            |  |
|---|-----------------------------|------|--|--|------------|--|
| INTERRUPT STATUS<br>BIT 0               | 1x00359<br>2x00359<br>I:358 | ???? |  |  | BIT<br>R/O |  |
| BIT 0:Overload detected:0=OK            |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 1               | 1x00360<br>2x00360<br>I:359 | ???? |  |  | BIT<br>R/O |  |
| BIT 1:Current limit detected:0=OK       |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 2               | 1x00361<br>2x00361<br>I:360 | ???? |  |  | BIT<br>R/O |  |
| BIT 2:Open wire while OFF detected:0=OK |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 3               | 1x00362<br>2x00362<br>I:361 | ???? |  |  | BIT<br>R/O |  |
| BIT 3:Open wire while ON detected:0=OK  |                             |      |  |  |            |  |
| INTERRUPT STATUS<br>BIT 4               | 1x00363<br>2x00363<br>I:362 | ???? |  |  | BIT<br>R/O |  |

|  |                               |  |  |                 |            |    |
|--|-------------------------------|--|--|-----------------|------------|----|
|  |                               | BIT 4:Short to VDD while ON detected:0=OK  |  |                 |            |    |
| INTERRUPT STATUS<br>BIT 5  | 1x00364<br>2x00364<br>I:363   | ????                                       |  |                 | BIT<br>R/O |    |
|  |                               | BIT 5:Thermal error detected-shutdown:0=OK |  |                 |            |    |
| INTERRUPT STATUS<br>BIT 6  | 1x00365<br>2x00365<br>I:364   | ????                                       |  |                 | BIT<br>R/O |    |
|  |                               | BIT 6:Supply error detected:0=OK           |  |                 |            |    |
| INTERRUPT STATUS<br>BIT 7  | 1x00366<br>2x00366<br>I:365   | ????                                       |  |                 | BIT<br>R/O |    |
|  |                               | BIT 7:Communication error detected:0=OK    |  |                 |            |    |
| The global interrupt error state for the output group. Each bit stands for a different error<br>=0:No fault, =1:Fault            |                               |  |  |                 |            |    |
| <b>SPI COMMUNICATION DIGITAL OUTPUTS</b>   |                               |  |  |                 |            |    |
| SPI COMMUNICATION<br>CHIP #1: DO1-DO8  | 1x00367<br>2x00367<br>I:366   | ????                                       |  |                 | BIT<br>R/O |    |
|  |                               | Actual SPI communication state:0=NO FAULT  |  |                 |            |    |
| The current monitoring state of the SPI communication for the digital output group<br>=0:No fault, =1:Fault                      |                               |  |  |                 |            |    |
| SPI COMMUNICATION<br>CHIP #2: DO9-DO15   | 1x00368<br>2x00368<br>I:367   | ????                                       |  |                 | BIT<br>R/O |    |
|  |                               | Actual SPI communication state:0=NO FAULT  |  |                 |            |    |
| The current monitoring state of the SPI communication for the digital output group<br>=0:No fault, =1:Fault                      |                               |  |  |                 |            |    |
| SPI COMMUNICATION<br>CHIP #3: DO16-DO23  | 1x00369<br>2x00369<br>I:368   | ????                                       |  |                 | BIT<br>R/O |    |
|  |                               | Actual SPI communication state:0=NO FAULT  |  |                 |            |    |
| The current monitoring state of the SPI communication for the digital output group<br>=0:No fault, =1:Fault                      |                               |  |  |                 |            |    |
| SPI COMMUNICATION<br>CHIP #4: DO24-DO30  | 1x00370<br>2x00370<br>I:369   | ????                                       |  |                 | BIT<br>R/O |    |
|  |                               | Actual SPI communication state:0=NO FAULT  |  |                 |            |    |
| <b>DIGITAL INPUTS: RESET</b>   |                               |  |  |                 |            |    |
| RESET COUNTERS   | 1x10000<br>2x10000<br>I:9999  | ????                                       |  | 1:PERFORM RESET | BIT<br>R/W | NO |
| If this register is written to 1, all internal edge counters and event counters are set to 0. 0 is always returned when reading. |                               |  |  |                 |            |    |
| <b>STATUS REAL DIGITAL INPUTS</b>  |                               |  |  |                 |            |    |
| DI1  | 1x15001<br>2x14001<br>I:15000 | ????                                       |  |                 | BIT<br>R/O |    |
|  |                               | Actual state of DI1:0=OFF                  |  |                 |            |    |

Current state of the digital input DIx with the internal software filter to suppress glitches or spike on this line

=0:DI is OFF, =1:DI is ON

|      |                               |                            |  |  |            |  |
|------|-------------------------------|----------------------------|--|--|------------|--|
| DI2  | 1x15002<br>2x15002<br>I:15001 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI2:0=OFF  |  |  |            |  |
| DI3  | 1x15003<br>2x15003<br>I:15002 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI3:0=OFF  |  |  |            |  |
| DI4  | 1x15004<br>2x15004<br>I:15003 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI4:0=OFF  |  |  |            |  |
| DI5  | 1x15005<br>2x15005<br>I:15004 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI5:0=OFF  |  |  |            |  |
| DI6  | 1x15006<br>2x15006<br>I:15005 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI6:0=OFF  |  |  |            |  |
| DI7  | 1x15007<br>2x15007<br>I:15006 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI7:0=OFF  |  |  |            |  |
| DI8  | 1x15008<br>2x15008<br>I:15007 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI8:0=OFF  |  |  |            |  |
| DI9  | 1x15009<br>2x15009<br>I:15008 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI9:0=OFF  |  |  |            |  |
| DI10 | 1x15010<br>2x15010<br>I:15009 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI10:0=OFF |  |  |            |  |
| DI11 | 1x15011<br>2x15011<br>I:15010 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI11:0=OFF |  |  |            |  |
| DI12 | 1x15012<br>2x15012<br>I:15011 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI12:0=OFF |  |  |            |  |

|      |                               |                            |  |  |            |  |
|------|-------------------------------|----------------------------|--|--|------------|--|
| DI13 | 1x15013<br>2x15013<br>I:15012 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI13:0=OFF |  |  |            |  |
| DI14 | 1x15014<br>2x15014<br>I:15013 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI14:0=OFF |  |  |            |  |
| DI15 | 1x15015<br>2x15015<br>I:15014 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI15:0=OFF |  |  |            |  |
| DI16 | 1x15016<br>2x15016<br>I:15015 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI16:0=OFF |  |  |            |  |
| DI17 | 1x15017<br>2x15017<br>I:15016 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI17:0=OFF |  |  |            |  |
| DI18 | 1x15018<br>2x15018<br>I:15017 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI18:0=OFF |  |  |            |  |
| DI19 | 1x15019<br>2x15019<br>I:15018 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI19:0=OFF |  |  |            |  |
| DI20 | 1x15020<br>2x15020<br>I:15019 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI20:0=OFF |  |  |            |  |
| DI21 | 1x15021<br>2x15021<br>I:15020 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI21:0=OFF |  |  |            |  |
| DI22 | 1x15022<br>2x15022<br>I:15021 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of DI22:0=OFF |  |  |            |  |
| D23  | 1x15023<br>2x15023<br>I:15022 | ????                       |  |  | BIT<br>R/O |  |
|      |                               | Actual state of D23:0=OFF  |  |  |            |  |
| DI24 | 1x15024<br>2x15024<br>I:15023 | ????                       |  |  | BIT<br>R/O |  |

|  |                               |                                      |  |  |            |  |
|--|-------------------------------|--------------------------------------|--|--|------------|--|
|  |                               | Actual state of DI24:0=OFF           |  |  |            |  |
| DI25   | 1x15025<br>2x15025<br>I:15024 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of DI25:0=OFF           |  |  |            |  |
| DI26   | 1x15026<br>2x15026<br>I:15025 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of DI26:0=OFF           |  |  |            |  |
| DI27   | 1x15027<br>2x15027<br>I:15026 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of DI27:0=OFF           |  |  |            |  |
| DI28   | 1x15028<br>2x15028<br>I:15027 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of DI28:0=OFF           |  |  |            |  |
| DI29   | 1x15029<br>2x15029<br>I:15028 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of DI29:0=OFF           |  |  |            |  |
| DI30   | 1x15030<br>2x15030<br>I:15029 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of DI30:0=OFF           |  |  |            |  |
| DI31   | 1x15031<br>2x15031<br>I:15030 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of DI31:0=OFF           |  |  |            |  |
| DI32   | 1x15032<br>2x15032<br>I:15031 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of DI32:0=OFF           |  |  |            |  |
| <b>STATUS DIGITAL INPUTS</b>   |                               |                                      |  |  |            |  |
| UNFILTERED DI1   | 1x15033<br>2x15033<br>I:15032 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of UNFILTERED DI1:0=OFF |  |  |            |  |
| Current state of the real digital input DIx without the internal software filter to suppress glitches or spike on this line<br>=0:DI is OFF, =1:DI is ON |                               |                                      |  |  |            |  |
| UNFILTERED DI2   | 1x15034<br>2x15034<br>I:15033 | ????                                 |  |  | BIT<br>R/O |  |
|  |                               | Actual state of UNFILTERED DI2:0=OFF |  |  |            |  |
| UNFILTERED DI3   | 1x15035<br>2x15035<br>I:15034 | ????                                 |  |  | BIT<br>R/O |  |

|                 |                               |                                       |  |  |            |  |
|-----------------|-------------------------------|---------------------------------------|--|--|------------|--|
|                 |                               | Actual state of UNFILTERED DI3:0=OFF  |  |  |            |  |
| UNFILTERED DI4  | 1x15036<br>2x15036<br>I:15035 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI4:0=OFF  |  |  |            |  |
| UNFILTERED DI5  | 1x15037<br>2x15037<br>I:15036 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI5:0=OFF  |  |  |            |  |
| UNFILTERED DI6  | 1x15038<br>2x15038<br>I:15037 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI6:0=OFF  |  |  |            |  |
| UNFILTERED DI7  | 1x15039<br>2x15039<br>I:15038 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI7:0=OFF  |  |  |            |  |
| UNFILTERED DI8  | 1x15040<br>2x15040<br>I:15039 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI8:0=OFF  |  |  |            |  |
| UNFILTERED DI9  | 1x15041<br>2x15041<br>I:15040 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI9:0=OFF  |  |  |            |  |
| UNFILTERED DI10 | 1x15042<br>2x15042<br>I:15041 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI10:0=OFF |  |  |            |  |
| UNFILTERED DI11 | 1x15043<br>2x15043<br>I:15042 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI11:0=OFF |  |  |            |  |
| UNFILTERED DI12 | 1x15044<br>2x15044<br>I:15043 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI12:0=OFF |  |  |            |  |
| UNFILTERED DI13 | 1x15045<br>2x15045<br>I:15044 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI13:0=OFF |  |  |            |  |
| UNFILTERED DI14 | 1x15046<br>2x15046<br>I:15045 | ????                                  |  |  | BIT<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI14:0=OFF |  |  |            |  |



|                 |                               |                                       |  |  |            |  |  |
|-----------------|-------------------------------|---------------------------------------|--|--|------------|--|--|
| UNFILTERED DI15 | 1x15047<br>2x15047<br>I:15046 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI15:0=OFF |  |  |            |  |  |
| UNFILTERED DI16 | 1x15048<br>2x15048<br>I:15047 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI16:0=OFF |  |  |            |  |  |
| UNFILTERED DI17 | 1x15049<br>2x15049<br>I:15048 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI17:0=OFF |  |  |            |  |  |
| UNFILTERED DI18 | 1x15050<br>2x15050<br>I:15049 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI18:0=OFF |  |  |            |  |  |
| UNFILTERED DI19 | 1x15051<br>2x15051<br>I:15050 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI19:0=OFF |  |  |            |  |  |
| UNFILTERED DI20 | 1x15052<br>2x15052<br>I:15051 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI20:0=OFF |  |  |            |  |  |
| UNFILTERED DI21 | 1x15053<br>2x15053<br>I:15052 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI21:0=OFF |  |  |            |  |  |
| UNFILTERED DI22 | 1x15054<br>2x15054<br>I:15053 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI22:0=OFF |  |  |            |  |  |
| UNFILTERED DI23 | 1x15055<br>2x15055<br>I:15054 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI23:0=OFF |  |  |            |  |  |
| UNFILTERED DI24 | 1x15056<br>2x15056<br>I:15055 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI24:0=OFF |  |  |            |  |  |
| UNFILTERED DI25 | 1x15057<br>2x15057<br>I:15056 | ????                                  |  |  | BIT<br>R/O |  |  |
|                 |                               | Actual state of UNFILTERED DI25:0=OFF |  |  |            |  |  |
| UNFILTERED DI26 | 1x15058<br>2x15058<br>I:15057 | ????                                  |  |  | BIT<br>R/O |  |  |

|  |                               |                                       |  |                          |            |    |
|--|-------------------------------|---------------------------------------|--|--------------------------|------------|----|
|  |                               | Actual state of UNFILTERED DI26:0=OFF |  |                          |            |    |
| UNFILTERED DI27  | 1x15059<br>2x15059<br>I:15058 | ????                                  |  |                          | BIT<br>R/O |    |
|  |                               | Actual state of UNFILTERED DI27:0=OFF |  |                          |            |    |
| UNFILTERED DI28  | 1x15060<br>2x15060<br>I:15059 | ????                                  |  |                          | BIT<br>R/O |    |
|  |                               | Actual state of UNFILTERED DI28:0=OFF |  |                          |            |    |
| UNFILTERED DI29  | 1x15061<br>2x15061<br>I:15060 | ????                                  |  |                          | BIT<br>R/O |    |
|  |                               | Actual state of UNFILTERED DI29:0=OFF |  |                          |            |    |
| UNFILTERED DI30  | 1x15062<br>2x15062<br>I:15061 | ????                                  |  |                          | BIT<br>R/O |    |
|  |                               | Actual state of UNFILTERED DI30:0=OFF |  |                          |            |    |
| UNFILTERED DI31  | 1x15063<br>2x15063<br>I:15062 | ????                                  |  |                          | BIT<br>R/O |    |
|  |                               | Actual state of UNFILTERED DI31:0=OFF |  |                          |            |    |
| UNFILTERED DI32  | 1x15064<br>2x15064<br>I:15063 | ????                                  |  |                          | BIT<br>R/O |    |
|  |                               | Actual state of UNFILTERED DI32:0=OFF |  |                          |            |    |
| <b>STATUS DIGITAL OUTPUTS</b>  |                               |                                       |  |                          |            |    |
| DO1  | 1x16001<br>2x16001<br>I:16000 | ????                                  |  | 1                        | BIT<br>R/W | NO |
|  |                               | Actual state of DO1:0=OFF             |  | ENTER NEW STATE (0 or 1) |            |    |
| Current state of the digital output DOx<br>=0:DO is OFF, =1:DO is ON |                               |                                       |  |                          |            |    |
| Writing on this register changes the state of the digital output     |                               |                                       |  |                          |            |    |
| DO2  | 1x16002<br>2x16002<br>I:16001 | ????                                  |  | 0                        | BIT<br>R/W | NO |
|  |                               | Actual state of DO2:0=OFF             |  | ENTER NEW STATE (0 or 1) |            |    |
| DO3  | 1x16003<br>2x16003<br>I:16002 | ????                                  |  | 0                        | BIT<br>R/W | NO |
|  |                               | Actual state of DO3:0=OFF             |  | ENTER NEW STATE (0 or 1) |            |    |
| DO4  | 1x16004<br>2x16004<br>I:16003 | ????                                  |  | 0                        | BIT<br>R/W | NO |
|  |                               | Actual state of DO4:0=OFF             |  | ENTER NEW STATE (0 or 1) |            |    |

|      |                               |                            |  |                          |            |    |
|------|-------------------------------|----------------------------|--|--------------------------|------------|----|
| DO5  | 1x16005<br>2x16005<br>I:16004 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO5:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO6  | 1x16006<br>2x16006<br>I:16005 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO6:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO7  | 1x16007<br>2x16007<br>I:16006 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO7:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO8  | 1x16008<br>2x16008<br>I:16007 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO8:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO9  | 1x16009<br>2x16009<br>I:16008 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO9:0=OFF  |  | ENTER NEW STATE (0 or 1) |            |    |
| DO10 | 1x16010<br>2x16010<br>I:16009 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO10:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO11 | 1x16011<br>2x16011<br>I:16010 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO11:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO12 | 1x16012<br>2x16012<br>I:16011 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO12:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO13 | 1x16013<br>2x16013<br>I:16012 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO13:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO14 | 1x16014<br>2x16014<br>I:16013 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO14:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO15 | 1x16015<br>2x16015<br>I:16014 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO15:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |

|      |                               |                            |  |                          |            |    |
|------|-------------------------------|----------------------------|--|--------------------------|------------|----|
| DO16 | 1x16016<br>2x16016<br>I:16015 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO16:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO17 | 1x16017<br>2x16017<br>I:16016 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO17:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO18 | 1x16018<br>2x16018<br>I:16017 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO18:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO19 | 1x16019<br>2x16019<br>I:16018 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO19:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO20 | 1x16020<br>2x16020<br>I:16019 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO20:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO21 | 1x16021<br>2x16021<br>I:16020 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO21:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO22 | 1x16022<br>2x16022<br>I:16021 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO22:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO23 | 1x16023<br>2x16023<br>I:16022 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO23:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO24 | 1x16024<br>2x16024<br>I:16023 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO24:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO25 | 1x16025<br>2x16025<br>I:16024 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO25:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO26 | 1x16026<br>2x16026<br>I:16025 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO26:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |

|      |                               |                            |  |                          |            |    |
|------|-------------------------------|----------------------------|--|--------------------------|------------|----|
| DO27 | 1x16027<br>2x16027<br>I:16026 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO27:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO28 | 1x16028<br>2x16028<br>I:16027 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO28:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO29 | 1x16029<br>2x16029<br>I:16028 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO29:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |
| DO30 | 1x16030<br>2x16030<br>I:16029 | ????                       |  | 0                        | BIT<br>R/W | NO |
|      |                               | Actual state of DO30:0=OFF |  | ENTER NEW STATE (0 or 1) |            |    |

| Register NAME<br>Command NAME                                    | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE  | DO<br>WRITE |
|--|--|---------------------------------|-------------------|--------------|------------|-------------|
| <b>DIGITAL INPUTS: DIGITAL INPUT HAS CHANGED IT'S STATE</b>      |  |                                 |                   |              |            |             |
| DI HAS CHANGED DI1   | 1x20001<br>2x20001<br>I:20000          | 1,0x01<br>B:01                  |                   |              | BIT<br>R/O |             |
| If the digital input has changed this bit inverts its last state |  |                                 |                   |              |            |             |
| DI HAS CHANGED DI2   | 1x20002<br>2x20002<br>I:20001          | 1,0x01<br>B:01                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI3   | 1x20003<br>2x20003<br>I:20002          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI4   | 1x20004<br>2x20004<br>I:20003          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI5   | 1x20005<br>2x20005<br>I:20004          | 1,0x01<br>B:01                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI6   | 1x20006<br>2x20006<br>I:20005          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI7   | 1x20007<br>2x20007<br>I:20006          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI8   | 1x20008<br>2x20008<br>I:20007          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI9   | 1x20009<br>2x20009<br>I:20008          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI10  | 1x20010<br>2x20010<br>I:20009          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI11  | 1x20011<br>2x20011<br>I:20010          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI12  | 1x20012<br>2x20012<br>I:20011          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |
| DI HAS CHANGED DI13  | 1x20013<br>2x20013<br>I:20012          | 0,0x00<br>B:00                  |                   |              | BIT<br>R/O |             |

|                     |                               |                |  |  |            |  |
|---------------------|-------------------------------|----------------|--|--|------------|--|
| DI HAS CHANGED DI14 | 1x20014<br>2x20014<br>I:20013 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI15 | 1x20015<br>2x20015<br>I:20014 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI16 | 1x20016<br>2x20016<br>I:20015 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI17 | 1x20017<br>2x20017<br>I:20016 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI18 | 1x20018<br>2x20018<br>I:20017 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI19 | 1x20019<br>2x20019<br>I:20018 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI20 | 1x20020<br>2x20020<br>I:20019 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI21 | 1x20021<br>2x20021<br>I:20020 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI22 | 1x20022<br>2x20022<br>I:20021 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI23 | 1x20023<br>2x20023<br>I:20022 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI24 | 1x20024<br>2x20024<br>I:20023 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI25 | 1x20025<br>2x20025<br>I:20024 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI26 | 1x20026<br>2x20026<br>I:20025 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI27 | 1x20027<br>2x20027<br>I:20026 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI28 | 1x20028<br>2x20028<br>I:20027 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |

|   |                               |                |  |  |            |  |
|---|-------------------------------|----------------|--|--|------------|--|
| DI HAS CHANGED DI29   | 1x20029<br>2x20029<br>I:20028 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI30   | 1x20030<br>2x20030<br>I:20029 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI31   | 1x20031<br>2x20031<br>I:20030 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| DI HAS CHANGED DI32   | 1x20032<br>2x20032<br>I:20031 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| <b>DIGITAL INPUTS: SHORT KEYPRESS EVENT ON DIGITAL INPUT DETECTED</b>                       |                               |                |  |  |            |  |
| SHORT KEYPRESS<br>ON DI1  | 1x20033<br>2x20033<br>I:20032 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| If a short keypress event was detected on the digital input this bit inverts its last state |                               |                |  |  |            |  |
| SHORT KEYPRESS<br>ON DI2  | 1x20034<br>2x20034<br>I:20033 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI3  | 1x20035<br>2x20035<br>I:20034 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI4  | 1x20036<br>2x20036<br>I:20035 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI5  | 1x20037<br>2x20037<br>I:20036 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI6  | 1x20038<br>2x20038<br>I:20037 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI7  | 1x20039<br>2x20039<br>I:20038 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI8  | 1x20040<br>2x20040<br>I:20039 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI9  | 1x20041<br>2x20041<br>I:20040 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI10   | 1x20042<br>2x20042<br>I:20041 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI11   | 1x20043<br>2x20043<br>I:20042 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |



|                           |                               |                |  |  |            |  |
|---------------------------|-------------------------------|----------------|--|--|------------|--|
| SHORT KEYPRESS<br>ON DI12 | 1x20044<br>2x20044<br>I:20043 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI13 | 1x20045<br>2x20045<br>I:20044 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI14 | 1x20046<br>2x20046<br>I:20045 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI15 | 1x20047<br>2x20047<br>I:20046 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI16 | 1x20048<br>2x20048<br>I:20047 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI17 | 1x20049<br>2x20049<br>I:20048 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI18 | 1x20050<br>2x20050<br>I:20049 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI19 | 1x20051<br>2x20051<br>I:20050 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI20 | 1x20052<br>2x20052<br>I:20051 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI21 | 1x20053<br>2x20053<br>I:20052 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI22 | 1x20054<br>2x20054<br>I:20053 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI23 | 1x20055<br>2x20055<br>I:20054 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI24 | 1x20056<br>2x20056<br>I:20055 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI25 | 1x20057<br>2x20057<br>I:20056 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI26 | 1x20058<br>2x20058<br>I:20057 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |

|  |                               |                |  |  |            |  |
|--|-------------------------------|----------------|--|--|------------|--|
| SHORT KEYPRESS<br>ON DI27  | 1x20059<br>2x20059<br>I:20058 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI28  | 1x20060<br>2x20060<br>I:20059 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI29  | 1x20061<br>2x20061<br>I:20060 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI30  | 1x20062<br>2x20062<br>I:20061 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI31  | 1x20063<br>2x20063<br>I:20062 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| SHORT KEYPRESS<br>ON DI32  | 1x20064<br>2x20064<br>I:20063 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| <b>DIGITAL INPUTS: LONG KEYPRESS START EVENT ON DIGITAL INPUT DETECTED</b>                       |                               |                |  |  |            |  |
| LONG KEYPRESS START<br>ON DI1  | 1x20065<br>2x20065<br>I:20064 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| If a long keypress start event was detected on the digital input this bit inverts its last state |                               |                |  |  |            |  |
| LONG KEYPRESS START<br>ON DI2  | 1x20066<br>2x20066<br>I:20065 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI3  | 1x20067<br>2x20067<br>I:20066 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI4  | 1x20068<br>2x20068<br>I:20067 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI5  | 1x20069<br>2x20069<br>I:20068 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI6  | 1x20070<br>2x20070<br>I:20069 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI7  | 1x20071<br>2x20071<br>I:20070 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI8  | 1x20072<br>2x20072<br>I:20071 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI9  | 1x20073<br>2x20073<br>I:20072 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |

|                                |                               |                |  |  |            |  |
|--------------------------------|-------------------------------|----------------|--|--|------------|--|
| LONG KEYPRESS START<br>ON DI10 | 1x20074<br>2x20074<br>I:20073 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI11 | 1x20075<br>2x20075<br>I:20074 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI12 | 1x20076<br>2x20076<br>I:20075 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI13 | 1x20077<br>2x20077<br>I:20076 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI14 | 1x20078<br>2x20078<br>I:20077 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI15 | 1x20079<br>2x20079<br>I:20078 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI16 | 1x20080<br>2x20080<br>I:20079 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI17 | 1x20081<br>2x20081<br>I:20080 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI18 | 1x20082<br>2x20082<br>I:20081 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI19 | 1x20083<br>2x20083<br>I:20082 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI20 | 1x20084<br>2x20084<br>I:20083 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI21 | 1x20085<br>2x20085<br>I:20084 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI22 | 1x20086<br>2x20086<br>I:20085 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI23 | 1x20087<br>2x20087<br>I:20086 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI24 | 1x20088<br>2x20088<br>I:20087 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |

|  |                               |                |  |  |            |  |
|--|-------------------------------|----------------|--|--|------------|--|
| LONG KEYPRESS START<br>ON DI25   | 1x20089<br>2x20089<br>I:20088 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI26   | 1x20090<br>2x20090<br>I:20089 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI27   | 1x20091<br>2x20091<br>I:20090 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI28   | 1x20092<br>2x20092<br>I:20091 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI29   | 1x20093<br>2x20093<br>I:20092 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI30   | 1x20094<br>2x20094<br>I:20093 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI31   | 1x20095<br>2x20095<br>I:20094 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS START<br>ON DI32   | 1x20096<br>2x20096<br>I:20095 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| <b>DIGITAL INPUTS: LONG KEYPRESS END EVENT ON DIGITAL INPUT DETECTED</b>                       |                               |                |  |  |            |  |
| LONG KEYPRESS END<br>ON DI1  | 1x20097<br>2x20097<br>I:20096 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| If a long keypress end event was detected on the digital input this bit inverts its last state |                               |                |  |  |            |  |
| LONG KEYPRESS END<br>ON DI2  | 1x20098<br>2x20098<br>I:20097 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI3  | 1x20099<br>2x20099<br>I:20098 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI4  | 1x20100<br>2x20100<br>I:20099 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI5  | 1x20101<br>2x20101<br>I:20100 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI6  | 1x20102<br>2x20102<br>I:20101 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI7  | 1x20103<br>2x20103<br>I:20102 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |

|                              |                               |                |  |  |            |  |
|------------------------------|-------------------------------|----------------|--|--|------------|--|
| LONG KEYPRESS END<br>ON DI8  | 1x20104<br>2x20104<br>I:20103 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI9  | 1x20105<br>2x20105<br>I:20104 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI10 | 1x20106<br>2x20106<br>I:20105 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI11 | 1x20107<br>2x20107<br>I:20106 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI12 | 1x20108<br>2x20108<br>I:20107 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI13 | 1x20109<br>2x20109<br>I:20108 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI14 | 1x20110<br>2x20110<br>I:20109 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI15 | 1x20111<br>2x20111<br>I:20110 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI16 | 1x20112<br>2x20112<br>I:20111 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI17 | 1x20113<br>2x20113<br>I:20112 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI18 | 1x20114<br>2x20114<br>I:20113 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI19 | 1x20115<br>2x20115<br>I:20114 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI20 | 1x20116<br>2x20116<br>I:20115 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI21 | 1x20117<br>2x20117<br>I:20116 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI22 | 1x20118<br>2x20118<br>I:20117 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |

|  |                               |                |  |  |            |  |
|--|-------------------------------|----------------|--|--|------------|--|
| LONG KEYPRESS END<br>ON DI23   | 1x20119<br>2x20119<br>I:20118 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI24   | 1x20120<br>2x20120<br>I:20119 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI25   | 1x20121<br>2x20121<br>I:20120 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI26   | 1x20122<br>2x20122<br>I:20121 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI27   | 1x20123<br>2x20123<br>I:20122 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI28   | 1x20124<br>2x20124<br>I:20123 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI29   | 1x20125<br>2x20125<br>I:20124 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI30   | 1x20126<br>2x20126<br>I:20125 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI31   | 1x20127<br>2x20127<br>I:20126 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| LONG KEYPRESS END<br>ON DI32   | 1x20128<br>2x20128<br>I:20127 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| <b>DIGITAL INPUTS: RISING EDGE ON DIGITAL INPUT DETECTED</b>                       |                               |                |  |  |            |  |
| RISING EDGE<br>ON DI1  | 1x20129<br>2x20129<br>I:20128 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| If a rising edge was detected on the digital input this bit inverts its last state |                               |                |  |  |            |  |
| RISING EDGE<br>ON DI2  | 1x20130<br>2x20130<br>I:20129 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI3  | 1x20131<br>2x20131<br>I:20130 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI4  | 1x20132<br>2x20132<br>I:20131 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI5  | 1x20133<br>2x20133<br>I:20132 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |

|                        |                               |                |  |  |            |  |
|------------------------|-------------------------------|----------------|--|--|------------|--|
| RISING EDGE<br>ON DI6  | 1x20134<br>2x20134<br>I:20133 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI7  | 1x20135<br>2x20135<br>I:20134 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI8  | 1x20136<br>2x20136<br>I:20135 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI9  | 1x20137<br>2x20137<br>I:20136 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI10 | 1x20138<br>2x20138<br>I:20137 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI11 | 1x20139<br>2x20139<br>I:20138 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI12 | 1x20140<br>2x20140<br>I:20139 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI13 | 1x20141<br>2x20141<br>I:20140 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI14 | 1x20142<br>2x20142<br>I:20141 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI15 | 1x20143<br>2x20143<br>I:20142 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI16 | 1x20144<br>2x20144<br>I:20143 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI17 | 1x20145<br>2x20145<br>I:20144 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI18 | 1x20146<br>2x20146<br>I:20145 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI19 | 1x20147<br>2x20147<br>I:20146 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI20 | 1x20148<br>2x20148<br>I:20147 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |

|   |                               |                |  |  |            |  |
|---|-------------------------------|----------------|--|--|------------|--|
| RISING EDGE<br>ON DI21  | 1x20149<br>2x20149<br>I:20148 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI22  | 1x20150<br>2x20150<br>I:20149 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI23  | 1x20151<br>2x20151<br>I:20150 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI24  | 1x20152<br>2x20152<br>I:20151 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI25  | 1x20153<br>2x20153<br>I:20152 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI26  | 1x20154<br>2x20154<br>I:20153 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI27  | 1x20155<br>2x20155<br>I:20154 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI28  | 1x20156<br>2x20156<br>I:20155 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI29  | 1x20157<br>2x20157<br>I:20156 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI30  | 1x20158<br>2x20158<br>I:20157 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI31  | 1x20159<br>2x20159<br>I:20158 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| RISING EDGE<br>ON DI32  | 1x20160<br>2x20160<br>I:20159 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| <b>DIGITAL INPUTS: FALLING EDGE ON DIGITAL INPUT DETECTED</b>                       |                               |                |  |  |            |  |
| FALLING EDGE<br>ON DI1  | 1x20161<br>2x20161<br>I:20160 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| If a falling edge was detected on the digital input this bit inverts its last state |                               |                |  |  |            |  |
| FALLING EDGE<br>ON DI2  | 1x20162<br>2x20162<br>I:20161 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI3  | 1x20163<br>2x20163<br>I:20162 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |



|                         |                               |                |  |  |            |  |
|-------------------------|-------------------------------|----------------|--|--|------------|--|
| FALLING EDGE<br>ON DI4  | 1x20164<br>2x20164<br>I:20163 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI5  | 1x20165<br>2x20165<br>I:20164 | 1,0x01<br>B:01 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI6  | 1x20166<br>2x20166<br>I:20165 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI7  | 1x20167<br>2x20167<br>I:20166 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI8  | 1x20168<br>2x20168<br>I:20167 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI9  | 1x20169<br>2x20169<br>I:20168 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI10 | 1x20170<br>2x20170<br>I:20169 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI11 | 1x20171<br>2x20171<br>I:20170 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI12 | 1x20172<br>2x20172<br>I:20171 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI13 | 1x20173<br>2x20173<br>I:20172 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI14 | 1x20174<br>2x20174<br>I:20173 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI15 | 1x20175<br>2x20175<br>I:20174 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI16 | 1x20176<br>2x20176<br>I:20175 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI17 | 1x20177<br>2x20177<br>I:20176 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI18 | 1x20178<br>2x20178<br>I:20177 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |

|                         |                               |                |  |  |            |  |
|-------------------------|-------------------------------|----------------|--|--|------------|--|
| FALLING EDGE<br>ON DI19 | 1x20179<br>2x20179<br>I:20178 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI20 | 1x20180<br>2x20180<br>I:20179 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI21 | 1x20181<br>2x20181<br>I:20180 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI22 | 1x20182<br>2x20182<br>I:20181 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI23 | 1x20183<br>2x20183<br>I:20182 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI24 | 1x20184<br>2x20184<br>I:20183 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI25 | 1x20185<br>2x20185<br>I:20184 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI26 | 1x20186<br>2x20186<br>I:20185 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI27 | 1x20187<br>2x20187<br>I:20186 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI28 | 1x20188<br>2x20188<br>I:20187 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI29 | 1x20189<br>2x20189<br>I:20188 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI30 | 1x20190<br>2x20190<br>I:20189 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI31 | 1x20191<br>2x20191<br>I:20190 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |
| FALLING EDGE<br>ON DI32 | 1x20192<br>2x20192<br>I:20191 | 0,0x00<br>B:00 |  |  | BIT<br>R/O |  |

| Register NAME<br>Command NAME                                       | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE     | DO<br>WRITE |
|---|--|---------------------------------|-------------------|--------------|---------------|-------------|
| <b>STATUS DIGITAL INPUTS</b>  |  |                                 |                   |              |               |             |
| DI1   | 3x00001<br>4x00001<br>I:0              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | Actual state of DI1:0=OFF       |                   |              |               |             |
| Current state of the digital input DIx<br>=0:DI is OFF, =1:DI is ON |  |                                 |                   |              |               |             |
| DI2   | 3x00002<br>4x00002<br>I:1              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | Actual state of DI2:0=OFF       |                   |              |               |             |
| DI3   | 3x00003<br>4x00003<br>I:2              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | Actual state of DI3:0=OFF       |                   |              |               |             |
| DI4   | 3x00004<br>4x00004<br>I:3              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | Actual state of DI4:0=OFF       |                   |              |               |             |
| DI5   | 3x00005<br>4x00005<br>I:4              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | Actual state of DI5:0=OFF       |                   |              |               |             |
| DI6   | 3x00006<br>4x00006<br>I:5              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | Actual state of DI6:0=OFF       |                   |              |               |             |
| DI7   | 3x00007<br>4x00007<br>I:6              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | Actual state of DI7:0=OFF       |                   |              |               |             |
| DI8   | 3x00008<br>4x00008<br>I:7              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | Actual state of DI8:0=OFF       |                   |              |               |             |
| DI9   | 3x00009<br>4x00009<br>I:8              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | Actual state of DI9:0=OFF       |                   |              |               |             |
| DI10  | 3x00010<br>4x00010<br>I:9              | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |

|      |                            |                            |  |  |               |  |
|------|----------------------------|----------------------------|--|--|---------------|--|
|      |                            | Actual state of DI10:0=OFF |  |  |               |  |
| DI11 | 3x00011<br>4x00011<br>I:10 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI11:0=OFF |  |  |               |  |
| DI12 | 3x00012<br>4x00012<br>I:11 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI12:0=OFF |  |  |               |  |
| DI13 | 3x00013<br>4x00013<br>I:12 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI13:0=OFF |  |  |               |  |
| DI14 | 3x00014<br>4x00014<br>I:13 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI14:0=OFF |  |  |               |  |
| DI15 | 3x00015<br>4x00015<br>I:14 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI15:0=OFF |  |  |               |  |
| DI16 | 3x00016<br>4x00016<br>I:15 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI16:0=OFF |  |  |               |  |
| DI17 | 3x00017<br>4x00017<br>I:16 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI17:0=OFF |  |  |               |  |
| DI18 | 3x00018<br>4x00018<br>I:17 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI18:0=OFF |  |  |               |  |
| DI19 | 3x00019<br>4x00019<br>I:18 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI19:0=OFF |  |  |               |  |
| DI20 | 3x00020<br>4x00020<br>I:19 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI20:0=OFF |  |  |               |  |
| DI21 | 3x00021<br>4x00021<br>I:20 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|      |                            | Actual state of DI21:0=OFF |  |  |               |  |

|                               |                            |                            |  |  |               |  |
|-------------------------------|----------------------------|----------------------------|--|--|---------------|--|
| DI22                          | 3x00022<br>4x00022<br>I:21 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI22:0=OFF |  |  |               |  |
| DI23                          | 3x00023<br>4x00023<br>I:22 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI23:0=OFF |  |  |               |  |
| DI24                          | 3x00024<br>4x00024<br>I:23 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI24:0=OFF |  |  |               |  |
| DI25                          | 3x00025<br>4x00025<br>I:24 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI25:0=OFF |  |  |               |  |
| DI26                          | 3x00026<br>4x00026<br>I:25 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI26:0=OFF |  |  |               |  |
| DI27                          | 3x00027<br>4x00027<br>I:26 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI27:0=OFF |  |  |               |  |
| DI28                          | 3x00028<br>4x00028<br>I:27 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI28:0=OFF |  |  |               |  |
| DI29                          | 3x00029<br>4x00029<br>I:28 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI29:0=OFF |  |  |               |  |
| DI30                          | 3x00030<br>4x00030<br>I:29 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI30:0=OFF |  |  |               |  |
| DI31                          | 3x00031<br>4x00031<br>I:30 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI31:0=OFF |  |  |               |  |
| DI32                          | 3x00032<br>4x00032<br>I:31 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|                               |                            | Actual state of DI32:0=OFF |  |  |               |  |
| <b>STATUS DIGITAL OUTPUTS</b> |                            |                            |  |  |               |  |

|  |                            |                            |  |                          |               |    |
|--|----------------------------|----------------------------|--|--------------------------|---------------|----|
| DO1  | 3x00033<br>4x00033<br>I:32 | 0,0x0000<br>B:00 00        |  | 1                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO1:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| Current state of the digital output DOx<br>=0:DO is OFF, =1:DO is ON |                            |                            |  |                          |               |    |
| Writing on this register changes the state of the digital output     |                            |                            |  |                          |               |    |
| DO2  | 3x00034<br>4x00034<br>I:33 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO2:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO3  | 3x00035<br>4x00035<br>I:34 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO3:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO4  | 3x00036<br>4x00036<br>I:35 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO4:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO5  | 3x00037<br>4x00037<br>I:36 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO5:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO6  | 3x00038<br>4x00038<br>I:37 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO6:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO7  | 3x00039<br>4x00039<br>I:38 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO7:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO8  | 3x00040<br>4x00040<br>I:39 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO8:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO9  | 3x00041<br>4x00041<br>I:40 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO9:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO10   | 3x00042<br>4x00042<br>I:41 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|  |                            | Actual state of DO10:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO11   | 3x00043<br>4x00043<br>I:42 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |

|      |                            |                            |                          |               |    |
|------|----------------------------|----------------------------|--------------------------|---------------|----|
|      |                            | Actual state of DO11:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO12 | 3x00044<br>4x00044<br>I:43 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO12:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO13 | 3x00045<br>4x00045<br>I:44 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO13:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO14 | 3x00046<br>4x00046<br>I:45 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO14:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO15 | 3x00047<br>4x00047<br>I:46 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO15:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO16 | 3x00048<br>4x00048<br>I:47 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO16:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO17 | 3x00049<br>4x00049<br>I:48 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO17:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO18 | 3x00050<br>4x00050<br>I:49 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO18:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO19 | 3x00051<br>4x00051<br>I:50 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO19:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO20 | 3x00052<br>4x00052<br>I:51 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO20:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO21 | 3x00053<br>4x00053<br>I:52 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO21:0=OFF | ENTER NEW STATE (0 or 1) |               |    |
| DO22 | 3x00054<br>4x00054<br>I:53 | 0,0x0000<br>B:00 00        | 0                        | UINT16<br>R/W | NO |
|      |                            | Actual state of DO22:0=OFF | ENTER NEW STATE (0 or 1) |               |    |

|   |                            |   |  |                               |               |    |
|---|----------------------------|---|--|-------------------------------|---------------|----|
| DO23  | 3x00055<br>4x00055<br>I:54 | 0,0x0000<br>B:00 00   |  | 0                             | UINT16<br>R/W | NO |
|   |                            | Actual state of DO23:0=OFF                                      |  | ENTER NEW STATE (0 or 1)      |               |    |
| DO24  | 3x00056<br>4x00056<br>I:55 | 0,0x0000<br>B:00 00   |  | 0                             | UINT16<br>R/W | NO |
|   |                            | Actual state of DO24:0=OFF                                      |  | ENTER NEW STATE (0 or 1)      |               |    |
| DO25  | 3x00057<br>4x00057<br>I:56 | 0,0x0000<br>B:00 00   |  | 0                             | UINT16<br>R/W | NO |
|   |                            | Actual state of DO25:0=OFF                                      |  | ENTER NEW STATE (0 or 1)      |               |    |
| DO26  | 3x00058<br>4x00058<br>I:57 | 0,0x0000<br>B:00 00   |  | 0                             | UINT16<br>R/W | NO |
|   |                            | Actual state of DO26:0=OFF                                      |  | ENTER NEW STATE (0 or 1)      |               |    |
| DO27  | 3x00059<br>4x00059<br>I:58 | 0,0x0000<br>B:00 00   |  | 0                             | UINT16<br>R/W | NO |
|   |                            | Actual state of DO27:0=OFF                                      |  | ENTER NEW STATE (0 or 1)      |               |    |
| DO28  | 3x00060<br>4x00060<br>I:59 | 0,0x0000<br>B:00 00   |  | 0                             | UINT16<br>R/W | NO |
|   |                            | Actual state of DO28:0=OFF                                      |  | ENTER NEW STATE (0 or 1)      |               |    |
| DO29  | 3x00061<br>4x00061<br>I:60 | 0,0x0000<br>B:00 00   |  | 0                             | UINT16<br>R/W | NO |
|   |                            | Actual state of DO29:0=OFF                                      |  | ENTER NEW STATE (0 or 1)      |               |    |
| DO30  | 3x00062<br>4x00062<br>I:61 | 0,0x0000<br>B:00 00   |  | 0                             | UINT16<br>R/W | NO |
|   |                            | Actual state of DO30:0=OFF                                      |  | ENTER NEW STATE (0 or 1)      |               |    |
| <b>DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION ON</b>   |                            |   |  |                               |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO1  | 3x00063<br>4x00063<br>I:62 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                            | Actual setup of open wire detection for state ON<br>of DO1:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| Enables/disabled detection of an open wire in DO state ON for the digital output DOx<br>=0:Open wire detection is OFF, =1:Open wire detection is ON |                            |   |  |                               |               |    |
| Writing on this register changes the state of the open wire detection for this output   |                            |   |  |                               |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO2  | 3x00064<br>4x00064<br>I:63 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                            | Actual setup of open wire detection for state ON<br>of DO2:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |



|                                       |                            |  |  |                               |  |               |    |
|---------------------------------------|----------------------------|--|--|-------------------------------|--|---------------|----|
| ENABLE OPEN WIRE<br>DETECTION ON DO3  | 3x00065<br>4x00065<br>I:64 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO3:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO4  | 3x00066<br>4x00066<br>I:65 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO4:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO5  | 3x00067<br>4x00067<br>I:66 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO5:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO6  | 3x00068<br>4x00068<br>I:67 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO6:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO7  | 3x00069<br>4x00069<br>I:68 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO7:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO8  | 3x00070<br>4x00070<br>I:69 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO8:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO9  | 3x00071<br>4x00071<br>I:70 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO9:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO10 | 3x00072<br>4x00072<br>I:71 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO10:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO11 | 3x00073<br>4x00073<br>I:72 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO11:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |

|                                       |                            |  |  |                               |               |    |
|---------------------------------------|----------------------------|--|--|-------------------------------|---------------|----|
| ENABLE OPEN WIRE<br>DETECTION ON DO12 | 3x00074<br>4x00074<br>I:73 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO12:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO13 | 3x00075<br>4x00075<br>I:74 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO13:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO14 | 3x00076<br>4x00076<br>I:75 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO14:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO15 | 3x00077<br>4x00077<br>I:76 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO15:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO16 | 3x00078<br>4x00078<br>I:77 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO16:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO17 | 3x00079<br>4x00079<br>I:78 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO17:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO18 | 3x00080<br>4x00080<br>I:79 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO18:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO19 | 3x00081<br>4x00081<br>I:80 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO19:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO20 | 3x00082<br>4x00082<br>I:81 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO20:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |

|                                       |                            |  |  |                               |  |               |    |
|---------------------------------------|----------------------------|--|--|-------------------------------|--|---------------|----|
| ENABLE OPEN WIRE<br>DETECTION ON DO21 | 3x00083<br>4x00083<br>I:82 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO21:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO22 | 3x00084<br>4x00084<br>I:83 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO22:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO23 | 3x00085<br>4x00085<br>I:84 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO23:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO24 | 3x00086<br>4x00086<br>I:85 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO24:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO25 | 3x00087<br>4x00087<br>I:86 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO25:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO26 | 3x00088<br>4x00088<br>I:87 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO26:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO27 | 3x00089<br>4x00089<br>I:88 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO27:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO28 | 3x00090<br>4x00090<br>I:89 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO28:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION ON DO29 | 3x00091<br>4x00091<br>I:90 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|                                       |                            | Actual setup of open wire detection for state ON<br>of DO29:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |

|  |                            |  |  |                               |               |    |
|--|----------------------------|--|--|-------------------------------|---------------|----|
| ENABLE OPEN WIRE<br>DETECTION ON DO30  | 3x00092<br>4x00092<br>I:91 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state ON<br>of DO30:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| <b>DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION OFF</b>   |                            |  |  |                               |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO1  | 3x00093<br>4x00093<br>I:92 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO1:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| Enables/disabled detection of an open wire in DO state OFF for the digital output DOx<br>=0:Open wire detection is OFF, =1:Open wire detection is ON |                            |  |  |                               |               |    |
| Writing on this register changes the state of the open wire detection for this output  |                            |  |  |                               |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO2  | 3x00094<br>4x00094<br>I:93 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO2:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO3  | 3x00095<br>4x00095<br>I:94 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO3:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO4  | 3x00096<br>4x00096<br>I:95 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO4:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO5  | 3x00097<br>4x00097<br>I:96 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO5:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO6  | 3x00098<br>4x00098<br>I:97 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO6:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO7  | 3x00099<br>4x00099<br>I:98 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |
|  |                            | Actual setup of open wire detection for state OFF<br>of DO7:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO8  | 3x00100<br>4x00100<br>I:99 | 1,0x0001<br>B:00 01  |  | 1                             | UINT16<br>R/W | NO |

|                                     |                             |  |                               |               |    |
|-------------------------------------|-----------------------------|--|-------------------------------|---------------|----|
|                                     |                             | Actual setup of open wire detection for state OFF of DO8:1=ON  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE DETECTION OFF DO9  | 3x00101<br>4x00101<br>I:100 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO9:1=ON  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE DETECTION OFF DO10 | 3x00102<br>4x00102<br>I:101 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO10:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE DETECTION OFF DO11 | 3x00103<br>4x00103<br>I:102 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO11:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE DETECTION OFF DO12 | 3x00104<br>4x00104<br>I:103 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO12:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE DETECTION OFF DO13 | 3x00105<br>4x00105<br>I:104 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO13:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE DETECTION OFF DO14 | 3x00106<br>4x00106<br>I:105 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO14:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE DETECTION OFF DO15 | 3x00107<br>4x00107<br>I:106 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO15:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE DETECTION OFF DO16 | 3x00108<br>4x00108<br>I:107 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO16:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE DETECTION OFF DO17 | 3x00109<br>4x00109<br>I:108 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                     |                             | Actual setup of open wire detection for state OFF of DO17:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |

|  |                             |   |  |                               |  |               |    |
|--|-----------------------------|---|--|-------------------------------|--|---------------|----|
| ENABLE OPEN WIRE<br>DETECTION OFF DO18 | 3x00110<br>4x00110<br>I:109 | 1,0x0001<br>B:00 01   |  | 1                             |  | UINT16<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO18:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO19 | 3x00111<br>4x00111<br>I:110 | 1,0x0001<br>B:00 01   |  | 1                             |  | UINT16<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO19:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO20 | 3x00112<br>4x00112<br>I:111 | 1,0x0001<br>B:00 01   |  | 1                             |  | UINT16<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO20:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO21 | 3x00113<br>4x00113<br>I:112 | 1,0x0001<br>B:00 01   |  | 1                             |  | UINT16<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO21:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO22 | 3x00114<br>4x00114<br>I:113 | 1,0x0001<br>B:00 01   |  | 1                             |  | UINT16<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO22:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO23 | 3x00115<br>4x00115<br>I:114 | 1,0x0001<br>B:00 01   |  | 1                             |  | UINT16<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO23:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO24 | 3x00116<br>4x00116<br>I:115 | 1,0x0001<br>B:00 01   |  | 1                             |  | UINT16<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO24:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO25 | 3x00117<br>4x00117<br>I:116 | 1,0x0001<br>B:00 01   |  | 1                             |  | UINT16<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO25:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO26 | 3x00118<br>4x00118<br>I:117 | 1,0x0001<br>B:00 01   |  | 1                             |  | UINT16<br>R/W | NO |
|  |                             | Actual setup of open wire detection for state OFF<br>of DO26:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |

|   |                             |   |  |                               |               |    |
|---|-----------------------------|---|--|-------------------------------|---------------|----|
| ENABLE OPEN WIRE<br>DETECTION OFF DO27  | 3x00119<br>4x00119<br>I:118 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO27:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO28  | 3x00120<br>4x00120<br>I:119 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO28:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO29  | 3x00121<br>4x00121<br>I:120 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO29:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE OPEN WIRE<br>DETECTION OFF DO30  | 3x00122<br>4x00122<br>I:121 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO30:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| <b>DIGITAL OUTPUTS: ENABLE SHORT TO VDD DETECTION</b>   |                             |   |  |                               |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO1  | 3x00123<br>4x00123<br>I:122 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO1:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| Enables/disabled detection of a shortcut to VDD in DO state OFF for the digital output DOx<br>=0:Shortcut to VDD detection is OFF, =1:Shortcut to VDD detection is ON |                             |   |  |                               |               |    |
| Writing on this register changes the state of the shortcut detection for this output  |                             |   |  |                               |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO2  | 3x00124<br>4x00124<br>I:123 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO2:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO3  | 3x00125<br>4x00125<br>I:124 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO3:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO4  | 3x00126<br>4x00126<br>I:125 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO4:1=ON  |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO5  | 3x00127<br>4x00127<br>I:126 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |

|                                    |                             |  |                               |               |    |
|------------------------------------|-----------------------------|--|-------------------------------|---------------|----|
|                                    |                             | Actual setup of open wire detection for state OFF of DO5:1=ON  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD DETECTION DO6  | 3x00128<br>4x00128<br>I:127 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                    |                             | Actual setup of open wire detection for state OFF of DO6:1=ON  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD DETECTION DO7  | 3x00129<br>4x00129<br>I:128 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                    |                             | Actual setup of open wire detection for state OFF of DO7:1=ON  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD DETECTION DO8  | 3x00130<br>4x00130<br>I:129 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                    |                             | Actual setup of open wire detection for state OFF of DO8:1=ON  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD DETECTION DO9  | 3x00131<br>4x00131<br>I:130 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                    |                             | Actual setup of open wire detection for state OFF of DO9:1=ON  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD DETECTION DO10 | 3x00132<br>4x00132<br>I:131 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                    |                             | Actual setup of open wire detection for state OFF of DO10:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD DETECTION DO11 | 3x00133<br>4x00133<br>I:132 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                    |                             | Actual setup of open wire detection for state OFF of DO11:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD DETECTION DO12 | 3x00134<br>4x00134<br>I:133 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                    |                             | Actual setup of open wire detection for state OFF of DO12:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD DETECTION DO13 | 3x00135<br>4x00135<br>I:134 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                    |                             | Actual setup of open wire detection for state OFF of DO13:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD DETECTION DO14 | 3x00136<br>4x00136<br>I:135 | 1,0x0001<br>B:00 01  | 1                             | UINT16<br>R/W | NO |
|                                    |                             | Actual setup of open wire detection for state OFF of DO14:1=ON | ENTER NEW SETUP MODE (0 or 1) |               |    |



|                                       |                             |   |  |                               |               |    |
|---------------------------------------|-----------------------------|---|--|-------------------------------|---------------|----|
| ENABLE SHORT TO VDD<br>DETECTION DO15 | 3x00137<br>4x00137<br>I:136 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO15:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO16 | 3x00138<br>4x00138<br>I:137 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO16:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO17 | 3x00139<br>4x00139<br>I:138 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO17:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO18 | 3x00140<br>4x00140<br>I:139 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO18:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO19 | 3x00141<br>4x00141<br>I:140 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO19:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO20 | 3x00142<br>4x00142<br>I:141 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO20:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO21 | 3x00143<br>4x00143<br>I:142 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO21:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO22 | 3x00144<br>4x00144<br>I:143 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO22:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO23 | 3x00145<br>4x00145<br>I:144 | 1,0x0001<br>B:00 01   |  | 1                             | UINT16<br>R/W | NO |
|                                       |                             | Actual setup of open wire detection for state OFF<br>of DO23:1=ON |  | ENTER NEW SETUP MODE (0 or 1) |               |    |

|   |                             |  |  |                               |  |               |    |
|---|-----------------------------|--|--|-------------------------------|--|---------------|----|
| ENABLE SHORT TO VDD<br>DETECTION DO24   | 3x00146<br>4x00146<br>I:145 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO24:1=ON        |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO25   | 3x00147<br>4x00147<br>I:146 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO25:1=ON        |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO26   | 3x00148<br>4x00148<br>I:147 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO26:1=ON        |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO27   | 3x00149<br>4x00149<br>I:148 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO27:1=ON        |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO28   | 3x00150<br>4x00150<br>I:149 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO28:1=ON        |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO29   | 3x00151<br>4x00151<br>I:150 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO29:1=ON        |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| ENABLE SHORT TO VDD<br>DETECTION DO30   | 3x00152<br>4x00152<br>I:151 | 1,0x0001<br>B:00 01  |  | 1                             |  | UINT16<br>R/W | NO |
|   |                             | Actual setup of open wire detection for state OFF<br>of DO30:1=ON        |  | ENTER NEW SETUP MODE (0 or 1) |  |               |    |
| <b>DIGITAL OUTPUTS: OPEN WIRE DETECTION STATUS WHILE ON</b>   |                             |  |  |                               |  |               |    |
| OPEN WIRE FAULT<br>WHILE ON DO1   | 3x00153<br>4x00153<br>I:152 | 0,0x0000<br>B:00 00  |  |                               |  | UINT16<br>R/O |    |
|   |                             | Actual detection state of an open wire fault<br>in state ON for DO1:0=OK |  |                               |  |               |    |
| The current detection state of an open wire in the output state ON for the digital output DOx<br>=0:No fault, =1:Fault-open wire detected |                             |  |  |                               |  |               |    |
| OPEN WIRE FAULT<br>WHILE ON DO2   | 3x00154<br>4x00154<br>I:153 | 0,0x0000<br>B:00 00  |  |                               |  | UINT16<br>R/O |    |

|                                  |                             |   |  |  |               |
|----------------------------------|-----------------------------|---|--|--|---------------|
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO2:0=OK  |  |  |               |
| OPEN WIRE FAULT<br>WHILE ON DO3  | 3x00155<br>4x00155<br>I:154 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO3:0=OK  |  |  |               |
| OPEN WIRE FAULT<br>WHILE ON DO4  | 3x00156<br>4x00156<br>I:155 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO4:0=OK  |  |  |               |
| OPEN WIRE FAULT<br>WHILE ON DO5  | 3x00157<br>4x00157<br>I:156 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO5:0=OK  |  |  |               |
| OPEN WIRE FAULT<br>WHILE ON DO6  | 3x00158<br>4x00158<br>I:157 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO6:0=OK  |  |  |               |
| OPEN WIRE FAULT<br>WHILE ON DO7  | 3x00159<br>4x00159<br>I:158 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO7:0=OK  |  |  |               |
| OPEN WIRE FAULT<br>WHILE ON DO8  | 3x00160<br>4x00160<br>I:159 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO8:0=OK  |  |  |               |
| OPEN WIRE FAULT<br>WHILE ON DO9  | 3x00161<br>4x00161<br>I:160 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO9:0=OK  |  |  |               |
| OPEN WIRE FAULT<br>WHILE ON DO10 | 3x00162<br>4x00162<br>I:161 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO10:0=OK |  |  |               |
| OPEN WIRE FAULT<br>WHILE ON DO11 | 3x00163<br>4x00163<br>I:162 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO11:0=OK |  |  |               |

|                                  |                             |   |  |  |               |  |
|----------------------------------|-----------------------------|---|--|--|---------------|--|
| OPEN WIRE FAULT<br>WHILE ON DO12 | 3x00164<br>4x00164<br>I:163 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO12:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO13 | 3x00165<br>4x00165<br>I:164 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO13:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO14 | 3x00166<br>4x00166<br>I:165 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO14:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO15 | 3x00167<br>4x00167<br>I:166 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO15:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO16 | 3x00168<br>4x00168<br>I:167 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO16:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO17 | 3x00169<br>4x00169<br>I:168 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO17:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO18 | 3x00170<br>4x00170<br>I:169 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO18:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO19 | 3x00171<br>4x00171<br>I:170 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO19:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO20 | 3x00172<br>4x00172<br>I:171 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO20:0=OK |  |  |               |  |

|                                  |                             |   |  |  |               |  |
|----------------------------------|-----------------------------|---|--|--|---------------|--|
| OPEN WIRE FAULT<br>WHILE ON DO21 | 3x00173<br>4x00173<br>I:172 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO21:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO22 | 3x00174<br>4x00174<br>I:173 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO22:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO23 | 3x00175<br>4x00175<br>I:174 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO23:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO24 | 3x00176<br>4x00176<br>I:175 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO24:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO25 | 3x00177<br>4x00177<br>I:176 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO25:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO26 | 3x00178<br>4x00178<br>I:177 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO26:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO27 | 3x00179<br>4x00179<br>I:178 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO27:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO28 | 3x00180<br>4x00180<br>I:179 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO28:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE ON DO29 | 3x00181<br>4x00181<br>I:180 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|                                  |                             | Actual detection state of an open wire fault<br>in state ON for DO29:0=OK |  |  |               |  |

|  |                             |   |  |  |               |  |
|--|-----------------------------|---|--|--|---------------|--|
| OPEN WIRE FAULT<br>WHILE ON DO30   | 3x00182<br>4x00182<br>I:181 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state ON for DO30:0=OK |  |  |               |  |
| <b>DIGITAL OUTPUTS: OPEN WIRE DETECTION STATUS WHILE OFF</b>   |                             |   |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO1   | 3x00183<br>4x00183<br>I:182 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO1:0=OK |  |  |               |  |
| The current detection state of an open wire in the output state OFF for the digital output DOx<br>=0:No fault, =1:Fault-open wire detected |                             |   |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO2   | 3x00184<br>4x00184<br>I:183 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO2:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO3   | 3x00185<br>4x00185<br>I:184 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO3:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO4   | 3x00186<br>4x00186<br>I:185 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO4:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO5   | 3x00187<br>4x00187<br>I:186 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO5:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO6   | 3x00188<br>4x00188<br>I:187 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO6:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO7   | 3x00189<br>4x00189<br>I:188 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|  |                             | Actual detection state of an open wire fault<br>in state OFF for DO7:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO8   | 3x00190<br>4x00190<br>I:189 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |

|                                   |                             |   |  |  |               |
|-----------------------------------|-----------------------------|---|--|--|---------------|
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO8:0=OK     |  |  |               |
| OPEN WIRE FAULT<br>WHILE OFF DO9  | 3x00191<br>4x00191<br>I:190 | 1,0x0001<br>B:00 01   |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO9:1=FAULT  |  |  |               |
| OPEN WIRE FAULT<br>WHILE OFF DO10 | 3x00192<br>4x00192<br>I:191 | 1,0x0001<br>B:00 01   |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO10:1=FAULT |  |  |               |
| OPEN WIRE FAULT<br>WHILE OFF DO11 | 3x00193<br>4x00193<br>I:192 | 1,0x0001<br>B:00 01   |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO11:1=FAULT |  |  |               |
| OPEN WIRE FAULT<br>WHILE OFF DO12 | 3x00194<br>4x00194<br>I:193 | 1,0x0001<br>B:00 01   |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO12:1=FAULT |  |  |               |
| OPEN WIRE FAULT<br>WHILE OFF DO13 | 3x00195<br>4x00195<br>I:194 | 1,0x0001<br>B:00 01   |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO13:1=FAULT |  |  |               |
| OPEN WIRE FAULT<br>WHILE OFF DO14 | 3x00196<br>4x00196<br>I:195 | 1,0x0001<br>B:00 01   |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO14:1=FAULT |  |  |               |
| OPEN WIRE FAULT<br>WHILE OFF DO15 | 3x00197<br>4x00197<br>I:196 | 1,0x0001<br>B:00 01   |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO15:1=FAULT |  |  |               |
| OPEN WIRE FAULT<br>WHILE OFF DO16 | 3x00198<br>4x00198<br>I:197 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO16:0=OK    |  |  |               |
| OPEN WIRE FAULT<br>WHILE OFF DO17 | 3x00199<br>4x00199<br>I:198 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO17:0=OK    |  |  |               |

|                                   |                             |  |  |  |               |  |
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| OPEN WIRE FAULT<br>WHILE OFF DO18 | 3x00200<br>4x00200<br>I:199 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO18:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO19 | 3x00201<br>4x00201<br>I:200 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO19:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO20 | 3x00202<br>4x00202<br>I:201 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO20:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO21 | 3x00203<br>4x00203<br>I:202 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO21:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO22 | 3x00204<br>4x00204<br>I:203 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO22:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO23 | 3x00205<br>4x00205<br>I:204 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO23:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO24 | 3x00206<br>4x00206<br>I:205 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO24:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO25 | 3x00207<br>4x00207<br>I:206 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO25:0=OK |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO26 | 3x00208<br>4x00208<br>I:207 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of an open wire fault<br>in state OFF for DO26:0=OK |  |  |               |  |



|   |                             |   |  |  |               |  |
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| OPEN WIRE FAULT<br>WHILE OFF DO27   | 3x00209<br>4x00209<br>I:208 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of an open wire fault<br>in state OFF for DO27:0=OK      |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO28   | 3x00210<br>4x00210<br>I:209 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of an open wire fault<br>in state OFF for DO28:0=OK      |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO29   | 3x00211<br>4x00211<br>I:210 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of an open wire fault<br>in state OFF for DO29:0=OK      |  |  |               |  |
| OPEN WIRE FAULT<br>WHILE OFF DO30   | 3x00212<br>4x00212<br>I:211 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of an open wire fault<br>in state OFF for DO30:0=OK      |  |  |               |  |
| <b>DIGITAL OUTPUTS: SHORTCUT DETECTION STATUS TO VDD WHILE OFF</b>  |                             |   |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO1  | 3x00213<br>4x00213<br>I:212 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO1:0=OK |  |  |               |  |
| The current detection state of a shortcut to VDD in the output state OFF for the digital output DOx<br>=0:No fault, =1:Fault-shortcut to VDD detected |                             |   |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO2  | 3x00214<br>4x00214<br>I:213 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO2:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO3  | 3x00215<br>4x00215<br>I:214 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO3:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO4  | 3x00216<br>4x00216<br>I:215 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO4:0=OK |  |  |               |  |

|                                   |                             |  |  |  |               |  |
|-----------------------------------|-----------------------------|--|--|--|---------------|--|
| OPEN WIRE SHORTCUT TO VDD<br>DO5  | 3x00217<br>4x00217<br>I:216 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO5:0=OK  |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO6  | 3x00218<br>4x00218<br>I:217 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO6:0=OK  |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO7  | 3x00219<br>4x00219<br>I:218 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO7:0=OK  |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO8  | 3x00220<br>4x00220<br>I:219 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO8:0=OK  |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO9  | 3x00221<br>4x00221<br>I:220 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO9:0=OK  |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO10 | 3x00222<br>4x00222<br>I:221 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO10:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO11 | 3x00223<br>4x00223<br>I:222 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO11:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO12 | 3x00224<br>4x00224<br>I:223 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |

|                                   |                             |  |  |  |               |
|-----------------------------------|-----------------------------|--|--|--|---------------|
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO12:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO13 | 3x00225<br>4x00225<br>I:224 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO13:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO14 | 3x00226<br>4x00226<br>I:225 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO14:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO15 | 3x00227<br>4x00227<br>I:226 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO15:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO16 | 3x00228<br>4x00228<br>I:227 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO16:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO17 | 3x00229<br>4x00229<br>I:228 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO17:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO18 | 3x00230<br>4x00230<br>I:229 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO18:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO19 | 3x00231<br>4x00231<br>I:230 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO19:0=OK |  |  |               |

|                                   |                             |  |  |  |               |  |
|-----------------------------------|-----------------------------|--|--|--|---------------|--|
| OPEN WIRE SHORTCUT TO VDD<br>DO20 | 3x00232<br>4x00232<br>I:231 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO20:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO21 | 3x00233<br>4x00233<br>I:232 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO21:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO22 | 3x00234<br>4x00234<br>I:233 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO22:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO23 | 3x00235<br>4x00235<br>I:234 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO23:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO24 | 3x00236<br>4x00236<br>I:235 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO24:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO25 | 3x00237<br>4x00237<br>I:236 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO25:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO26 | 3x00238<br>4x00238<br>I:237 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|                                   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO26:0=OK |  |  |               |  |
| OPEN WIRE SHORTCUT TO VDD<br>DO27 | 3x00239<br>4x00239<br>I:238 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |

|   |                             |  |  |  |               |
|---|-----------------------------|--|--|--|---------------|
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO27:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO28   | 3x00240<br>4x00240<br>I:239 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO28:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO29   | 3x00241<br>4x00241<br>I:240 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO29:0=OK |  |  |               |
| OPEN WIRE SHORTCUT TO VDD<br>DO30   | 3x00242<br>4x00242<br>I:241 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a shortcut to VDD<br>in state OFF for VDD<br>DO30:0=OK |  |  |               |
| <b>DIGITAL OUTPUTS: THERMAL OVERLOAD DETECTION STATUS</b>   |                             |  |  |  |               |
| THERMAL OVERLOAD<br>DETECTION STATUS DO1  | 3x00243<br>4x00243<br>I:242 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a thermal overload<br>for DO1:0=OK                     |  |  |               |
| The current detection state of a thermal overload for the digital output DOx<br>=0:No fault, =1:Fault-thermal overload detected |                             |  |  |  |               |
| THERMAL OVERLOAD<br>DETECTION STATUS DO2  | 3x00244<br>4x00244<br>I:243 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a thermal overload<br>for DO2:0=OK                     |  |  |               |
| THERMAL OVERLOAD<br>DETECTION STATUS DO3  | 3x00245<br>4x00245<br>I:244 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a thermal overload<br>for DO3:0=OK                     |  |  |               |
| THERMAL OVERLOAD<br>DETECTION STATUS DO4  | 3x00246<br>4x00246<br>I:245 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a thermal overload<br>for DO4:0=OK                     |  |  |               |
| THERMAL OVERLOAD<br>DETECTION STATUS DO5  | 3x00247<br>4x00247<br>I:246 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |

|   |                             |  |  |  |               |  |
|---|-----------------------------|--|--|--|---------------|--|
|   |                             | Actual detection state of a thermal overload for DO5:0=OK  |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO6  | 3x00248<br>4x00248<br>I:247 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload for DO6:0=OK  |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO7  | 3x00249<br>4x00249<br>I:248 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload for DO7:0=OK  |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO8  | 3x00250<br>4x00250<br>I:249 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload for DO8:0=OK  |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO9  | 3x00251<br>4x00251<br>I:250 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload for DO9:0=OK  |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO10 | 3x00252<br>4x00252<br>I:251 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload for DO10:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO11 | 3x00253<br>4x00253<br>I:252 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload for DO11:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO12 | 3x00254<br>4x00254<br>I:253 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload for DO12:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO13 | 3x00255<br>4x00255<br>I:254 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload for DO13:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO14 | 3x00256<br>4x00256<br>I:255 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload for DO14:0=OK |  |  |               |  |

|   |                             |   |  |  |               |  |
|---|-----------------------------|---|--|--|---------------|--|
| THERMAL OVERLOAD<br>DETECTION STATUS DO15 | 3x00257<br>4x00257<br>I:256 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO15:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO16 | 3x00258<br>4x00258<br>I:257 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO16:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO17 | 3x00259<br>4x00259<br>I:258 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO17:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO18 | 3x00260<br>4x00260<br>I:259 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO18:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO19 | 3x00261<br>4x00261<br>I:260 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO19:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO20 | 3x00262<br>4x00262<br>I:261 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO20:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO21 | 3x00263<br>4x00263<br>I:262 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO21:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO22 | 3x00264<br>4x00264<br>I:263 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO22:0=OK |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO23 | 3x00265<br>4x00265<br>I:264 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO23:0=OK |  |  |               |  |

|   |                             |  |  |  |               |  |
|---|-----------------------------|--|--|--|---------------|--|
| THERMAL OVERLOAD<br>DETECTION STATUS DO24   | 3x00266<br>4x00266<br>I:265 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO24:0=OK      |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO25   | 3x00267<br>4x00267<br>I:266 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO25:0=OK      |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO26   | 3x00268<br>4x00268<br>I:267 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO26:0=OK      |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO27   | 3x00269<br>4x00269<br>I:268 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO27:0=OK      |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO28   | 3x00270<br>4x00270<br>I:269 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO28:0=OK      |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO29   | 3x00271<br>4x00271<br>I:270 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO29:0=OK      |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATUS DO30   | 3x00272<br>4x00272<br>I:271 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a thermal overload<br>for DO30:0=OK      |  |  |               |  |
| <b>DIGITAL OUTPUTS: CURRENT LIMIT DETECTION STATUS WHILE ON</b>   |                             |  |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO1  | 3x00273<br>4x00273<br>I:272 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO1:0=OK |  |  |               |  |
| The current detection state of a current limit while output is ON for the digital output DOx<br>=0:No fault, =1:Fault-current limit error |                             |  |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO2  | 3x00274<br>4x00274<br>I:273 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |



|   |                             |   |  |  |               |
|---|-----------------------------|---|--|--|---------------|
|   |                             | Actual detection state of a current limit while ON<br>for DO2:0=OK  |  |  |               |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO3  | 3x00275<br>4x00275<br>I:274 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO3:0=OK  |  |  |               |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO4  | 3x00276<br>4x00276<br>I:275 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO4:0=OK  |  |  |               |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO5  | 3x00277<br>4x00277<br>I:276 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO5:0=OK  |  |  |               |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO6  | 3x00278<br>4x00278<br>I:277 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO6:0=OK  |  |  |               |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO7  | 3x00279<br>4x00279<br>I:278 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO7:0=OK  |  |  |               |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO8  | 3x00280<br>4x00280<br>I:279 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO8:0=OK  |  |  |               |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO9  | 3x00281<br>4x00281<br>I:280 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO9:0=OK  |  |  |               |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO10 | 3x00282<br>4x00282<br>I:281 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO10:0=OK |  |  |               |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO11 | 3x00283<br>4x00283<br>I:282 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |
|   |                             | Actual detection state of a current limit while ON<br>for DO11:0=OK |  |  |               |

|   |                             |   |  |  |               |  |
|---|-----------------------------|---|--|--|---------------|--|
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO12 | 3x00284<br>4x00284<br>I:283 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO12:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO13 | 3x00285<br>4x00285<br>I:284 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO13:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO14 | 3x00286<br>4x00286<br>I:285 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO14:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO15 | 3x00287<br>4x00287<br>I:286 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO15:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO16 | 3x00288<br>4x00288<br>I:287 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO16:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO17 | 3x00289<br>4x00289<br>I:288 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO17:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO18 | 3x00290<br>4x00290<br>I:289 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO18:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO19 | 3x00291<br>4x00291<br>I:290 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO19:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO20 | 3x00292<br>4x00292<br>I:291 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO20:0=OK |  |  |               |  |

|   |                             |   |  |  |               |  |
|---|-----------------------------|---|--|--|---------------|--|
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO21 | 3x00293<br>4x00293<br>I:292 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO21:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO22 | 3x00294<br>4x00294<br>I:293 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO22:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO23 | 3x00295<br>4x00295<br>I:294 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO23:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO24 | 3x00296<br>4x00296<br>I:295 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO24:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO25 | 3x00297<br>4x00297<br>I:296 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO25:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO26 | 3x00298<br>4x00298<br>I:297 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO26:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO27 | 3x00299<br>4x00299<br>I:298 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO27:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO28 | 3x00300<br>4x00300<br>I:299 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO28:0=OK |  |  |               |  |
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO29 | 3x00301<br>4x00301<br>I:300 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO29:0=OK |  |  |               |  |

|   |                             |   |  |  |               |  |
|---|-----------------------------|---|--|--|---------------|--|
| CURRENT LIMIT DETECTION<br>STATUS WHILE ON DO30 | 3x00302<br>4x00302<br>I:301 | 0,0x0000<br>B:00 00   |  |  | UINT16<br>R/O |  |
|   |                             | Actual detection state of a current limit while ON<br>for DO30:0=OK |  |  |               |  |

**DIGITAL OUTPUTS: GLOBAL ERRORS**

|                        |                             |  |  |  |               |  |
|------------------------|-----------------------------|--|--|--|---------------|--|
| <b>CHIP #1:DO1-DO8</b> |                             |  |  |  |               |  |
| GLOBAL ERRORS<br>BIT 0 | 3x00303<br>4x00303<br>I:302 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 0:Internal under voltage detected:0=OK   |  |  |               |  |
| GLOBAL ERRORS<br>BIT 1 | 3x00304<br>4x00304<br>I:303 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 1:VA under voltage detected (<2.3V):0=OK |  |  |               |  |
| GLOBAL ERRORS<br>BIT 2 | 3x00305<br>4x00305<br>I:304 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 2:VDD not good detected (<17V):0=OK      |  |  |               |  |
| GLOBAL ERRORS<br>BIT 3 | 3x00306<br>4x00306<br>I:305 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 3:VDD warning detected (<12V):0=OK       |  |  |               |  |
| GLOBAL ERRORS<br>BIT 4 | 3x00307<br>4x00307<br>I:306 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 4:VDD under voltage detected (<8V):0=OK  |  |  |               |  |
| GLOBAL ERRORS<br>BIT 5 | 3x00308<br>4x00308<br>I:307 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 5:Thermal shutdown:0=OK                  |  |  |               |  |
| GLOBAL ERRORS<br>BIT 6 | 3x00309<br>4x00309<br>I:308 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 6:Synchronisation error detected:0=OK    |  |  |               |  |
| GLOBAL ERRORS<br>BIT 7 | 3x00310<br>4x00310<br>I:309 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 7:Watchdog error detected:0=OK           |  |  |               |  |

The global error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: GLOBAL ERRORS**

|                         |                             |  |  |  |               |  |
|-------------------------|-----------------------------|--|--|--|---------------|--|
| <b>CHIP #2:DO9-DO15</b> |                             |  |  |  |               |  |
| GLOBAL ERRORS<br>BIT 0  | 3x00311<br>4x00311<br>I:310 | 0,0x0000<br>B:00 00                        |  |  | UINT16<br>R/O |  |
|                         |                             | BIT 0:Internal under voltage detected:0=OK |  |  |               |  |

|   |                             |  |  |  |               |  |
|---|-----------------------------|--|--|--|---------------|--|
| GLOBAL ERRORS<br>BIT 1  | 3x00312<br>4x00312<br>I:311 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 1:VA under voltage detected (<2.3V):0=OK |  |  |               |  |
| GLOBAL ERRORS<br>BIT 2  | 3x00313<br>4x00313<br>I:312 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 2:VDD not good detected (<17V):0=OK      |  |  |               |  |
| GLOBAL ERRORS<br>BIT 3  | 3x00314<br>4x00314<br>I:313 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 3:VDD warning detected (<12V):0=OK       |  |  |               |  |
| GLOBAL ERRORS<br>BIT 4  | 3x00315<br>4x00315<br>I:314 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 4:VDD under voltage detected (<8V):0=OK  |  |  |               |  |
| GLOBAL ERRORS<br>BIT 5  | 3x00316<br>4x00316<br>I:315 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 5:Thermal shutdown:0=OK                  |  |  |               |  |
| GLOBAL ERRORS<br>BIT 6  | 3x00317<br>4x00317<br>I:316 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 6:Synchronisation error detected:0=OK    |  |  |               |  |
| GLOBAL ERRORS<br>BIT 7  | 3x00318<br>4x00318<br>I:317 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 7:Watchdog error detected:0=OK           |  |  |               |  |
| The global error state for the output group. Each bit stands for a different error<br>=0:No fault, =1:Fault |                             |  |  |  |               |  |
| <b>DIGITAL OUTPUTS: GLOBAL ERRORS</b>   |                             |  |  |  |               |  |
| <b>CHIP #3:DO16-DO23</b>  |                             |  |  |  |               |  |
| GLOBAL ERRORS<br>BIT 0  | 3x00319<br>4x00319<br>I:318 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 0:Internal under voltage detected:0=OK   |  |  |               |  |
| GLOBAL ERRORS<br>BIT 1  | 3x00320<br>4x00320<br>I:319 | 0,0x0000<br>B:00 00                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 1:VA under voltage detected (<2.3V):0=OK |  |  |               |  |
| GLOBAL ERRORS<br>BIT 2  | 3x00321<br>4x00321<br>I:320 | 1,0x0001<br>B:00 01                          |  |  | UINT16<br>R/O |  |
|   |                             | BIT 2:VDD not good detected (<17V):1=FAULT   |  |  |               |  |
| GLOBAL ERRORS<br>BIT 3  | 3x00322<br>4x00322<br>I:321 | 1,0x0001<br>B:00 01                          |  |  | UINT16<br>R/O |  |

|                        |                             |  |  |  |               |  |
|------------------------|-----------------------------|--|--|--|---------------|--|
|                        |                             | BIT 3:VDD warning detected (<12V):1=FAULT      |  |  |               |  |
| GLOBAL ERRORS<br>BIT 4 | 3x00323<br>4x00323<br>I:322 | 1,0x0001<br>B:00 01                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 4:VDD under voltage detected (<8V):1=FAULT |  |  |               |  |
| GLOBAL ERRORS<br>BIT 5 | 3x00324<br>4x00324<br>I:323 | 0,0x0000<br>B:00 00                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 5:Thermal shutdown:0=OK                    |  |  |               |  |
| GLOBAL ERRORS<br>BIT 6 | 3x00325<br>4x00325<br>I:324 | 0,0x0000<br>B:00 00                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 6:Synchronisation error detected:0=OK      |  |  |               |  |
| GLOBAL ERRORS<br>BIT 7 | 3x00326<br>4x00326<br>I:325 | 0,0x0000<br>B:00 00                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 7:Watchdog error detected:0=OK             |  |  |               |  |

The global error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: GLOBAL ERRORS****CHIP #4:DO24-DO30**

|                        |                             |  |  |  |               |  |
|------------------------|-----------------------------|--|--|--|---------------|--|
| GLOBAL ERRORS<br>BIT 0 | 3x00327<br>4x00327<br>I:326 | 0,0x0000<br>B:00 00                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 0:Internal under voltage detected:0=OK     |  |  |               |  |
| GLOBAL ERRORS<br>BIT 1 | 3x00328<br>4x00328<br>I:327 | 0,0x0000<br>B:00 00                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 1:VA under voltage detected (<2.3V):0=OK   |  |  |               |  |
| GLOBAL ERRORS<br>BIT 2 | 3x00329<br>4x00329<br>I:328 | 1,0x0001<br>B:00 01                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 2:VDD not good detected (<17V):1=FAULT     |  |  |               |  |
| GLOBAL ERRORS<br>BIT 3 | 3x00330<br>4x00330<br>I:329 | 1,0x0001<br>B:00 01                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 3:VDD warning detected (<12V):1=FAULT      |  |  |               |  |
| GLOBAL ERRORS<br>BIT 4 | 3x00331<br>4x00331<br>I:330 | 1,0x0001<br>B:00 01                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 4:VDD under voltage detected (<8V):1=FAULT |  |  |               |  |
| GLOBAL ERRORS<br>BIT 5 | 3x00332<br>4x00332<br>I:331 | 0,0x0000<br>B:00 00                            |  |  | UINT16<br>R/O |  |
|                        |                             | BIT 5:Thermal shutdown:0=OK                    |  |  |               |  |

|   |                             |                     |  |  |               |  |
|---|-----------------------------|---------------------|--|--|---------------|--|
| GLOBAL ERRORS<br>BIT 6                    | 3x00333<br>4x00333<br>I:332 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 6:Synchronisation error detected:0=OK |                             |                     |  |  |               |  |
| GLOBAL ERRORS<br>BIT 7                    | 3x00334<br>4x00334<br>I:333 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 7:Watchdog error detected:0=OK        |                             |                     |  |  |               |  |

The global error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: INTERRUPT STATUS**

|  |                             |                     |  |  |               |  |
|--|-----------------------------|---------------------|--|--|---------------|--|
| <b>CHIP #1:DO1-DO8</b>                     |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 0                  | 3x00335<br>4x00335<br>I:334 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 0:Overload detected:0=OK               |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 1                  | 3x00336<br>4x00336<br>I:335 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 1:Current limit detected:0=OK          |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 2                  | 3x00337<br>4x00337<br>I:336 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 2:Open wire while OFF detected:0=OK    |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 3                  | 3x00338<br>4x00338<br>I:337 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 3:Open wire while ON detected:0=OK     |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 4                  | 3x00339<br>4x00339<br>I:338 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 4:Short to VDD while ON detected:0=OK  |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 5                  | 3x00340<br>4x00340<br>I:339 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 5:Thermal error detected-shutdown:0=OK |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 6                  | 3x00341<br>4x00341<br>I:340 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 6:Supply error detected:0=OK           |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 7                  | 3x00342<br>4x00342<br>I:341 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 7:Communication error detected:0=OK    |                             |                     |  |  |               |  |

The global interrupt error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: INTERRUPT STATUS**

| CHIP #2:DO9-DO15                           |                             |                     |  |  |               |  |
|--|-----------------------------|---------------------|--|--|---------------|--|
| INTERRUPT STATUS<br>BIT 0                  | 3x00343<br>4x00343<br>I:342 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 0:Overload detected:0=OK               |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 1                  | 3x00344<br>4x00344<br>I:343 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 1:Current limit detected:0=OK          |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 2                  | 3x00345<br>4x00345<br>I:344 | 1,0x0001<br>B:00 01 |  |  | UINT16<br>R/O |  |
| BIT 2:Open wire while OFF detected:1=FAULT |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 3                  | 3x00346<br>4x00346<br>I:345 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 3:Open wire while ON detected:0=OK     |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 4                  | 3x00347<br>4x00347<br>I:346 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 4:Short to VDD while ON detected:0=OK  |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 5                  | 3x00348<br>4x00348<br>I:347 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 5:Thermal error detected-shutdown:0=OK |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 6                  | 3x00349<br>4x00349<br>I:348 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 6:Supply error detected:0=OK           |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 7                  | 3x00350<br>4x00350<br>I:349 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 7:Communication error detected:0=OK    |                             |                     |  |  |               |  |

The global interrupt error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: INTERRUPT STATUS**

| CHIP #3:DO16-DO23                 |                             |                     |  |  |               |  |
|-----------------------------------|-----------------------------|---------------------|--|--|---------------|--|
| INTERRUPT STATUS<br>BIT 0         | 3x00351<br>4x00351<br>I:350 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 0:Overload detected:0=OK      |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 1         | 3x00352<br>4x00352<br>I:351 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 1:Current limit detected:0=OK |                             |                     |  |  |               |  |



|  |                             |                     |  |  |               |  |
|--|-----------------------------|---------------------|--|--|---------------|--|
| INTERRUPT STATUS<br>BIT 2                  | 3x00353<br>4x00353<br>I:352 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 2:Open wire while OFF detected:0=OK    |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 3                  | 3x00354<br>4x00354<br>I:353 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 3:Open wire while ON detected:0=OK     |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 4                  | 3x00355<br>4x00355<br>I:354 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 4:Short to VDD while ON detected:0=OK  |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 5                  | 3x00356<br>4x00356<br>I:355 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 5:Thermal error detected-shutdown:0=OK |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 6                  | 3x00357<br>4x00357<br>I:356 | 1,0x0001<br>B:00 01 |  |  | UINT16<br>R/O |  |
| BIT 6:Supply error detected:1=FAULT        |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 7                  | 3x00358<br>4x00358<br>I:357 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 7:Communication error detected:0=OK    |                             |                     |  |  |               |  |

The global interrupt error state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**DIGITAL OUTPUTS: INTERRUPT STATUS****CHIP #4:DO24-DO30**

|   |                             |                     |  |  |               |  |
|---|-----------------------------|---------------------|--|--|---------------|--|
| INTERRUPT STATUS<br>BIT 0               | 3x00359<br>4x00359<br>I:358 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 0:Overload detected:0=OK            |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 1               | 3x00360<br>4x00360<br>I:359 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 1:Current limit detected:0=OK       |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 2               | 3x00361<br>4x00361<br>I:360 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 2:Open wire while OFF detected:0=OK |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 3               | 3x00362<br>4x00362<br>I:361 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |
| BIT 3:Open wire while ON detected:0=OK  |                             |                     |  |  |               |  |
| INTERRUPT STATUS<br>BIT 4               | 3x00363<br>4x00363<br>I:362 | 0,0x0000<br>B:00 00 |  |  | UINT16<br>R/O |  |

|  |                               |  |  |                 |               |    |
|--|-------------------------------|--|--|-----------------|---------------|----|
|  |                               | BIT 4:Short to VDD while ON detected:0=OK  |  |                 |               |    |
| INTERRUPT STATUS<br>BIT 5  | 3x00364<br>4x00364<br>I:363   | 0,0x0000<br>B:00 00                        |  |                 | UINT16<br>R/O |    |
|  |                               | BIT 5:Thermal error detected-shutdown:0=OK |  |                 |               |    |
| INTERRUPT STATUS<br>BIT 6  | 3x00365<br>4x00365<br>I:364   | 1,0x0001<br>B:00 01                        |  |                 | UINT16<br>R/O |    |
|  |                               | BIT 6:Supply error detected:1=FAULT        |  |                 |               |    |
| INTERRUPT STATUS<br>BIT 7  | 3x00366<br>4x00366<br>I:365   | 0,0x0000<br>B:00 00                        |  |                 | UINT16<br>R/O |    |
|  |                               | BIT 7:Communication error detected:0=OK    |  |                 |               |    |
| The global interrupt error state for the output group. Each bit stands for a different error<br>=0:No fault, =1:Fault            |                               |  |  |                 |               |    |
| <b>SPI COMMUNICATION DIGITAL OUTPUTS</b>   |                               |  |  |                 |               |    |
| SPI COMMUNICATION<br>CHIP #1: DO1-DO8  | 3x00367<br>4x00367<br>I:366   | 0,0x0000<br>B:00 00                        |  |                 | UINT16<br>R/O |    |
|  |                               | Actual SPI communication state:0=NO FAULT  |  |                 |               |    |
| The current monitoring state of the SPI communication for the digital output group<br>=0:No fault, =1:Fault                      |                               |  |  |                 |               |    |
| SPI COMMUNICATION<br>CHIP #2: DO9-DO15   | 3x00368<br>4x00368<br>I:367   | 0,0x0000<br>B:00 00                        |  |                 | UINT16<br>R/O |    |
|  |                               | Actual SPI communication state:0=NO FAULT  |  |                 |               |    |
| The current monitoring state of the SPI communication for the digital output group<br>=0:No fault, =1:Fault                      |                               |  |  |                 |               |    |
| SPI COMMUNICATION<br>CHIP #3: DO16-DO23  | 3x00369<br>4x00369<br>I:368   | 0,0x0000<br>B:00 00                        |  |                 | UINT16<br>R/O |    |
|  |                               | Actual SPI communication state:0=NO FAULT  |  |                 |               |    |
| The current monitoring state of the SPI communication for the digital output group<br>=0:No fault, =1:Fault                      |                               |  |  |                 |               |    |
| SPI COMMUNICATION<br>CHIP #4: DO24-DO30  | 3x00370<br>4x00370<br>I:369   | 0,0x0000<br>B:00 00                        |  |                 | UINT16<br>R/O |    |
|  |                               | Actual SPI communication state:0=NO FAULT  |  |                 |               |    |
| <b>DIGITAL INPUTS: RESET</b>   |                               |  |  |                 |               |    |
| RESET COUNTERS   | 3x10000<br>4x10000<br>I:9999  | 0,0x0000<br>B:00 00                        |  | 1:PERFORM RESET | UINT16<br>R/W | NO |
| If this register is written to 1, all internal edge counters and event counters are set to 0. 0 is always returned when reading. |                               |  |  |                 |               |    |
| HAS DIS CHANGED  | 3x10001<br>4x10001<br>I:10000 | 32,0x0020<br>B:00 20                       |  |                 | UINT16<br>R/O |    |
|  |                               | 32 event(s)                                |  |                 |               |    |

As soon as the module registers an event on one of the available digital inputs, this global event counter is incremented by 1.

Possible events are:

Detection of a short keypress

Detection of the start of a long keypress

Detection of the end of a long keypress

| STATUS OF ALL DIS<br>DI1..DI16 | 3x10002<br>4x10002<br>I:10001 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|--------------------------------|-------------------------------|----------------------------|--|--|---------------|--|
|                                |                               | Actual state of DI1:0=OFF  |  |  |               |  |
|                                |                               | Actual state of DI2:0=OFF  |  |  |               |  |
|                                |                               | Actual state of DI3:0=OFF  |  |  |               |  |
|                                |                               | Actual state of DI4:0=OFF  |  |  |               |  |
|                                |                               | Actual state of DI5:0=OFF  |  |  |               |  |
|                                |                               | Actual state of DI6:0=OFF  |  |  |               |  |
|                                |                               | Actual state of DI7:0=OFF  |  |  |               |  |
|                                |                               | Actual state of DI8:0=OFF  |  |  |               |  |
|                                |                               | Actual state of DI9:0=OFF  |  |  |               |  |
|                                |                               | Actual state of DI10:0=OFF |  |  |               |  |
|                                |                               | Actual state of DI11:0=OFF |  |  |               |  |
|                                |                               | Actual state of DI12:0=OFF |  |  |               |  |
|                                |                               | Actual state of DI13:0=OFF |  |  |               |  |
|                                |                               | Actual state of DI14:0=OFF |  |  |               |  |
|                                |                               | Actual state of DI15:0=OFF |  |  |               |  |
|                                |                               | Actual state of DI16:0=OFF |  |  |               |  |

Actual state of all digital inputs DI1..DI12

Bit 0: =0:DI1 is OFF, =1:DI1 is ON

Bit 1: =0:DI2 is OFF, =1:DI2 is ON

...

Bit 14: =0:DI15 is OFF, =1:DI15 is ON

Bit 15: =0:DI16 is OFF, =1:DI16 is ON

| STATUS OF ALL DIS<br>DI17..DI32 | 3x10003<br>4x10003<br>I:10002 | 0,0x0000<br>B:00 00        |  |  | UINT16<br>R/O |  |
|---------------------------------|-------------------------------|----------------------------|--|--|---------------|--|
|                                 |                               | Actual state of DI17:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI18:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI19:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI20:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI21:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI22:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI23:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI24:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI25:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI26:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI27:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI28:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI29:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI30:0=OFF |  |  |               |  |
|                                 |                               | Actual state of DI31:0=OFF |  |  |               |  |

|   |                               |                            |   |        |               |    |
|---|-------------------------------|----------------------------|---|--------|---------------|----|
|   |                               | Actual state of DI32:0=OFF |   |        |               |    |
| Actual state of all digital inputs DI1..DI12<br>Bit 0: =0:DI17 is OFF, =1:DI17 is ON<br>Bit 1: =0:DI18 is OFF, =1:DI18 is ON<br>...<br>Bit 14: =0:DI31 is OFF, =1:DI31 is ON<br>Bit 15: =0:DI32 is OFF, =1:DI32 is ON |                               |                            |   |        |               |    |
| <b>STATUS OF DIGITAL OUTPUTS</b>  |                               |                            |   |        |               |    |
| STATUS OF ALL DOS<br>DO1-DO16   | 3x10004<br>4x10004<br>l:10003 | 0,0x0000<br>B:00 00        |   | 0xFFFF | UINT16<br>R/W | NO |
|   |                               | Actual state of DO1:0=OFF  | 1 |        |               |    |
|   |                               | Actual state of DO2:0=OFF  | 1 |        |               |    |
|   |                               | Actual state of DO3:0=OFF  | 1 |        |               |    |
|   |                               | Actual state of DO4:0=OFF  | 1 |        |               |    |
|   |                               | Actual state of DO5:0=OFF  | 1 |        |               |    |
|   |                               | Actual state of DO6:0=OFF  | 1 |        |               |    |
|   |                               | Actual state of DO7:0=OFF  | 1 |        |               |    |
|   |                               | Actual state of DO8:0=OFF  | 1 |        |               |    |
|   |                               | Actual state of DO9:0=OFF  | 1 |        |               |    |
|   |                               | Actual state of DO10:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO11:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO12:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO13:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO14:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO15:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO16:0=OFF | 1 |        |               |    |
| Actual state of all digital outputs<br>Bit 0: =0:DO1 is OFF, =1:DO1 is ON<br>Bit 1: =0:DO2 is OFF, =1:DO2 is ON<br>...<br>Bit 14: =0:DO15 is OFF, =1:DO15 is ON<br>Bit 15: =0:DO16 is OFF, =1:DO16 is ON              |                               |                            |   |        |               |    |
| Write on this register sets all digital outputs to a new state  |                               |                            |   |        |               |    |
| STATUS OF ALL DOS<br>DO17-DO30  | 3x10005<br>4x10005<br>l:10004 | 0,0x0000<br>B:00 00        |   | 0x3FFF | UINT16<br>R/W | NO |
|   |                               | Actual state of DO17:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO18:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO19:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO20:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO21:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO22:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO23:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO24:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO25:0=OFF | 1 |        |               |    |
|   |                               | Actual state of DO26:0=OFF | 1 |        |               |    |

|  |  |                            |   |  |  |
|--|--|----------------------------|---|--|--|
|  |  | Actual state of DO27:0=OFF | 1 |  |  |
|  |  | Actual state of DO28:0=OFF | 1 |  |  |
|  |  | Actual state of DO29:0=OFF | 1 |  |  |
|  |  | Actual state of DO30:0=OFF | 1 |  |  |

Actual state of all digital outputs

Bit 0: =0:DO17 is OFF, =1:DO17 is ON

Bit 1: =0:DO28 is OFF, =1:DO28 is ON

...

Bit 12: =0:DO29 is OFF, =1:DO29 is ON

Bit 13: =0:DO30 is OFF, =1:DO30 is ON

Write on this register sets all digital outputs to a new state

### DIGITAL OUTPUTS:ENABLE OPEN WIRE DETECTION WHILE ON

| ENABLE OPEN WIRE DETECTION WHILE ON DO1-DO16 | 3x10006<br>4x10006<br>I:10005 | 65535,0xFFFF<br>B:FF FF   |   | 0xFFFF | UINT16<br>R/W | NO |
|--|-------------------------------|---|---|--------|---------------|----|
|  |                               | Actual setup of open wire detection while ON for DO1:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO2:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO3:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO4:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO5:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO6:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO7:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO8:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO9:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO10:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO11:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO12:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO13:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO14:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO15:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while ON for DO16:1=ENABLED | 1 |        |               |    |

Actual setup state for open wire detection while ON for digital output DOx

Bit 0: =0:Open wire detection for DO1 is DISABLED, =1:Open wire detection for DO1 is ENABLED

Bit 1: =0:Open wire detection for DO2 is DISABLED, =1:Open wire detection for DO2 is ENABLED

...

Bit 14: =0:Open wire detection for DO15 is DISABLED, =1:Open wire detection for DO15 is ENABLED

Bit 15: =0:Open wire detection for DO16 is DISABLED, =1:Open wire detection for DO16 is ENABLED

Write on this register sets for all digital outputs a new setup state

| ENABLE OPEN WIRE DETECTION WHILE ON DO17-DO30 | 3x10007<br>4x10007<br>l:10006 | 16383,0x3FFF<br>B:3F FF   |   | 0x3FFF | UINT16<br>R/W | NO |
|---|-------------------------------|---|---|--------|---------------|----|
|   |                               | Actual setup of open wire detection while ON for DO17:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO18:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO19:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO20:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO21:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO22:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO23:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO24:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO25:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO26:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO27:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO28:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO29:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of open wire detection while ON for DO30:1=ENABLED | 1 |        |               |    |

Actual setup state for open wire detection while ON for digital output DOx

Bit 0: =0:Open wire detection for DO17 is DISABLED, =1:Open wire detection for DO17 is ENABLED

Bit 1: =0:Open wire detection for DO18 is DISABLED, =1:Open wire detection for DO18 is ENABLED

...

Bit 12: =0:Open wire detection for DO29 is DISABLED, =1:Open wire detection for DO29 is ENABLED

Bit 13: =0:Open wire detection for DO30 is DISABLED, =1:Open wire detection for DO30 is ENABLED

Write on this register sets for all digital outputs a new setup state

**DIGITAL OUTPUTS:ENABLE OPEN WIRE DETECTION WHILE OFF**

| ENABLE OPEN WIRE DETECTION WHILE OFF DO1-DO16  | 3x10008<br>4x10008<br>I:10007 | 65535,0xFFFF<br>B:FF FF  |   | 0xFFFF | UINT16<br>R/W | NO |
|--|-------------------------------|--|---|--------|---------------|----|
|  |                               | Actual setup of open wire detection while OFF for DO1:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO2:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO3:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO4:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO5:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO6:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO7:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO8:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO9:1=ENABLED  | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO10:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO11:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO12:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO13:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO14:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO15:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of open wire detection while OFF for DO16:1=ENABLED | 1 |        |               |    |
| <p>Actual setup state for open wire detection while OFF for digital output DOx<br/>           Bit 0: =0:Open wire detection for DO1 is DISABLED, =1:Open wire detection for DO1 is ENABLED<br/>           Bit 1: =0:Open wire detection for DO2 is DISABLED, =1:Open wire detection for DO2 is ENABLED<br/>           ...<br/>           Bit 14: =0:Open wire detection for DO15 is DISABLED, =1:Open wire detection for DO15 is ENABLED<br/>           Bit 15: =0:Open wire detection for DO16 is DISABLED, =1:Open wire detection for DO16 is ENABLED</p> <p>Write on this register sets for all digital outputs a new setup state</p> |                               |  |   |        |               |    |
| ENABLE OPEN WIRE DETECTION WHILE OFF DO17-DO30   | 3x10009<br>4x10009<br>I:10008 | 16383,0x3FFF<br>B:3F FF  |   | 0x3FFF | UINT16<br>R/W | NO |
|  |                               | Actual setup of open wire detection while OFF for DO17:1=ENABLED | 1 |        |               |    |

|  |  |  |   |  |  |
|--|--|--|---|--|--|
|  |  | Actual setup of open wire detection while OFF for DO18:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO19:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO20:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO21:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO22:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO23:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO24:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO25:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO26:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO27:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO28:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO29:1=ENABLED | 1 |  |  |
|  |  | Actual setup of open wire detection while OFF for DO30:1=ENABLED | 1 |  |  |

Actual setup state for open wire detection while OFF for digital output DOx

Bit 0: =0:Open wire detection for DO17 is DISABLED, =1:Open wire detection for DO17 is ENABLED

Bit 1: =0:Open wire detection for DO18 is DISABLED, =1:Open wire detection for DO18 is ENABLED

...

Bit 12: =0:Open wire detection for DO29 is DISABLED, =1:Open wire detection for DO29 is ENABLED

Bit 13: =0:Open wire detection for DO30 is DISABLED, =1:Open wire detection for DO30 is ENABLED

Write on this register sets for all digital outputs a new setup state

#### DIGITAL OUTPUTS:ENABLE SHORTCUT TO VDD DETECTION WHILE OFF

|   |                               |   |   |        |               |    |
|---|-------------------------------|---|---|--------|---------------|----|
| ENABLE SHORTCUT TO VDD<br>DETECTION WHILE OFF<br>DO1-DO16 | 3x10010<br>4x10010<br>1:10009 | 65535,0xFFFF<br>B:FF FF   |   | 0xFFFF | UINT16<br>R/W | NO |
|   |                               | Actual setup of shortcut detection to VDD while OFF for DO1:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of shortcut detection to VDD while OFF for DO2:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of shortcut detection to VDD while OFF for DO3:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of shortcut detection to VDD while OFF for DO4:1=ENABLED | 1 |        |               |    |
|   |                               | Actual setup of shortcut detection to VDD while OFF for DO5:1=ENABLED | 1 |        |               |    |



|  |  |  |   |  |  |
|--|--|--|---|--|--|
|  |  | Actual setup of shortcut detection to VDD while OFF for DO6:1=ENABLED  | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO7:1=ENABLED  | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO8:1=ENABLED  | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO9:1=ENABLED  | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO10:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO11:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO12:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO13:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO14:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO15:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO16:1=ENABLED | 1 |  |  |

Actual setup state for shortcut to VDD detection while OFF for digital output DOx

Bit 0: =0:Shortcut to VDD detection for DO1 is DISABLED, =1:Shortcut to VDD detection for DO1 is ENABLED

Bit 1: =0:Shortcut to VDD detection for DO2 is DISABLED, =1:Shortcut to VDD detection for DO2 is ENABLED

...

Bit 14: =0:Shortcut to VDD detection for DO15 is DISABLED, =1:Shortcut to VDD detection for DO15 is ENABLED

Bit 15: =0:Shortcut to VDD detection for DO16 is DISABLED, =1:Shortcut to VDD detection for DO16 is ENABLED

Write on this register sets for all digital outputs a new setup state

|  |                               |  |   |        |               |    |
|--|-------------------------------|--|---|--------|---------------|----|
| ENABLE SHORTCUT TO VDD<br>DETECTION WHILE OFF<br>DO17-DO30 | 3x10011<br>4x10011<br>1:10010 | 16383,0x3FFF<br>B:3F FF  |   | 0x3FFF | UINT16<br>R/W | NO |
|  |                               | Actual setup of shortcut detection to VDD while OFF for DO17:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of shortcut detection to VDD while OFF for DO18:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of shortcut detection to VDD while OFF for DO19:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of shortcut detection to VDD while OFF for DO20:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of shortcut detection to VDD while OFF for DO21:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of shortcut detection to VDD while OFF for DO22:1=ENABLED | 1 |        |               |    |
|  |                               | Actual setup of shortcut detection to VDD while OFF for DO23:1=ENABLED | 1 |        |               |    |

|  |  |  |   |  |  |
|--|--|--|---|--|--|
|  |  | Actual setup of shortcut detection to VDD while OFF for DO24:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO25:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO26:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO27:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO28:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO29:1=ENABLED | 1 |  |  |
|  |  | Actual setup of shortcut detection to VDD while OFF for DO30:1=ENABLED | 1 |  |  |

Actual setup state for shortcut to VDD detection while OFF for digital output DOx

Bit 17: =0:Shortcut to VDD detection for DO17 is DISABLED, =1:Shortcut to VDD detection for DO17 is ENABLED

Bit 18: =0:Shortcut to VDD detection for DO18 is DISABLED, =1:Shortcut to VDD detection for DO18 is ENABLED

...

Bit 12: =0:Shortcut to VDD detection for DO29 is DISABLED, =1:Shortcut to VDD detection for DO29 is ENABLED

Bit 13: =0:Shortcut to VDD detection for DO30 is DISABLED, =1:Shortcut to VDD detection for DO30 is ENABLED

Write on this register sets for all digital outputs a new setup state

#### DIGITAL OUTPUTS:OPEN WIRE WHILE ON DETECTION STATE

| OPEN WIRE DETECTION STATE WHILE ON DO1-DO16 | 3x10012<br>4x10012<br>1:10011 | 0,0x0000<br>B:00 00   |  | UINT16<br>R/O |  |
|---|-------------------------------|---|--|---------------|--|
|   |                               | Actual state of open wire detection while ON for DO1:0=OFF  |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO2:0=OFF  |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO3:0=OFF  |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO4:0=OFF  |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO5:0=OFF  |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO6:0=OFF  |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO7:0=OFF  |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO8:0=OFF  |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO9:0=OFF  |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO10:0=OFF |  |               |  |
|   |                               | Actual state of open wire detection while ON for DO11:0=OFF |  |               |  |

|  |                               |  |  |               |  |
|--|-------------------------------|--|--|---------------|--|
|  |                               | Actual state of open wire detection while ON<br>for DO12:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO13:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO14:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO15:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO16:0=OFF |  |               |  |
| Actual diagnostic state for open wire detection while ON for digital output DOx<br>Bit 0: =0:Output DO1 is OK, =1:Fault-Open wire detected on DO1<br>Bit 1: =0:Output DO2 is OK, =1:Fault-Open wire detected on DO2<br>...<br>Bit 14: =0:Output DO15 is OK, =1:Fault-Open wire detected on DO15<br>Bit 15: =0:Output DO16 is OK, =1:Fault-Open wire detected on DO16 |                               |  |  |               |  |
| OPEN WIRE DETECTION STATE<br>WHILE ON<br>DO17-DO30   | 3x10013<br>4x10013<br>1:10012 | 0,0x0000<br>B:00 00  |  | UINT16<br>R/O |  |
|  |                               | Actual state of open wire detection while ON<br>for DO17:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO18:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO19:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO20:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO21:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO22:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO23:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO24:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO25:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO26:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO27:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO28:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO29:0=OFF |  |               |  |
|  |                               | Actual state of open wire detection while ON<br>for DO30:0=OFF |  |               |  |

Actual diagnostic state for open wire detection while ON for digital output DOx

Bit 0: =0:Output DO17 is OK, =1:Fault-Open wire detected on DO17

Bit 1: =0:Output DO18 is OK, =1:Fault-Open wire detected on DO18

...

Bit 12: =0:Output DO29 is OK, =1:Fault-Open wire detected on DO29

Bit 13: =0:Output DO30 is OK, =1:Fault-Open wire detected on DO30

### DIGITAL OUTPUTS:OPEN WIRE WHILE OFF DETECTION STATE

| OPEN WIRE DETECTION STATE WHILE OFF DO1-DO16 | 3x10014<br>4x10014<br>1:10013 | 32512,0x7F00<br>B:7F 00                                      |  | UINT16<br>R/O |  |
|--|-------------------------------|--|--|---------------|--|
|  |                               | Actual state of open wire detection while OFF for DO1:0=OFF  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO2:0=OFF  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO3:0=OFF  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO4:0=OFF  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO5:0=OFF  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO6:0=OFF  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO7:0=OFF  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO8:0=OFF  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO9:1=ON   |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO10:1=ON  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO11:1=ON  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO12:1=ON  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO13:1=ON  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO14:1=ON  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO15:1=ON  |  |               |  |
|  |                               | Actual state of open wire detection while OFF for DO16:0=OFF |  |               |  |

Actual diagnostic state for open wire detection while OFF for digital output DOx

Bit 0: =0:Output DO1 is OK, =1:Fault-Open wire detected on DO1

Bit 1: =0:Output DO2 is OK, =1:Fault-Open wire detected on DO2

...

Bit 14: =0:Output DO15 is OK, =1:Fault-Open wire detected on DO15

Bit 15: =0:Output DO16 is OK, =1:Fault-Open wire detected on DO16

| OPEN WIRE DETECTION STATE<br>WHILE OFF<br>DO17-DO30   | 3x10015<br>4x10015<br>l:10014 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|---|-------------------------------|--|--|--|---------------|--|
|   |                               | Actual state of open wire detection while OFF<br>for DO17:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO18:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO19:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO20:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO21:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO22:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO23:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO24:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO25:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO26:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO27:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO28:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO29:0=OFF      |  |  |               |  |
|   |                               | Actual state of open wire detection while OFF<br>for DO30:0=OFF      |  |  |               |  |
| Actual diagnostic state for open wire detection while OFF for digital output DOx<br>Bit 0: =0:Output DO17 is OK, =1:Fault-Open wire detected on DO17<br>Bit 1: =0:Output DO18 is OK, =1:Fault-Open wire detected on DO18<br>...<br>Bit 12: =0:Output DO29 is OK, =1:Fault-Open wire detected on DO29<br>Bit 13: =0:Output DO30 is OK, =1:Fault-Open wire detected on DO30 |                               |  |  |  |               |  |
| <b>DIGITAL OUTPUTS:SHORTCUT TO VDD WHILE OFF DETECTION STATE</b>  |                               |  |  |  |               |  |
| SHORTCUT TO VDD<br>WHILE OFF DETECTION STATE<br>DO1-DO16  | 3x10016<br>4x10016<br>l:10015 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |  |
|   |                               | Actual state of shortcut to VDD detection while OFF<br>for DO1:0=OFF |  |  |               |  |
|   |                               | Actual state of shortcut to VDD detection while OFF<br>for DO2:0=OFF |  |  |               |  |
|   |                               | Actual state of shortcut to VDD detection while OFF<br>for DO3:0=OFF |  |  |               |  |

|   |                               |  |  |  |               |
|---|-------------------------------|--|--|--|---------------|
|   |                               | Actual state of shortcut to VDD detection while OFF for DO4:0=OFF  |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO5:0=OFF  |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO6:0=OFF  |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO7:0=OFF  |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO8:0=OFF  |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO9:0=OFF  |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO10:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO11:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO12:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO13:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO14:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO15:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO16:0=OFF |  |  |               |
| Actual diagnostic state for shortcut to VDD detection while OFF for digital output DOx<br>Bit 0: =0:Output DO1 is OK, =1:Fault-shortcut detected on DO1<br>Bit 1: =0:Output DO2 is OK, =1:Fault-shortcut detected on DO2<br>...<br>Bit 14: =0:Output DO15 is OK, =1:Fault-shortcut detected on DO15<br>Bit 15: =0:Output DO16 is OK, =1:Fault-shortcut detected on DO16 |                               |  |  |  |               |
| SHORTCUT TO VDD<br>WHILE OFF DETECTION STATE<br>DO17-DO30   | 3x10017<br>4x10017<br>1:10016 | 0,0x0000<br>B:00 00  |  |  | UINT16<br>R/O |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO17:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO18:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO19:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO20:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO21:0=OFF |  |  |               |
|   |                               | Actual state of shortcut to VDD detection while OFF for DO22:0=OFF |  |  |               |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  | Actual state of shortcut to VDD detection while OFF for DO23:0=OFF |  |  |  |
|  |  | Actual state of shortcut to VDD detection while OFF for DO24:0=OFF |  |  |  |
|  |  | Actual state of shortcut to VDD detection while OFF for DO25:0=OFF |  |  |  |
|  |  | Actual state of shortcut to VDD detection while OFF for DO26:0=OFF |  |  |  |
|  |  | Actual state of shortcut to VDD detection while OFF for DO27:0=OFF |  |  |  |
|  |  | Actual state of shortcut to VDD detection while OFF for DO28:0=OFF |  |  |  |
|  |  | Actual state of shortcut to VDD detection while OFF for DO29:0=OFF |  |  |  |
|  |  | Actual state of shortcut to VDD detection while OFF for DO30:0=OFF |  |  |  |

Actual diagnostic state for shortcut to VDD detection while OFF for digital output DOx

Bit 0: =0:Output DO17 is OK, =1:Fault-shortcut detected on DO17

Bit 1: =0:Output DO18 is OK, =1:Fault-shortcut detected on DO18

...

Bit 12: =0:Output DO29 is OK, =1:Fault-shortcut detected on DO29

Bit 13: =0:Output DO30 is OK, =1:Fault-shortcut detected on DO30

#### DIGITAL OUTPUTS:THERMAL OVERLOAD DETECTION STATE

| THERMAL OVERLOAD<br>DETECTION STATE<br>DO1-DO16 | 3x10018<br>4x10018<br>1:10017 | 0,0x0000<br>B:00 00                                    |  |  | UINT16<br>R/O |
|---|-------------------------------|--|--|--|---------------|
|   |                               | Actual thermal overload detection state for DO1:0=OFF  |  |  |               |
|   |                               | Actual thermal overload detection state for DO2:0=OFF  |  |  |               |
|   |                               | Actual thermal overload detection state for DO3:0=OFF  |  |  |               |
|   |                               | Actual thermal overload detection state for DO4:0=OFF  |  |  |               |
|   |                               | Actual thermal overload detection state for DO5:0=OFF  |  |  |               |
|   |                               | Actual thermal overload detection state for DO6:0=OFF  |  |  |               |
|   |                               | Actual thermal overload detection state for DO7:0=OFF  |  |  |               |
|   |                               | Actual thermal overload detection state for DO8:0=OFF  |  |  |               |
|   |                               | Actual thermal overload detection state for DO9:0=OFF  |  |  |               |
|   |                               | Actual thermal overload detection state for DO10:0=OFF |  |  |               |

|   |                               |  |  |               |  |
|---|-------------------------------|--|--|---------------|--|
|   |                               | Actual thermal overload detection state for DO11:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO12:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO13:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO14:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO15:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO16:0=OFF |  |               |  |
| Actual thermal overload detection state for digital output DOx<br>Bit 0: =0:Output DO1 is OK, =1:Fault-Thermal overload on DO1<br>Bit 1: =0:Output DO2 is OK, =1:Fault-Thermal overload on DO2<br>...<br>Bit 14: =0:Output DO15 is OK, =1:Fault-Thermal overload on DO15<br>Bit 15: =0:Output DO16 is OK, =1:Fault-Thermal overload on DO16 |                               |  |  |               |  |
| THERMAL OVERLOAD<br>DETECTION STATE<br>DO17-DO30  | 3x10019<br>4x10019<br>1:10018 | 0,0x0000<br>B:00 00                                    |  | UINT16<br>R/O |  |
|   |                               | Actual thermal overload detection state for DO17:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO18:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO19:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO20:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO21:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO22:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO23:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO24:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO25:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO26:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO27:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO28:0=OFF |  |               |  |
|   |                               | Actual thermal overload detection state for DO29:0=OFF |  |               |  |



|   |         |  |  |  |        |
|---|---------|--|--|--|--------|
|   |         | Actual thermal overload detection state for DO30:0=OFF |  |  |        |
| Actual thermal overload detection state for digital output DOx<br>Bit 0: =0:Output DO17 is OK, =1:Fault-Thermal overload on DO17<br>Bit 1: =0:Output DO18 is OK, =1:Fault-Thermal overload on DO18<br>...<br>Bit 12: =0:Output DO29 is OK, =1:Fault-Thermal overload on DO29<br>Bit 13: =0:Output DO30 is OK, =1:Fault-Thermal overload on DO30 |         |  |  |  |        |
| <b>DIGITAL OUTPUTS:CURRENT LIMIT DETECTION STATE</b>  |         |  |  |  |        |
| CURRENT LIMIT   | 3x10020 | 0,0x0000   |  |  | UINT16 |
| DETECTION STATE   | 4x10020 | B:00 00  |  |  | R/O    |
| DO1-DO16  | l:10019 |  |  |  |        |
|   |         | Actual current limit detection state for DO1:0=OFF     |  |  |        |
|   |         | Actual current limit detection state for DO2:0=OFF     |  |  |        |
|   |         | Actual current limit detection state for DO3:0=OFF     |  |  |        |
|   |         | Actual current limit detection state for DO4:0=OFF     |  |  |        |
|   |         | Actual current limit detection state for DO5:0=OFF     |  |  |        |
|   |         | Actual current limit detection state for DO6:0=OFF     |  |  |        |
|   |         | Actual current limit detection state for DO7:0=OFF     |  |  |        |
|   |         | Actual current limit detection state for DO8:0=OFF     |  |  |        |
|   |         | Actual current limit detection state for DO9:0=OFF     |  |  |        |
|   |         | Actual current limit detection state for DO10:0=OFF    |  |  |        |
|   |         | Actual current limit detection state for DO11:0=OFF    |  |  |        |
|   |         | Actual current limit detection state for DO12:0=OFF    |  |  |        |
|   |         | Actual current limit detection state for DO13:0=OFF    |  |  |        |
|   |         | Actual current limit detection state for DO14:0=OFF    |  |  |        |
|   |         | Actual current limit detection state for DO15:0=OFF    |  |  |        |
|   |         | Actual current limit detection state for DO16:0=OFF    |  |  |        |

Actual current limit detection state for digital output DOx  
 Bit 0: =0:Output DO1 is OK, =1:Fault-Current limit on DO1  
 Bit 1: =0:Output DO2 is OK, =1:Fault-Current limit on DO2  
 ...  
 Bit 14: =0:Output DO15 is OK, =1:Fault-Current limit on DO15  
 Bit 15: =0:Output DO16 is OK, =1:Fault-Current limit on DO16

| CURRENT LIMIT<br>DETECTION STATE<br>DO17-DO30 | 3x10021<br>4x10021<br>1:10020 | 0,0x0000<br>B:00 00                                    |  |  | UINT16<br>R/O |
|---|-------------------------------|--|--|--|---------------|
|   |                               | Actual current limit detection state<br>for DO17:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO18:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO19:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO20:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO21:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO22:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO23:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO24:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO25:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO26:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO27:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO28:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO29:0=OFF |  |  |               |
|   |                               | Actual current limit detection state<br>for DO30:0=OFF |  |  |               |

Actual current limit detection state for digital output DOx  
 Bit 0: =0:Output DO17 is OK, =1:Fault-Current limit on DO17  
 Bit 1: =0:Output DO18 is OK, =1:Fault-Current limit on DO18  
 ...  
 Bit 12: =0:Output DO29 is OK, =1:Fault-Current limit on DO29  
 Bit 13: =0:Output DO30 is OK, =1:Fault-Current limit on DO30

**DIGITAL OUTPUTS: GLOBAL ERRORS**

CHIP #1:DO1-DO8

CHIP #2:DO9-DO15

| GLOBAL ERRORS<br>FOR CHIP #1+#2 | 3x10022<br>4x10022<br>l:10021 | 0,0x0000<br>B:00 00                                 |  | UINT16<br>R/O |  |
|---------------------------------|-------------------------------|---|--|---------------|--|
|                                 |                               | BIT 0:CHIP#1:Internal under voltage detected:0=OK   |  |               |  |
|                                 |                               | BIT 1:CHIP#1:VA under voltage detected (<2.3V):0=OK |  |               |  |
|                                 |                               | BIT 2:CHIP#1:VDD not good detected (<17V):0=OK      |  |               |  |
|                                 |                               | BIT 3:CHIP#1:VDD warning detected (<12V):0=OK       |  |               |  |
|                                 |                               | BIT 4:CHIP#1:VDD under voltage detected (<8V):0=OK  |  |               |  |
|                                 |                               | BIT 5:CHIP#1:Thermal shutdown:0=OK                  |  |               |  |
|                                 |                               | BIT 6:CHIP#1:Synchronisation error detected:0=OK    |  |               |  |
|                                 |                               | BIT 7:CHIP#1:Watchdog error detected:0=OK           |  |               |  |
|                                 |                               | BIT 8:CHIP#2:Internal under voltage detected:0=OK   |  |               |  |
|                                 |                               | BIT 9:CHIP#2:VA under voltage detected (<2.3V):0=OK |  |               |  |
|                                 |                               | BIT 10:CHIP#2:VDD not good detected (<17V):0=OK     |  |               |  |
|                                 |                               | BIT 11:CHIP#2:VDD warning detected (<12V):0=OK      |  |               |  |
|                                 |                               | BIT 12:CHIP#2:VDD under voltage detected (<8V):0=OK |  |               |  |
|                                 |                               | BIT 13:CHIP#2:Thermal shutdown:0=OK                 |  |               |  |
|                                 |                               | BIT 14:CHIP#2:Synchronisation error detected:0=OK   |  |               |  |
|                                 |                               | BIT 15:CHIP#2:Watchdog error detected:0=OK          |  |               |  |

The global error state for the output group. Each bit stands for a different error

=0:No fault, =1:Fault

**CHIP #3:DO16-DO23**

**CHIP #4:DO24-DO30**

| GLOBAL ERRORS<br>FOR CHIP #3+#4 | 3x10023<br>4x10023<br>l:10022 | 7196,0x1C1C<br>B:1C 1C                                 |  | UINT16<br>R/O |  |
|---------------------------------|-------------------------------|--|--|---------------|--|
|                                 |                               | BIT 0:CHIP#3:Internal under voltage detected:0=OK      |  |               |  |
|                                 |                               | BIT 1:CHIP#3:VA under voltage detected (<2.3V):0=OK    |  |               |  |
|                                 |                               | BIT 2:CHIP#3:VDD not good detected (<17V):1=FAULT      |  |               |  |
|                                 |                               | BIT 3:CHIP#3:VDD warning detected (<12V):1=FAULT       |  |               |  |
|                                 |                               | BIT 4:CHIP#3:VDD under voltage detected (<8V):1=FAULT  |  |               |  |
|                                 |                               | BIT 5:CHIP#3:Thermal shutdown:0=OK                     |  |               |  |
|                                 |                               | BIT 6:CHIP#3:Synchronisation error detected:0=OK       |  |               |  |
|                                 |                               | BIT 7:CHIP#3:Watchdog error detected:0=OK              |  |               |  |
|                                 |                               | BIT 8:CHIP#4:Internal under voltage detected:0=OK      |  |               |  |
|                                 |                               | BIT 9:CHIP#4:VA under voltage detected (<2.3V):0=OK    |  |               |  |
|                                 |                               | BIT 10:CHIP#4:VDD not good detected (<17V):1=FAULT     |  |               |  |
|                                 |                               | BIT 11:CHIP#4:VDD warning detected (<12V):1=FAULT      |  |               |  |
|                                 |                               | BIT 12:CHIP#4:VDD under voltage detected (<8V):1=FAULT |  |               |  |
|                                 |                               | BIT 13:CHIP#4:Thermal shutdown:0=OK                    |  |               |  |
|                                 |                               | BIT 14:CHIP#4:Synchronisation error detected:0=OK      |  |               |  |
|                                 |                               | BIT 15:CHIP#4:Watchdog error detected:0=OK             |  |               |  |

The global error state for the output group. Each bit stands for a different error

=0:No fault, =1:Fault

**DIGITAL OUTPUTS: INTERRUPT STATUS**

**CHIP #1:DO1-DO8**

**CHIP #2:DO9-DO15**

| INTERRUPT STATUS<br>FOR CHIP#1+#2 | 3x10024<br>4x10024<br>I:10023 | 1024,0xFFFF<br>B:04 00                             |  | UINT16<br>R/O |  |
|-----------------------------------|-------------------------------|--|--|---------------|--|
|                                   |                               | BIT 0:CHIP#1:Overload detected:1=FAULT             |  |               |  |
|                                   |                               | BIT 1:CHIP#1:Current limit detected:1=FAULT        |  |               |  |
|                                   |                               | BIT 2:CHIP#1:Open wire while OFF detected:1=FAULT  |  |               |  |
|                                   |                               | BIT 3:CHIP#1:Open wire while ON detected:1=FAULT   |  |               |  |
|                                   |                               | BIT 4:CHIP#1:Shortcut to VDD detected:1=FAULT      |  |               |  |
|                                   |                               | BIT 5:CHIP#1:Thermal shutdown:1=FAULT              |  |               |  |
|                                   |                               | BIT 6:CHIP#1:Supply error detected:1=FAULT         |  |               |  |
|                                   |                               | BIT 7:CHIP#1:Communication error detected:1=FAULT  |  |               |  |
|                                   |                               | BIT 8:CHIP#2:Overload detected:1=FAULT             |  |               |  |
|                                   |                               | BIT 9:CHIP#2:Current limit detected:1=FAULT        |  |               |  |
|                                   |                               | BIT 10:CHIP#2:Open wire while OFF detected:1=FAULT |  |               |  |
|                                   |                               | BIT 11:CHIP#2:Open wire while ON detected:1=FAULT  |  |               |  |
|                                   |                               | BIT 12:CHIP#2:Shortcut to VDD detected:1=FAULT     |  |               |  |
|                                   |                               | BIT 13:CHIP#2:Thermal shutdown:1=FAULT             |  |               |  |
|                                   |                               | BIT 14:CHIP#2:Supply error detected:1=FAULT        |  |               |  |
|                                   |                               | BIT 15:CHIP#2:Communication error detected:1=FAULT |  |               |  |

The interrupt state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**CHIP #3:DO16-DO23**

**CHIP #4:DO24-DO30**

| INTERRUPT STATUS<br>FOR CHIP#3+#4 | 3x10025<br>4x10025<br>I:10024 | 16448,0x4040<br>B:40 40                         |  | UINT16<br>R/O |  |
|-----------------------------------|-------------------------------|---|--|---------------|--|
|                                   |                               | BIT 0:CHIP#3:Overload detected:0=OK             |  |               |  |
|                                   |                               | BIT 1:CHIP#3:Current limit detected:0=OK        |  |               |  |
|                                   |                               | BIT 2:CHIP#3:Open wire while OFF detected:0=OK  |  |               |  |
|                                   |                               | BIT 3:CHIP#3:Open wire while ON detected:0=OK   |  |               |  |
|                                   |                               | BIT 4:CHIP#3:Shortcut to VDD detected:0=OK      |  |               |  |
|                                   |                               | BIT 5:CHIP#3:Thermal shutdown:0=OK              |  |               |  |
|                                   |                               | BIT 6:CHIP#3:Supply error detected:1=FAULT      |  |               |  |
|                                   |                               | BIT 7:CHIP#3:Communication error detected:0=OK  |  |               |  |
|                                   |                               | BIT 8:CHIP#4:Overload detected:0=OK             |  |               |  |
|                                   |                               | BIT 9:CHIP#4:Current limit detected:0=OK        |  |               |  |
|                                   |                               | BIT 10:CHIP#4:Open wire while OFF detected:0=OK |  |               |  |
|                                   |                               | BIT 11:CHIP#4:Open wire while ON detected:0=OK  |  |               |  |
|                                   |                               | BIT 12:CHIP#4:Shortcut to VDD detected:0=OK     |  |               |  |
|                                   |                               | BIT 13:CHIP#4:Thermal shutdown:0=OK             |  |               |  |
|                                   |                               | BIT 14:CHIP#4:Supply error detected:1=FAULT     |  |               |  |
|                                   |                               | BIT 15:CHIP#4:Communication error detected:0=OK |  |               |  |

The interrupt state for the output group. Each bit stands for a different error  
=0:No fault, =1:Fault

**SPI COMMUNICATION DIGITAL OUTPUTS**

**CHIP #1:DO1-DO8**

**CHIP #2:DO9-DO15**

| CHIP #3:DO16-DO23  |         |  |  |  |        |  |
|--|---------|--|--|--|--------|--|
| CHIP #4:DO24-DO30  |         |  |  |  |        |  |
| SPI COMMUNICATION  | 3x10026 | 0,0x0000                                     |  |  | UINT16 |  |
| DIGITAL OUTPUTS  | 4x10026 | B:00 00                                      |  |  | R/O    |  |
|  | l:10025 |  |  |  |        |  |
|  |         | Actual SPI communcation state of CHIP#1:0=OK |  |  |        |  |
|  |         | Actual SPI communcation state of CHIP#2:0=OK |  |  |        |  |
|  |         | Actual SPI communcation state of CHIP#3:0=OK |  |  |        |  |
|  |         | Actual SPI communcation state of CHIP#4:0=OK |  |  |        |  |
| The current monitoring state of the SPI communication for the digital output group<br>=0:No fault, =1:Fault        |         |  |  |  |        |  |
| Current SPI communication state of all digital output groups<br>Bit x: =0:CHIP x has no fault, =1:CHIP x SPI Fault |         |  |  |  |        |  |
| DIGITAL OUTPUTS: NUMBER OF CHIPSET   |         |  |  |  |        |  |
| NUMBER OF DIGITAL OUTPUT   | 3x10099 | 4,0x0004                                     |  |  | UINT16 |  |
| CHIPS  | 4x10099 | B:00 04                                      |  |  | R/O    |  |
|  | l:10098 |  |  |  |        |  |
|  |         | Actual number of installed DO CHIPS:4        |  |  |        |  |
| The actual number of used output chips   |         |  |  |  |        |  |
| DIGITAL OUTPUTS: CHIPSET TYPE  |         |  |  |  |        |  |
| DIGITAL OUTPUTS  | 3x10100 | 1,0x0001                                     |  |  | UINT16 |  |
| CHIPSET TYPE   | 4x10100 | B:00 01                                      |  |  | R/O    |  |
|  | l:10099 |  |  |  |        |  |
|  |         | Actual chipset for DOs:1=MAX14915            |  |  |        |  |
| The current chipset for the digital outputs:<br>=0: NCV7608<br>=1: MAX14915  |         |  |  |  |        |  |
| STATUS OF DIGITAL OUTPUTS  |         |  |  |  |        |  |
| REAL STATUS OF ALL DOS   | 3x10501 | 0,0x0000                                     |  |  | UINT16 |  |
| DO1-DO16   | 4x10501 | B:00 00                                      |  |  | R/O    |  |
|  | l:10500 |  |  |  |        |  |
|  |         | Real state of DO1:0=OFF                      |  |  |        |  |
|  |         | Real state of DO2:0=OFF                      |  |  |        |  |
|  |         | Real state of DO3:0=OFF                      |  |  |        |  |
|  |         | Real state of DO4:0=OFF                      |  |  |        |  |
|  |         | Real state of DO5:0=OFF                      |  |  |        |  |
|  |         | Real state of DO6:0=OFF                      |  |  |        |  |
|  |         | Real state of DO7:0=OFF                      |  |  |        |  |
|  |         | Real state of DO8:0=OFF                      |  |  |        |  |
|  |         | Real state of DO9:0=OFF                      |  |  |        |  |
|  |         | Real state of DO10:0=OFF                     |  |  |        |  |
|  |         | Real state of DO11:0=OFF                     |  |  |        |  |
|  |         | Real state of DO12:0=OFF                     |  |  |        |  |
|  |         | Real state of DO13:0=OFF                     |  |  |        |  |
|  |         | Real state of DO14:0=OFF                     |  |  |        |  |
|  |         | Real state of DO15:0=OFF                     |  |  |        |  |
|  |         | Real state of DO16:0=OFF                     |  |  |        |  |

Actual state of all digital outputs in the DO chips

Bit 0: =0:DO1 is OFF, =1:DO1 is ON

Bit 1: =0:DO2 is OFF, =1:DO2 is ON

...

Bit 14: =0:DO15 is OFF, =1:DO15 is ON

Bit 15: =0:DO16 is OFF, =1:DO16 is ON

Write on this register sets all digital outputs to a new state

|                                     |                               |                          |  |  |               |  |
|-------------------------------------|-------------------------------|--------------------------|--|--|---------------|--|
| REAL STATUS OF ALL DOS<br>DO17-DO30 | 3x10502<br>4x10502<br>I:10501 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|                                     |                               | Real state of DO17:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO18:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO19:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO20:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO21:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO22:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO23:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO24:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO25:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO26:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO27:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO28:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO29:0=OFF |  |  |               |  |
|                                     |                               | Real state of DO30:0=OFF |  |  |               |  |

Actual state of all digital outputs in the DO chips

Bit 0: =0:DO17 is OFF, =1:DO17 is ON

Bit 1: =0:DO28 is OFF, =1:DO18 is ON

...

Bit 12: =0:DO29 is OFF, =1:DO29 is ON

Bit 13: =0:DO30 is OFF, =1:DO30 is ON

Write on this register sets all digital outputs to a new state

|  |                               |                           |  |  |               |  |
|--|-------------------------------|---------------------------|--|--|---------------|--|
| <b>STATUS REAL DIGITAL INPUTS</b>  |                               |                           |  |  |               |  |
| DI1  | 3x15001<br>4x15001<br>I:15000 | 0,0x0000<br>B:00          |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of DI1:0=OFF |  |  |               |  |
| Current state of the digital input DIx with the internal software filter to suppress glitches or spike on this line<br>=0:DI is OFF, =1:DI is ON |                               |                           |  |  |               |  |
| DI2  | 3x15002<br>4x15002<br>I:15001 | 1,0x0001<br>B:00          |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of DI2:1=ON  |  |  |               |  |
| DI3  | 3x15003<br>4x15003<br>I:15002 | 2,0x0002<br>B:00          |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of DI3:2=ON  |  |  |               |  |

|      |                               |                           |  |  |               |  |
|------|-------------------------------|---------------------------|--|--|---------------|--|
| DI4  | 3x15004<br>4x15004<br>I:15003 | 3,0x0003<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI4:3=ON  |  |  |               |  |
| DI5  | 3x15005<br>4x15005<br>I:15004 | 4,0x0004<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI5:4=ON  |  |  |               |  |
| DI6  | 3x15006<br>4x15006<br>I:15005 | 5,0x0005<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI6:5=ON  |  |  |               |  |
| DI7  | 3x15007<br>4x15007<br>I:15006 | 6,0x0006<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI7:6=ON  |  |  |               |  |
| DI8  | 3x15008<br>4x15008<br>I:15007 | 7,0x0007<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI8:7=ON  |  |  |               |  |
| DI9  | 3x15009<br>4x15009<br>I:15008 | 0,0x0000<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI9:0=OFF |  |  |               |  |
| DI10 | 3x15010<br>4x15010<br>I:15009 | 1,0x0001<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI10:1=ON |  |  |               |  |
| DI11 | 3x15011<br>4x15011<br>I:15010 | 2,0x0002<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI11:2=ON |  |  |               |  |
| DI12 | 3x15012<br>4x15012<br>I:15011 | 3,0x0003<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI12:3=ON |  |  |               |  |
| DI13 | 3x15013<br>4x15013<br>I:15012 | 4,0x0004<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI13:4=ON |  |  |               |  |
| DI14 | 3x15014<br>4x15014<br>I:15013 | 5,0x0005<br>B:00          |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI14:5=ON |  |  |               |  |
| DI15 | 3x15015<br>4x15015<br>I:15014 | 6,0x0006<br>B:00          |  |  | UINT16<br>R/O |  |

|      |                               |                            |  |  |               |  |
|------|-------------------------------|----------------------------|--|--|---------------|--|
|      |                               | Actual state of DI15:6=ON  |  |  |               |  |
| DI16 | 3x15016<br>4x15016<br>I:15015 | 7,0x0007<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI16:7=ON  |  |  |               |  |
| DI17 | 3x15017<br>4x15017<br>I:15016 | 0,0x0000<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI17:0=OFF |  |  |               |  |
| DI18 | 3x15018<br>4x15018<br>I:15017 | 1,0x0001<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI18:1=ON  |  |  |               |  |
| DI19 | 3x15019<br>4x15019<br>I:15018 | 2,0x0002<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI19:2=ON  |  |  |               |  |
| DI20 | 3x15020<br>4x15020<br>I:15019 | 0,0x0000<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI20:0=OFF |  |  |               |  |
| DI21 | 3x15021<br>4x15021<br>I:15020 | 1,0x0001<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI21:1=ON  |  |  |               |  |
| DI22 | 3x15022<br>4x15022<br>I:15021 | 2,0x0002<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI22:2=ON  |  |  |               |  |
| D23  | 3x15023<br>4x15023<br>I:15022 | 3,0x0003<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of D23:3=ON   |  |  |               |  |
| DI24 | 3x15024<br>4x15024<br>I:15023 | 4,0x0004<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI24:4=ON  |  |  |               |  |
| DI25 | 3x15025<br>4x15025<br>I:15024 | 5,0x0005<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI25:5=ON  |  |  |               |  |
| DI26 | 3x15026<br>4x15026<br>I:15025 | 6,0x0006<br>B:00           |  |  | UINT16<br>R/O |  |
|      |                               | Actual state of DI26:6=ON  |  |  |               |  |



|  |                               |                                      |  |  |               |  |
|--|-------------------------------|--------------------------------------|--|--|---------------|--|
| DI27   | 3x15027<br>4x15027<br>I:15026 | 7,0x0007<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of DI27:7=ON            |  |  |               |  |
| DI28   | 3x15028<br>4x15028<br>I:15027 | 0,0x0000<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of DI28:0=OFF           |  |  |               |  |
| DI29   | 3x15029<br>4x15029<br>I:15028 | 1,0x0001<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of DI29:1=ON            |  |  |               |  |
| DI30   | 3x15030<br>4x15030<br>I:15029 | 2,0x0002<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of DI30:2=ON            |  |  |               |  |
| DI31   | 3x15031<br>4x15031<br>I:15030 | 3,0x0003<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of DI31:3=ON            |  |  |               |  |
| DI32   | 3x15032<br>4x15032<br>I:15031 | 4,0x0004<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of DI32:4=ON            |  |  |               |  |
| <b>STATUS DIGITAL INPUTS</b>   |                               |                                      |  |  |               |  |
| UNFILTERED DI1   | 3x15033<br>4x15033<br>I:15032 | 5,0x0005<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of UNFILTERED DI1:5=ON  |  |  |               |  |
| Current state of the real digital input DIx without the internal software filter to suppress glitches or spike on this line<br>=0:DI is OFF, =1:DI is ON |                               |                                      |  |  |               |  |
| UNFILTERED DI2   | 3x15034<br>4x15034<br>I:15033 | 6,0x0006<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of UNFILTERED DI2:6=ON  |  |  |               |  |
| UNFILTERED DI3   | 3x15035<br>4x15035<br>I:15034 | 7,0x0007<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of UNFILTERED DI3:7=ON  |  |  |               |  |
| UNFILTERED DI4   | 3x15036<br>4x15036<br>I:15035 | 0,0x0000<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of UNFILTERED DI4:0=OFF |  |  |               |  |
| UNFILTERED DI5   | 3x15037<br>4x15037<br>I:15036 | 1,0x0001<br>B:00                     |  |  | UINT16<br>R/O |  |
|  |                               | Actual state of UNFILTERED DI5:1=ON  |  |  |               |  |

|                 |                               |                                       |  |  |               |  |
|-----------------|-------------------------------|---------------------------------------|--|--|---------------|--|
| UNFILTERED DI6  | 3x15038<br>4x15038<br>I:15037 | 2,0x0002<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI6:2=ON   |  |  |               |  |
| UNFILTERED DI7  | 3x15039<br>4x15039<br>I:15038 | 0,0x0000<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI7:0=OFF  |  |  |               |  |
| UNFILTERED DI8  | 3x15040<br>4x15040<br>I:15039 | 1,0x0001<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI8:1=ON   |  |  |               |  |
| UNFILTERED DI9  | 3x15041<br>4x15041<br>I:15040 | 2,0x0002<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI9:2=ON   |  |  |               |  |
| UNFILTERED DI10 | 3x15042<br>4x15042<br>I:15041 | 3,0x0003<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI10:3=ON  |  |  |               |  |
| UNFILTERED DI11 | 3x15043<br>4x15043<br>I:15042 | 4,0x0004<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI11:4=ON  |  |  |               |  |
| UNFILTERED DI12 | 3x15044<br>4x15044<br>I:15043 | 5,0x0005<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI12:5=ON  |  |  |               |  |
| UNFILTERED DI13 | 3x15045<br>4x15045<br>I:15044 | 6,0x0006<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI13:6=ON  |  |  |               |  |
| UNFILTERED DI14 | 3x15046<br>4x15046<br>I:15045 | 7,0x0007<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI14:7=ON  |  |  |               |  |
| UNFILTERED DI15 | 3x15047<br>4x15047<br>I:15046 | 0,0x0000<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI15:0=OFF |  |  |               |  |
| UNFILTERED DI16 | 3x15048<br>4x15048<br>I:15047 | 1,0x0001<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI16:1=ON  |  |  |               |  |
| UNFILTERED DI17 | 3x15049<br>4x15049<br>I:15048 | 2,0x0002<br>B:00                      |  |  | UINT16<br>R/O |  |

|                 |                               |                                       |  |  |               |  |
|-----------------|-------------------------------|---------------------------------------|--|--|---------------|--|
|                 |                               | Actual state of UNFILTERED DI17:2=ON  |  |  |               |  |
| UNFILTERED DI18 | 3x15050<br>4x15050<br>I:15049 | 3,0x0003<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI18:3=ON  |  |  |               |  |
| UNFILTERED DI19 | 3x15051<br>4x15051<br>I:15050 | 4,0x0004<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI19:4=ON  |  |  |               |  |
| UNFILTERED DI20 | 3x15052<br>4x15052<br>I:15051 | 5,0x0005<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI20:5=ON  |  |  |               |  |
| UNFILTERED DI21 | 3x15053<br>4x15053<br>I:15052 | 6,0x0006<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI21:6=ON  |  |  |               |  |
| UNFILTERED DI22 | 3x15054<br>4x15054<br>I:15053 | 7,0x0007<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI22:7=ON  |  |  |               |  |
| UNFILTERED DI23 | 3x15055<br>4x15055<br>I:15054 | 0,0x0000<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI23:0=OFF |  |  |               |  |
| UNFILTERED DI24 | 3x15056<br>4x15056<br>I:15055 | 1,0x0001<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI24:1=ON  |  |  |               |  |
| UNFILTERED DI25 | 3x15057<br>4x15057<br>I:15056 | 2,0x0002<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI25:2=ON  |  |  |               |  |
| UNFILTERED DI26 | 3x15058<br>4x15058<br>I:15057 | 0,0x0000<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI26:0=OFF |  |  |               |  |
| UNFILTERED DI27 | 3x15059<br>4x15059<br>I:15058 | 1,0x0001<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI27:1=ON  |  |  |               |  |
| UNFILTERED DI28 | 3x15060<br>4x15060<br>I:15059 | 2,0x0002<br>B:00                      |  |  | UINT16<br>R/O |  |
|                 |                               | Actual state of UNFILTERED DI28:2=ON  |  |  |               |  |

|  |                               |                     |  |                          |               |    |
|--|-------------------------------|---------------------|--|--------------------------|---------------|----|
| UNFILTERED DI29  | 3x15061<br>4x15061<br>I:15060 | 3,0x0003<br>B:00    |  |                          | UINT16<br>R/O |    |
| Actual state of UNFILTERED DI29:3=ON                                 |                               |                     |  |                          |               |    |
| UNFILTERED DI30  | 3x15062<br>4x15062<br>I:15061 | 4,0x0004<br>B:00    |  |                          | UINT16<br>R/O |    |
| Actual state of UNFILTERED DI30:4=ON                                 |                               |                     |  |                          |               |    |
| UNFILTERED DI31  | 3x15063<br>4x15063<br>I:15062 | 5,0x0005<br>B:00    |  |                          | UINT16<br>R/O |    |
| Actual state of UNFILTERED DI31:5=ON                                 |                               |                     |  |                          |               |    |
| UNFILTERED DI32  | 3x15064<br>4x15064<br>I:15063 | 6,0x0006<br>B:00    |  |                          | UINT16<br>R/O |    |
| Actual state of UNFILTERED DI32:6=ON                                 |                               |                     |  |                          |               |    |
| <b>STATUS DIGITAL OUTPUTS</b>  |                               |                     |  |                          |               |    |
| DO1  | 3x16001<br>4x16001<br>I:16000 | 0,0x0000<br>B:00 00 |  | 1                        | UINT16<br>R/W | NO |
| Actual state of DO1:0=OFF  |                               |                     |  | ENTER NEW STATE (0 or 1) |               |    |
| Current state of the digital output DOx<br>=0:DO is OFF, =1:DO is ON |                               |                     |  |                          |               |    |
| Writing on this register changes the state of the digital output     |                               |                     |  |                          |               |    |
| DO2  | 3x16002<br>4x16002<br>I:16001 | 0,0x0000<br>B:00 00 |  | 0                        | UINT16<br>R/W | NO |
| Actual state of DO2:0=OFF  |                               |                     |  | ENTER NEW STATE (0 or 1) |               |    |
| DO3  | 3x16003<br>4x16003<br>I:16002 | 0,0x0000<br>B:00 00 |  | 0                        | UINT16<br>R/W | NO |
| Actual state of DO3:0=OFF  |                               |                     |  | ENTER NEW STATE (0 or 1) |               |    |
| DO4  | 3x16004<br>4x16004<br>I:16003 | 0,0x0000<br>B:00 00 |  | 0                        | UINT16<br>R/W | NO |
| Actual state of DO4:0=OFF  |                               |                     |  | ENTER NEW STATE (0 or 1) |               |    |
| DO5  | 3x16005<br>4x16005<br>I:16004 | 0,0x0000<br>B:00 00 |  | 0                        | UINT16<br>R/W | NO |
| Actual state of DO5:0=OFF  |                               |                     |  | ENTER NEW STATE (0 or 1) |               |    |
| DO6  | 3x16006<br>4x16006<br>I:16005 | 0,0x0000<br>B:00 00 |  | 0                        | UINT16<br>R/W | NO |
| Actual state of DO6:0=OFF  |                               |                     |  | ENTER NEW STATE (0 or 1) |               |    |

|      |                               |                            |  |                          |               |    |
|------|-------------------------------|----------------------------|--|--------------------------|---------------|----|
| DO7  | 3x16007<br>4x16007<br>I:16006 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO7:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO8  | 3x16008<br>4x16008<br>I:16007 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO8:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO9  | 3x16009<br>4x16009<br>I:16008 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO9:0=OFF  |  | ENTER NEW STATE (0 or 1) |               |    |
| DO10 | 3x16010<br>4x16010<br>I:16009 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO10:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO11 | 3x16011<br>4x16011<br>I:16010 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO11:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO12 | 3x16012<br>4x16012<br>I:16011 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO12:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO13 | 3x16013<br>4x16013<br>I:16012 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO13:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO14 | 3x16014<br>4x16014<br>I:16013 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO14:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO15 | 3x16015<br>4x16015<br>I:16014 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO15:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO16 | 3x16016<br>4x16016<br>I:16015 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO16:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO17 | 3x16017<br>4x16017<br>I:16016 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO17:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |

|      |                               |                            |  |                          |               |    |
|------|-------------------------------|----------------------------|--|--------------------------|---------------|----|
| DO18 | 3x16018<br>4x16018<br>I:16017 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO18:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO19 | 3x16019<br>4x16019<br>I:16018 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO19:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO20 | 3x16020<br>4x16020<br>I:16019 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO20:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO21 | 3x16021<br>4x16021<br>I:16020 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO21:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO22 | 3x16022<br>4x16022<br>I:16021 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO22:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO23 | 3x16023<br>4x16023<br>I:16022 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO23:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO24 | 3x16024<br>4x16024<br>I:16023 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO24:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO25 | 3x16025<br>4x16025<br>I:16024 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO25:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO26 | 3x16026<br>4x16026<br>I:16025 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO26:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO27 | 3x16027<br>4x16027<br>I:16026 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO27:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO28 | 3x16028<br>4x16028<br>I:16027 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO28:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |

|      |                               |                            |  |                          |               |    |
|------|-------------------------------|----------------------------|--|--------------------------|---------------|----|
| DO29 | 3x16029<br>4x16029<br>I:16028 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO29:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |
| DO30 | 3x16030<br>4x16030<br>I:16029 | 0,0x0000<br>B:00 00        |  | 0                        | UINT16<br>R/W | NO |
|      |                               | Actual state of DO30:0=OFF |  | ENTER NEW STATE (0 or 1) |               |    |

| Register NAME<br>Command NAME  | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE     | DO<br>WRITE |
|--|--|---------------------------------|-------------------|--------------|---------------|-------------|
| <b>PULSE TIME FOR DIGITAL OUTPUTS</b>  |  |                                 |                   |              |               |             |
| PULSE TIME DO1   | 3x20001<br>4x20001<br>I:20000          | 0,0x0000<br>B:00 00             | 200               | 20,0         | UINT16<br>R/W | YES         |
| Generate a pulse on digital output x in 100ms units (0,1 to 6553,5 Seconds selectable)<br>If you write onto this register, the digital output will be switched on for the desired time in 100ms units. |  |                                 |                   |              |               |             |
| PULSE TIME DO2   | 3x20002<br>4x20002<br>I:20001          | 0,0x0000<br>B:00 00             | 300               | 30,0         | UINT16<br>R/W | NO          |
| PULSE TIME DO3   | 3x20003<br>4x20003<br>I:20002          | 0,0x0000<br>B:00 00             | 400               | 40,0         | UINT16<br>R/W | NO          |
| PULSE TIME DO4   | 3x20004<br>4x20004<br>I:20003          | 0,0x0000<br>B:00 00             | 500               | 50,0         | UINT16<br>R/W | NO          |
| PULSE TIME DO5   | 3x20005<br>4x20005<br>I:20004          | 0,0x0000<br>B:00 00             | 20                | 2,0          | UINT16<br>R/W | NO          |
| PULSE TIME DO6   | 3x20006<br>4x20006<br>I:20005          | 0,0x0000<br>B:00 00             | 20                | 2,0          | UINT16<br>R/W | NO          |
| PULSE TIME DO7   | 3x20007<br>4x20007<br>I:20006          | 0,0x0000<br>B:00 00             | 20                | 2,0          | UINT16<br>R/W | NO          |
| PULSE TIME DO8   | 3x20008<br>4x20008<br>I:20007          | 0,0x0000<br>B:00 00             | 20                | 2,0          | UINT16<br>R/W | NO          |
| PULSE TIME DO9   | 3x20009<br>4x20009<br>I:20008          | 0,0x0000<br>B:00 00             | 20                | 2,0          | UINT16<br>R/W | NO          |
| PULSE TIME DO10  | 3x20010<br>4x20010<br>I:20009          | 0,0x0000<br>B:00 00             | 20                | 2,0          | UINT16<br>R/W | NO          |
| PULSE TIME DO11  | 3x20011<br>4x20011<br>I:20010          | 0,0x0000<br>B:00 00             | 20                | 2,0          | UINT16<br>R/W | NO          |
| PULSE TIME DO12  | 3x20012<br>4x20012<br>I:20011          | 0,0x0000<br>B:00 00             | 20                | 2,0          | UINT16<br>R/W | NO          |



|                 |                               |                     |     |      |               |    |
|-----------------|-------------------------------|---------------------|-----|------|---------------|----|
| PULSE TIME DO13 | 3x20013<br>4x20013<br>I:20012 | 0,0x0000<br>B:00 00 | 400 | 40,0 | UINT16<br>R/W | NO |
| PULSE TIME DO14 | 3x20014<br>4x20014<br>I:20013 | 0,0x0000<br>B:00 00 | 500 | 50,0 | UINT16<br>R/W | NO |
| PULSE TIME DO15 | 3x20015<br>4x20015<br>I:20014 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO16 | 3x20016<br>4x20016<br>I:20015 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO17 | 3x20017<br>4x20017<br>I:20016 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO18 | 3x20018<br>4x20018<br>I:20017 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO19 | 3x20019<br>4x20019<br>I:20018 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO20 | 3x20020<br>4x20020<br>I:20019 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO21 | 3x20021<br>4x20021<br>I:20020 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO22 | 3x20022<br>4x20022<br>I:20021 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO23 | 3x20023<br>4x20023<br>I:20022 | 0,0x0000<br>B:00 00 | 400 | 40,0 | UINT16<br>R/W | NO |
| PULSE TIME DO24 | 3x20024<br>4x20024<br>I:20023 | 0,0x0000<br>B:00 00 | 500 | 50,0 | UINT16<br>R/W | NO |
| PULSE TIME DO25 | 3x20025<br>4x20025<br>I:20024 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO26 | 3x20026<br>4x20026<br>I:20025 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |
| PULSE TIME DO27 | 3x20027<br>4x20027<br>I:20026 | 0,0x0000<br>B:00 00 | 20  | 2,0  | UINT16<br>R/W | NO |

|  |                               |                               |    |     |               |    |
|--|-------------------------------|-------------------------------|----|-----|---------------|----|
| PULSE TIME DO28  | 3x20028<br>4x20028<br>I:20027 | 0,0x0000<br>B:00 00           | 20 | 2,0 | UINT16<br>R/W | NO |
| PULSE TIME DO29  | 3x20029<br>4x20029<br>I:20028 | 0,0x0000<br>B:00 00           | 20 | 2,0 | UINT16<br>R/W | NO |
| PULSE TIME DO30  | 3x20030<br>4x20030<br>I:20029 | 0,0x0000<br>B:00 00           | 20 | 2,0 | UINT16<br>R/W | NO |
| <b>PULSE STATUS FOR DIGITAL OUTPUTS</b>                          |                               |                               |    |     |               |    |
| PULSE TIMER DO1  | 3x21001<br>4x21001<br>I:21000 | 0,0x00000000<br>B:00 00 00 00 |    |     | UINT32<br>R/O |    |
|  |                               | 0,0 seconds                   |    |     |               |    |
| Remaining time of the pulse on digital output x in Milliseconds. |                               |                               |    |     |               |    |
| PULSE TIMER DO2  | 3x21003<br>4x21003<br>I:21002 | 0,0x00000000<br>B:00 00 00 00 |    |     | UINT32<br>R/O |    |
|  |                               | 0,0 seconds                   |    |     |               |    |
| PULSE TIMER DO3  | 3x21005<br>4x21005<br>I:21004 | 0,0x00000000<br>B:00 00 00 00 |    |     | UINT32<br>R/O |    |
|  |                               | 0,0 seconds                   |    |     |               |    |
| PULSE TIMER DO4  | 3x21007<br>4x21007<br>I:21006 | 0,0x00000000<br>B:00 00 00 00 |    |     | UINT32<br>R/O |    |
|  |                               | 0,0 seconds                   |    |     |               |    |
| PULSE TIMER DO5  | 3x21009<br>4x21009<br>I:21008 | 0,0x00000000<br>B:00 00 00 00 |    |     | UINT32<br>R/O |    |
|  |                               | 0,0 seconds                   |    |     |               |    |
| PULSE TIMER DO6  | 3x21011<br>4x21011<br>I:21010 | 0,0x00000000<br>B:00 00 00 00 |    |     | UINT32<br>R/O |    |
|  |                               | 0,0 seconds                   |    |     |               |    |
| PULSE TIMER DO7  | 3x21013<br>4x21013<br>I:21012 | 0,0x00000000<br>B:00 00 00 00 |    |     | UINT32<br>R/O |    |
|  |                               | 0,0 seconds                   |    |     |               |    |
| PULSE TIMER DO8  | 3x21015<br>4x21015<br>I:21014 | 0,0x00000000<br>B:00 00 00 00 |    |     | UINT32<br>R/O |    |
|  |                               | 0,0 seconds                   |    |     |               |    |
| PULSE TIMER DO9  | 3x21017<br>4x21017<br>I:21016 | 0,0x00000000<br>B:00 00 00 00 |    |     | UINT32<br>R/O |    |

|                  |                               |                               |  |  |               |
|------------------|-------------------------------|-------------------------------|--|--|---------------|
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO10 | 3x21019<br>4x21019<br>I:21018 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO11 | 3x21021<br>4x21021<br>I:21020 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO12 | 3x21023<br>4x21023<br>I:21022 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO13 | 3x21025<br>4x21025<br>I:21024 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO14 | 3x21027<br>4x21027<br>I:21026 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO15 | 3x21029<br>4x21029<br>I:21028 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO16 | 3x21031<br>4x21031<br>I:21030 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO17 | 3x21033<br>4x21033<br>I:21032 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO18 | 3x21035<br>4x21035<br>I:21034 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO19 | 3x21037<br>4x21037<br>I:21036 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |
| PULSE TIMER DO20 | 3x21039<br>4x21039<br>I:21038 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |
|                  |                               | 0,0 seconds                   |  |  |               |

|   |                               |                               |  |  |                |  |
|---|-------------------------------|-------------------------------|--|--|----------------|--|
| PULSE TIMER DO21                        | 3x21041<br>4x21041<br>I:21040 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO22                        | 3x21043<br>4x21043<br>I:21042 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO23                        | 3x21045<br>4x21045<br>I:21044 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO24                        | 3x21047<br>4x21047<br>I:21046 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO25                        | 3x21049<br>4x21049<br>I:21048 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO26                        | 3x21051<br>4x21051<br>I:21050 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO27                        | 3x21053<br>4x21053<br>I:21052 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO28                        | 3x21055<br>4x21055<br>I:21054 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO29                        | 3x21057<br>4x21057<br>I:21056 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO30                        | 3x21059<br>4x21059<br>I:21058 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O  |  |
|   |                               | 0,0 seconds                   |  |  |                |  |
| <b>PULSE STATUS FOR DIGITAL OUTPUTS</b> |                               |                               |  |  |                |  |
| PULSE TIMER DO1                         | 3x21061<br>4x21061<br>I:21060 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|   |                               | 0,0 seconds                   |  |  |                |  |

Remaining time of the pulse on digital output x in Milliseconds.

|                  |                               |                               |  |  |                |  |
|------------------|-------------------------------|-------------------------------|--|--|----------------|--|
| PULSE TIMER DO2  | 3x21063<br>4x21063<br>I:21062 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO3  | 3x21065<br>4x21065<br>I:21064 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO4  | 3x21067<br>4x21067<br>I:21066 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO5  | 3x21069<br>4x21069<br>I:21068 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO6  | 3x21071<br>4x21071<br>I:21070 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO7  | 3x21073<br>4x21073<br>I:21072 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO8  | 3x21075<br>4x21075<br>I:21074 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO9  | 3x21077<br>4x21077<br>I:21076 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO10 | 3x21079<br>4x21079<br>I:21078 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO11 | 3x21081<br>4x21081<br>I:21080 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO12 | 3x21083<br>4x21083<br>I:21082 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |

|                  |                               |                               |  |  |                |  |
|------------------|-------------------------------|-------------------------------|--|--|----------------|--|
| PULSE TIMER DO13 | 3x21085<br>4x21085<br>I:21084 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO14 | 3x21087<br>4x21087<br>I:21086 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO15 | 3x21089<br>4x21089<br>I:21088 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO16 | 3x21091<br>4x21091<br>I:21090 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO17 | 3x21093<br>4x21093<br>I:21092 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO18 | 3x21095<br>4x21095<br>I:21094 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO19 | 3x21097<br>4x21097<br>I:21096 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO20 | 3x21099<br>4x21099<br>I:21098 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO21 | 3x21101<br>4x21101<br>I:21100 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO22 | 3x21103<br>4x21103<br>I:21102 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO23 | 3x21105<br>4x21105<br>I:21104 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |

|                  |                               |                               |  |  |                |  |
|------------------|-------------------------------|-------------------------------|--|--|----------------|--|
| PULSE TIMER DO24 | 3x21107<br>4x21107<br>I:21106 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO25 | 3x21109<br>4x21109<br>I:21108 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO26 | 3x21111<br>4x21111<br>I:21110 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO27 | 3x21113<br>4x21113<br>I:21112 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO28 | 3x21115<br>4x21115<br>I:21114 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO29 | 3x21117<br>4x21117<br>I:21116 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |
| PULSE TIMER DO30 | 3x21119<br>4x21119<br>I:21118 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32R<br>R/O |  |
|                  |                               | 0,0 seconds                   |  |  |                |  |

| Register NAME<br>Command NAME   | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE     | DO<br>WRITE |
|---|--|---------------------------------|-------------------|--------------|---------------|-------------|
| <b>DIGITAL INPUTS</b>   |  |                                 |                   |              |               |             |
| STATUS DI1 A  | 3x05001<br>4x05001<br>I:5000           | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | DI:0,CC:0,REC:0,FEC:0           |                   |              |               |             |
| Status for the digital input DIx<br>Bit 0-4: Lower 5 bits of CHANGE COUNTER<br>Bit 5-9: Lower 5 bits of RISING EDGE COUNTER<br>Bit 10-14: Lower 5 bits of FALLING EDGE COUNTER<br>Bit 15: Current Status of DIx =0: DIx si OFF, =1: DIx is ON                   |  |                                 |                   |              |               |             |
| STATUS DI1 B  | 3x05002<br>4x05002<br>I:5001           | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | DI:0,SKE:0,LKSE:0,LKEE:0        |                   |              |               |             |
| Status for the digital input DIx<br>Bit 0-4: Lower 5 bits of SHORT KEYPRESS EVENTS<br>Bit 5-9: Lower 5 bits of LONG KEYPRESS START EVENTS<br>Bit 10-14: Lower 5 bits of LONG KEYPRESS END EVENTS<br>Bit 15: Current Status of DIx =0: DIx si OFF, =1: DIx is ON |  |                                 |                   |              |               |             |
| STATUS DI2 A  | 3x05003<br>4x05003<br>I:5002           | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | DI:0,CC:0,REC:0,FEC:0           |                   |              |               |             |
| STATUS DI2 B  | 3x05004<br>4x05004<br>I:5003           | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | DI:0,SKE:0,LKSE:0,LKEE:0        |                   |              |               |             |
| STATUS DI3 A  | 3x05005<br>4x05005<br>I:5004           | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | DI:0,CC:0,REC:0,FEC:0           |                   |              |               |             |
| STATUS DI3 B  | 3x05006<br>4x05006<br>I:5005           | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | DI:0,SKE:0,LKSE:0,LKEE:0        |                   |              |               |             |
| STATUS DI4 A  | 3x05007<br>4x05007<br>I:5006           | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |
|   |  | DI:0,CC:0,REC:0,FEC:0           |                   |              |               |             |
| STATUS DI4 B  | 3x05008<br>4x05008<br>I:5007           | 0,0x0000<br>B:00 00             |                   |              | UINT16<br>R/O |             |



|               |                              |                          |  |  |               |
|---------------|------------------------------|--------------------------|--|--|---------------|
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |
| STATUS DI5 A  | 3x05009<br>4x05009<br>I:5008 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |
| STATUS DI5 B  | 3x05010<br>4x05010<br>I:5009 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |
| STATUS DI6 A  | 3x05011<br>4x05011<br>I:5010 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |
| STATUS DI6 B  | 3x05012<br>4x05012<br>I:5011 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |
| STATUS DI7 A  | 3x05013<br>4x05013<br>I:5012 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |
| STATUS DI7 B  | 3x05014<br>4x05014<br>I:5013 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |
| STATUS DI8 A  | 3x05015<br>4x05015<br>I:5014 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |
| STATUS DI8 B  | 3x05016<br>4x05016<br>I:5015 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |
| STATUS DI9 A  | 3x05017<br>4x05017<br>I:5016 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |
| STATUS DI9 B  | 3x05018<br>4x05018<br>I:5017 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |
| STATUS DI10 A | 3x05019<br>4x05019<br>I:5018 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |

|               |                              |                          |  |  |               |  |
|---------------|------------------------------|--------------------------|--|--|---------------|--|
| STATUS DI10 B | 3x05020<br>4x05020<br>I:5019 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI11 A | 3x05021<br>4x05021<br>I:5020 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI11 B | 3x05022<br>4x05022<br>I:5021 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI12 A | 3x05023<br>4x05023<br>I:5022 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI12 B | 3x05024<br>4x05024<br>I:5023 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI13 A | 3x05025<br>4x05025<br>I:5024 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI13 B | 3x05026<br>4x05026<br>I:5025 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI14 A | 3x05027<br>4x05027<br>I:5026 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI14 B | 3x05028<br>4x05028<br>I:5027 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI15 A | 3x05029<br>4x05029<br>I:5028 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI15 B | 3x05030<br>4x05030<br>I:5029 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |

|               |                              |                          |  |  |               |  |
|---------------|------------------------------|--------------------------|--|--|---------------|--|
| STATUS DI16 A | 3x05031<br>4x05031<br>I:5030 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI16 B | 3x05032<br>4x05032<br>I:5031 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI17 A | 3x05033<br>4x05033<br>I:5032 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI17 B | 3x05034<br>4x05034<br>I:5033 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI18 A | 3x05035<br>4x05035<br>I:5034 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI18 B | 3x05036<br>4x05036<br>I:5035 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI19 A | 3x05037<br>4x05037<br>I:5036 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI19 B | 3x05038<br>4x05038<br>I:5037 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI20 A | 3x05039<br>4x05039<br>I:5038 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI20 B | 3x05040<br>4x05040<br>I:5039 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI21 A | 3x05041<br>4x05041<br>I:5040 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |

|               |                              |                          |  |  |               |  |
|---------------|------------------------------|--------------------------|--|--|---------------|--|
| STATUS DI21 B | 3x05042<br>4x05042<br>I:5041 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI22 A | 3x05043<br>4x05043<br>I:5042 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI22 B | 3x05044<br>4x05044<br>I:5043 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI23 A | 3x05045<br>4x05045<br>I:5044 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI23 B | 3x05046<br>4x05046<br>I:5045 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI24 A | 3x05047<br>4x05047<br>I:5046 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI24 B | 3x05048<br>4x05048<br>I:5047 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI25 A | 3x05049<br>4x05049<br>I:5048 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI25 B | 3x05050<br>4x05050<br>I:5049 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI26 A | 3x05051<br>4x05051<br>I:5050 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI26 B | 3x05052<br>4x05052<br>I:5051 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |

|               |                              |                          |  |  |               |  |
|---------------|------------------------------|--------------------------|--|--|---------------|--|
| STATUS DI27 A | 3x05053<br>4x05053<br>I:5052 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI27 B | 3x05054<br>4x05054<br>I:5053 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI28 A | 3x05055<br>4x05055<br>I:5054 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI28 B | 3x05056<br>4x05056<br>I:5055 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI29 A | 3x05057<br>4x05057<br>I:5056 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI29 B | 3x05058<br>4x05058<br>I:5057 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI30 A | 3x05059<br>4x05059<br>I:5058 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI30 B | 3x05060<br>4x05060<br>I:5059 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI31 A | 3x05061<br>4x05061<br>I:5060 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |
| STATUS DI31 B | 3x05062<br>4x05062<br>I:5061 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,SKE:0,LKSE:0,LKEE:0 |  |  |               |  |
| STATUS DI32 A | 3x05063<br>4x05063<br>I:5062 | 0,0x0000<br>B:00 00      |  |  | UINT16<br>R/O |  |
|               |                              | DI:0,CC:0,REC:0,FEC:0    |  |  |               |  |

|   |                              |                               |  |  |               |  |
|---|------------------------------|-------------------------------|--|--|---------------|--|
| STATUS DI32 B   | 3x05064<br>4x05064<br>I:5063 | 0,0x0000<br>B:00 00           |  |  | UINT16<br>R/O |  |
|   |                              | DI:0,SKE:0,LKSE:0,LKEE:0      |  |  |               |  |
| <b>STATUS</b>   |                              |                               |  |  |               |  |
| FILTER PATTERN DI1  | 3x05065<br>4x05065<br>I:5064 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| The internal pattern for corresponding digital input for AC/DC filtering. The internal used state is created out of this internal pattern via oversampling. |                              |                               |  |  |               |  |
| FILTER PATTERN DI2  | 3x05067<br>4x05067<br>I:5066 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI3  | 3x05069<br>4x05069<br>I:5068 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI4  | 3x05071<br>4x05071<br>I:5070 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI5  | 3x05073<br>4x05073<br>I:5072 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI6  | 3x05075<br>4x05075<br>I:5074 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI7  | 3x05077<br>4x05077<br>I:5076 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI8  | 3x05079<br>4x05079<br>I:5078 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI9  | 3x05081<br>4x05081<br>I:5080 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI10   | 3x05083<br>4x05083<br>I:5082 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI11   | 3x05085<br>4x05085<br>I:5084 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI12   | 3x05087<br>4x05087<br>I:5086 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI13   | 3x05089<br>4x05089<br>I:5088 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |

|                     |                              |                               |  |  |               |  |
|---------------------|------------------------------|-------------------------------|--|--|---------------|--|
| FILTER PATTERN DI14 | 3x05091<br>4x05091<br>I:5090 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI15 | 3x05093<br>4x05093<br>I:5092 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI16 | 3x05095<br>4x05095<br>I:5094 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI17 | 3x05097<br>4x05097<br>I:5096 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI18 | 3x05099<br>4x05099<br>I:5098 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI19 | 3x05101<br>4x05101<br>I:5100 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI20 | 3x05103<br>4x05103<br>I:5102 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI21 | 3x05105<br>4x05105<br>I:5104 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI22 | 3x05107<br>4x05107<br>I:5106 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI23 | 3x05109<br>4x05109<br>I:5108 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI24 | 3x05111<br>4x05111<br>I:5110 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI25 | 3x05113<br>4x05113<br>I:5112 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI26 | 3x05115<br>4x05115<br>I:5114 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI27 | 3x05117<br>4x05117<br>I:5116 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI28 | 3x05119<br>4x05119<br>I:5118 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |

|   |                              |                               |  |  |               |  |
|---|------------------------------|-------------------------------|--|--|---------------|--|
| FILTER PATTERN DI29   | 3x05121<br>4x05121<br>I:5120 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI30   | 3x05123<br>4x05123<br>I:5122 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI31   | 3x05125<br>4x05125<br>I:5124 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| FILTER PATTERN DI32   | 3x05127<br>4x05127<br>I:5126 | 0,0x00000000<br>B:00 00 00 00 |  |  | UINT32<br>R/O |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI1</b>   |                              |                               |  |  |               |  |
| RISE DI1  | 3x07001<br>4x07001<br>I:7000 | 3,0x0003<br>B:00 03           |  |  | UINT16<br>R/O |  |
|   |                              | 3 event(s)                    |  |  |               |  |
| Counter for rising edges on the digital input DIx. If the module detects a rising edge on the digital input, this counter is incremented by 1.<br>After power on or a soft reset this counter is set always to 0.<br>With the function RESET COUNTER this counter is also set to 0.   |                              |                               |  |  |               |  |
| FALL DI1  | 3x07002<br>4x07002<br>I:7001 | 3,0x0003<br>B:00 03           |  |  | UINT16<br>R/O |  |
|   |                              | 3 event(s)                    |  |  |               |  |
| Counter for falling edges on the digital input DIx. If the module detects a falling edge on the digital input, this counter is incremented by 1.<br>After power on or a soft reset this counter is set always to 0.<br>With the function RESET COUNTER this counter is also set to 0.   |                              |                               |  |  |               |  |
| CHANGE DI1  | 3x07003<br>4x07003<br>I:7002 | 4,0x0004<br>B:00 04           |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)                    |  |  |               |  |
| Counter for events on the digital input DIx. If the module detects an event on the digital input, this counter is incremented by 1.<br>After power on or a soft reset this counter is set always to 0. With the function RESET COUNTER this counter is also set to 0.<br>The following events are available:<br>Detection of a short keypress<br>Detection of the start of a long keypress<br>Detection of the end of a long keypress |                              |                               |  |  |               |  |
| SHORT KEYPRESS DI1  | 3x07004<br>4x07004<br>I:7003 | 2,0x0002<br>B:00 02           |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)                    |  |  |               |  |
| Counter for short keypress events on the digital input DIx. If the module detects a short keypress on the digital input, this counter is incremented by 1.<br>After power on or a soft reset this counter is set always to 0.<br>With the function RESET COUNTER this counter is also set to 0.   |                              |                               |  |  |               |  |
| LONG KEYPRESS START DI1   | 3x07005<br>4x07005<br>I:7004 | 1,0x0001<br>B:00 01           |  |  | UINT16<br>R/O |  |
|   |                              | 1 event(s)                    |  |  |               |  |



Counter for start events of long keypress actions on the digital input DIx. If the module detects the start of a long keypress action on the digital input, this counter is incremented by 1.

After power on or a soft reset this counter is set always to 0.

With the function RESET COUNTER this counter is also set to 0.

|                       |                              |                     |  |  |               |  |
|-----------------------|------------------------------|---------------------|--|--|---------------|--|
| LONG KEYPRESS END DI1 | 3x07006<br>4x07006<br>I:7005 | 1,0x0001<br>B:00 01 |  |  | UINT16<br>R/O |  |
|                       |                              | 1 event(s)          |  |  |               |  |

Counter for end events of long keypress actions on the digital input DIx. If the module detects the end of a long keypress action on the digital input, this counter is incremented by 1.

After power on or a soft reset this counter is set always to 0.

With the function RESET COUNTER this counter is also set to 0.

#### DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI2

|          |                              |                     |  |  |               |  |
|----------|------------------------------|---------------------|--|--|---------------|--|
| RISE DI2 | 3x07011<br>4x07011<br>I:7010 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|          |                              | 4 event(s)          |  |  |               |  |

|          |                              |                     |  |  |               |  |
|----------|------------------------------|---------------------|--|--|---------------|--|
| FALL DI2 | 3x07012<br>4x07012<br>I:7011 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|          |                              | 4 event(s)          |  |  |               |  |

|            |                              |                     |  |  |               |  |
|------------|------------------------------|---------------------|--|--|---------------|--|
| CHANGE DI2 | 3x07013<br>4x07013<br>I:7012 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|            |                              | 6 event(s)          |  |  |               |  |

|                    |                              |                     |  |  |               |  |
|--------------------|------------------------------|---------------------|--|--|---------------|--|
| SHORT KEYPRESS DI2 | 3x07014<br>4x07014<br>I:7013 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|                    |                              | 2 event(s)          |  |  |               |  |

|                         |                              |                     |  |  |               |  |
|-------------------------|------------------------------|---------------------|--|--|---------------|--|
| LONG KEYPRESS START DI2 | 3x07015<br>4x07015<br>I:7014 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|                         |                              | 2 event(s)          |  |  |               |  |

|                       |                              |                     |  |  |               |  |
|-----------------------|------------------------------|---------------------|--|--|---------------|--|
| LONG KEYPRESS END DI2 | 3x07016<br>4x07016<br>I:7015 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|                       |                              | 2 event(s)          |  |  |               |  |

#### DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI3

|          |                              |                     |  |  |               |  |
|----------|------------------------------|---------------------|--|--|---------------|--|
| RISE DI3 | 3x07021<br>4x07021<br>I:7020 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|          |                              | 4 event(s)          |  |  |               |  |

|          |                              |                     |  |  |               |  |
|----------|------------------------------|---------------------|--|--|---------------|--|
| FALL DI3 | 3x07022<br>4x07022<br>I:7021 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|          |                              | 4 event(s)          |  |  |               |  |

|            |                              |                     |  |  |               |  |
|------------|------------------------------|---------------------|--|--|---------------|--|
| CHANGE DI3 | 3x07023<br>4x07023<br>I:7022 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|------------|------------------------------|---------------------|--|--|---------------|--|

|   |                              |                     |  |  |               |  |
|---|------------------------------|---------------------|--|--|---------------|--|
|   |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI3                                  | 3x07024<br>4x07024<br>I:7023 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI3                             | 3x07025<br>4x07025<br>I:7024 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI3                               | 3x07026<br>4x07026<br>I:7025 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI4</b> |                              |                     |  |  |               |  |
| RISE DI4  | 3x07031<br>4x07031<br>I:7030 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| FALL DI4  | 3x07032<br>4x07032<br>I:7031 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI4  | 3x07033<br>4x07033<br>I:7032 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|   |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI4                                  | 3x07034<br>4x07034<br>I:7033 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI4                             | 3x07035<br>4x07035<br>I:7034 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI4                               | 3x07036<br>4x07036<br>I:7035 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI5</b> |                              |                     |  |  |               |  |
| RISE DI5  | 3x07041<br>4x07041<br>I:7040 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| FALL DI5  | 3x07042<br>4x07042<br>I:7041 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |

|   |                              |                     |  |  |               |  |
|---|------------------------------|---------------------|--|--|---------------|--|
|   |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI5  | 3x07043<br>4x07043<br>I:7042 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|   |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI5                                  | 3x07044<br>4x07044<br>I:7043 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI5                             | 3x07045<br>4x07045<br>I:7044 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI5                               | 3x07046<br>4x07046<br>I:7045 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI6</b> |                              |                     |  |  |               |  |
| RISE DI6  | 3x07051<br>4x07051<br>I:7050 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| FALL DI6  | 3x07052<br>4x07052<br>I:7051 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI6  | 3x07053<br>4x07053<br>I:7052 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|   |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI6                                  | 3x07054<br>4x07054<br>I:7053 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI6                             | 3x07055<br>4x07055<br>I:7054 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI6                               | 3x07056<br>4x07056<br>I:7055 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI7</b> |                              |                     |  |  |               |  |
| RISE DI7  | 3x07061<br>4x07061<br>I:7060 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |

|   |                              |                     |  |  |               |  |
|---|------------------------------|---------------------|--|--|---------------|--|
|   |                              | 4 event(s)          |  |  |               |  |
| FALL DI7  | 3x07062<br>4x07062<br>I:7061 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI7  | 3x07063<br>4x07063<br>I:7062 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|   |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI7                                  | 3x07064<br>4x07064<br>I:7063 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI7                             | 3x07065<br>4x07065<br>I:7064 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI7                               | 3x07066<br>4x07066<br>I:7065 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI8</b> |                              |                     |  |  |               |  |
| RISE DI8  | 3x07071<br>4x07071<br>I:7070 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| FALL DI8  | 3x07072<br>4x07072<br>I:7071 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI8  | 3x07073<br>4x07073<br>I:7072 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|   |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI8                                  | 3x07074<br>4x07074<br>I:7073 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI8                             | 3x07075<br>4x07075<br>I:7074 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI8                               | 3x07076<br>4x07076<br>I:7075 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |

**DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI9**

|                         |                              |                     |  |  |               |  |
|-------------------------|------------------------------|---------------------|--|--|---------------|--|
| RISE DI9                | 3x07081<br>4x07081<br>I:7080 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|                         |                              | 4 event(s)          |  |  |               |  |
| FALL DI9                | 3x07082<br>4x07082<br>I:7081 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|                         |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI9              | 3x07083<br>4x07083<br>I:7082 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|                         |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI9      | 3x07084<br>4x07084<br>I:7083 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|                         |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI9 | 3x07085<br>4x07085<br>I:7084 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|                         |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI9   | 3x07086<br>4x07086<br>I:7085 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|                         |                              | 2 event(s)          |  |  |               |  |

**DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI10**

|                          |                              |                     |  |  |               |  |
|--------------------------|------------------------------|---------------------|--|--|---------------|--|
| RISE DI10                | 3x07091<br>4x07091<br>I:7090 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|                          |                              | 4 event(s)          |  |  |               |  |
| FALL DI10                | 3x07092<br>4x07092<br>I:7091 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|                          |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI10              | 3x07093<br>4x07093<br>I:7092 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|                          |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI10      | 3x07094<br>4x07094<br>I:7093 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|                          |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI10 | 3x07095<br>4x07095<br>I:7094 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|                          |                              | 2 event(s)          |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| LONG KEYPRESS END DI10                               | 3x07096<br>4x07096<br>I:7095 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI11</b> |                              |                     |  |  |               |  |
| RISE DI11  | 3x07101<br>4x07101<br>I:7100 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI11  | 3x07102<br>4x07102<br>I:7101 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI11  | 3x07103<br>4x07103<br>I:7102 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI11                                  | 3x07104<br>4x07104<br>I:7103 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI11                             | 3x07105<br>4x07105<br>I:7104 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI11                               | 3x07106<br>4x07106<br>I:7105 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI12</b> |                              |                     |  |  |               |  |
| RISE DI12  | 3x07111<br>4x07111<br>I:7110 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI12  | 3x07112<br>4x07112<br>I:7111 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI12  | 3x07113<br>4x07113<br>I:7112 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI12                                  | 3x07114<br>4x07114<br>I:7113 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| LONG KEYPRESS START DI12                             | 3x07115<br>4x07115<br>I:7114 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI12                               | 3x07116<br>4x07116<br>I:7115 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI13</b> |                              |                     |  |  |               |  |
| RISE DI13  | 3x07121<br>4x07121<br>I:7120 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI13  | 3x07122<br>4x07122<br>I:7121 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI13  | 3x07123<br>4x07123<br>I:7122 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI13                                  | 3x07124<br>4x07124<br>I:7123 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI13                             | 3x07125<br>4x07125<br>I:7124 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI13                               | 3x07126<br>4x07126<br>I:7125 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI14</b> |                              |                     |  |  |               |  |
| RISE DI14  | 3x07131<br>4x07131<br>I:7130 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI14  | 3x07132<br>4x07132<br>I:7131 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI14  | 3x07133<br>4x07133<br>I:7132 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| SHORT KEYPRESS DI14                                  | 3x07134<br>4x07134<br>I:7133 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI14                             | 3x07135<br>4x07135<br>I:7134 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI14                               | 3x07136<br>4x07136<br>I:7135 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI15</b> |                              |                     |  |  |               |  |
| RISE DI15  | 3x07141<br>4x07141<br>I:7140 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI15  | 3x07142<br>4x07142<br>I:7141 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI15  | 3x07143<br>4x07143<br>I:7142 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI15                                  | 3x07144<br>4x07144<br>I:7143 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI15                             | 3x07145<br>4x07145<br>I:7144 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI15                               | 3x07146<br>4x07146<br>I:7145 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI16</b> |                              |                     |  |  |               |  |
| RISE DI16  | 3x07151<br>4x07151<br>I:7150 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI16  | 3x07152<br>4x07152<br>I:7151 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |



|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| CHANGE DI16  | 3x07153<br>4x07153<br>I:7152 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI16                                  | 3x07154<br>4x07154<br>I:7153 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI16                             | 3x07155<br>4x07155<br>I:7154 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI16                               | 3x07156<br>4x07156<br>I:7155 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI17</b> |                              |                     |  |  |               |  |
| RISE DI17  | 3x07161<br>4x07161<br>I:7160 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI17  | 3x07162<br>4x07162<br>I:7161 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI17  | 3x07163<br>4x07163<br>I:7162 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI17                                  | 3x07164<br>4x07164<br>I:7163 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI17                             | 3x07165<br>4x07165<br>I:7164 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI17                               | 3x07166<br>4x07166<br>I:7165 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI18</b> |                              |                     |  |  |               |  |
| RISE DI18  | 3x07171<br>4x07171<br>I:7170 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| FALL DI18  | 3x07172<br>4x07172<br>I:7171 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI18  | 3x07173<br>4x07173<br>I:7172 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI18                                  | 3x07174<br>4x07174<br>I:7173 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI18                             | 3x07175<br>4x07175<br>I:7174 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI18                               | 3x07176<br>4x07176<br>I:7175 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI19</b> |                              |                     |  |  |               |  |
| RISE DI19  | 3x07181<br>4x07181<br>I:7180 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI19  | 3x07182<br>4x07182<br>I:7181 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI19  | 3x07183<br>4x07183<br>I:7182 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI19                                  | 3x07184<br>4x07184<br>I:7183 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI19                             | 3x07185<br>4x07185<br>I:7184 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI19                               | 3x07186<br>4x07186<br>I:7185 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI20</b> |                              |                     |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| RISE DI20  | 3x07191<br>4x07191<br>I:7190 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI20  | 3x07192<br>4x07192<br>I:7191 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI20  | 3x07193<br>4x07193<br>I:7192 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI20                                  | 3x07194<br>4x07194<br>I:7193 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI20                             | 3x07195<br>4x07195<br>I:7194 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI20                               | 3x07196<br>4x07196<br>I:7195 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI21</b> |                              |                     |  |  |               |  |
| RISE DI21  | 3x07201<br>4x07201<br>I:7200 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI21  | 3x07202<br>4x07202<br>I:7201 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI21  | 3x07203<br>4x07203<br>I:7202 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI21                                  | 3x07204<br>4x07204<br>I:7203 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI21                             | 3x07205<br>4x07205<br>I:7204 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| LONG KEYPRESS END DI21                               | 3x07206<br>4x07206<br>I:7205 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI22</b> |                              |                     |  |  |               |  |
| RISE DI22  | 3x07211<br>4x07211<br>I:7210 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI22  | 3x07212<br>4x07212<br>I:7211 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI22  | 3x07213<br>4x07213<br>I:7212 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI22                                  | 3x07214<br>4x07214<br>I:7213 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI22                             | 3x07215<br>4x07215<br>I:7214 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI22                               | 3x07216<br>4x07216<br>I:7215 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI23</b> |                              |                     |  |  |               |  |
| RISE DI23  | 3x07221<br>4x07221<br>I:7220 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI23  | 3x07222<br>4x07222<br>I:7221 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI23  | 3x07223<br>4x07223<br>I:7222 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI23                                  | 3x07224<br>4x07224<br>I:7223 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| LONG KEYPRESS START DI23                             | 3x07225<br>4x07225<br>I:7224 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI23                               | 3x07226<br>4x07226<br>I:7225 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI24</b> |                              |                     |  |  |               |  |
| RISE DI24  | 3x07231<br>4x07231<br>I:7230 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI24  | 3x07232<br>4x07232<br>I:7231 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI24  | 3x07233<br>4x07233<br>I:7232 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI24                                  | 3x07234<br>4x07234<br>I:7233 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI24                             | 3x07235<br>4x07235<br>I:7234 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI24                               | 3x07236<br>4x07236<br>I:7235 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI25</b> |                              |                     |  |  |               |  |
| RISE DI25  | 3x07241<br>4x07241<br>I:7240 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI25  | 3x07242<br>4x07242<br>I:7241 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI25  | 3x07243<br>4x07243<br>I:7242 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| SHORT KEYPRESS DI25                                  | 3x07244<br>4x07244<br>I:7243 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI25                             | 3x07245<br>4x07245<br>I:7244 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI25                               | 3x07246<br>4x07246<br>I:7245 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI26</b> |                              |                     |  |  |               |  |
| RISE DI26  | 3x07251<br>4x07251<br>I:7250 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI26  | 3x07252<br>4x07252<br>I:7251 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI26  | 3x07253<br>4x07253<br>I:7252 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI26                                  | 3x07254<br>4x07254<br>I:7253 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI26                             | 3x07255<br>4x07255<br>I:7254 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI26                               | 3x07256<br>4x07256<br>I:7255 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI27</b> |                              |                     |  |  |               |  |
| RISE DI27  | 3x07261<br>4x07261<br>I:7260 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI27  | 3x07262<br>4x07262<br>I:7261 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| CHANGE DI27  | 3x07263<br>4x07263<br>I:7262 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI27                                  | 3x07264<br>4x07264<br>I:7263 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI27                             | 3x07265<br>4x07265<br>I:7264 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI27                               | 3x07266<br>4x07266<br>I:7265 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI28</b> |                              |                     |  |  |               |  |
| RISE DI28  | 3x07271<br>4x07271<br>I:7270 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI28  | 3x07272<br>4x07272<br>I:7271 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI28  | 3x07273<br>4x07273<br>I:7272 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI28                                  | 3x07274<br>4x07274<br>I:7273 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI28                             | 3x07275<br>4x07275<br>I:7274 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI28                               | 3x07276<br>4x07276<br>I:7275 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI29</b> |                              |                     |  |  |               |  |
| RISE DI29  | 3x07281<br>4x07281<br>I:7280 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |

|  |                              |                     |  |  |               |  |
|--|------------------------------|---------------------|--|--|---------------|--|
| FALL DI29  | 3x07282<br>4x07282<br>I:7281 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI29  | 3x07283<br>4x07283<br>I:7282 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI29                                  | 3x07284<br>4x07284<br>I:7283 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI29                             | 3x07285<br>4x07285<br>I:7284 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI29                               | 3x07286<br>4x07286<br>I:7285 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI30</b> |                              |                     |  |  |               |  |
| RISE DI30  | 3x07291<br>4x07291<br>I:7290 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| FALL DI30  | 3x07292<br>4x07292<br>I:7291 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|  |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI30  | 3x07293<br>4x07293<br>I:7292 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|  |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI30                                  | 3x07294<br>4x07294<br>I:7293 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI30                             | 3x07295<br>4x07295<br>I:7294 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI30                               | 3x07296<br>4x07296<br>I:7295 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|  |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI31</b> |                              |                     |  |  |               |  |



|   |                              |                     |  |  |               |  |
|---|------------------------------|---------------------|--|--|---------------|--|
| RISE DI31   | 3x07301<br>4x07301<br>I:7300 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| FALL DI31   | 3x07302<br>4x07302<br>I:7301 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI31   | 3x07303<br>4x07303<br>I:7302 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|   |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI31                                   | 3x07304<br>4x07304<br>I:7303 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI31                              | 3x07305<br>4x07305<br>I:7304 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS END DI31                                | 3x07306<br>4x07306<br>I:7305 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| <b>DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI132</b> |                              |                     |  |  |               |  |
| RISE DI132  | 3x07311<br>4x07311<br>I:7310 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| FALL DI132  | 3x07312<br>4x07312<br>I:7311 | 4,0x0004<br>B:00 04 |  |  | UINT16<br>R/O |  |
|   |                              | 4 event(s)          |  |  |               |  |
| CHANGE DI132  | 3x07313<br>4x07313<br>I:7312 | 6,0x0006<br>B:00 06 |  |  | UINT16<br>R/O |  |
|   |                              | 6 event(s)          |  |  |               |  |
| SHORT KEYPRESS DI132                                  | 3x07314<br>4x07314<br>I:7313 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |
| LONG KEYPRESS START DI132                             | 3x07315<br>4x07315<br>I:7314 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|   |                              | 2 event(s)          |  |  |               |  |

|                         |                              |                     |  |  |               |  |
|-------------------------|------------------------------|---------------------|--|--|---------------|--|
| LONG KEYPRESS END DI132 | 3x07316<br>4x07316<br>I:7315 | 2,0x0002<br>B:00 02 |  |  | UINT16<br>R/O |  |
|                         |                              | 2 event(s)          |  |  |               |  |

| Register NAME<br>Command NAME  | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command            | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE     | DO<br>WRITE |
|--|--|--|-------------------|--------------|---------------|-------------|
| <b>INITIAL &amp; WATCHDOG STATUS FOR ALL DIGITAL OUTPUTS</b>   |  |  |                   |              |               |             |
| FRAM INTIAL & WATCHDOG STATUS<br>OF DO1-DO16   | 3x59001<br>4x59001<br>l:59000          | ????                                       |                   | 0xFFFF       | UINT16<br>R/W | NO          |
|  |  | Actual init & watchdog state of DO1:0=OFF  | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO2:0=OFF  | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO3:0=OFF  | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO4:0=OFF  | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO5:0=OFF  | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO6:0=OFF  | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO7:0=OFF  | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO8:0=OFF  | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO9:0=OFF  | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO10:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO11:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO12:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO13:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO14:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO15:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO16:0=OFF | 1                 |              |               |             |
| Current FRAM setting of initial and watchdog state of all digital outputs. This state is used after power on and after a communication watchdog timeout, if a watchdog time is configured<br>Bit 0: =0:DO1 is OFF, =1:DO1 is ON<br>Bit 1: =0:DO2 is OFF, =1:DO2 is ON<br>...<br>Bit 14: =0:DO15 is OFF, =1:DO15 is ON<br>Bit 15: =0:DO16 is OFF, =1:DO16 is ON |  |  |                   |              |               |             |
| Write on this register sets all digital outputs to a new state for module restart and watchdog function. The state is saved in FRAM  |  |  |                   |              |               |             |
| FRAM INTIAL & WATCHDOG STATUS<br>OF DO17-DO30  | 3x59002<br>4x59002<br>l:59001          | ????                                       |                   | 0x3FFF       | UINT16<br>R/W | NO          |
|  |  | Actual init & watchdog state of DO17:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO18:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO19:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO20:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO21:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO22:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO23:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO24:0=OFF | 1                 |              |               |             |
|  |  | Actual init & watchdog state of DO25:0=OFF | 1                 |              |               |             |

|  |  |  |   |  |  |
|--|--|--|---|--|--|
|  |  | Actual init & watchdog state of DO26:0=OFF | 1 |  |  |
|  |  | Actual init & watchdog state of DO27:0=OFF | 1 |  |  |
|  |  | Actual init & watchdog state of DO28:0=OFF | 1 |  |  |
|  |  | Actual init & watchdog state of DO29:0=OFF | 1 |  |  |
|  |  | Actual init & watchdog state of DO30:0=OFF | 1 |  |  |

Current FRAM setting of initial and watchdog state of all digital outputs. This state is used after power on and after a communication watchdog timeout, if a watchdog time is configured

Bit 0: =0:DO17 is OFF, =1:DO17 is ON

Bit 1: =0:DO18 is OFF, =1:DO18 is ON

...

Bit 12: =0:DO29 is OFF, =1:DO29 is ON

Bit 13: =0:DO30 is OFF, =1:DO30 is ON

Write on this register sets all digital outputs to a new state for module restart and watchdog function. The state is saved in FRAM

#### DIGITAL OUTPUTS:ENABLE OPEN WIRE DETECTION WHILE ON

| INITIAL & WATCHDOG SETUP<br>ENABLE OPEN WIRE DETECTION<br>WHILE ON DO1-DO16 | 3x59003<br>4x59003<br>1:59002 | ???  | 0xFFFF | UINT16<br>R/W | NO |
|---|-------------------------------|--|--------|---------------|----|
|   |                               | Initial setup of open wire detection while ON<br>for DO1:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO2:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO3:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO4:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO5:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO6:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO7:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO8:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO9:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO10:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO11:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO12:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO13:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while ON<br>for DO14:0=DISABLED | 1      |               |    |

|  |                               |   |   |        |               |
|--|-------------------------------|---|---|--------|---------------|
|  |                               | Initial setup of open wire detection while ON for DO15:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO16:0=DISABLED | 1 |        |               |
| <p>Current FRAM setting for intial and watchdog state for open wire detection while ON for digital output DOx. This state is used after power on and after a communcation watchdog timeout, if a watchdog time is configured</p> <p>Bit 0: =0:Open wire detection for DO1 is DISABLED, =1:Open wire detection for DO1 is ENABLED<br/>         Bit 1: =0:Open wire detection for DO2 is DISABLED, =1:Open wire detection for DO2 is ENABLED<br/>         ...<br/>         Bit 14: =0:Open wire detection for DO15 is DISABLED, =1:Open wire detection for DO15 is ENABLED<br/>         Bit 15: =0:Open wire detection for DO16 is DISABLED, =1:Open wire detection for DO16 is ENABLED</p> <p>Write on this register sets all digital outputs to a new state for module restart and watchdog function. The state is saved in FRAM</p> |                               |   |   |        |               |
| INITIAL & WATCHDOG SETUP<br>ENABLE OPEN WIRE DETECTION<br>WHILE ON DO17-DO30   | 3x59004<br>4x59004<br>1:59003 | ????  |   | 0x3FFF | UINT16<br>R/W |
|  |                               | Initial setup of open wire detection while ON for DO17:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO18:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO19:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO20:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO21:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO22:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO23:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO24:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO25:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO26:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO27:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO28:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO29:0=DISABLED | 1 |        |               |
|  |                               | Initial setup of open wire detection while ON for DO30:0=DISABLED | 1 |        |               |

Current FRAM setting for initial and watchdog state for open wire detection while ON for digital output DOx. This state is used after power on and after a communication watchdog timeout, if a watchdog time is configured

Bit 0: =0:Open wire detection for DO17 is DISABLED, =1:Open wire detection for DO17 is ENABLED

Bit 1: =0:Open wire detection for DO18 is DISABLED, =1:Open wire detection for DO18 is ENABLED

...

Bit 12: =0:Open wire detection for DO29 is DISABLED, =1:Open wire detection for DO29 is ENABLED

Bit 13: =0:Open wire detection for DO30 is DISABLED, =1:Open wire detection for DO30 is ENABLED

Write on this register sets all digital outputs to a new state for module restart and watchdog function. The state is saved in FRAM

### DIGITAL OUTPUTS:ENABLE OPEN WIRE DETECTION WHILE OFF

| INITIAL & WATCHDOG SETUP<br>ENABLE OPEN WIRE DETECTION<br>WHILE OFF DO1-DO16 | 3x59005<br>4x59005<br>1:59004 | ????  | 0xFFFF | UINT16<br>R/W | NO |
|--|-------------------------------|---|--------|---------------|----|
|  |                               | Initial setup of open wire detection while OFF<br>for DO1:0=DISABLED  | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO2:0=DISABLED  | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO3:0=DISABLED  | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO4:0=DISABLED  | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO5:0=DISABLED  | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO6:0=DISABLED  | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO7:0=DISABLED  | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO8:0=DISABLED  | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO9:0=DISABLED  | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO10:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO11:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO12:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO13:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO14:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO15:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of open wire detection while OFF<br>for DO16:0=DISABLED | 1      |               |    |

Current FRAM setting for intial and watchdog state for open wire detection while OFF for digital output DOx. This state is used after power on and after a communcation watchdog timeout, if a watchdog time is configured

Bit 0: =0:Open wire detection for DO1 is DISABLED, =1:Open wire detection for DO1 is ENABLED

Bit 1: =0:Open wire detection for DO2 is DISABLED, =1:Open wire detection for DO2 is ENABLED

...

Bit 14: =0:Open wire detection for DO15 is DISABLED, =1:Open wire detection for DO15 is ENABLED

Bit 15: =0:Open wire detection for DO16 is DISABLED, =1:Open wire detection for DO16 is ENABLED

Write on this register sets all digital outputs to a new state for module restart and watchdog function. The state is saved in FRAM

| INITIAL & WATCHDOG SETUP<br>ENABLE OPEN WIRE DETECTION<br>WHILE OFF DO17-DO30 | 3x59006<br>4x59006<br>1:59005 | ????  | 0x3FFF | UINT16<br>R/W | NO |
|---|-------------------------------|---|--------|---------------|----|
|   |                               | Initial setup of open wire detection while OFF<br>for DO17:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO18:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO19:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO20:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO21:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO22:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO23:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO24:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO25:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO26:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO27:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO28:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO29:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of open wire detection while OFF<br>for DO30:0=DISABLED | 1      |               |    |

Current FRAM setting for intial and watchdog state for open wire detection while OFF for digital output DOx. This state is used after power on and after a communcation watchdog timeout, if a watchdog time is configured

Bit 0: =0:Open wire detection for DO17 is DISABLED, =1:Open wire detection for DO17 is ENABLED

Bit 1: =0:Open wire detection for DO18 is DISABLED, =1:Open wire detection for DO18 is ENABLED

...

Bit 12: =0:Open wire detection for DO29 is DISABLED, =1:Open wire detection for DO29 is ENABLED

Bit 13: =0:Open wire detection for DO30 is DISABLED, =1:Open wire detection for DO30 is ENABLED

Write on this register sets all digital outputs to a new state for module restart and watchdog function. The state is saved in FRAM

**DIGITAL OUTPUTS:ENABLE SHORTCUT DETECTION WHILE OFF**

| INITIAL & WATCHDOG SETUP<br>ENABLE SHORTCUT TO VDD<br>DETECTION<br>WHILE OFF DO1-DO16 | 3x59007<br>4x59007<br>1:59006 | ????   | 0xFFFF | UINT16<br>R/W | NO |
|---|-------------------------------|--|--------|---------------|----|
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO1:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO2:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO3:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO4:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO5:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO6:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO7:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO8:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO9:0=DISABLED  | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO10:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO11:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO12:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO13:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO14:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO15:0=DISABLED | 1      |               |    |
|   |                               | Initial setup of shortcut to VDD detection while OFF for DO16:0=DISABLED | 1      |               |    |

Current FRAM setting for initial and watchdog state for shortcut to VDD detection while OFF for digital output DOx. This state is used after power on and after a communication watchdog timeout, if a watchdog time is configured

Bit 0: =0:Shortcut detection for DO1 is DISABLED, =1:Shortcut detection for DO1 is ENABLED

Bit 1: =0:Shortcut detection for DO2 is DISABLED, =1:Shortcut detection for DO2 is ENABLED

...

Bit 14: =0:Shortcut detection for DO15 is DISABLED, =1:Shortcut detection for DO15 is ENABLED

Bit 15: =0:Shortcut detection for DO16 is DISABLED, =1:Shortcut detection for DO16 is ENABLED

Write on this register sets all digital outputs to a new state for module restart and watchdog function. The state is saved in FRAM



| INITIAL & WATCHDOG SETUP<br>ENABLE SHORTCUT TO VDD<br>DETECTION<br>WHILE OFF DO17-DO30 | 3x59008<br>4x59008<br>1:59007 | ????   | 0x3FFF | UINT16<br>R/W | NO |
|--|-------------------------------|--|--------|---------------|----|
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO17:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO18:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO19:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO20:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO21:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO22:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO23:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO24:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO25:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO26:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO27:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO28:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO29:0=DISABLED | 1      |               |    |
|  |                               | Initial setup of shortcut to VDD detection while OFF for DO30:0=DISABLED | 1      |               |    |

Current FRAM setting for intial and watchdog state for shortcut to VDD detection while OFF for digital output DOx. This state is used after power on and after a communcation watchdog timeout, if a watchdog time is configured

Bit 0: =0:Shortcut detection for DO17 is DISABLED, =1:Shortcut detection for DO17 is ENABLED

Bit 1: =0:Shortcut detection for DO18 is DISABLED, =1:Shortcut detection for DO18 is ENABLED

...

Bit 12: =0:Shortcut detection for DO29 is DISABLED, =1:Shortcut detection for DO29 is ENABLED

Bit 13: =0:Shortcut detection for DO30 is DISABLED, =1:Shortcut detection for DO30 is ENABLED

Write on this register sets all digital outputs to a new state for module restart and watchdog function. The state is saved in FRAM

| Register NAME<br>Command NAME | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE | DO<br>WRITE |
|-------------------------------|--|---------------------------------|-------------------|--------------|-----------|-------------|
|-------------------------------|--|---------------------------------|-------------------|--------------|-----------|-------------|

## ASCII COMMANDS

## AIOX CONFIGURATION

|              |                           |  |  |  |       |     |
|--------------|---------------------------|--|--|--|-------|-----|
| SET IO TYPES | ASCII<br>WRITE<br>COMMAND | #SIOTYPS:<IOTyp1>,<IOTyp2>,<IOTyp3>,<IOTyp4>,<IOTyp5>,<IOTyp6>,<IOTyp7>,<IOTyp8><CR><br>Result:<br>#OK<CR> |  |  | ASCII | YES |
|              | IOTyp1                    | VO[0-10V]  |  |  |       |     |
|              | IOTyp2                    | VO[0-10V]  |  |  |       |     |
|              | IOTyp3                    | VO[0-10V]  |  |  |       |     |
|              | IOTyp4                    | VO[0-10V]  |  |  |       |     |
|              | IOTyp5                    | VO[0-10V]  |  |  |       |     |
|              | IOTyp6                    | VO[0-10V]  |  |  |       |     |
|              | IOTyp7                    | VO[0-10V]  |  |  |       |     |
|              | IOTyp8                    | VO[0-10V]  |  |  |       |     |
|              | TX                        | #1,SIOTYPS:VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V]<CR>             |  |  |       |     |
|              | RX                        | #1,OK<CR>  |  |  |       |     |

This command defines for all 8 universal IOs a new type of IO:

IOTypx stands for the new type:

UU: Unused – high impedance

VI[0-10V]: VOLTAGE INPUT for 0 to 10V Signals

VI[2-10V]: VOLTAGE INPUT for 2 to 10V Signals

VO[0-10V]: VOLTAGE OUTPUT for 0 to 10V Signals

VO[2-10V]: VOLTAGE OUTPUT for 2 to 10V Signals

CI[0-20mA;LP]: CURRENT INPUT for 0 to 20mA Signals – loop powered

CI[4-20mA;LP]: CURRENT INPUT for 4 to 20mA Signals – loop powered

CI[0-20mA;EP]: CURRENT INPUT for 0 to 20mA Signals – external powered

CI[4-20mA;EP]: CURRENT INPUT for 4 to 20mA Signals – external powered

CO[0-20mA]: CURRENT OUTPUT for 0 to 20mA Signals

CO[4-20mA]: CURRENT OUTPUT for 4 to 20mA Signals

RTDI[OHM]: RTD SENSOR INPUT for Ohm measurement between 0 and 1MOhm

DI[24V;L]: DIGITAL INPUT for 24Vdc – logic, threshold 12V

DI[24V;LP]: DIGITAL INPUT for 24Vdc – loop powered

HINT: The last IO type is automatically stored in FRAM and will be used after a system restart.

|             |                           |  |  |  |       |     |
|-------------|---------------------------|--|--|--|-------|-----|
| SET IO TYPx | ASCII<br>WRITE<br>COMMAND | #SIOTYP<IONR>:<IOTypx><CR><br>Result:<br>#OK<CR> |  |  | ASCII | YES |
|             | IONR                      | 1  |  |  |       |     |
|             | IOTypx                    | VO[0-10V]  |  |  |       |     |
|             | TX                        | #1,SIOTYP1:VO[0-10V]<CR>                         |  |  |       |     |
|             | RX                        | #1,OK<CR>  |  |  |       |     |

This command defines for the universal IO IONR a new type of IO:

IOTypx stands for the new type:

UU: Unused – high impedance

VI[0-10V]: VOLTAGE INPUT for 0 to 10V Signals

VI[2-10V]: VOLTAGE INPUT for 2 to 10V Signals

VO[0-10V]: VOLTAGE OUTPUT for 0 to 10V Signals

VO[2-10V]: VOLTAGE OUTPUT for 2 to 10V Signals

CI[0-20mA;LP]: CURRENT INPUT for 0 to 20mA Signals – loop powered

CI[4-20mA;LP]: CURRENT INPUT for 4 to 20mA Signals – loop powered

CI[0-20mA;EP]: CURRENT INPUT for 0 to 20mA Signals – external powered

CI[4-20mA;EP]: CURRENT INPUT for 4 to 20mA Signals – external powered

CO[0-20mA]: CURRENT OUTPUT for 0 to 20mA Signals

CO[4-20mA]: CURRENT OUTPUT for 4 to 20mA Signals

RTDI[OHM]: RTD SENSOR INPUT for Ohm measurement between 0 and 1MOhm

DI[24V;L]: DIGITAL INPUT for 24Vdc – logic, threshold 12V

DI[24V;LP]: DIGITAL INPUT for 24Vdc – loop powered

HINT: The last IO type is automatically stored in FRAM and will be used after a system restart.

|              |                          |  |       |  |
|--------------|--------------------------|--|-------|--|
| GET IO TYPES | ASCII<br>READ<br>COMMAND | #GIOTYPS<CR><br>Result:<br>#GIOTYPS:<IOTyp1Txt>,<IOTyp2Txt>,...,<IOTyp8Txt> <CR>               | ASCII |  |
|              | TX                       | #1,GIOTYPS<CR>   |       |  |
|              | RX                       | #1,GIOTYPS:VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V]<CR> |       |  |
|              |                          | Actual type of IO1:VO[0-10V]   |       |  |
|              |                          | Actual type of IO2:VO[0-10V]   |       |  |
|              |                          | Actual type of IO3:VO[0-10V]   |       |  |
|              |                          | Actual type of IO4:VO[0-10V]   |       |  |
|              |                          | Actual type of IO5:VO[0-10V]   |       |  |
|              |                          | Actual type of IO6:VO[0-10V]   |       |  |
|              |                          | Actual type of IO7:VO[0-10V]   |       |  |
|              |                          | Actual type of IO8:VO[0-10V]   |       |  |

This command shows for all 8 universal IOs the current selected type of IO:

IOTypx stands for the types:

UU: Unused – high impedance

VI[0-10V]: VOLTAGE INPUT for 0 to 10V Signals

VI[2-10V]: VOLTAGE INPUT for 2 to 10V Signals

VO[0-10V]: VOLTAGE OUTPUT for 0 to 10V Signals

VO[2-10V]: VOLTAGE OUTPUT for 2 to 10V Signals

CI[0-20mA;LP]: CURRENT INPUT for 0 to 20mA Signals – loop powered

CI[4-20mA;LP]: CURRENT INPUT for 4 to 20mA Signals – loop powered

CI[0-20mA;EP]: CURRENT INPUT for 0 to 20mA Signals – external powered

CI[4-20mA;EP]: CURRENT INPUT for 4 to 20mA Signals – external powered

CO[0-20mA]: CURRENT OUTPUT for 0 to 20mA Signals

CO[4-20mA]: CURRENT OUTPUT for 4 to 20mA Signals

RTDI[OHM]: RTD SENSOR INPUT for Ohm measurement between 0 and 1MOhm

DI[24V;L]: DIGITAL INPUT for 24Vdc – logic, threshold 12V

DI[24V;LP]: DIGITAL INPUT for 24Vdc – loop powered

|             |                          |  |       |  |
|-------------|--------------------------|--|-------|--|
| GET IO TYPx | ASCII<br>READ<br>COMMAND | #GIOTYP<IONR> <CR><br>Result:<br>#GIOTYP<IONR>:<IOTypTxt> <CR> | ASCII |  |
|-------------|--------------------------|--|-------|--|

|  |      |                              |  |  |
|--|------|------------------------------|--|--|
|  | IONR | 1                            |  |  |
|  | TX   | #1,GIOTYP1<CR>               |  |  |
|  | RX   | #1,GIOTYP1:VO[0-10V]<CR>     |  |  |
|  |      | Actual type of IO1:VO[0-10V] |  |  |

This command shows for the universal IO IONR the current selected type:

IOTypx stands for the types:

UU: Unused – high impedance

VI[0-10V]: VOLTAGE INPUT for 0 to 10V Signals

VI[2-10V]: VOLTAGE INPUT for 2 to 10V Signals

VO[0-10V]: VOLTAGE OUTPUT for 0 to 10V Signals

VO[2-10V]: VOLTAGE OUTPUT for 2 to 10V Signals

CI[0-20mA;LP]: CURRENT INPUT for 0 to 20mA Signals – loop powered

CI[4-20mA;LP]: CURRENT INPUT for 4 to 20mA Signals – loop powered

CI[0-20mA;EP]: CURRENT INPUT for 0 to 20mA Signals – external powered

CI[4-20mA;EP]: CURRENT INPUT for 4 to 20mA Signals – external powered

CO[0-20mA]: CURRENT OUTPUT for 0 to 20mA Signals

CO[4-20mA]: CURRENT OUTPUT for 4 to 20mA Signals

RTDI[OHM]: RTD SENSOR INPUT for Ohm measurement between 0 and 1MOhm

DI[24V;L]: DIGITAL INPUT for 24Vdc – logic, threshold 12V

DI[24V;LP]: DIGITAL INPUT for 24Vdc – loop powered

#### VOLTAGE INPUTS

|                               |                          |  |       |  |
|-------------------------------|--------------------------|--|-------|--|
| GET VOLTAGE INPUTS<br>IN VOLT | ASCII<br>READ<br>COMMAND | #GVISV<CR><br>Result:<br>#GVISV:<IOVolt1DbI>,<IOVolt2DbI>.....<IOVolt8DbI><CR>     | ASCII |  |
|                               | TX                       | #1,GVISV<CR>   |       |  |
|                               | RX                       | #1,GVISV:999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99<CR> |       |  |
|                               |                          | Actual voltage on IO1:999.99V  |       |  |
|                               |                          | Actual voltage on IO2:999.99V  |       |  |
|                               |                          | Actual voltage on IO3:999.99V  |       |  |
|                               |                          | Actual voltage on IO4:999.99V  |       |  |
|                               |                          | Actual voltage on IO5:999.99V  |       |  |
|                               |                          | Actual voltage on IO6:999.99V  |       |  |
|                               |                          | Actual voltage on IO7:999.99V  |       |  |
|                               |                          | Actual voltage on IO8:999.99V  |       |  |

This command shows for all VOLTAGE INPUT IOs the current measurement in Volt.

The measurement range is 0.0 to 10.00V.

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

|                              |                          |  |       |  |
|------------------------------|--------------------------|--|-------|--|
| GET VOLTAGE INPUT<br>IN VOLT | ASCII<br>READ<br>COMMAND | #GVIV<IONR><CR><br>Result:<br>#GVIV<IONR>:<IOxVoltDbI><CR> | ASCII |  |
|                              | IONR                     | 1  |       |  |
|                              | TX                       | #1,GVIV1<CR>   |       |  |
|                              | RX                       | #1,GVIV1:999.99<CR>  |       |  |
|                              |                          | Actual voltage on IO1:999.99V                              |       |  |

This command shows for the VOLTAGE INPUT IO <IONR> the current measurement in Volt.

The measurement range is 0.0 to 10.00V.

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

|                                  |                          |   |       |  |
|----------------------------------|--------------------------|---|-------|--|
| GET VOLTAGE INPUTS<br>IN PERCENT | ASCII<br>READ<br>COMMAND | #GVISP<CR><br>Result:<br>#GVISP:<IOPercent1DbI>,<IOPercent2DbI>,...,<IOPercent8DbI><CR> | ASCII |  |
|                                  | TX                       | #1,GVISP<CR>  |       |  |
|                                  | RX                       | #1,GVISP:999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99<CR>                    |       |  |
|                                  |                          | Actual percentage on IO1:999.99%  |       |  |
|                                  |                          | Actual percentage on IO2:999.99%  |       |  |
|                                  |                          | Actual percentage on IO3:999.99%  |       |  |
|                                  |                          | Actual percentage on IO4:999.99%  |       |  |
|                                  |                          | Actual percentage on IO5:999.99%  |       |  |
|                                  |                          | Actual percentage on IO6:999.99%  |       |  |
|                                  |                          | Actual percentage on IO7:999.99%  |       |  |
|                                  |                          | Actual percentage on IO8:999.99%  |       |  |

This command shows for all VOLTAGE INPUT IOs the current measurement in Percent.

The measurement range is 0.0V -> 0.0% to 10.00V -> 100.0%.

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

|                                 |                          |   |       |  |
|---------------------------------|--------------------------|---|-------|--|
| GET VOLTAGE INPUT<br>IN PERCENT | ASCII<br>READ<br>COMMAND | #GVIP<IONR><CR><br>Result:<br>#GVIP<IONR>:<IOxPercentDbI><CR> | ASCII |  |
|                                 | IONR                     | 1   |       |  |
|                                 | TX                       | #1,GVIP1<CR>  |       |  |
|                                 | RX                       | #1,GVIP1:999.99<CR>   |       |  |
|                                 |                          | Actual percentage on IO1:999.99%                              |       |  |

This command shows for VOLTAGE INPUT IO <IONR> the current measurement in Percent.

The measurement range is 0.0V -> 0.0% to 10.00V -> 100.0%.

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

### VOLTAGE DIGITAL INPUTS

|                            |                          |  |       |  |
|----------------------------|--------------------------|--|-------|--|
| GET VOLTAGE DIGITAL INPUTS | ASCII<br>READ<br>COMMAND | #GVDIS<CR><br>Result:<br>#GVDIS:<IODI1Dec>,<IODI2Dec>,...,<IODI8Dec><CR> | ASCII |  |
|                            | TX                       | #1,GVDIS<CR>   |       |  |
|                            | RX                       | #1,GVDIS:X,X,X,X,X,X,X,X<CR>   |       |  |
|                            |                          | Actual voltage digital input state on IO1:X                              |       |  |
|                            |                          | Actual voltage digital input state on IO2:X                              |       |  |
|                            |                          | Actual voltage digital input state on IO3:X                              |       |  |
|                            |                          | Actual voltage digital input state on IO4:X                              |       |  |
|                            |                          | Actual voltage digital input state on IO5:X                              |       |  |
|                            |                          | Actual voltage digital input state on IO6:X                              |       |  |
|                            |                          | Actual voltage digital input state on IO7:X                              |       |  |
|                            |                          | Actual voltage digital input state on IO8:X                              |       |  |

This command shows for all VOLTAGE DIGITAL INPUT IOs the current state.

The digital input can have the values 0 and 1.

All IOs with a different usage type will return X to indicate, that no measurement is done.

|                           |                          |  |       |  |
|---------------------------|--------------------------|--|-------|--|
| GET VOLTAGE DIGITAL INPUT | ASCII<br>READ<br>COMMAND | #GVDI<IONR><CR><br>Result:<br>#GVDI<IONR>:<IOxDIDec><CR> | ASCII |  |
|                           | IONR                     | 1  |       |  |

|   |                           |  |       |     |
|---|---------------------------|--|-------|-----|
|   | TX                        | #1,GVDI1<CR>   |       |     |
|   | RX                        | #1,GVDI3:X<CR>   |       |     |
|   |                           | Actual voltage digital input state on IO1:X  |       |     |
| This command shows for VOLTAGE DIGITAL INPUT IO <IONR> the current state.<br>The digital input can have the values 0 and 1.<br>All IOs with a different usage type will return X to indicate, that no measurement is done.      |                           |  |       |     |
| GET VOLTAGE DIGITAL INPUTS<br>CURRENT   | ASCII<br>READ<br>COMMAND  | #GVDISC<CR><br>Result:<br>#GVDISC:<IOmA1DbI>,<IOmA2DbI>,...,<IOmA8DbI><CR>   | ASCII |     |
|   | TX                        | #1,GVDISC<CR>  |       |     |
|   | RX                        | #1,GVDISC:999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99<CR>  |       |     |
|   |                           | Actual input current on IO1:999.99mA   |       |     |
|   |                           | Actual input current on IO2:999.99mA   |       |     |
|   |                           | Actual input current on IO3:999.99mA   |       |     |
|   |                           | Actual input current on IO4:999.99mA   |       |     |
|   |                           | Actual input current on IO5:999.99mA   |       |     |
|   |                           | Actual input current on IO6:999.99mA   |       |     |
|   |                           | Actual input current on IO7:999.99mA   |       |     |
|   |                           | Actual input current on IO8:999.99mA   |       |     |
| This command shows for all VOLTAGE DIGITAL INPUT IOs the actual current in mA.<br>The measurement range is 0.0mA to 35mA.<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.   |                           |  |       |     |
| GET VOLTAGE DIGITAL INPUT<br>CURRENT  | ASCII<br>READ<br>COMMAND  | #GVDIC<IONR><CR><br>Result:<br>#GVDIC<IONR>:<IOxmADbl><CR>   | ASCII |     |
|   | IONR                      | 1  |       |     |
|   | TX                        | #1,GVDIC1<CR>  |       |     |
|   | RX                        | #1,GVDIC1:999.99<CR>   |       |     |
|   |                           | Actual input current on IO1:999.99mA   |       |     |
| This command shows for VOLTAGE DIGITAL INPUT IO <IONR> the actual current in mA.<br>The measurement range is 0.0mA to 35mA.<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done. |                           |  |       |     |
| <b>VOLTAGE OUTPUTS</b>  |                           |  |       |     |
| SET VOLTAGE OUTPUTS<br>IN VOLT  | ASCII<br>WRITE<br>COMMAND | #SVOSV:<IO1VoltDbI>,<IO2VoltDbI>,<IO3VoltDbI>,<IO4VoltDbI>,<IO5VoltDbI>,<IO6VoltDbI>,<IO7<br>VoltDbI>,<IO8VoltDbI><CR><br>Result:<br>#OK<CR> | ASCII | YES |
|   | IO1Volt                   | 10,000   |       |     |
|   | IO2Volt                   | 7,500  |       |     |
|   | IO3Volt                   | 5,500  |       |     |
|   | IO4Volt                   | 2,500  |       |     |
|   | IO5Volt                   | 10,000   |       |     |
|   | IO6Volt                   | 7,500  |       |     |
|   | IO7Volt                   | 5,500  |       |     |
|   | IO8Volt                   | 2,500  |       |     |
|   | TX                        | #1,SVOSV:10,7.5,5.5,2.5,10,7.5,5.5,2.5<CR>   |       |     |
|   | RX                        | #1,OK<CR>  |       |     |

This command sets for all VOLTAGE OUTPUT IOs the current output voltage in Volt.

The range is 0.0 to 11.00V.

|                                |                           |   |       |    |
|--------------------------------|---------------------------|---|-------|----|
| SET VOLTAGE OUTPUTx<br>IN VOLT | ASCII<br>WRITE<br>COMMAND | #SVOV<IONR>:<IOxVoltDbl> <CR><br>Result:<br>#OK<CR> | ASCII | NO |
|                                | IONR                      | 1   |       |    |
|                                | IOxVolt                   | 2,000   |       |    |
|                                | TX                        | #1,SVOV1:2<CR>                                      |       |    |
|                                | RX                        | N/A   |       |    |

This command sets for VOLTAGE OUTPUT IO <IONR> the current output voltage in Volt.

The range is 0.0 to 11.00V.

|                                   |                           |   |       |    |
|-----------------------------------|---------------------------|---|-------|----|
| SET VOLTAGE OUTPUTS<br>IN PERCENT | ASCII<br>WRITE<br>COMMAND | #SVOSP:<IO1PercentDbl>,<IO2PercentDbl>,<IO3PercentDbl>,<IO4PercentDbl>,<IO5PercentDbl>,<IO6PercentDbl>,<IO7PercentDbl>,<IO8PercentDbl> <CR><br>Result:<br>#OK<CR> | ASCII | NO |
|                                   | IO1Percent                | 110,000   |       |    |
|                                   | IO2Percent                | 100,000   |       |    |
|                                   | IO3Percent                | 75,000  |       |    |
|                                   | IO4Percent                | 50,000  |       |    |
|                                   | IO5Percent                | 110,000   |       |    |
|                                   | IO6Percent                | 100,000   |       |    |
|                                   | IO7Percent                | 75,000  |       |    |
|                                   | IO8Percent                | 50,000  |       |    |
|                                   | TX                        | #1,SVOSP:110,100,75,50,110,100,75,50<CR>  |       |    |
|                                   | RX                        | N/A   |       |    |

This command sets for all VOLTAGE OUTPUT IOs the current output voltage in Percent.

The range is 0.0V -> 0.00% to 11.00V -> 110.00%.

|                                   |                           |  |       |    |
|-----------------------------------|---------------------------|--|-------|----|
| SET VOLTAGE OUTPUTx<br>IN PERCENT | ASCII<br>WRITE<br>COMMAND | #SVOP<IONR>:<IOxPercentDbl> <CR><br>Result:<br>#OK<CR> | ASCII | NO |
|                                   | IONR                      | 1  |       |    |
|                                   | IOxPercent                | 2,000  |       |    |
|                                   | TX                        | #1,SVOP1:2<CR>   |       |    |
|                                   | RX                        | N/A  |       |    |

This command sets for VOLTAGE OUTPUT IO <IONR> the current output voltage in Percent.

The range is 0.0V -> 0.00% to 11.00V -> 110.00%.

|                                |                          |   |       |  |
|--------------------------------|--------------------------|---|-------|--|
| GET VOLTAGE OUTPUTS<br>IN VOLT | ASCII<br>READ<br>COMMAND | #GVOSV<CR><br>Result:<br>#GVOSV:<IO1VoltDbl>,<IO2VoltDbl>,...,<IO8VoltDbl> <CR> | ASCII |  |
|                                | TX                       | #1,GVOSV<CR>  |       |  |
|                                | RX                       | #1,GVOSV:0.00,0.00,0.00,0.00,0.00,0.00,0.00,0.00<CR>                            |       |  |
|                                |                          | Actual voltage output on IO1:0.00V  |       |  |
|                                |                          | Actual voltage output on IO2:0.00V  |       |  |
|                                |                          | Actual voltage output on IO3:0.00V  |       |  |
|                                |                          | Actual voltage output on IO4:0.00V  |       |  |
|                                |                          | Actual voltage output on IO5:0.00V  |       |  |
|                                |                          | Actual voltage output on IO6:0.00V  |       |  |

|  |                          |  |       |  |
|--|--------------------------|--|-------|--|
|  |                          | Actual voltage output on IO7:0.00V   |       |  |
|  |                          | Actual voltage output on IO8:0.00V   |       |  |
| This command shows for all VOLTAGE OUTPUT IOs the current output voltage in Volt.<br>The range is 0.0V to 11.00V.<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.  |                          |  |       |  |
| GET VOLTAGE OUTPUT<br>IN VOLT  | ASCII<br>READ<br>COMMAND | #GVOV<IONR> <CR><br>Result:<br>#GVOV<IONR>:<IOxVoltDbl> <CR>   | ASCII |  |
|  | IONR                     | 1  |       |  |
|  | TX                       | #1,GVOV1<CR>   |       |  |
|  | RX                       | #1,GVOV3:5.50<CR>  |       |  |
|  |                          | Actual voltage output on IO1:5.50V   |       |  |
| This command shows for VOLTAGE OUTPUT IO <IONR> the current output voltage in Volt.<br>The range is 0.0V to 11.00V.<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.  |                          |  |       |  |
| GET VOLTAGE OUTPUTS<br>IN PERCENT  | ASCII<br>READ<br>COMMAND | #GVOSP<CR><br>Result:<br>#GVOSP:<IO1PercentDbl>,<IO2PercentDbl>,<IO3PercentDbl>,<IO4PercentDbl>,<IO5PercentDbl>,<IO6PercentDbl>,<IO7PercentDbl>,<IO8PercentDbl> <CR> | ASCII |  |
|  | TX                       | #1,GVOSP<CR>   |       |  |
|  | RX                       | #1,GVOSP:100.00,75.00,55.00,25.00,100.00,75.00,55.00,25.00 <CR>  |       |  |
|  |                          | Actual percentage voltage output on IO1:100.00%  |       |  |
|  |                          | Actual percentage voltage output on IO2:75.00%   |       |  |
|  |                          | Actual percentage voltage output on IO3:55.00%   |       |  |
|  |                          | Actual percentage voltage output on IO4:25.00%   |       |  |
|  |                          | Actual percentage voltage output on IO5:100.00%  |       |  |
|  |                          | Actual percentage voltage output on IO6:75.00%   |       |  |
|  |                          | Actual percentage voltage output on IO7:55.00%   |       |  |
|  |                          | Actual percentage voltage output on IO8:25.00%   |       |  |
| This command shows for all VOLTAGE OUTPUT IOs the current output voltage in Percent.<br>The range is 0.0V -> 0.00% to 11.00V -> 110.00% (10.00V -> 100.00%).<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.   |                          |  |       |  |
| GET VOLTAGE OUTPUT<br>IN PERCENT   | ASCII<br>READ<br>COMMAND | #GVOP<IONR> <CR><br>Result:<br>#GVOP<IONR>:<IOxPercentDbl> <CR>  | ASCII |  |
|  | IONR                     | 1  |       |  |
|  | TX                       | #1,GVOP1<CR>   |       |  |
|  | RX                       | #1,GVOP3:55.00<CR>   |       |  |
|  |                          | Actual percentage voltage output on IO1:55.00%   |       |  |
| This command shows for VOLTAGE OUTPUT IO <IONR> the current output voltage in Percent.<br>The range is 0.0V -> 0.00% to 11.00V -> 110.00% (10.00V -> 100.00%).<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done. |                          |  |       |  |
| GET VOLTAGE OUTPUTS<br>CURRENT   | ASCII<br>READ<br>COMMAND | #GVOSC <CR><br>Result:<br>#GVOSC:<IOmA1Dbl>,<IOmA2Dbl>,<IOmA3Dbl>,<IOmA4Dbl>,<IOmA5Dbl>,<IOmA6Dbl>,<IOmA7Dbl>,<IOmA8Dbl> <CR>  | ASCII |  |
|  | TX                       | #1,GVOSC<CR>   |       |  |
|  | RX                       | #1,GVOSC:0.00,0.00,0.00,-0.00,-0.00,0.00,0.00,0.00<CR>   |       |  |
|  |                          | Actual output current on IO1:0.00mA  |       |  |



|  |  |                                      |  |  |
|--|--|--------------------------------------|--|--|
|  |  | Actual output current on IO2:0.00mA  |  |  |
|  |  | Actual output current on IO3:0.00mA  |  |  |
|  |  | Actual output current on IO4:-0.00mA |  |  |
|  |  | Actual output current on IO5:-0.00mA |  |  |
|  |  | Actual output current on IO6:0.00mA  |  |  |
|  |  | Actual output current on IO7:0.00mA  |  |  |
|  |  | Actual output current on IO8:0.00mA  |  |  |

This command shows for all VOLTAGE OUTPUT IOs the actual current in mA.

The measurement range is 0.0mA to 35mA.

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

|                            |                          |  |       |  |
|----------------------------|--------------------------|--|-------|--|
| GET VOLTAGE OUTPUT CURRENT | ASCII<br>READ<br>COMMAND | #GVOC<IONR><CR><br>Result:<br>#GVOC<IONR>:<IOxmADbl><CR> | ASCII |  |
|                            | IONR                     | 1  |       |  |
|                            | TX                       | #1,GVOC1<CR>   |       |  |
|                            | RX                       | #1,GVOC1:0.00<CR>  |       |  |
|                            |                          | Actual output current on IO1:0.00mA                      |       |  |

This command shows for VOLTAGE OUTPUT IO <IONR> the actual current in mA.

The measurement range is 0.0mA to 35mA.

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

#### CURRENT INPUTS

|                             |                          |  |       |  |
|-----------------------------|--------------------------|--|-------|--|
| GET CURRENT INPUTS<br>IN mA | ASCII<br>READ<br>COMMAND | #GCISMA<CR><br>Result:<br>#GCISMA:<IO1mADbl>,<IO2mADbl>,...,<IO8mADbl><CR> | ASCII |  |
|                             | TX                       | #1,GCISMA<CR>  |       |  |
|                             | RX                       | #1,GCISMA:999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99<CR>      |       |  |
|                             |                          | Actual current input on IO1:999.99mA                                       |       |  |
|                             |                          | Actual current input on IO2:999.99mA                                       |       |  |
|                             |                          | Actual current input on IO3:999.99mA                                       |       |  |
|                             |                          | Actual current input on IO4:999.99mA                                       |       |  |
|                             |                          | Actual current input on IO5:999.99mA                                       |       |  |
|                             |                          | Actual current input on IO6:999.99mA                                       |       |  |
|                             |                          | Actual current input on IO7:999.99mA                                       |       |  |
|                             |                          | Actual current input on IO8:999.99mA                                       |       |  |

This command shows for all CURRENT INPUT IOs the current measured input current in mA.

The range is 0.00 to 25.00mA

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

|                            |                          |  |       |  |
|----------------------------|--------------------------|--|-------|--|
| GET CURRENT INPUT<br>IN mA | ASCII<br>READ<br>COMMAND | #GCIMA<IONR><CR><br>Result:<br>#GCIMA<IONR>:<IOxmADbl><CR> | ASCII |  |
|                            | IONR                     | 1  |       |  |
|                            | TX                       | #1,GCIMA1<CR>  |       |  |
|                            | RX                       | #1,GCIMA3:999.99<CR>                                       |       |  |
|                            |                          | Actual current input on IO1:999.99mA                       |       |  |

This command shows for CURRENT INPUT IO <IONR> the current measured input current in mA.

The range is 0.00 to 25.00mA

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

|                                  |                          |   |       |  |
|----------------------------------|--------------------------|---|-------|--|
| GET CURRENT INPUTS<br>IN PERCENT | ASCII<br>READ<br>COMMAND | #GCISP<CR><br>Result:<br>#GCISP:<IO1PercentDbl>,<IO2PercentDbl>,...,<IO8PercentDbl><CR> | ASCII |  |
|                                  | TX                       | #1,GCISP<CR>  |       |  |
|                                  | RX                       | #1,GCISP:999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99<CR>                    |       |  |
|                                  |                          | Actual percentage for current input on IO1:999.99%                                      |       |  |
|                                  |                          | Actual percentage for current input on IO2:999.99%                                      |       |  |
|                                  |                          | Actual percentage for current input on IO3:999.99%                                      |       |  |
|                                  |                          | Actual percentage for current input on IO4:999.99%                                      |       |  |
|                                  |                          | Actual percentage for current input on IO5:999.99%                                      |       |  |
|                                  |                          | Actual percentage for current input on IO6:999.99%                                      |       |  |
|                                  |                          | Actual percentage for current input on IO7:999.99%                                      |       |  |
|                                  |                          | Actual percentage for current input on IO8:999.99%                                      |       |  |

This command shows for all CURRENT INPUT IOs the current measured input current in Percent.

The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA=100%)

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

|                                 |                          |   |       |  |
|---------------------------------|--------------------------|---|-------|--|
| GET CURRENT INPUT<br>IN PERCENT | ASCII<br>READ<br>COMMAND | #GCIP<IONR><CR><br>Result:<br>#GCIP<IONR>:<IOxPercentDbl><CR> | ASCII |  |
|                                 | IONR                     | 1   |       |  |
|                                 | TX                       | #1,GCIP1<CR>  |       |  |
|                                 | RX                       | #1,GCIP3:999.99<CR>   |       |  |
|                                 |                          | Actual percentage for current input on IO1:999.99%            |       |  |

This command shows for CURRENT INPUT IO <IONR> the current measured input current in Percent.

The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA=100%)

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

### CURRENT OUTPUTS

|                              |                           |   |       |    |
|------------------------------|---------------------------|---|-------|----|
| SET CURRENT OUTPUTS<br>IN mA | ASCII<br>WRITE<br>COMMAND | #SCOSMA:<IO1mADbl>,<IO2mADbl>,<IO3mADbl>,<IO4mADbl>,<IO5mADbl>,<IO6mADbl>,<IO7mADbl>,<IO8mADbl><CR><br>Result:<br>#OK<CR> | ASCII | NO |
|                              | IO1mA                     | 2,000   |       |    |
|                              | IO2mA                     | 4,000   |       |    |
|                              | IO3mA                     | 6,000   |       |    |
|                              | IO4mA                     | 25,000  |       |    |
|                              | IO5mA                     | ,000  |       |    |
|                              | IO6mA                     | ,000  |       |    |
|                              | IO7mA                     | ,000  |       |    |
|                              | IO8mA                     | ,000  |       |    |
|                              | TX                        | #1,SCOSMA:2,4,6,25,0,0,0,0<CR>  |       |    |
|                              | RX                        | N/A   |       |    |

This command sets for all CURRENT OUTPUT IOs the actual output current in mA.

The range is 0.00mA to 25.00mA

|   |                           |   |       |    |
|---|---------------------------|---|-------|----|
| SET CURRENT OUTPUTx<br>IN mA  | ASCII<br>WRITE<br>COMMAND | #SCOMA<IONR>:<IOxMADbl> <CR><br>Result:<br>#OK<CR>  | ASCII | NO |
|   | IONR                      | 1   |       |    |
|   | IOxVolt                   | 2,000   |       |    |
|   | TX                        | #1,SCOMA1:<IOxMADbl> <CR>   |       |    |
|   | RX                        | N/A   |       |    |
| This command sets for CURRENT OUTPUT <IONR> IOs the actual output current in mA.<br>The range is 0.00mA to 25.00mA  |                           |   |       |    |
| SET CURRENT OUTPUTS<br>IN PERCENT   | ASCII<br>WRITE<br>COMMAND | #SCOSP:<IO1PercentDbl>,<IO2PercentDbl>,<IO3PercentDbl>,<IO4PercentDbl>,<IO5PercentDbl>,<IO6PercentDbl>,<IO7PercentDbl>,<IO8PercentDbl> <CR><br>Result:<br>#OK<CR> | ASCII | NO |
|   | IO1Percent                | 125,000   |       |    |
|   | IO2Percent                | 100,000   |       |    |
|   | IO3Percent                | 75,000  |       |    |
|   | IO4Percent                | 50,000  |       |    |
|   | IO5Percent                | ,000  |       |    |
|   | IO6Percent                | ,000  |       |    |
|   | IO7Percent                | ,000  |       |    |
|   | IO8Percent                | ,000  |       |    |
|   | TX                        | #1,SCOSP:125,100,75,50,0,0,0,0 <CR>   |       |    |
|   | RX                        | N/A   |       |    |
| This command sets for all CURRENT OUTPUT IOs the new output current in Percent.<br>The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA -> 100.00%)   |                           |   |       |    |
| SET CURRENT OUTPUTx<br>IN PERCENT   | ASCII<br>WRITE<br>COMMAND | #SCOP<IONR>:<IOxPercentDbl> <CR><br>Result:<br>#OK<CR>  | ASCII | NO |
|   | IONR                      | 1   |       |    |
|   | IOxPercent                | ,000  |       |    |
|   | TX                        | #1,SCOP1:0 <CR>   |       |    |
|   | RX                        | N/A   |       |    |
| This command sets for CURRENT OUTPUT IO <IONR> the new output current in Percent.<br>The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA -> 100.00%) |                           |   |       |    |
| GET CURRENT OUTPUTS<br>IN mA  | ASCII<br>READ<br>COMMAND  | #GCOSMA<CR><br>Result:<br>#GCOSMA:<IO1mADbl>,<IO2mADbl>,...,<IO8mADbl> <CR>   | ASCII |    |
|   | TX                        | #1,GCOSMA<CR>   |       |    |
|   | RX                        | #1,GCOSMA:999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99 <CR>  |       |    |
|   |                           | Actual value of current output on IO1:999.99mA  |       |    |
|   |                           | Actual value of current output on IO2:999.99mA  |       |    |
|   |                           | Actual value of current output on IO3:999.99mA  |       |    |
|   |                           | Actual value of current output on IO4:999.99mA  |       |    |
|   |                           | Actual value of current output on IO5:999.99mA  |       |    |
|   |                           | Actual value of current output on IO6:999.99mA  |       |    |
|   |                           | Actual value of current output on IO7:999.99mA  |       |    |

|   |                          |   |       |  |
|---|--------------------------|---|-------|--|
|   |                          | Actual value of current output on IO8:999.99mA  |       |  |
| This command shows for all CURRENT OUTPUT IOs the actual output current in mA.<br>The range is 0.00mA to 25.00mA<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.  |                          |   |       |  |
| GET CURRENT OUTPUT<br>IN mA   | ASCII<br>READ<br>COMMAND | #GCOMA<IONR><CR><br>Result:<br>#GCOMA<IONR>:<IOxmADbl><CR>                              | ASCII |  |
|   | IONR                     | 1   |       |  |
|   | TX                       | #1,GCOMA1<CR>   |       |  |
|   | RX                       | #1,GCOMA3:999.99<CR>  |       |  |
|   |                          | Actual value of current output on IO1:999.99mA  |       |  |
| This command shows for CURRENT OUTPUT IO <IONR> the actual output current in mA.<br>The range is 0.00mA to 25.00mA<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.  |                          |   |       |  |
| GET CURRENT OUTPUTS<br>IN PERCENT   | ASCII<br>READ<br>COMMAND | #GCOSP<CR><br>Result:<br>#GCOSP:<IO1PercentDbl>,<IO2PercentDbl>,...,<IO8PercentDbl><CR> | ASCII |  |
|   | TX                       | #1,GCOSP<CR>  |       |  |
|   | RX                       | #1,GCOSP:999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99<CR>                    |       |  |
|   |                          | Actual percentage of current output on IO1:999.99%                                      |       |  |
|   |                          | Actual percentage of current output on IO2:999.99%                                      |       |  |
|   |                          | Actual percentage of current output on IO3:999.99%                                      |       |  |
|   |                          | Actual percentage of current output on IO4:999.99%                                      |       |  |
|   |                          | Actual percentage of current output on IO5:999.99%                                      |       |  |
|   |                          | Actual percentage of current output on IO6:999.99%                                      |       |  |
|   |                          | Actual percentage of current output on IO7:999.99%                                      |       |  |
|   |                          | Actual percentage of current output on IO8:999.99%                                      |       |  |
| This command shows for all CURRENT OUTPUT IOs the actual output current in Percent.<br>The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA -> 100.00%)<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.   |                          |   |       |  |
| GET CURRENT OUTPUT<br>IN PERCENT  | ASCII<br>READ<br>COMMAND | #GCOP<IONR><CR><br>Result:<br>#GCOP<IONR>:<IOxPercentDbl><CR>                           | ASCII |  |
|   | IONR                     | 1   |       |  |
|   | TX                       | #1,GCOP1<CR>  |       |  |
|   | RX                       | #1,GCOP3:999.99<CR>   |       |  |
|   |                          | Actual percentage of current output on IO1:999.99%                                      |       |  |
| This command shows for CURRENT OUTPUT IO <IONR> the actual output current in Percent.<br>The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA -> 100.00%)<br>All IOs with a different usage type will return 999.99 to indicate, that no measurement is done. |                          |   |       |  |
| GET CURRENT OUTPUTS<br>VOLTAGE  | ASCII<br>READ<br>COMMAND | #GCOSV<CR><br>Result:<br>#GCOSV:<IO1VoltsDbl>,<IO2VoltsDbl>,...,<IO8VoltsDbl><CR>       | ASCII |  |
|   | TX                       | #1,GCOSV<CR>  |       |  |
|   | RX                       | #1,GCOSV:999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99<CR>                    |       |  |
|   |                          | Measured voltage of current output on IO1:999.99V                                       |       |  |

|  |  |   |  |  |
|--|--|---|--|--|
|  |  | Measured voltage of current output on IO2:999.99V |  |  |
|  |  | Measured voltage of current output on IO3:999.99V |  |  |
|  |  | Measured voltage of current output on IO4:999.99V |  |  |
|  |  | Measured voltage of current output on IO5:999.99V |  |  |
|  |  | Measured voltage of current output on IO6:999.99V |  |  |
|  |  | Measured voltage of current output on IO7:999.99V |  |  |
|  |  | Measured voltage of current output on IO8:999.99V |  |  |

This command shows for all CURRENT OUTPUT IOs the actual output voltage in Volt.

The range is 0-10V

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

|                            |                          |  |       |  |
|----------------------------|--------------------------|--|-------|--|
| GET CURRENT OUTPUT VOLTAGE | ASCII<br>READ<br>COMMAND | #GCOV<IONR><CR><br>Result:<br>#GCOV<IONR>:<IOxVoltDbI><CR> | ASCII |  |
|                            | IONR                     | 1  |       |  |
|                            | TX                       | #1,GCOV1<CR>   |       |  |
|                            | RX                       | #1,GCOV3:999.99<CR>  |       |  |
|                            |                          | Measured voltage of current output on IO1:999.99V          |       |  |

This command shows for CURRENT OUTPUT IO <IONR> the actual output voltage in Volt.

The range is 0-10V

All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.

#### RTD INPUTS OHM

|                       |                          |   |       |  |
|-----------------------|--------------------------|---|-------|--|
| GET RTD INPUTS IN OHM | ASCII<br>READ<br>COMMAND | #GRTDISOHM<CR><br>Result:<br>#GRTDISOHM:<IO1OhmDbI>,<IO2OhmDbI>,...,<IO8OhmDbI><CR>                         | ASCII |  |
|                       | TX                       | #1,GRTDISOHM<CR>  |       |  |
|                       | RX                       | #1,GRTDISOHM:99999999.999,99999999.999,99999999.999,99999999.999,99999999.999,99999999.999,99999999.999<CR> |       |  |
|                       |                          | Actual measured RTD input on IO1:99999999.999Ohm  |       |  |
|                       |                          | Actual measured RTD input on IO2:99999999.999Ohm  |       |  |
|                       |                          | Actual measured RTD input on IO3:99999999.999Ohm  |       |  |
|                       |                          | Actual measured RTD input on IO4:99999999.999Ohm  |       |  |
|                       |                          | Actual measured RTD input on IO5:99999999.999Ohm  |       |  |
|                       |                          | Actual measured RTD input on IO6:99999999.999Ohm  |       |  |
|                       |                          | Actual measured RTD input on IO7:99999999.999Ohm  |       |  |
|                       |                          | Actual measured RTD input on IO8:99999999.999Ohm  |       |  |

This command shows for RTD INPUT IOs the actual measured RTD value in Ohm.

The range is 0.0000Ohm to 1000000.00Ohm

All IOs with a different usage type will return 99999999.999 to indicate, that no measurement is done.

|                      |                          |   |       |  |
|----------------------|--------------------------|---|-------|--|
| GET RTD INPUT IN OHM | ASCII<br>READ<br>COMMAND | #GRTDIOHM<IONR><CR><br>Result:<br>#GRTDIOHM<IONR>:<IOxOhmDbI><CR> | ASCII |  |
|                      | IONR                     | 1   |       |  |
|                      | TX                       | #1,GRTDIOHM1<CR>  |       |  |
|                      | RX                       | #1,GRTDIOHM3:99999999.999<CR>                                     |       |  |
|                      |                          | Actual measured RTD input on IO1:99999999.999Ohm                  |       |  |

This command shows for RTD INPUT IO <IONR> the actual measured RTD value in Ohm.

The range is 0.000Ohm to 1000000.00Ohm

All IOs with a different usage type will return 99999999.999 to indicate, that no measurement is done.

|                                  |                          |   |       |  |
|----------------------------------|--------------------------|---|-------|--|
| GET AVERAGE RTD INPUTS<br>IN OHM | ASCII<br>READ<br>COMMAND | #GAVGRTDISOHM<CR><br>Result:<br>#GAVGRTDISOHM:<IO1OhmDbl>,<IO2OhmDbl>,...,<IO8OhmDbl><CR>                                   | ASCII |  |
|                                  | TX                       | #1,GAVGRTDISOHM<CR>   |       |  |
|                                  | RX                       | #1,GAVGRTDISOHM:99999999.999,99999999.999,99999999.999,99999999.999,99999999.999,99999999.999,99999999.999,99999999.999<CR> |       |  |
|                                  |                          | Average measured RTD input on IO1:99999999.999Ohm   |       |  |
|                                  |                          | Average measured RTD input on IO2:99999999.999Ohm   |       |  |
|                                  |                          | Average measured RTD input on IO3:99999999.999Ohm   |       |  |
|                                  |                          | Average measured RTD input on IO4:99999999.999Ohm   |       |  |
|                                  |                          | Average measured RTD input on IO5:99999999.999Ohm   |       |  |
|                                  |                          | Average measured RTD input on IO6:99999999.999Ohm   |       |  |
|                                  |                          | Average measured RTD input on IO7:99999999.999Ohm   |       |  |
|                                  |                          | Average measured RTD input on IO8:99999999.999Ohm   |       |  |

This command shows for RTD INPUT IOs the average measured RTD value in Ohm.

The range is 0.000Ohm to 1000000.00Ohm

All IOs with a different usage type will return 99999999.999 to indicate, that no measurement is done.

|                             |                          |   |       |  |
|-----------------------------|--------------------------|---|-------|--|
| GET AVG RTD INPUT<br>IN OHM | ASCII<br>READ<br>COMMAND | #GAVGRTDIOHM<IONR><CR><br>Result:<br>#GAVGRTDIOHM<IONR>:<IOxOhmDbl><CR> | ASCII |  |
|                             | IONR                     | 1   |       |  |
|                             | TX                       | #1,GAVGRTDIOHM1<CR>   |       |  |
|                             | RX                       | #1,GAVGRTDIOHM3:99999999.999<CR>  |       |  |
|                             |                          | Average measured RTD input on IO1:99999999.999Ohm                       |       |  |

This command shows for RTD INPUT IO <IONR> the average measured RTD value in Ohm.

The range is 0.000Ohm to 1000000.00Ohm

All IOs with a different usage type will return 99999999.999 to indicate, that no measurement is done.

#### RTD INPUTS PT100 CELSIUS

|                                    |                          |   |       |  |
|------------------------------------|--------------------------|---|-------|--|
| GET RTD INPUTS<br>AS PT100 CELSIUS | ASCII<br>READ<br>COMMAND | #GRTDISPT100C<CR><br>Result:<br>#GRTDISPT100C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD8Dbl><CR>         | ASCII |  |
|                                    | TX                       | #1,GRTDISPT100C<CR>   |       |  |
|                                    | RX                       | #1,GRTDISPT100C:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR> |       |  |
|                                    |                          | Actual measured RTD input as PT100 on IO1:9999.990°C  |       |  |
|                                    |                          | Actual measured RTD input as PT100 on IO2:9999.990°C  |       |  |
|                                    |                          | Actual measured RTD input as PT100 on IO3:9999.990°C  |       |  |
|                                    |                          | Actual measured RTD input as PT100 on IO4:9999.990°C  |       |  |
|                                    |                          | Actual measured RTD input as PT100 on IO5:9999.990°C  |       |  |
|                                    |                          | Actual measured RTD input as PT100 on IO6:9999.990°C  |       |  |
|                                    |                          | Actual measured RTD input as PT100 on IO7:9999.990°C  |       |  |
|                                    |                          | Actual measured RTD input as PT100 on IO8:9999.990°C  |       |  |

This command shows for RTD INPUT IOs the actual measured RTD value linearized as PT100 sensor in °Celsius.

-999.990: Temperature is lower than 50°C

+999.990: Temperature is higher than 130°C

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|                                   |                          |  |       |  |
|-----------------------------------|--------------------------|--|-------|--|
| GET RTD INPUT<br>AS PT100 CELSIUS | ASCII<br>READ<br>COMMAND | #GRTDIPT100C <IONR> <CR><br>Result:<br>#GRTDIPT100C <IONR> : <IOxDbl> <CR> | ASCII |  |
|                                   | IONR                     | 1  |       |  |
|                                   | TX                       | #1,GRTDIPT100C1<CR>  |       |  |
|                                   | RX                       | #1,GRTDIPT100C3:9999.990<CR>   |       |  |
|                                   |                          | Actual measured RTD input as PT100 on IO1:9999.990°C                       |       |  |

This command shows for RTD INPUT IO <IONR> the actual measured RTD value linearized as PT100 sensor in °Celsius

-999.990: Temperature is lower than 50°C

+999.990: Temperature is higher than 130°C

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
| GET AVERAGE RTD INPUTS<br>AS PT100 CELSIUS | ASCII<br>READ<br>COMMAND | #GAVGRTDISPT100C <CR><br>Result:<br>#GAVGRTDISPT100C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD8Dbl> <CR>     | ASCII |  |
|  | TX                       | #1,GAVGRTDISPT100C <CR>   |       |  |
|  | RX                       | #1,GAVGRTDISPT100C:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990 <CR> |       |  |
|  |                          | Average measured RTD input as PT100 on IO1:9999.990°C   |       |  |
|  |                          | Average measured RTD input as PT100 on IO2:9999.990°C   |       |  |
|  |                          | Average measured RTD input as PT100 on IO3:9999.990°C   |       |  |
|  |                          | Average measured RTD input as PT100 on IO4:9999.990°C   |       |  |
|  |                          | Average measured RTD input as PT100 on IO5:9999.990°C   |       |  |
|  |                          | Average measured RTD input as PT100 on IO6:9999.990°C   |       |  |
|  |                          | Average measured RTD input as PT100 on IO7:9999.990°C   |       |  |
|  |                          | Average measured RTD input as PT100 on IO8:9999.990°C   |       |  |

This command shows for RTD INPUT IOs the average measured RTD value linearized as PT100 sensor in °Celsius.

-999.990: Temperature is lower than 50°C

+999.990: Temperature is higher than 130°C

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|                                       |                          |  |       |  |
|---------------------------------------|--------------------------|--|-------|--|
| GET AVG RTD INPUT<br>AS PT100 CELSIUS | ASCII<br>READ<br>COMMAND | #GAVGRTDIPT100C <IONR> <CR><br>Result:<br>#GAVGRTDIPT100C <IONR> : <IOxDbl> <CR> | ASCII |  |
|                                       | IONR                     | 1  |       |  |
|                                       | TX                       | #1,GAVGRTDIPT100C1<CR>   |       |  |
|                                       | RX                       | #1,GAVGRTDIPT100C1:9999.990<CR>  |       |  |
|                                       |                          | Average measured RTD input as PT100 on IO1:9999.990°C                            |       |  |

This command shows for RTD INPUT IO <IONR> the average measured RTD value linearized as PT100 sensor in °Celsius

-999.990: Temperature is lower than 50°C

+999.990: Temperature is higher than 130°C

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

### RTD INPUTS PT1000 CELSIUS

|                                     |                          |   |       |  |
|-------------------------------------|--------------------------|---|-------|--|
| GET RTD INPUTS<br>AS PT1000 CELSIUS | ASCII<br>READ<br>COMMAND | #GRTDISPT1000C <CR><br>Result:<br>#GRTDISPT1000C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD8Dbl> <CR> | ASCII |  |
|-------------------------------------|--------------------------|---|-------|--|

|  |    |  |  |  |
|--|----|--|--|--|
|  | TX | #1,GRTDISPT1000C<CR>   |  |  |
|  | RX | #1,GRTDISPT1000C:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR> |  |  |
|  |    | Actual measured RTD input as PT1000 on IO1:9999.990°C  |  |  |
|  |    | Actual measured RTD input as PT1000 on IO2:9999.990°C  |  |  |
|  |    | Actual measured RTD input as PT1000 on IO3:9999.990°C  |  |  |
|  |    | Actual measured RTD input as PT1000 on IO4:9999.990°C  |  |  |
|  |    | Actual measured RTD input as PT1000 on IO5:9999.990°C  |  |  |
|  |    | Actual measured RTD input as PT1000 on IO6:9999.990°C  |  |  |
|  |    | Actual measured RTD input as PT1000 on IO7:9999.990°C  |  |  |
|  |    | Actual measured RTD input as PT1000 on IO8:9999.990°C  |  |  |

This command shows for RTD INPUT IOs the actual measured RTD value linearized as PT1000 sensor in °Celsius.

-999.990: Temperature is lower than 50°C

+999.990: Temperature is higher than 130°C

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|                                    |                          |  |       |  |
|------------------------------------|--------------------------|--|-------|--|
| GET RTD INPUT<br>AS PT1000 CELSIUS | ASCII<br>READ<br>COMMAND | #GRTDIPT1000C<IONR><CR><br>Result:<br>#GRTDIPT1000C<IONR>:<IOxDbl><CR> | ASCII |  |
|                                    | IONR                     | 1  |       |  |
|                                    | TX                       | #1,GRTDIPT1000C1<CR>   |       |  |
|                                    | RX                       | #1,GRTDIPT1000C3:9999.990<CR>  |       |  |
|                                    |                          | Actual measured RTD input as PT1000 on IO1:9999.990°C                  |       |  |

This command shows for RTD INPUT IO <IONR> the actual measured RTD value linearized as PT1000 sensor in °Celsius

-999.990: Temperature is lower than 50°C

+999.990: Temperature is higher than 130°C

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|   |                          |   |       |  |
|---|--------------------------|---|-------|--|
| GET AVERAGE RTD INPUTS<br>AS PT1000 CELSIUS | ASCII<br>READ<br>COMMAND | #GAVGRTDISPT1000C<CR><br>Result:<br>#GAVGRTDISPT1000C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD8Dbl><CR>     | ASCII |  |
|   | TX                       | #1,GAVGRTDISPT1000C<CR>   |       |  |
|   | RX                       | #1,GAVGRTDISPT1000C:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR> |       |  |
|   |                          | Average measured RTD input as PT1000 on IO1:9999.990°C  |       |  |
|   |                          | Average measured RTD input as PT1000 on IO2:9999.990°C  |       |  |
|   |                          | Average measured RTD input as PT1000 on IO3:9999.990°C  |       |  |
|   |                          | Average measured RTD input as PT1000 on IO4:9999.990°C  |       |  |
|   |                          | Average measured RTD input as PT1000 on IO5:9999.990°C  |       |  |
|   |                          | Average measured RTD input as PT1000 on IO6:9999.990°C  |       |  |
|   |                          | Average measured RTD input as PT1000 on IO7:9999.990°C  |       |  |
|   |                          | Average measured RTD input as PT1000 on IO8:9999.990°C  |       |  |

This command shows for RTD INPUT IOs the average measured RTD value linearized as PT1000 sensor in °Celsius.

-999.990: Temperature is lower than 50°C

+999.990: Temperature is higher than 130°C

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|  |                          |  |       |  |
|--|--------------------------|--|-------|--|
| GET AVG RTD INPUT<br>AS PT1000 CELSIUS | ASCII<br>READ<br>COMMAND | #GAVGRTDIPT1000C<IONR><CR><br>Result:<br>#GAVGRTDIPT1000C<IONR>:<IOxDbl><CR> | ASCII |  |
|  | IONR                     | 1  |       |  |



|   |                          |  |       |  |
|---|--------------------------|--|-------|--|
|   | TX                       | #1,GAVGRDIPRT1000C1<CR>  |       |  |
|   | RX                       | #1,GAVGRDIPRT1000C1:9999.990<CR>   |       |  |
|   |                          | Average measured RTD input as PT1000 on IO1:9999.990°C   |       |  |
| This command shows for RTD INPUT IO <IONR> the average measured RTD value linearized as PT1000 sensor in °Celsius<br>-999.990: Temperature is lower than 50°C<br>+999.990: Temperature is higher than 130°C<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.         |                          |  |       |  |
| <b>RTD INPUTS NI1000-DIN43760 CELSIUS</b>   |                          |  |       |  |
| GET RTD INPUTS<br>AS NI1000 DIN43760 CELSIUS  | ASCII<br>READ<br>COMMAND | #GRTDISNI1000DIN43760C<CR><br>Result:<br>#GRTDISNI1000DIN43760C:<RTD1DbI>,<RTD2DbI>,...,<RTD8DbI> <CR>     | ASCII |  |
|   | TX                       | #1,GRTDISNI1000DIN43760C<CR>   |       |  |
|   | RX                       | #1,GRTDISNI1000DIN43760C:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR>       |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO1:9999.990°C   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO2:9999.990°C   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO3:9999.990°C   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO4:9999.990°C   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO5:9999.990°C   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO6:9999.990°C   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO7:9999.990°C   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO8:9999.990°C   |       |  |
| This command shows for RTD INPUT IOs the actual measured RTD value linearized as NI1000 DIN43760 sensor in °Celsius.<br>-999.990: Temperature is lower than 50°C<br>+999.990: Temperature is higher than 130°C<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.      |                          |  |       |  |
| GET RTD INPUT<br>AS NI1000 DIN43760 CELSIUS   | ASCII<br>READ<br>COMMAND | #GRTDINI1000DIN43760C<IONR> <CR><br>Result:<br>#GRTDINI1000DIN43760C<IONR>:<IOxDbI> <CR>                   | ASCII |  |
|   | IONR                     | 1  |       |  |
|   | TX                       | #1,GRTDINI1000DIN43760C1<CR>   |       |  |
|   | RX                       | #1,GRTDINI1000DIN43760C3:9999.990<CR>  |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO1:9999.990°C   |       |  |
| This command shows for RTD INPUT IO <IONR> the actual measured RTD value linearized as NI1000 DIN43760 sensor in °Celsius<br>-999.990: Temperature is lower than 50°C<br>+999.990: Temperature is higher than 130°C<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done. |                          |  |       |  |
| GET AVERAGE RTD INPUTS<br>AS NI1000 DIN43760 CELSIUS  | ASCII<br>READ<br>COMMAND | #GAVGRDISNI1000DIN43760C<CR><br>Result:<br>#GAVGRDISNI1000DIN43760C:<RTD1DbI>,<RTD2DbI>,...,<RTD8DbI> <CR> | ASCII |  |
|   | TX                       | #1,GAVGRDISNI1000DIN43760C<CR>   |       |  |
|   | RX                       | #1,GAVGRDISNI1000DIN43760C:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR>     |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO1:9999.990°C  |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO2:9999.990°C  |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO3:9999.990°C  |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO4:9999.990°C  |       |  |

|  |  |   |  |  |
|--|--|---|--|--|
|  |  | Average measured RTD input as NI1000-DIN43760 on IO5:9999.990°C |  |  |
|  |  | Average measured RTD input as NI1000-DIN43760 on IO6:9999.990°C |  |  |
|  |  | Average measured RTD input as NI1000-DIN43760 on IO7:9999.990°C |  |  |
|  |  | Average measured RTD input as NI1000-DIN43760 on IO8:9999.990°C |  |  |

This command shows for RTD INPUT IOs the average measured RTD value linearized as NI1000 DIN43760 sensor in °Celsius.

-999.990: Temperature is lower than 50°C

+999.990: Temperature is higher than 130°C

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|   |                          |  |       |  |
|---|--------------------------|--|-------|--|
| GET AVG RTD INPUT<br>AS NI1000 DIN43760 CELSIUS | ASCII<br>READ<br>COMMAND | #GAVGRTDINI1000DIN43760C<IONR> <CR><br>Result:<br>#GAVGRTDINI1000DIN43760C<IONR>:<IOxDbl> <CR> | ASCII |  |
|   | IONR                     | 1  |       |  |
|   | TX                       | #1,GAVGRTDINI1000DIN43760C1<CR>  |       |  |
|   | RX                       | #1,GAVGRTDINI1000DIN43760C1:9999.990<CR>   |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO1:9999.990°C                                |       |  |

This command shows for RTD INPUT IO <IONR> the average measured RTD value linearized as NI1000 DIN43760 sensor in °Celsius

-999.990: Temperature is lower than 50°C

+999.990: Temperature is higher than 130°C

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

#### RTD INPUTS PT100 KELVIN

|                                   |                          |   |       |  |
|-----------------------------------|--------------------------|---|-------|--|
| GET RTD INPUTS<br>AS PT100 KELVIN | ASCII<br>READ<br>COMMAND | #GRTDISPT100K<CR><br>Result:<br>#GRTDISPT100K:<RTD1Dbl>,<RTD2Dbl>,...,<RTD8Dbl> <CR>        | ASCII |  |
|                                   | TX                       | #1,GRTDISPT100K<CR>   |       |  |
|                                   | RX                       | #1,GRTDISPT100K:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR> |       |  |
|                                   |                          | Actual measured RTD input as PT100 on IO1:9999.990°K  |       |  |
|                                   |                          | Actual measured RTD input as PT100 on IO2:9999.990°K  |       |  |
|                                   |                          | Actual measured RTD input as PT100 on IO3:9999.990°K  |       |  |
|                                   |                          | Actual measured RTD input as PT100 on IO4:9999.990°K  |       |  |
|                                   |                          | Actual measured RTD input as PT100 on IO5:9999.990°K  |       |  |
|                                   |                          | Actual measured RTD input as PT100 on IO6:9999.990°K  |       |  |
|                                   |                          | Actual measured RTD input as PT100 on IO7:9999.990°K  |       |  |
|                                   |                          | Actual measured RTD input as PT100 on IO8:9999.990°K  |       |  |

This command shows for RTD INPUT IOs the actual measured RTD value linearized as PT100 sensor in °Kelvin

-999.990: Temperature is lower than 223.15°K

+999.990: Temperature is higher than 403.15°K

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|                                  |                          |  |       |  |
|----------------------------------|--------------------------|--|-------|--|
| GET RTD INPUT<br>AS PT100 KELVIN | ASCII<br>READ<br>COMMAND | #GRTDIPT100K<IONR> <CR><br>Result:<br>#GRTDIPT100K<IONR>:<IOxDbl> <CR> | ASCII |  |
|                                  | IONR                     | 1  |       |  |
|                                  | TX                       | #1,GRTDIPT100K1<CR>  |       |  |
|                                  | RX                       | #1,GRTDIPT100K3:9999.990<CR>   |       |  |
|                                  |                          | Actual measured RTD input as PT100 on IO1:9999.990°K                   |       |  |

This command shows for RTD INPUT IO <IONR> the actual measured RTD value linearized as PT100 sensor in °Kelvin

-999.990: Temperature is lower than 223.15°K

+999.990: Temperature is higher than 403.15°K

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|   |                          |  |       |  |
|---|--------------------------|--|-------|--|
| GET AVERAGE RTD INPUTS<br>AS PT100 KELVIN | ASCII<br>READ<br>COMMAND | #GAVGRTDISPT100K<CR><br>Result:<br>#GAVGRTDISPT100K:<RTD1DbI>,<RTD2DbI>,,,,,<RTD8DbI> <CR>     | ASCII |  |
|   | TX                       | #1,GAVGRTDISPT100K<CR>   |       |  |
|   | RX                       | #1,GAVGRTDISPT100K:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR> |       |  |
|   |                          | Average measured RTD input as PT100 on IO1:9999.990°K  |       |  |
|   |                          | Average measured RTD input as PT100 on IO2:9999.990°K  |       |  |
|   |                          | Average measured RTD input as PT100 on IO3:9999.990°K  |       |  |
|   |                          | Average measured RTD input as PT100 on IO4:9999.990°K  |       |  |
|   |                          | Average measured RTD input as PT100 on IO5:9999.990°K  |       |  |
|   |                          | Average measured RTD input as PT100 on IO6:9999.990°K  |       |  |
|   |                          | Average measured RTD input as PT100 on IO7:9999.990°K  |       |  |
|   |                          | Average measured RTD input as PT100 on IO8:9999.990°K  |       |  |

This command shows for RTD INPUT IOs the average measured RTD value linearized as PT100 sensor in °Kelvin

-999.990: Temperature is lower than 223.15°K

+999.990: Temperature is higher than 403.15°K

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|                                      |                          |  |       |  |
|--------------------------------------|--------------------------|--|-------|--|
| GET AVG RTD INPUT<br>AS PT100 KELVIN | ASCII<br>READ<br>COMMAND | #GAVGRTDIPT100K<IONR> <CR><br>Result:<br>#GAVGRTDIPT100K<IONR>:<IOXDbI> <CR> | ASCII |  |
|                                      | IONR                     | 1  |       |  |
|                                      | TX                       | #1,GAVGRTDIPT100K1<CR>   |       |  |
|                                      | RX                       | #1,GAVGRTDIPT100K1:9999.990<CR>  |       |  |
|                                      |                          | Average measured RTD input as PT100 on IO1:9999.990°K                        |       |  |

This command shows for RTD INPUT IO <IONR> the average measured RTD value linearized as PT100 sensor in °Kelvin

-999.990: Temperature is lower than 223.15°K

+999.990: Temperature is higher than 403.15°K

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

#### RTD INPUTS PT1000 KELVIN

|                                    |                          |  |       |  |
|------------------------------------|--------------------------|--|-------|--|
| GET RTD INPUTS<br>AS PT1000 KELVIN | ASCII<br>READ<br>COMMAND | #GRTDISPT1000K<CR><br>Result:<br>#GRTDISPT1000K:<RTD1DbI>,<RTD2DbI>,,,,,<RTD8DbI> <CR>       | ASCII |  |
|                                    | TX                       | #1,GRTDISPT1000K<CR>   |       |  |
|                                    | RX                       | #1,GRTDISPT1000K:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR> |       |  |
|                                    |                          | Actual measured RTD input as PT1000 on IO1:9999.990°K  |       |  |
|                                    |                          | Actual measured RTD input as PT1000 on IO2:9999.990°K  |       |  |
|                                    |                          | Actual measured RTD input as PT1000 on IO3:9999.990°K  |       |  |
|                                    |                          | Actual measured RTD input as PT1000 on IO4:9999.990°K  |       |  |
|                                    |                          | Actual measured RTD input as PT1000 on IO5:9999.990°K  |       |  |
|                                    |                          | Actual measured RTD input as PT1000 on IO6:9999.990°K  |       |  |
|                                    |                          | Actual measured RTD input as PT1000 on IO7:9999.990°K  |       |  |

|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
|  |                          | Actual measured RTD input as PT1000 on IO8:9999.990°K   |       |  |
| <p>This command shows for RTD INPUT IOs the actual measured RTD value linearized as PT1000 sensor in °Kelvin<br/> -999.990: Temperature is lower than 223.15°K<br/> +999.990: Temperature is higher than 403.15°K<br/> All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.</p>              |                          |   |       |  |
| GET RTD INPUT<br>AS PT1000 KELVIN  | ASCII<br>READ<br>COMMAND | #GRTDIPT1000K<IONR> <CR><br>Result:<br>#GRTDIPT1000K<IONR>:<IOxDbl> <CR>                        | ASCII |  |
|  | IONR                     | 1   |       |  |
|  | TX                       | #1,GRTDIPT1000K1<CR>  |       |  |
|  | RX                       | #1,GRTDIPT1000K3:9999.990<CR>   |       |  |
|  |                          | Actual measured RTD input as PT1000 on IO1:9999.990°K   |       |  |
| <p>This command shows for RTD INPUT IO &lt;IONR&gt; the actual measured RTD value linearized as PT1000 sensor in °Kelvin<br/> -999.990: Temperature is lower than 223.15°K<br/> +999.990: Temperature is higher than 403.15°K<br/> All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.</p>  |                          |   |       |  |
| GET AVERAGE RTD INPUTS<br>AS PT1000 KELVIN   | ASCII<br>READ<br>COMMAND | #GAVGRTDISPT1000K<CR><br>Result:<br>#GAVGRTDISPT1000K:<RTD1Dbl>,<RTD2Dbl>,...,<RTD8Dbl> <CR>    | ASCII |  |
|  | TX                       | #1,GAVGRTDISPT1000K<CR>   |       |  |
|  | RX                       | #1,GAVGRTDISPT1000K:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR> |       |  |
|  |                          | Average measured RTD input as PT1000 on IO1:9999.990°K  |       |  |
|  |                          | Average measured RTD input as PT1000 on IO2:9999.990°K  |       |  |
|  |                          | Average measured RTD input as PT1000 on IO3:9999.990°K  |       |  |
|  |                          | Average measured RTD input as PT1000 on IO4:9999.990°K  |       |  |
|  |                          | Average measured RTD input as PT1000 on IO5:9999.990°K  |       |  |
|  |                          | Average measured RTD input as PT1000 on IO6:9999.990°K  |       |  |
|  |                          | Average measured RTD input as PT1000 on IO7:9999.990°K  |       |  |
|  |                          | Average measured RTD input as PT1000 on IO8:9999.990°K  |       |  |
| <p>This command shows for RTD INPUT IOs the average measured RTD value linearized as PT1000 sensor in °Kelvin<br/> -999.990: Temperature is lower than 223.15°K<br/> +999.990: Temperature is higher than 403.15°K<br/> All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.</p>             |                          |   |       |  |
| GET AVG RTD INPUT<br>AS PT1000 KELVIN  | ASCII<br>READ<br>COMMAND | #GAVGRTDIPT1000K<IONR> <CR><br>Result:<br>#GAVGRTDIPT1000K<IONR>:<IOxDbl> <CR>                  | ASCII |  |
|  | IONR                     | 1   |       |  |
|  | TX                       | #1,GAVGRTDIPT1000K1<CR>   |       |  |
|  | RX                       | #1,GAVGRTDIPT1000K1:9999.990<CR>  |       |  |
|  |                          | Average measured RTD input as PT1000 on IO1:9999.990°K  |       |  |
| <p>This command shows for RTD INPUT IO &lt;IONR&gt; the average measured RTD value linearized as PT1000 sensor in °Kelvin<br/> -999.990: Temperature is lower than 223.15°K<br/> +999.990: Temperature is higher than 403.15°K<br/> All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.</p> |                          |   |       |  |
| RTD INPUTS NI1000-DIN43760 KELVIN  |                          |   |       |  |

|   |                          |   |       |  |
|---|--------------------------|---|-------|--|
| GET RTD INPUTS<br>AS NI1000 DIN43760 KELVIN | ASCII<br>READ<br>COMMAND | #GRTDISNI1000DIN43760K<CR><br>Result:<br>#GRTDISNI1000DIN43760K:<RTD1DbI>,<RTD2DbI>,...,<RTD8DbI><CR> | ASCII |  |
|   | TX                       | #1,GRTDISNI1000DIN43760K<CR>  |       |  |
|   | RX                       | #1,GRTDISNI1000DIN43760K:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR>  |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO1:9999.990°K  |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO2:9999.990°K  |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO3:9999.990°K  |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO4:9999.990°K  |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO5:9999.990°K  |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO6:9999.990°K  |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO7:9999.990°K  |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO8:9999.990°K  |       |  |

This command shows for RTD INPUT IOs the actual measured RTD value linearized as NI1000 DIN43760 sensor in °Kelvin

-999.990: Temperature is lower than 223.15°K

+999.990: Temperature is higher than 403.15°K

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|  |                          |  |       |  |
|--|--------------------------|--|-------|--|
| GET RTD INPUT<br>AS NI1000 DIN43760 KELVIN | ASCII<br>READ<br>COMMAND | #GRTDINI1000DIN43760K<IONR><CR><br>Result:<br>#GRTDINI1000DIN43760K<IONR>:<IOxDbI><CR> | ASCII |  |
|  | IONR                     | 1  |       |  |
|  | TX                       | #1,GRTDINI1000DIN43760K1<CR>   |       |  |
|  | RX                       | #1,GRTDINI1000DIN43760K3:9999.990<CR>  |       |  |
|  |                          | Actual measured RTD input as NI1000-DIN43760 on IO1:9999.990°K                         |       |  |

This command shows for RTD INPUT IO <IONR> the actual measured RTD value linearized as NI1000 DIN43760 sensor in °Kelvin

-999.990: Temperature is lower than 223.15°K

+999.990: Temperature is higher than 403.15°K

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|   |                          |   |       |  |
|---|--------------------------|---|-------|--|
| GET AVERAGE RTD INPUTS<br>AS NI1000 DIN43760 KELVIN | ASCII<br>READ<br>COMMAND | #GAVGRTDISNI1000DIN43760K<CR><br>Result:<br>#GAVGRTDISNI1000DIN43760K:<RTD1DbI>,<RTD2DbI>,...,<RTD8DbI><CR> | ASCII |  |
|   | TX                       | #1,GAVGRTDISNI1000DIN43760K<CR>   |       |  |
|   | RX                       | #1,GAVGRTDISNI1000DIN43760K:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR>     |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO1:9999.990°K   |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO2:9999.990°K   |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO3:9999.990°K   |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO4:9999.990°K   |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO5:9999.990°K   |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO6:9999.990°K   |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO7:9999.990°K   |       |  |
|   |                          | Average measured RTD input as NI1000-DIN43760 on IO8:9999.990°K   |       |  |

This command shows for RTD INPUT IOs the average measured RTD value linearized as NI1000 DIN43760 sensor in °Kelvin

-999.990: Temperature is lower than 223.15°K

+999.990: Temperature is higher than 403.15°K

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|  |                          |  |       |  |
|--|--------------------------|--|-------|--|
| GET AVG RTD INPUT<br>AS NI1000 DIN43760 KELVIN   | ASCII<br>READ<br>COMMAND | #GAVGRTDINI1000DIN43760K<IONR><CR><br>Result:<br>#GAVGRTDINI1000DIN43760K<IONR>:<IOxDbl><CR>   | ASCII |  |
|  | IONR                     | 1  |       |  |
|  | TX                       | #1,GAVGRTDINI1000DIN43760K1<CR>  |       |  |
|  | RX                       | #1,GAVGRTDINI1000DIN43760K1.9999.990<CR>   |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO1:9999.990°K                                |       |  |
| This command shows for RTD INPUT IO <IONR> the average measured RTD value linearized as NI1000 DIN43760 sensor in °Kelvin<br>-999.990: Temperature is lower than 223.15°K<br>+999.990: Temperature is higher than 403.15°K<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done. |                          |  |       |  |
| <b>RTD INPUTS PT100 FAHRENHEIT</b>   |                          |  |       |  |
| GET RTD INPUTS<br>AS PT100 FAHRENHEIT  | ASCII<br>READ<br>COMMAND | #GRTDISPT100F<CR><br>Result:<br>#GRTDISPT100F:<RTD1Dbl>,<RTD2Dbl>,...,<RTD8Dbl><CR>            | ASCII |  |
|  | TX                       | #1,GRTDISPT100F<CR>  |       |  |
|  | RX                       | #1,GRTDISPT100F:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR>    |       |  |
|  |                          | Actual measured RTD input as PT100 on IO1:9999.990°F   |       |  |
|  |                          | Actual measured RTD input as PT100 on IO2:9999.990°F   |       |  |
|  |                          | Actual measured RTD input as PT100 on IO3:9999.990°F   |       |  |
|  |                          | Actual measured RTD input as PT100 on IO4:9999.990°F   |       |  |
|  |                          | Actual measured RTD input as PT100 on IO5:9999.990°F   |       |  |
|  |                          | Actual measured RTD input as PT100 on IO6:9999.990°F   |       |  |
|  |                          | Actual measured RTD input as PT100 on IO7:9999.990°F   |       |  |
|  |                          | Actual measured RTD input as PT100 on IO8:9999.990°F   |       |  |
| This command shows for RTD INPUT IOs the actual measured RTD value linearized as PT100 sensor in °Fahrenheit<br>-999.990: Temperature is lower than -58°F<br>+999.990: Temperature is higher than 266°F<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.                    |                          |  |       |  |
| GET RTD INPUT<br>AS PT100 FAHRENHEIT   | ASCII<br>READ<br>COMMAND | #GRTDIPT100F<IONR><CR><br>Result:<br>#GRTDIPT100F<IONR>:<IOxDbl><CR>                           | ASCII |  |
|  | IONR                     | 1  |       |  |
|  | TX                       | #1,GRTDIPT100F1<CR>  |       |  |
|  | RX                       | #1,GRTDIPT100F3:9999.990<CR>   |       |  |
|  |                          | Actual measured RTD input as PT100 on IO1:9999.990°F   |       |  |
| This command shows for RTD INPUT IO <IONR> the actual measured RTD value linearized as PT100 sensor in °Fahrenheit<br>-999.990: Temperature is lower than -58°F<br>+999.990: Temperature is higher than 266°F<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.              |                          |  |       |  |
| GET AVERAGE RTD INPUTS<br>AS PT100 FAHRENHEIT  | ASCII<br>READ<br>COMMAND | #GAVGRTDISPT100F<CR><br>Result:<br>#GAVGRTDISPT100F:<RTD1Dbl>,<RTD2Dbl>,...,<RTD8Dbl><CR>      | ASCII |  |
|  | TX                       | #1,GAVGRTDISPT100F<CR>   |       |  |
|  | RX                       | #1,GAVGRTDISPT100F:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR> |       |  |

|  |  |   |  |  |
|--|--|---|--|--|
|  |  | Average measured RTD input as PT100 on IO1:9999.990°F |  |  |
|  |  | Average measured RTD input as PT100 on IO2:9999.990°F |  |  |
|  |  | Average measured RTD input as PT100 on IO3:9999.990°F |  |  |
|  |  | Average measured RTD input as PT100 on IO4:9999.990°F |  |  |
|  |  | Average measured RTD input as PT100 on IO5:9999.990°F |  |  |
|  |  | Average measured RTD input as PT100 on IO6:9999.990°F |  |  |
|  |  | Average measured RTD input as PT100 on IO7:9999.990°F |  |  |
|  |  | Average measured RTD input as PT100 on IO8:9999.990°F |  |  |

This command shows for RTD INPUT IOs the average measured RTD value linearized as PT100 sensor in °Fahrenheit

-999.990: Temperature is lower than -58°F

+999.990: Temperature is higher than 266°F

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|  |                          |  |       |  |
|--|--------------------------|--|-------|--|
| GET AVG RTD INPUT<br>AS PT100 FAHRENHEIT | ASCII<br>READ<br>COMMAND | #GAVGRTDIPT100F<IONR> <CR><br>Result:<br>#GAVGRTDIPT100F<IONR>:<IOxDbl> <CR> | ASCII |  |
|  | IONR                     | 1  |       |  |
|  | TX                       | #1,GAVGRTDIPT100F1<CR>   |       |  |
|  | RX                       | #1,GAVGRTDIPT100F1:9999.990<CR>  |       |  |
|  |                          | Average measured RTD input as PT100 on IO1:9999.990°F                        |       |  |

This command shows for RTD INPUT IO <IONR> the average measured RTD value linearized as PT100 sensor in °Fahrenheit

-999.990: Temperature is lower than -58°F

+999.990: Temperature is higher than 266°F

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

#### RTD INPUTS PT1000 FAHRENHEIT

|  |                          |  |       |  |
|--|--------------------------|--|-------|--|
| GET RTD INPUTS<br>AS PT1000 FAHRENHEIT | ASCII<br>READ<br>COMMAND | #GRTDISPT1000F<CR><br>Result:<br>#GRTDISPT1000F:<RTD1DbI>,<RTD2DbI>,...,<RTD8DbI> <CR>       | ASCII |  |
|  | TX                       | #1,GRTDISPT1000F<CR>   |       |  |
|  | RX                       | #1,GRTDISPT1000F:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR> |       |  |
|  |                          | Actual measured RTD input as PT1000 on IO1:9999.990°F  |       |  |
|  |                          | Actual measured RTD input as PT1000 on IO2:9999.990°F  |       |  |
|  |                          | Actual measured RTD input as PT1000 on IO3:9999.990°F  |       |  |
|  |                          | Actual measured RTD input as PT1000 on IO4:9999.990°F  |       |  |
|  |                          | Actual measured RTD input as PT1000 on IO5:9999.990°F  |       |  |
|  |                          | Actual measured RTD input as PT1000 on IO6:9999.990°F  |       |  |
|  |                          | Actual measured RTD input as PT1000 on IO7:9999.990°F  |       |  |
|  |                          | Actual measured RTD input as PT1000 on IO8:9999.990°F  |       |  |

This command shows for RTD INPUT IOs the actual measured RTD value linearized as PT1000 sensor in °Fahrenheit

-999.990: Temperature is lower than -58°F

+999.990: Temperature is higher than 266°F

All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.

|                                       |                          |  |       |  |
|---------------------------------------|--------------------------|--|-------|--|
| GET RTD INPUT<br>AS PT1000 FAHRENHEIT | ASCII<br>READ<br>COMMAND | #GRTDIPT1000F<IONR> <CR><br>Result:<br>#GRTDIPT1000F<IONR>:<IOxDbl> <CR> | ASCII |  |
|                                       | IONR                     | 1  |       |  |
|                                       | TX                       | #1,GRTDIPT1000F1<CR>   |       |  |



|   |                          |  |       |  |
|---|--------------------------|--|-------|--|
|   | RX                       | #1,GRTDIPT1000F3:9999.990<CR>  |       |  |
|   |                          | Actual measured RTD input as PT1000 on IO1:9999.990°F  |       |  |
| This command shows for RTD INPUT IO <IONR> the actual measured RTD value linearized as PT1000 sensor in °Fahrenheit<br>-999.990: Temperature is lower than -58°F<br>+999.990: Temperature is higher than 266°F<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.  |                          |  |       |  |
| GET AVERAGE RTD INPUTS<br>AS PT1000 FAHRENHEIT  | ASCII<br>READ<br>COMMAND | #GAVGRTDISPT1000F<CR><br>Result:<br>#GAVGRTDISPT1000F:<RTD1DbI>,<RTD2DbI>,...,<RTD8DbI> <CR>           | ASCII |  |
|   | TX                       | #1,GAVGRTDISPT1000F<CR>  |       |  |
|   | RX                       | #1,GAVGRTDISPT1000F:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR>        |       |  |
|   |                          | Average measured RTD input as PT1000 on IO1:9999.990°F   |       |  |
|   |                          | Average measured RTD input as PT1000 on IO2:9999.990°F   |       |  |
|   |                          | Average measured RTD input as PT1000 on IO3:9999.990°F   |       |  |
|   |                          | Average measured RTD input as PT1000 on IO4:9999.990°F   |       |  |
|   |                          | Average measured RTD input as PT1000 on IO5:9999.990°F   |       |  |
|   |                          | Average measured RTD input as PT1000 on IO6:9999.990°F   |       |  |
|   |                          | Average measured RTD input as PT1000 on IO7:9999.990°F   |       |  |
|   |                          | Average measured RTD input as PT1000 on IO8:9999.990°F   |       |  |
| This command shows for RTD INPUT IOs the average measured RTD value linearized as PT1000 sensor in °Fahrenheit<br>-999.990: Temperature is lower than -58°F<br>+999.990: Temperature is higher than 266°F<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.       |                          |  |       |  |
| GET AVG RTD INPUT<br>AS PT1000 FAHRENHEIT   | ASCII<br>READ<br>COMMAND | #GAVGRTDIPT1000F<IONR> <CR><br>Result:<br>#GAVGRTDIPT1000F<IONR>:<IOxDbI> <CR>                         | ASCII |  |
|   | IONR                     | 1  |       |  |
|   | TX                       | #1,GAVGRTDIPT1000F1<CR>  |       |  |
|   | RX                       | #1,GAVGRTDIPT1000F1:9999.990<CR>   |       |  |
|   |                          | Average measured RTD input as PT1000 on IO1:9999.990°F   |       |  |
| This command shows for RTD INPUT IO <IONR> the average measured RTD value linearized as PT1000 sensor in °Fahrenheit<br>-999.990: Temperature is lower than -58°F<br>+999.990: Temperature is higher than 266°F<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done. |                          |  |       |  |
| <b>RTD INPUTS NI1000-DIN43760 FAHRENHEIT</b>  |                          |  |       |  |
| GET RTD INPUTS<br>AS NI1000 DIN43760 FAHRENHEIT   | ASCII<br>READ<br>COMMAND | #GRTDISNI1000DIN43760F<CR><br>Result:<br>#GRTDISNI1000DIN43760F:<RTD1DbI>,<RTD2DbI>,...,<RTD8DbI> <CR> | ASCII |  |
|   | TX                       | #1,GRTDISNI1000DIN43760F<CR>   |       |  |
|   | RX                       | #1,GRTDISNI1000DIN43760F:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR>   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO1:9999.990°F   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO2:9999.990°F   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO3:9999.990°F   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO4:9999.990°F   |       |  |
|   |                          | Actual measured RTD input as NI1000-DIN43760 on IO5:9999.990°F   |       |  |



|  |                          |   |       |  |
|--|--------------------------|---|-------|--|
|  |                          | Actual measured RTD input as NI1000-DIN43760 on IO6:9999.990°F  |       |  |
|  |                          | Actual measured RTD input as NI1000-DIN43760 on IO7:9999.990°F  |       |  |
|  |                          | Actual measured RTD input as NI1000-DIN43760 on IO8:9999.990°F  |       |  |
| This command shows for RTD INPUT IOs the actual measured RTD value linearized as NI1000 DIN43760 sensor in °Fahrenheit<br>-999.990: Temperature is lower than -58°F<br>+999.990: Temperature is higher than 266°F<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.        |                          |   |       |  |
| GET RTD INPUT<br>AS NI1000 DIN43760 FARENEHEIT   | ASCII<br>READ<br>COMMAND | #GRTDINI1000DIN43760F<IONR><CR><br>Result:<br>#GRTDINI1000DIN43760F<IONR>:<IOxDBl><CR>                      | ASCII |  |
|  | IONR                     | 1   |       |  |
|  | TX                       | #1,GRTDINI1000DIN43760F1<CR>  |       |  |
|  | RX                       | #1,GRTDINI1000DIN43760F3:9999.990<CR>   |       |  |
|  |                          | Actual measured RTD input as NI1000-DIN43760 on IO1:9999.990°F  |       |  |
| This command shows for RTD INPUT IO <IONR> the actual measured RTD value linearized as NI1000 DIN43760 sensor in °Fahrenheit<br>-999.990: Temperature is lower than -58°F<br>+999.990: Temperature is higher than 266°F<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.  |                          |   |       |  |
| GET AVERAGE RTD INPUTS<br>AS NI1000 DIN43760 FARENEHEIT  | ASCII<br>READ<br>COMMAND | #GAVGRTDISNI1000DIN43760F<CR><br>Result:<br>#GAVGRTDISNI1000DIN43760F:<RTD1DbI>,<RTD2DbI>,...,<RTD8DbI><CR> | ASCII |  |
|  | TX                       | #1,GAVGRTDISNI1000DIN43760F<CR>   |       |  |
|  | RX                       | #1,GAVGRTDISNI1000DIN43760F:9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990,9999.990<CR>     |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO1:9999.990°F   |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO2:9999.990°F   |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO3:9999.990°F   |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO4:9999.990°F   |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO5:9999.990°F   |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO6:9999.990°F   |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO7:9999.990°F   |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO8:9999.990°F   |       |  |
| This command shows for RTD INPUT IOs the average measured RTD value linearized as NI1000 DIN43760 sensor in °Fahrenheit<br>-999.990: Temperature is lower than -58°F<br>+999.990: Temperature is higher than 266°F<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done.       |                          |   |       |  |
| GET AVG RTD INPUT<br>AS NI1000 DIN43760 FARENEHEIT   | ASCII<br>READ<br>COMMAND | #GAVGRTDINI1000DIN43760F<IONR><CR><br>Result:<br>#GAVGRTDINI1000DIN43760F<IONR>:<IOxDBl><CR>                | ASCII |  |
|  | IONR                     | 1   |       |  |
|  | TX                       | #1,GAVGRTDINI1000DIN43760F1<CR>   |       |  |
|  | RX                       | #1,GAVGRTDINI1000DIN43760F1:9999.990<CR>  |       |  |
|  |                          | Average measured RTD input as NI1000-DIN43760 on IO1:9999.990°F   |       |  |
| This command shows for RTD INPUT IO <IONR> the average measured RTD value linearized as NI1000 DIN43760 sensor in °Fahrenheit<br>-999.990: Temperature is lower than -58°F<br>+999.990: Temperature is higher than 266°F<br>All IOs with a different usage type will return 9999.990 to indicate, that no measurement is done. |                          |   |       |  |

| Register NAME<br>Command NAME   | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command   | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE | DO<br>WRITE |
|---|--|---|-------------------|--------------|-----------|-------------|
| <b>ASCII COMMANDS</b>   |  |   |                   |              |           |             |
| <b>INTER PROCESSOR COMMUNICATION</b>  |  |   |                   |              |           |             |
| AIOX IS ONLINE  | ASCII<br>READ<br>COMMAND               | #G16AIOXISONLINE<CR><br>Result:<br>#G16AIOXISONLINE:<YesNo><CR>                                 |                   |              | ASCII     |             |
|   | TX                                     | #1,G16AIOXISONLINE<CR>  |                   |              |           |             |
|   | RX                                     | #1,G16AIOXISONLINE:YES<CR>  |                   |              |           |             |
|   |  | Actual communication state co-processor to AIOX processor:YES                                   |                   |              |           |             |
| This command returns the actual state of the serial communication between the ARM co-processor and the additional processor for the AIOX.<br>YES: Currently the communication is fine<br>NO: There is a mayor problem/hardware fault between the two processors |  |   |                   |              |           |             |
| <b>CHIP COMMUNICATION</b>   |  |   |                   |              |           |             |
| ARE CHIPS ONLINE  | ASCII<br>READ<br>COMMAND               | #ARECHIPSONLINE<CR><br>Result:<br>#ARECHIPSONLINE:<Chip1IsOnline>,<Chip2IsOnline><CR>           |                   |              | ASCII     |             |
|   | TX                                     | #1,ARECHIPSONLINE<CR>   |                   |              |           |             |
|   | RX                                     | #1,ARECHIPSONLINE:1,1<CR>   |                   |              |           |             |
|   |  | Actual state of CHIP1:1   |                   |              |           |             |
|   |  | Actual state of CHIP2:1   |                   |              |           |             |
| This command shows the current SPI communication status with each chip.<br>ChipxIsOnline:<br>=0: Currently there is a SPI error in the communication and the chip is offline<br>=1: The SPI communication with the chip is ok                                   |  |   |                   |              |           |             |
| IS CHIPx ONLINE   | ASCII<br>READ<br>COMMAND               | #ISCHIPONLINE<CHIPNR><CR><br>Result:<br>#ISCHIPONLINE<CHIPNR>:<ChipxIsOnline><CR>               |                   |              | ASCII     |             |
|   | CHIPNR                                 | 1   |                   |              |           |             |
|   | TX                                     | #1,ISCHIPONLINE1<CR>  |                   |              |           |             |
|   | RX                                     | #1,ISCHIPONLINE1:1<CR>  |                   |              |           |             |
|   |  | Actual state of CHIP1:1   |                   |              |           |             |
| This command shows the current SPI communication status with chip <CHIPNR>.<br>=0: Currently there is a SPI error in the communication and the chip is offline<br>=1: The SPI communication with the chip is ok   |  |   |                   |              |           |             |
| GET ALL SPI ERRORS  | ASCII<br>READ<br>COMMAND               | #GASPIERRS<CR><br>Result:<br>#GASPIERRS:<SPI1ErrDec>,<SPI2ErrDec>,<SPI1ErrHex>,<SPI2ErrHex><CR> |                   |              | ASCII     |             |
|   | TX                                     | #1,GASPIERRS<CR>  |                   |              |           |             |
|   | RX                                     | #1,GASPIERRS:0,0,0x0,0x0<CR>  |                   |              |           |             |
|   |  | Actual SPI errors of CHIP1:0  |                   |              |           |             |
|   |  | Actual SPI errors of CHIP2:0  |                   |              |           |             |
| This command shows the acutal SPI errors since power up for every chip  |  |   |                   |              |           |             |

|  |                           |  |       |     |
|--|---------------------------|--|-------|-----|
| GET SPI ERROR  | ASCII<br>READ<br>COMMAND  | #GSPERR<CHIPNR><CR><br>Result:<br>#GSPERR<CHIPNR>:<SPlexErrDec>,<SPlexErrHex><CR>  | ASCII |     |
|  | CHIPNR                    | 1  |       |     |
|  | TX                        | #1,GSPERR1<CR>   |       |     |
|  | RX                        | #1,GSPERR1:0,0x0<CR>   |       |     |
|  |                           | Actual SPI errors of CHIP1:0   |       |     |
| This command shows the actual SPI errors since power up for chip <CHIPNR>  |                           |  |       |     |
| GET CHIP STATEMACHINES   | ASCII<br>READ<br>COMMAND  | #GCHIPSMS<CR><br>Result:<br>#GCHIPSMS:<Chip1StateMachine>,<Chip2StateMachine><CR>  | ASCII |     |
|  | TX                        | #1,GCHIPSMS<CR>  |       |     |
|  | RX                        | #1,GCHIPSMS:12090,12090<CR>  |       |     |
|  |                           | Actual state of CHIP1:12090  |       |     |
|  |                           | Actual state of CHIP2:12090  |       |     |
| This command shows the actual state of the internal communication state machine for all chips                          |                           |  |       |     |
| GET CHIP STATEMACHINE  | ASCII<br>READ<br>COMMAND  | #GCHIPSM<CHIPNR><CR><br>Result:<br>#GCHIPSM<CHIPNR>:<ChipxStateMachine><CR>  | ASCII |     |
|  | CHIPNR                    | 1  |       |     |
|  | TX                        | #1,GCHIPSM1<CR>  |       |     |
|  | RX                        | #1,GCHIPSM1:12010<CR>  |       |     |
|  |                           | Actual state of CHIP1:12010  |       |     |
| This command shows the actual state of the internal communication state machine for chip <CHIPNR>                      |                           |  |       |     |
| RESET CHIP STATEMACHINE  | ASCII<br>WRITE<br>COMMAND | #RCHIPSM<CHIPNR><CR><br>Result:<br>#OK<CR>   | ASCII | YES |
|  | CHIPNR                    | 1  |       |     |
|  | TX                        | #1,RCHIPSM1<CR>  |       |     |
|  | RX                        | N/A  |       |     |
| This command restarts the state machine for chip <CHIPNR>. The affected chip will be resetted & initialized completely |                           |  |       |     |
| <b>CHIP STATUS</b>   |                           |  |       |     |
| GET ALL LIVE STATES  | ASCII<br>READ<br>COMMAND  | #GALSTATES<CR><br>Result:<br>#GALSTATE:<Chip1LiveStateDec>,<Chip2LiveStateDec>,<br><Chip1LiveStateHex>,<Chip2LiveStateHex><CR> | ASCII |     |
|  | TX                        | #1,GALSTATES<CR>   |       |     |
|  | RX                        | #1,GALSTATES:27648,30720,0x6C00,0x7800<CR>   |       |     |
|  |                           | Actual live state of CHIP1:27648,0x6C00  |       |     |
|  |                           | Actual live state of CHIP2:30720,0x7800  |       |     |

Returns the actual chip status of all chips.

Each result bit stands for a different state:

Bit 0: VI\_ERR\_CURR\_A: Status of channel A:Voltage or current error detected on Channel A. This bit is interpreted differently depending on which of the following IO function selected:

Voltage output: short-circuit error. The error condition is debounced for 2 ms before the status bit is set.

Current output: open circuit error. The error condition is debounced for 2 ms before the status bit is set.

Current input, loop powered: short-circuit error. A short to ground is detected

Current input, externally powered: short-circuit error. A current source >25 mA is detected

Bit 1: VI\_ERR\_CURR\_B: Status of voltage input B. Same like VI\_ERR\_CURR\_A

Bit 2: VI\_ERR\_CURR\_C: Status of voltage input C. Same like VI\_ERR\_CURR\_A

Bit 3: VI\_ERR\_CURR\_D: Status of voltage input D. Same like VI\_ERR\_CURR\_A

Bit 4: HI\_TEMP\_STATUS: If the die temperature is typically at or above 115°C, the HI\_TEMP\_STATUS bit is asserted

Bit 5: CHARGE\_PUMP\_STATUS: Charge pump error detected.

Bit 6: ALDO5V\_STATUS: ALDO5V Power Supply Monitor Error. This bit is asserted when the ALDO5V pin falls below 4.05 V. Usually ~5V.

Bit 7: AVDD\_STATUS: AVDD Power Supply Monitor Error. This bit is asserted when the AVDD pin falls below 9.26 V. Usually ~17V.

Bit 8: DVCC\_STATUS: DVCC Power Supply Monitor Error. This bit is asserted when the DVCC pin falls below 1.93 V. Usually ~3.3V.

Bit 9: ALDO1V8\_STATUS: ALDO1V8 Power Supply Monitor Error. This bit is asserted when the ALDO1V8 pin falls below 1.35 V. Usually ~1.8V.

Bit 10-12: ADC\_CH\_CURR: Current converted channel of the ADC (0:A, 1:B, 2:C, 3:D, 4:Diagnostic 0, 5:Diagnostic 1, 6:Diagnostic 2, 7:Diagnostic 3)

Bit 13: ADC\_BUSY: ADC busy status bit.

Bit 14: ADC\_DATA\_RDY:ADC data ready. The ADC\_DATA\_RDY bit asserts when a conversion cycle has completed. The bit stays asserted until a user writes 1 to clear the bit. In single conversion mode, the ADC\_RDY pin follows the ADC\_DATA\_RDY bit and only deasserts when the ADC\_DATA\_RDY bit is cleared. In continuous conversion mode, the ADC\_RDY pin returns high after 24 µs.

Bit 15: RESERVED: Reserved

| GET LIVE STATE | ASCII<br>READ<br>COMMAND | #GLSTATE<CHIPNR><CR><br>Result:<br>#GLSTATE<CHIPNR>:<ChipxLiveDataDec>,<ChipxLiveDataHex><CR> | ASCII |
|----------------|--------------------------|---|-------|
|                | CHIPNR                   | 1   |       |
|                | TX                       | #1,GLSTATE1<CR>   |       |
|                | RX                       | #1,GLSTATE4:29696,0x7400<CR>  |       |
|                |                          | Actual live state of CHIP1:29696,0x7400   |       |
|                |                          | Live state bit 0: VI_ERR_CURR_A:0   |       |
|                |                          | Live state bit 1: VI_ERR_CURR_B:0   |       |
|                |                          | Live state bit 2: VI_ERR_CURR_C:0   |       |
|                |                          | Live state bit 3: VI_ERR_CURR_D:0   |       |
|                |                          | Live state bit 4: HI_TEMP_STATUS:0  |       |
|                |                          | Live state bit 5: CHARGE_PUMP_STATUS:0  |       |
|                |                          | Live state bit 6: ALDO5V_STATUS:0   |       |
|                |                          | Live state bit 7: AVDD_STATUS:0   |       |
|                |                          | Live state bit 8: DVCC_STATUS:0   |       |
|                |                          | Live state bit 9: ALDO1V8_STATUS:0  |       |
|                |                          | Live state bit 10-12: ADC_CH_CURR:5   |       |
|                |                          | Live state bit 13: ADC_BUSY:1   |       |
|                |                          | Live state bit 14: ADC_DATA_RDY:0   |       |
|                |                          | Live state bit 15: RESERVED:0   |       |

Returns the actual chip status of chip <CHIPNR>

Each result bit stands for a different state:

Bit 0: VI\_ERR\_CURR\_A: Status of channel A:Voltage or current error detected on Channel A. This bit is interpreted differently depending on which of the following IO function selected:

Voltage output: short-circuit error. The error condition is debounced for 2 ms before the status bit is set.

Current output: open circuit error. The error condition is debounced for 2 ms before the status bit is set.

Current input, loop powered: short-circuit error. A short to ground is detected

Current input, externally powered: short-circuit error. A current source >25 mA is detected

Bit 1: VI\_ERR\_CURR\_B: Status of voltage input B. Same like VI\_ERR\_CURR\_A

Bit 2: VI\_ERR\_CURR\_C: Status of voltage input C. Same like VI\_ERR\_CURR\_A

Bit 3: VI\_ERR\_CURR\_D: Status of voltage input D. Same like VI\_ERR\_CURR\_A

Bit 4: HI\_TEMP\_STATUS: If the die temperature is typically at or above 115°C, the HI\_TEMP\_STATUS bit is asserted

Bit 5: CHARGE\_PUMP\_STATUS: Charge pump error detected.

Bit 6: ALDO5V\_STATUS: ALDO5V Power Supply Monitor Error. This bit is asserted when the ALDO5V pin falls below 4.05 V. Usually ~5V.

Bit 7: AVDD\_STATUS: AVDD Power Supply Monitor Error. This bit is asserted when the AVDD pin falls below 9.26 V. Usually ~17V.

Bit 8: DVCC\_STATUS: DVCC Power Supply Monitor Error. This bit is asserted when the DVCC pin falls below 1.93 V. Usually ~3.3V.

Bit 9: ALDO1V8\_STATUS: ALDO1V8 Power Supply Monitor Error. This bit is asserted when the ALDO1V8 pin falls below 1.35 V. Usually ~1.8V.

Bit 10-12: ADC\_CH\_CURR: Current converted channel of the ADC (0:A, 1:B, 2:C, 3:D, 4:Diagnostic 0, 5:Diagnostic 1, 6:Diagnostic 2, 7:Diagnostic 3)

Bit 13: ADC\_BUSY: ADC busy status bit.

Bit 14: ADC\_DATA\_RDY:ADC data ready. The ADC\_DATA\_RDY bit asserts when a conversion cycle has completed. The bit stays asserted until a user writes 1 to clear the bit. In single conversion mode, the ADC\_RDY pin follows the ADC\_DATA\_RDY bit and only deasserts when the ADC\_DATA\_RDY bit is cleared. In continuous conversion mode, the ADC\_RDY pin returns high after 24 µs.

Bit 15: RESERVED: Reserved

|                      |                          |  |       |  |
|----------------------|--------------------------|--|-------|--|
| GET ALL ALERT STATES | ASCII<br>READ<br>COMMAND | #GAASTATES<CR><br>Result:<br>#GAASTATES:<Chip1AlertStateDec>,<Chip2AlertStateDec>,<br><Chip1AlertStateHex>,<Chip2AlertStateHex> <CR> | ASCII |  |
|                      | TX                       | #1,GAASTATES<CR>   |       |  |
|                      | RX                       | #1,GAASTATES:33792,33792,0x8400,0x8400<CR>   |       |  |
|                      |                          | Actual alert state of CHIP1:33792,0x8400   |       |  |
|                      |                          | Actual alert state of CHIP2:33792,0x8400   |       |  |

Returns the actual alert states for all chips.

Each result bit stands for a different state:

Bit 0: VI\_ERR\_CURR\_A: Status of channel A:Voltage or current error detected on Channel A. This bit is interpreted differently depending on which of the following IO function selected:

Voltage output: short-circuit error. The error condition is debounced for 2 ms before the status bit is set.

Current output: open circuit error. The error condition is debounced for 2 ms before the status bit is set.

Current input, loop powered: short-circuit error. A short to ground is detected

Current input, externally powered: short-circuit error. A current source >25 mA is detected

Bit 1: VI\_ERR\_CURR\_B: Status of voltage input B. Same like VI\_ERR\_CURR\_A

Bit 2: VI\_ERR\_CURR\_C: Status of voltage input C. Same like VI\_ERR\_CURR\_A

Bit 3: VI\_ERR\_CURR\_D: Status of voltage input D. Same like VI\_ERR\_CURR\_A

Bit 4: HI\_TEMP\_STATUS: If the die temperature is typically at or above 115°C, the HI\_TEMP\_STATUS bit is asserted

Bit 5: CHARGE\_PUMP\_STATUS: Charge pump error detected.

Bit 6: ALDO5V\_STATUS: ALDO5V Power Supply Monitor Error. This bit is asserted when the ALDO5V pin falls below 4.05 V. Usually ~5V.

Bit 7: AVDD\_STATUS: AVDD Power Supply Monitor Error. This bit is asserted when the AVDD pin falls below 9.26 V. Usually ~17V.

Bit 8: DVCC\_STATUS: DVCC Power Supply Monitor Error. This bit is asserted when the DVCC pin falls below 1.93 V. Usually ~3.3V.

Bit 9: ALDO1V8\_STATUS: ALDO1V8 Power Supply Monitor Error. This bit is asserted when the ALDO1V8 pin falls below 1.35 V. Usually ~1.8V.

Bit 10: ADC\_CONV\_ERR: ADC Conversion Error. ADC results may be outside the selected measurement range.

Bit 11: ADC\_SAT\_ERR: ADC Saturation Error. ADC may be outside the user selected measurement range.

Bit 12: SPI\_SCLK\_CNT\_ERR: SPI SCLK count error detected. This bit is asserted if an SPI command is applied but 32 SCLKs are not provided.

Bit 13: SPI\_CRC\_ERR: SPI CRC error detected. This bit is asserted if an invalid CRC is received.

Bit 14: CAL\_MEM\_ERR: Calibration Memory Error. This flag asserts under the following two conditions: When a calibration memory CRC error or an uncorrectable error correcting code (ECC) error is detected on the calibration memory upload. It is not possible to clear this bit if there is a CRC error or uncorrectable ECC error. It is recommended to reset the device and check the supplies in this situation. When there is an attempted SPI access to a register before the calibration memory refresh is complete. Do not address the device until the calibration memory is refreshed. Writing 1 to this bit clears the flag, if the flag is asserted due to this condition.

Bit 15: RESET\_OCCURRED: Reset occurred. This bit is asserted after a reset event, which asserts the ALERT pin after the reset. Write a 1 to this bit to clear the flag. Note that a mask bit is not provided for this bit.

|                 |                          |   |       |  |
|-----------------|--------------------------|---|-------|--|
| GET ALERT STATE | ASCII<br>READ<br>COMMAND | #GASTATE<CHIPNR><CR><br>Result:<br>#GASTATE<CHIPNR>:<ChipxAlertState><CR> | ASCII |  |
|                 | CHIPNR                   | 1   |       |  |
|                 | TX                       | #1,GASTATE1<CR>   |       |  |
|                 | RX                       | #1,GASTATE4:33792,0x8400<CR>  |       |  |
|                 |                          | Actual alert state of CHIP1:33792,0x8400                                  |       |  |
|                 |                          | Alert state bit 0: VI_ERR_A:0   |       |  |
|                 |                          | Alert state bit 1: VI_ERR_B:0   |       |  |
|                 |                          | Alert state bit 2: VI_ERR_C:0   |       |  |
|                 |                          | Alert state bit 3: VI_ERR_D:0   |       |  |
|                 |                          | Alert state bit 4: HI_TEMP_ERR:0  |       |  |
|                 |                          | Alert state bit 5: CHARGE_PUMP_ERR:0                                      |       |  |
|                 |                          | Alert state bit 6: ALDO5V_ERR:0   |       |  |
|                 |                          | Alert state bit 7: AVDD_ERR:0   |       |  |
|                 |                          | Alert state bit 8: DVCC_ERR:0   |       |  |
|                 |                          | Alert state bit 9: ALDO1V8_ERR:0  |       |  |
|                 |                          | Alert state bit 10: ADC_CONV_ERR:1  |       |  |
|                 |                          | Alert state bit 11: ADC_SAT_ERR:0   |       |  |
|                 |                          | Alert state bit 12: SPI_SCLK_CNT_ERR:0                                    |       |  |
|                 |                          | Alert state bit 13: SPI_CRC_ERR:0   |       |  |
|                 |                          | Alert state bit 14: CAL_MEM_ERR:0   |       |  |
|                 |                          | Alert state bit 15: RESET OCCURED:0                                       |       |  |

Returns the actual alert states for chip <CHIPNR>.

Each result bit stands for a different state:

Bit 0: VI\_ERR\_CURR\_A: Status of channel A: Voltage or current error detected on Channel A. This bit is interpreted differently depending on which of the following IO function selected:

Voltage output: short-circuit error. The error condition is debounced for 2 ms before the status bit is set.

Current output: open circuit error. The error condition is debounced for 2 ms before the status bit is set.

Current input, loop powered: short-circuit error. A short to ground is detected

Current input, externally powered: short-circuit error. A current source >25 mA is detected

Bit 1: VI\_ERR\_CURR\_B: Status of voltage input B. Same like VI\_ERR\_CURR\_A

Bit 2: VI\_ERR\_CURR\_C: Status of voltage input C. Same like VI\_ERR\_CURR\_A

Bit 3: VI\_ERR\_CURR\_D: Status of voltage input D. Same like VI\_ERR\_CURR\_A

Bit 4: HI\_TEMP\_STATUS: If the die temperature is typically at or above 115°C, the HI\_TEMP\_STATUS bit is asserted

Bit 5: CHARGE\_PUMP\_STATUS: Charge pump error detected.

Bit 6: ALDO5V\_STATUS: ALDO5V Power Supply Monitor Error. This bit is asserted when the ALDO5V pin falls below 4.05 V. Usually ~5V.

Bit 7: AVDD\_STATUS: AVDD Power Supply Monitor Error. This bit is asserted when the AVDD pin falls below 9.26 V. Usually ~17V.

Bit 8: DVCC\_STATUS: DVCC Power Supply Monitor Error. This bit is asserted when the DVCC pin falls below 1.93 V. Usually ~3.3V.

Bit 9: ALDO1V8\_STATUS: ALDO1V8 Power Supply Monitor Error. This bit is asserted when the ALDO1V8 pin falls below 1.35 V. Usually ~1.8V.

Bit 10: ADC\_CONV\_ERR: ADC Conversion Error. ADC results may be outside the selected measurement range.

Bit 11: ADC\_SAT\_ERR: ADC Saturation Error. ADC may be outside the user selected measurement range.

Bit 12: SPI\_SCLK\_CNT\_ERR: SPI SCLK count error detected. This bit is asserted if an SPI command is applied but 32 SCLKs are not provided.

Bit 13: SPI\_CRC\_ERR: SPI CRC error detected. This bit is asserted if an invalid CRC is received.

Bit 14: CAL\_MEM\_ERR: Calibration Memory Error. This flag asserts under the following two conditions: When a calibration memory CRC error or an uncorrectable error correcting code (ECC) error is detected on the calibration memory upload. It is not possible to clear this bit if there is a CRC error or uncorrectable ECC error. It is recommended to reset the device and check the supplies in this situation. When there is an attempted SPI access to a register before the calibration memory refresh is complete. Do not address the device until the calibration memory is refreshed. Writing 1 to this bit clears the flag, if the flag is asserted due to this condition.

Bit 15: RESET\_OCCURRED: Reset occurred. This bit is asserted after a reset event, which asserts the ALERT pin after the reset. Write a 1 to this bit to clear the flag. Note that a mask bit is not provided for this bit.

|                   |                           |  |       |     |
|-------------------|---------------------------|--|-------|-----|
| CLEAR ALERT STATE | ASCII<br>WRITE<br>COMMAND | #CALERTS<CHIPNR>:<AlertState> <CR><br>Result:<br>#OK<CR> | ASCII | YES |
|                   | CHIPNR                    | 1  |       |     |
|                   | Bit 0                     | 1:RESET FLAG<br>0:VI_ERR_A                               |       |     |
|                   | Bit 1                     | 1:RESET FLAG<br>1:VI_ERR_B                               |       |     |
|                   | Bit 2                     | 1:RESET FLAG<br>2:VI_ERR_C                               |       |     |
|                   | Bit 3                     | 1:RESET FLAG<br>3:VI_ERR_D                               |       |     |
|                   | Bit 4                     | 1:RESET FLAG<br>4:HI_TEMP_ERR                            |       |     |
|                   | Bit 5                     | 1:RESET FLAG<br>5:CHARGE_PUMP_ERR                        |       |     |
|                   | Bit 6                     | 1:RESET FLAG<br>6:ALDO5V_ERR                             |       |     |
|                   | Bit 7                     | 1:RESET FLAG<br>7:AVDD_ERR                               |       |     |
|                   | Bit 8                     | 1:RESET FLAG<br>8:DVCC_ERR                               |       |     |
|                   | Bit 9                     | 1:RESET FLAG<br>9:ALDO1V8_ERR                            |       |     |
|                   | Bit 10                    | 1:RESET FLAG<br>10:ADC_CONV_ERR                          |       |     |
|                   | Bit 11                    | 1:RESET FLAG<br>11:ADC_SAT_ERR                           |       |     |
|                   | Bit 12                    | 1:RESET FLAG<br>12:SPI_SCLK_ERR                          |       |     |
|                   | Bit 13                    | 1:RESET FLAG<br>13:SPI_CRC_ERR                           |       |     |
|                   | Bit 14                    | 1:RESET FLAG<br>14:CAL_MEM_ERR                           |       |     |
|                   | Bit 15                    | 1:RESET FLAG<br>15:RESET_OCCURED                         |       |     |
|                   | TX                        | #1,CALERTS1:65535<CR>                                    |       |     |
|                   | RX                        | N/A  |       |     |

With this command you can reset individual alert bits in the alert status register

### CHIP TEMPERATURES

|                       |                          |   |       |  |
|-----------------------|--------------------------|---|-------|--|
| GET CHIP TEMPERATURES | ASCII<br>READ<br>COMMAND | #GCHIPTemps<CR><br>Result:<br>#GCHIPTemps:<Chip1TempDbl>, <Chip2TempDbl> <CR> | ASCII |  |
|                       | TX                       | #1,GCHIPTemps<CR>   |       |  |
|                       | RX                       | #1,GCHIPTemps:46.37,47.49<CR>   |       |  |
|                       |                          | Actual temperature of CHIP1:46.37°C   |       |  |
|                       |                          | Actual temperature of CHIP2:47.49°C   |       |  |

This command returns for every AIOX chip the actual chip temperature in °C

|                      |                          |  |       |  |
|----------------------|--------------------------|--|-------|--|
| GET CHIP TEMPERATURE | ASCII<br>READ<br>COMMAND | #GCHIPTemp<CHIPNR> <CR><br>Result:<br>#GCHIPTemp<CHIPNR>:<ChipxTempDbl> <CR> | ASCII |  |
|                      | CHIPNR                   | 1  |       |  |
|                      | TX                       | #1,GCHIPTemp1<CR>  |       |  |
|                      | RX                       | #1,GCHIPTemp1:46.37<CR>  |       |  |
|                      |                          | Actual temperature of CHIP1:46.37°C  |       |  |

This command returns for AIOX chip <CHIPNR> the actual chip temperature in °C

### AVERAGE CHIP TEMPERATURES

|                               |                          |   |       |  |
|-------------------------------|--------------------------|---|-------|--|
| GET AVERAGE CHIP TEMPERATURES | ASCII<br>READ<br>COMMAND | #GAVGCHIPTemps<CR><br>Result:<br>#GAVGCHIPTemps:<Chip1AvgTempDbl>, <Chip2AvgTempDbl> <CR> | ASCII |  |
|-------------------------------|--------------------------|---|-------|--|

|  |    |                                      |  |  |
|--|----|--------------------------------------|--|--|
|  | TX | #1,GAVGCHIPTemps<CR>                 |  |  |
|  | RX | #1,GAVGCHIPTemps:46.36,47.47<CR>     |  |  |
|  |    | Average temperature of CHIP1:46.36°C |  |  |
|  |    | Average temperature of CHIP2:47.47°C |  |  |

This command returns for every AIOX chip the average chip temperature in °C

|                              |                          |   |       |  |
|------------------------------|--------------------------|---|-------|--|
| GET AVERAGE CHIP TEMPERATURE | ASCII<br>READ<br>COMMAND | #GAVGCHIPTemp<CHIPNR><CR><br>Result:<br>#GAVGCHIPTemp<CHIPNR>:<ChipxAvgTempDbl><CR> | ASCII |  |
|                              | CHIPNR                   | 1   |       |  |
|                              | TX                       | #1,GAVGCHIPTemp1<CR>  |       |  |
|                              | RX                       | #1,GAVGCHIPTemp1:46.36<CR>  |       |  |
|                              |                          | Average temperature of CHIP1:46.36°C  |       |  |

This command returns for AIOX chip <CHIPNR> the average chip temperature in °C

### CHIP SUPPLY VOLTAGES

|                     |                          |   |       |  |
|---------------------|--------------------------|---|-------|--|
| GET SUPPLY VOLTAGES | ASCII<br>READ<br>COMMAND | #GVAVDDS<CR><br>Result:<br>#GVAVDDS:<Chip1VAVDDDBl>,<Chip2VAVDDDBl><CR> | ASCII |  |
|                     | TX                       | #1,GVAVDDS<CR>  |       |  |
|                     | RX                       | #1,GVAVDDS:14.61,14.62<CR>  |       |  |
|                     |                          | Actual supply voltage of CHIP1:14.61V                                   |       |  |
|                     |                          | Actual supply voltage of CHIP2:14.62V                                   |       |  |

This command returns for every AIOX chip the actual supply voltage in Volts.

This must be >14.5V, if not, there is a severe wiring or other hardware issue!

|                    |                          |  |       |  |
|--------------------|--------------------------|--|-------|--|
| GET SUPPLY VOLTAGE | ASCII<br>READ<br>COMMAND | #GVAVDD<CHIPNR><CR><br>Result:<br>#GVAVDD<CHIPNR>:<ChipxVAVDD><CR> | ASCII |  |
|                    | CHIPNR                   | 1  |       |  |
|                    | TX                       | #1,GVAVDD1<CR>   |       |  |
|                    | RX                       | #1,GVAVDD1:14.61<CR>   |       |  |
|                    |                          | Actual supply voltage of CHIP1:14.61V                              |       |  |

This command returns for AIOX chip <CHIPNR> the actual supply voltage in Volts.

This must be >14.5V, if not, there is a severe wiring or other hardware issue!

### AVERAGE CHIP SUPPLY VOLTAGES

|                             |                          |   |       |  |
|-----------------------------|--------------------------|---|-------|--|
| GET AVERAGE SUPPLY VOLTAGES | ASCII<br>READ<br>COMMAND | #GAVGVAVDDS<CR><br>Result:<br>#GAVGVAVDDS:<Chip1AvgVAVDDDBl>,<Chip2AvgVAVDDDBl><CR> | ASCII |  |
|                             | TX                       | #1,GAVGVAVDDS<CR>   |       |  |
|                             | RX                       | #1,GAVGVAVDDS:14.61,14.60<CR>   |       |  |
|                             |                          | Average supply voltage of CHIP1:14.61V  |       |  |
|                             |                          | Average supply voltage of CHIP2:14.60V  |       |  |

This command returns for every AIOX chip the average supply voltage in Volts.

This must be >14.5V, if not, there is a severe wiring or other hardware issue!

|                            |                          |   |       |  |
|----------------------------|--------------------------|---|-------|--|
| GET AVERAGE SUPPLY VOLTAGE | ASCII<br>READ<br>COMMAND | #GAVGVAVDD<CHIPNR><CR><br>Result:<br>#GAVGVAVDD<CHIPNR>:<ChipxAvgVAVDD><CR> | ASCII |  |
|                            | CHIPNR                   | 1   |       |  |



|  |    |  |  |  |
|--|----|--|--|--|
|  | TX | #1,GAVGVAVDD1<CR>                      |  |  |
|  | RX | #1,GAVGVAVDD1:14.61<CR>                |  |  |
|  |    | Average supply voltage of CHIP1:14.61V |  |  |

This command returns for AIOX chip <CHIPNR> the average supply voltage in Volts.  
This must be >14.5V, if not, there is a severe wiring or other hardware issue!

**CHIP GROUND VOLTAGES**

|                     |                          |   |       |  |
|---------------------|--------------------------|---|-------|--|
| GET GROUND VOLTAGES | ASCII<br>READ<br>COMMAND | #GVAGNDS<CR><br>Result:<br>#GVAGNDS:<Chip1VAGNDDbl>,<Chip2VAGNDDbl><CR> | ASCII |  |
|                     | TX                       | #1,GVAGNDS<CR>  |       |  |
|                     | RX                       | #1,GVAGNDS:0.00,0.00<CR>  |       |  |
|                     |                          | Actual ground voltage of CHIP1:0.00V                                    |       |  |
|                     |                          | Actual ground voltage of CHIP2:0.00V                                    |       |  |

This command returns for every AIOX chip the actual ground voltage in Volts.  
This must be 0, if not, there is a severe wiring or other hardware issue!

|                    |                                    |  |       |  |
|--------------------|------------------------------------|--|-------|--|
| GET GROUND VOLTAGE | ASCII<br>READ<br>COMMAND<br>CHIPNR | #GVAGND<CHIPNR><CR><br>Result:<br>#GVAGND<CHIPNR>:<ChipxVAGNDDbl><CR><br>1 | ASCII |  |
|                    | TX                                 | #1,GVAGND1<CR>   |       |  |
|                    | RX                                 | #1,GVAGND1:0.00<CR>  |       |  |
|                    |                                    | Actual ground voltage of CHIP1:0.00V                                       |       |  |

This command returns for AIOX chip <CHIPNR> the actual ground voltage in Volts.  
This must be 0, if not, there is a severe wiring or other hardware issue!

**AVERAGE CHIP GROUND VOLTAGES**

|                                |                          |   |       |  |
|--------------------------------|--------------------------|---|-------|--|
| GET AVERAGE<br>GROUND VOLTAGES | ASCII<br>READ<br>COMMAND | #GAVGVAGNDS<CR><br>Result:<br>#GAVGVAGNDS:<Chip1AvgVAGNDDbl>,<Chip2AvgVAGNDDbl><CR> | ASCII |  |
|                                | TX                       | #1,GAVGVAGNDS<CR>   |       |  |
|                                | RX                       | #1,GAVGVAGNDS:0.00,0.00<CR>   |       |  |
|                                |                          | Average ground voltage of CHIP1:0.00V   |       |  |
|                                |                          | Average ground voltage of CHIP2:0.00V   |       |  |

This command returns for every AIOX chip the average ground voltage in Volts.  
This must be 0, if not, there is a severe wiring or other hardware issue!

|                               |                                    |  |       |  |
|-------------------------------|------------------------------------|--|-------|--|
| GET AVERAGE<br>GROUND VOLTAGE | ASCII<br>READ<br>COMMAND<br>CHIPNR | #GAVGVAGND<CHIPNR><CR><br>Result:<br>#GAVGVAGND<CHIPNR>:<ChipxAvgVAVGNDDbl><CR><br>1 | ASCII |  |
|                               | TX                                 | #1,GAVGVAGND1<CR>  |       |  |
|                               | RX                                 | #1,GAVGVAGND1:0.00<CR>   |       |  |
|                               |                                    | Average ground voltage of CHIP1:0.00V  |       |  |

This command returns for AIOX chip <CHIPNR> the average ground voltage in Volts.  
This must be 0, if not, there is a severe wiring or other hardware issue!

| Register NAME<br>Command NAME   | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command  | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE | DO<br>WRITE |
|---|--|--|-------------------|--------------|-----------|-------------|
| <b>ASCII COMMANDS</b>   |  |  |                   |              |           |             |
| SET CONFIG OUTPUT VALUES  | ASCII<br>WRITE<br>COMMAND              | #SCFGOVs:<IO1CfgValDbI>,<IO2CfgValDbI>,<IO3CfgValDbI>,<IO4CfgValDbI>,<IO5CfgValDbI>,<IO6CfgValDbI>,<IO7CfgValDbI>,<IO8CfgValDbI><CR><br>Result:<br>#OK<CR> |                   |              | ASCII     | YES         |
|   | IO1Value                               | ,000   |                   |              |           |             |
|   | IO2Value                               | ,000   |                   |              |           |             |
|   | IO3Value                               | ,000   |                   |              |           |             |
|   | IO4Value                               | ,000   |                   |              |           |             |
|   | IO5Value                               | ,000   |                   |              |           |             |
|   | IO6Value                               | ,000   |                   |              |           |             |
|   | IO7Value                               | ,000   |                   |              |           |             |
|   | IO8Value                               | ,000   |                   |              |           |             |
|   | TX                                     | #1,SCFGOVs:0,0,0,0,0,0,0,0<CR>   |                   |              |           |             |
|   | RX                                     | N/A  |                   |              |           |             |
| This command sets for all outputs the standard value in Volt or in mA, which are used when the controller is restartet or performing a watchdog reset and the channel is used as voltage output or current output.<br>For voltage outputs the range is 0 to 11,0V.<br>For current outputs the range is 0 to 25mA. |  |  |                   |              |           |             |
| SET CONFIG OUTPUT VALUEx  | ASCII<br>WRITE<br>COMMAND              | #SCFGOV<IONR>:<IOxCfgValueDbI><CR><br>Result:<br>#OK<CR>   |                   |              | ASCII     | YES         |
|   | IONR                                   | 1  |                   |              |           |             |
|   | IOxCfgValue                            | ,000   |                   |              |           |             |
|   | TX                                     | #1,SCFGOV1:0<CR>   |                   |              |           |             |
|   | RX                                     | N/A  |                   |              |           |             |
| This command sets for one outputs the standard value in Volt or in mA, which is used when the controller is restartet and the channel is used as voltage output or current output.<br>For voltage outputs the range is 0 to 11,0V.<br>For current outputs the range is 0 to 25mA.                                 |  |  |                   |              |           |             |
| GET CONFIG OUTPUT VALUES  | ASCII<br>READ<br>COMMAND               | #GCFGOVs<CR><br>Result:<br>#GCFGOVs:<IOVolt1DbI>,<IOVolt2DbI>,...<IOVolt8DbI><CR>  |                   |              | ASCII     |             |
|   | TX                                     | #1,GCFGOVs<CR>   |                   |              |           |             |
|   | RX                                     | #1,GCFGOVs:999.99,999.99,999.99,999.99,999.99,999.99,999.99,999.99<CR>   |                   |              |           |             |
|   |  | Actual config value on IO1:999.99V or mA   |                   |              |           |             |
|   |  | Actual config value on IO2:999.99V or mA   |                   |              |           |             |
|   |  | Actual config value on IO3:999.99V or mA   |                   |              |           |             |
|   |  | Actual config value on IO4:999.99V or mA   |                   |              |           |             |
|   |  | Actual config value on IO5:999.99V or mA   |                   |              |           |             |
|   |  | Actual config value on IO6:999.99V or mA   |                   |              |           |             |
|   |  | Actual config value on IO7:999.99V or mA   |                   |              |           |             |
|   |  | Actual config value on IO8:999.99V or mA   |                   |              |           |             |

This command shows for all channels the current saved startup values for use as voltage or current outputs

For voltage outputs the range is 0 to 11,0V.

For current outputs the range is 0 to 25mA.

All IOs with a different usage type will return 999.99.

|                         |                          |   |       |  |
|-------------------------|--------------------------|---|-------|--|
| GET CONFIG OUTPUT VALUE | ASCII<br>READ<br>COMMAND | #GCFGOV<IONR><CR><br>Result:<br>#GCFGOV<IONR>:<IOXValueDbl><CR> | ASCII |  |
|                         | IONR                     | 1   |       |  |
|                         | TX                       | #1,GCFGOV1<CR>  |       |  |
|                         | RX                       | #1,GCFGOV1:999.99<CR>   |       |  |
|                         |                          | Actual config value on IO1:999.99V or mA                        |       |  |

This command shows for one channel the current saved startup value for use as voltage or current output.

For voltage outputs the range is 0 to 11,0V.

For current outputs the range is 0 to 25mA.

All IOs with a different usage type will return 999.99.

|                 |                           |                                       |       |    |
|-----------------|---------------------------|---------------------------------------|-------|----|
| RESET 16AIOXCPU | ASCII<br>WRITE<br>COMMAND | #R16AIOXCPU<CR><br>Result:<br>#OK<CR> | ASCII | NO |
|                 | TX                        | #1,R16AIOXCPU<CR>                     |       |    |
|                 | RX                        | N/A                                   |       |    |

This command restarts the internal CPU of the 16AIOX addon print. All channels will be resetted & initialized completely

| Register NAME<br>Command NAME   | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE                 | DATA TYPE     | DO<br>WRITE |
|---|--|---------------------------------|-------------------|------------------------------|---------------|-------------|
| <b>AIOX IO TYPES</b>  |  |                                 |                   |                              |               |             |
| IO TYPE1  | 3x40001<br>4x40001<br>I:40000          | 0,0x0000<br>B:00 00             |                   | 13:RTDI[OHM]                 | UINT16<br>R/W | YES         |
|   |  | Actual IO type of AIOx:0:UU     |                   | CHOOSE NEW IO TYPE FROM LIST |               |             |
| <p>Current configured IO type for AIOx</p> <p>=0: UNUSED<br/>           =1: VOLTAGE INPUT[0-10V]<br/>           =2: VOLTAGE INPUT[2-10V]<br/>           =3: VOLTAGE OUTPUT[0-10V]<br/>           =4: VOLTAGE OUTPUT[2-10V]<br/>           =5: CURRENT INPUT LOOP POWERED[0-20mA]<br/>           =6: CURRENT INPUT LOOP POWERED[4-20mA]<br/>           =7: CURRENT INPUT EXTERNAL POWERED[0-20mA]<br/>           =8: CURRENT INPUT EXTERNAL POWERED[4-20mA]<br/>           =9: CURRENT OUTPUT[0-20mA]<br/>           =10: CURRENT OUTPUT[4-20mA]<br/>           =11: DIGITAL INPUT LOGIC 24V=<br/>           =12: DIGITAL INPUT LOOP POWERED<br/>           =13: RESISTANCE MEASUREMENT</p> <p>HINT: The last IO type is automatically stored in FRAM and will be used after a system restart.</p> |  |                                 |                   |                              |               |             |
| IO TYPE2  | 3x40002<br>4x40002<br>I:40001          | 0,0x0000<br>B:00 00             |                   | 12:DI[24V;LP]                | UINT16<br>R/W | YES         |
|   |  | Actual IO type of AIOx:0:UU     |                   | CHOOSE NEW IO TYPE FROM LIST |               |             |
| IO TYPE3  | 3x40003<br>4x40003<br>I:40002          | 0,0x0000<br>B:00 00             |                   | 1:VI[0-10V]                  | UINT16<br>R/W | NO          |
|   |  | Actual IO type of AIOx:0:UU     |                   | CHOOSE NEW IO TYPE FROM LIST |               |             |
| IO TYPE4  | 3x40004<br>4x40004<br>I:40003          | 0,0x0000<br>B:00 00             |                   | 1:VI[0-10V]                  | UINT16<br>R/W | NO          |
|   |  | Actual IO type of AIOx:0:UU     |                   | CHOOSE NEW IO TYPE FROM LIST |               |             |
| IO TYPE5  | 3x40005<br>4x40005<br>I:40004          | 0,0x0000<br>B:00 00             |                   | 3:VO[0-10V]                  | UINT16<br>R/W | NO          |
|   |  | Actual IO type of AIOx:0:UU     |                   | CHOOSE NEW IO TYPE FROM LIST |               |             |
| IO TYPE6  | 3x40006<br>4x40006<br>I:40005          | 0,0x0000<br>B:00 00             |                   | 3:VO[0-10V]                  | UINT16<br>R/W | NO          |
|   |  | Actual IO type of AIOx:0:UU     |                   | CHOOSE NEW IO TYPE FROM LIST |               |             |

|  |                               |                               |  |                              |               |    |
|--|-------------------------------|-------------------------------|--|------------------------------|---------------|----|
| IO TYPE7   | 3x40007<br>4x40007<br>I:40006 | 0,0x0000<br>B:00 00           |  | 3:VO[0-10V]                  | UINT16<br>R/W | NO |
|  |                               | Actual IO type of AIOx:0:UU   |  | CHOOSE NEW IO TYPE FROM LIST |               |    |
| IO TYPE8   | 3x40008<br>4x40008<br>I:40007 | 0,0x0000<br>B:00 00           |  | 3:VO[0-10V]                  | UINT16<br>R/W | NO |
|  |                               | Actual IO type of AIOx:0:UU   |  | CHOOSE NEW IO TYPE FROM LIST |               |    |
| <b>AIOX:VOLTAGE INPUTS</b>   |                               |                               |  |                              |               |    |
| VOLTAGE INPUT1<br>IN VOLTS   | 3x40009<br>4x40009<br>I:40008 | 65535,0xFFFF<br>B:FF FF       |  |                              | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |  |                              |               |    |
| Current value of voltage input in x*100V, range 0-10V<br>=65535,0xFFFF: The channel is not configured as voltage input |                               |                               |  |                              |               |    |
| VOLTAGE INPUT2<br>IN VOLTS   | 3x40010<br>4x40010<br>I:40009 | 65535,0xFFFF<br>B:FF FF       |  |                              | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |  |                              |               |    |
| VOLTAGE INPUT3<br>IN VOLTS   | 3x40011<br>4x40011<br>I:40010 | 65535,0xFFFF<br>B:FF FF       |  |                              | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |  |                              |               |    |
| VOLTAGE INPUT4<br>IN VOLTS   | 3x40012<br>4x40012<br>I:40011 | 65535,0xFFFF<br>B:FF FF       |  |                              | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |  |                              |               |    |
| VOLTAGE INPUT5<br>IN VOLTS   | 3x40013<br>4x40013<br>I:40012 | 65535,0xFFFF<br>B:FF FF       |  |                              | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |  |                              |               |    |
| VOLTAGE INPUT6<br>IN VOLTS   | 3x40014<br>4x40014<br>I:40013 | 65535,0xFFFF<br>B:FF FF       |  |                              | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |  |                              |               |    |
| VOLTAGE INPUT7<br>IN VOLTS   | 3x40015<br>4x40015<br>I:40014 | 65535,0xFFFF<br>B:FF FF       |  |                              | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |  |                              |               |    |
| VOLTAGE INPUT8<br>IN VOLTS   | 3x40016<br>4x40016<br>I:40015 | 65535,0xFFFF<br>B:FF FF       |  |                              | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |  |                              |               |    |
| <b>AIOX:VOLTAGE INPUTS</b>   |                               |                               |  |                              |               |    |

|  |                               |                               |      |                         |               |    |
|--|-------------------------------|-------------------------------|------|-------------------------|---------------|----|
| VOLTAGE INPUT1<br>IN PERCENT   | 3x40017<br>4x40017<br>I:40016 | 65535,0xFFFF<br>B:FF FF       |      |                         | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |      |                         |               |    |
| Current value of voltage input in x*100%, range 0-100%<br>=65535,0xFFFF: The channel is not configured as voltage input  |                               |                               |      |                         |               |    |
| VOLTAGE INPUT3<br>IN PERCENT   | 3x40018<br>4x40018<br>I:40017 | 65535,0xFFFF<br>B:FF FF       |      |                         | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |      |                         |               |    |
| VOLTAGE INPUT3<br>IN PERCENT   | 3x40019<br>4x40019<br>I:40018 | 65535,0xFFFF<br>B:FF FF       |      |                         | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |      |                         |               |    |
| VOLTAGE INPUT4<br>IN PERCENT   | 3x40020<br>4x40020<br>I:40019 | 65535,0xFFFF<br>B:FF FF       |      |                         | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |      |                         |               |    |
| VOLTAGE INPUT5<br>IN PERCENT   | 3x40021<br>4x40021<br>I:40020 | 65535,0xFFFF<br>B:FF FF       |      |                         | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |      |                         |               |    |
| VOLTAGE INPUT6<br>IN PERCENT   | 3x40022<br>4x40022<br>I:40021 | 65535,0xFFFF<br>B:FF FF       |      |                         | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |      |                         |               |    |
| VOLTAGE INPUT7<br>IN PERCENT   | 3x40023<br>4x40023<br>I:40022 | 65535,0xFFFF<br>B:FF FF       |      |                         | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |      |                         |               |    |
| VOLTAGE INPUT8<br>IN PERCENT   | 3x40024<br>4x40024<br>I:40023 | 65535,0xFFFF<br>B:FF FF       |      |                         | UINT16<br>R/O |    |
|  |                               | Actual value of Vlx:65535=N/V |      |                         |               |    |
| <b>AIOX:VOLTAGE OUTPUTS</b>  |                               |                               |      |                         |               |    |
| VOLTAGE OUTPUT1<br>IN VOLTS  | 3x40025<br>4x40025<br>I:40024 | 65535,0xFFFF<br>B:FF FF       | 1100 | 11                      | UINT16<br>R/W | NO |
|  |                               | Actual value of VOx:65535=N/V |      | ENTER NEW VALUE FOR VOx |               |    |
| Current value of voltage output in x*100V, range 0-11V<br>=65535,0xFFFF: The channel is not configured as voltage output |                               |                               |      |                         |               |    |
| Writing a new value onto this register sets voltage output x to a new output value in Volt                               |                               |                               |      |                         |               |    |
| VOLTAGE OUTPUT2<br>IN VOLTS  | 3x40026<br>4x40026<br>I:40025 | 65535,0xFFFF<br>B:FF FF       | 1100 | 11                      | UINT16<br>R/W | NO |

|  |                               |                               |       |                         |               |    |  |
|--|-------------------------------|-------------------------------|-------|-------------------------|---------------|----|--|
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| VOLTAGE OUTPUT3<br>IN VOLTS  | 3x40027<br>4x40027<br>I:40026 | 65535,0xFFFF<br>B:FF FF       | 1100  | 11                      | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| VOLTAGE OUTPUT4<br>IN VOLTS  | 3x40028<br>4x40028<br>I:40027 | 65535,0xFFFF<br>B:FF FF       | 1100  | 11                      | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| VOLTAGE OUTPUT5<br>IN VOLTS  | 3x40029<br>4x40029<br>I:40028 | 65535,0xFFFF<br>B:FF FF       | 1100  | 11                      | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| VOLTAGE OUTPUT6<br>IN VOLTS  | 3x40030<br>4x40030<br>I:40029 | 65535,0xFFFF<br>B:FF FF       | 1100  | 11                      | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| VOLTAGE OUTPUT7<br>IN VOLTS  | 3x40031<br>4x40031<br>I:40030 | 65535,0xFFFF<br>B:FF FF       | 1100  | 11                      | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| VOLTAGE OUTPUT8<br>IN VOLTS  | 3x40032<br>4x40032<br>I:40031 | 65535,0xFFFF<br>B:FF FF       | 1100  | 11                      | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| <b>AIOX:VOLTAGE OUTPUTS</b>  |                               |                               |       |                         |               |    |  |
| VOLTAGE OUTPUT1<br>IN PERCENT  | 3x40033<br>4x40033<br>I:40032 | 65535,0xFFFF<br>B:FF FF       | 11000 | 110                     | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| Current value of voltage output in x*100%, range 0-110% (100%=10V)<br>=65535,0xFFFF: The channel is not configured as voltage output |                               |                               |       |                         |               |    |  |
| Writing a new value onto this register sets voltage output x to a new output value in percent  |                               |                               |       |                         |               |    |  |
| VOLTAGE OUTPUT2<br>IN PERCENT  | 3x40034<br>4x40034<br>I:40033 | 65535,0xFFFF<br>B:FF FF       | 5000  | 50                      | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| VOLTAGE OUTPUT3<br>IN PERCENT  | 3x40035<br>4x40035<br>I:40034 | 65535,0xFFFF<br>B:FF FF       | 3000  | 30                      | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |
| VOLTAGE OUTPUT4<br>IN PERCENT  | 3x40036<br>4x40036<br>I:40035 | 65535,0xFFFF<br>B:FF FF       | 7500  | 75                      | UINT16<br>R/W | NO |  |
|  |                               | Actual value of VOx:65535=N/V |       | ENTER NEW VALUE FOR VOx |               |    |  |

|   |                               |  |   |                         |               |    |
|---|-------------------------------|--|---|-------------------------|---------------|----|
| VOLTAGE OUTPUT5<br>IN PERCENT   | 3x40037<br>4x40037<br>I:40036 | 65535,0xFFFF<br>B:FF FF                          | 0 | 0                       | UINT16<br>R/W | NO |
|   |                               | Actual value of VOx:65535=N/V                    |   | ENTER NEW VALUE FOR VOx |               |    |
| VOLTAGE OUTPUT6<br>IN PERCENT   | 3x40038<br>4x40038<br>I:40037 | 65535,0xFFFF<br>B:FF FF                          | 0 | 0                       | UINT16<br>R/W | NO |
|   |                               | Actual value of VOx:65535=N/V                    |   | ENTER NEW VALUE FOR VOx |               |    |
| VOLTAGE OUTPUT7<br>IN PERCENT   | 3x40039<br>4x40039<br>I:40038 | 65535,0xFFFF<br>B:FF FF                          | 0 | 0                       | UINT16<br>R/W | NO |
|   |                               | Actual value of VOx:65535=N/V                    |   | ENTER NEW VALUE FOR VOx |               |    |
| VOLTAGE OUTPUT8<br>IN PERCENT   | 3x40040<br>4x40040<br>I:40039 | 65535,0xFFFF<br>B:FF FF                          | 0 | 0                       | UINT16<br>R/W | NO |
|   |                               | Actual value of VOx:65535=N/V                    |   | ENTER NEW VALUE FOR VOx |               |    |
| <b>AIOX:VOLTAGE OUTPUTS</b>   |                               |  |   |                         |               |    |
| VOLTAGE OUTPUT1<br>MEASURED CURRENT   | 3x40041<br>4x40041<br>I:40040 | -32768,0x8000<br>B:80 00                         |   |                         | SINT16<br>R/O |    |
|   |                               | Actual measured output current of VOx:-32768=N/V |   |                         |               |    |
| Returns the measured output current in x*100mA on voltage output VOx, Range -25mA..+25mA<br>=-32768,0x8000: The channel is not configured as voltage output |                               |  |   |                         |               |    |
| VOLTAGE OUTPUT2<br>MEASURED CURRENT   | 3x40042<br>4x40042<br>I:40041 | -32768,0x8000<br>B:80 00                         |   |                         | SINT16<br>R/O |    |
|   |                               | Actual measured output current of VOx:-32768=N/V |   |                         |               |    |
| VOLTAGE OUTPUT3<br>MEASURED CURRENT   | 3x40043<br>4x40043<br>I:40042 | -32768,0x8000<br>B:80 00                         |   |                         | SINT16<br>R/O |    |
|   |                               | Actual measured output current of VOx:-32768=N/V |   |                         |               |    |
| VOLTAGE OUTPUT4<br>MEASURED CURRENT   | 3x40044<br>4x40044<br>I:40043 | -32768,0x8000<br>B:80 00                         |   |                         | SINT16<br>R/O |    |
|   |                               | Actual measured output current of VOx:-32768=N/V |   |                         |               |    |
| VOLTAGE OUTPUT5<br>MEASURED CURRENT   | 3x40045<br>4x40045<br>I:40044 | -32768,0x8000<br>B:80 00                         |   |                         | SINT16<br>R/O |    |
|   |                               | Actual measured output current of VOx:-32768=N/V |   |                         |               |    |
| VOLTAGE OUTPUT6<br>MEASURED CURRENT   | 3x40046<br>4x40046<br>I:40045 | -32768,0x8000<br>B:80 00                         |   |                         | SINT16<br>R/O |    |
|   |                               | Actual measured output current of VOx:-32768=N/V |   |                         |               |    |
| VOLTAGE OUTPUT7<br>MEASURED CURRENT   | 3x40047<br>4x40047<br>I:40046 | -32768,0x8000<br>B:80 00                         |   |                         | SINT16<br>R/O |    |



|  |                               |  |  |  |               |  |
|--|-------------------------------|--|--|--|---------------|--|
|  |                               | Actual measured output current of VOx:-32768=N/V |  |  |               |  |
| VOLTAGE OUTPUT8<br>MEASURED CURRENT  | 3x40048<br>4x40048<br>I:40047 | -32768,0x8000<br>B:80 00                         |  |  | SINT16<br>R/O |  |
|  |                               | Actual measured output current of VOx:-32768=N/V |  |  |               |  |
| <b>AIOX:CURRENT INPUTS</b>   |                               |  |  |  |               |  |
| CURRENT INPUT1<br>IN MILLIAMPERE   | 3x40049<br>4x40049<br>I:40048 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|  |                               | Actual value of CIx:65535=N/V                    |  |  |               |  |
| Current value of current input in x*100mA, range 0-25mA<br>=65535,0xFFFF: The channel is not configured as current input |                               |  |  |  |               |  |
| CURRENT INPUT2<br>IN MILLIAMPERE   | 3x40050<br>4x40050<br>I:40049 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|  |                               | Actual value of VIx:65535=N/V                    |  |  |               |  |
| CURRENT INPUT3<br>IN MILLIAMPERE   | 3x40051<br>4x40051<br>I:40050 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|  |                               | Actual value of VIx:65535=N/V                    |  |  |               |  |
| CURRENT INPUT4<br>IN MILLIAMPERE   | 3x40052<br>4x40052<br>I:40051 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|  |                               | Actual value of VIx:65535=N/V                    |  |  |               |  |
| CURRENT INPUT5<br>IN MILLIAMPERE   | 3x40053<br>4x40053<br>I:40052 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|  |                               | Actual value of VIx:65535=N/V                    |  |  |               |  |
| CURRENT INPUT6<br>IN MILLIAMPERE   | 3x40054<br>4x40054<br>I:40053 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|  |                               | Actual value of VIx:65535=N/V                    |  |  |               |  |
| CURRENT INPUT7<br>IN MILLIAMPERE   | 3x40055<br>4x40055<br>I:40054 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|  |                               | Actual value of VIx:65535=N/V                    |  |  |               |  |
| CURRENT INPUT8<br>IN MILLIAMPERE   | 3x40056<br>4x40056<br>I:40055 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|  |                               | Actual value of VIx:65535=N/V                    |  |  |               |  |
| <b>AIOX:CURRENT INPUTS</b>   |                               |  |  |  |               |  |
| CURRENT INPUT1<br>IN PERCENT   | 3x40057<br>4x40057<br>I:40056 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|  |                               | Actual value of CIx:65535=N/V                    |  |  |               |  |

| Current value of current input in x*100%, range 0-125% (100%=20mA)<br>=65535,0xFFFF: The channel is not configured as current input |                               |                               |     |   |                         |               |
|---|-------------------------------|-------------------------------|-----|---|-------------------------|---------------|
| CURRENT INPUT2<br>IN PERCENT  | 3x40058<br>4x40058<br>I:40057 | 65535,0xFFFF<br>B:FF FF       |     |   |                         | UINT16<br>R/O |
|   |                               | Actual value of CIx:65535=N/V |     |   |                         |               |
| CURRENT INPUT3<br>IN PERCENT  | 3x40059<br>4x40059<br>I:40058 | 65535,0xFFFF<br>B:FF FF       |     |   |                         | UINT16<br>R/O |
|   |                               | Actual value of CIx:65535=N/V |     |   |                         |               |
| CURRENT INPUT4<br>IN PERCENT  | 3x40060<br>4x40060<br>I:40059 | 65535,0xFFFF<br>B:FF FF       |     |   |                         | UINT16<br>R/O |
|   |                               | Actual value of CIx:65535=N/V |     |   |                         |               |
| CURRENT INPUT5<br>IN PERCENT  | 3x40061<br>4x40061<br>I:40060 | 65535,0xFFFF<br>B:FF FF       |     |   |                         | UINT16<br>R/O |
|   |                               | Actual value of CIx:65535=N/V |     |   |                         |               |
| CURRENT INPUT6<br>IN PERCENT  | 3x40062<br>4x40062<br>I:40061 | 65535,0xFFFF<br>B:FF FF       |     |   |                         | UINT16<br>R/O |
|   |                               | Actual value of CIx:65535=N/V |     |   |                         |               |
| CURRENT INPUT7<br>IN PERCENT  | 3x40063<br>4x40063<br>I:40062 | 65535,0xFFFF<br>B:FF FF       |     |   |                         | UINT16<br>R/O |
|   |                               | Actual value of CIx:65535=N/V |     |   |                         |               |
| CURRENT INPUT8<br>IN PERCENT  | 3x40064<br>4x40064<br>I:40063 | 65535,0xFFFF<br>B:FF FF       |     |   |                         | UINT16<br>R/O |
|   |                               | Actual value of CIx:65535=N/V |     |   |                         |               |
| <b>AIOX:CURRENT OUTPUTS</b>   |                               |                               |     |   |                         |               |
| CURRENT OUTPUT1<br>IN MILIAMPERE  | 3x40065<br>4x40065<br>I:40064 | 65535,0xFFFF<br>B:FF FF       | 500 | 5 |                         | UINT16<br>R/W |
|   |                               | Actual value of COx:65535=N/V |     |   | ENTER NEW VALUE FOR COx |               |
| Current value of current output in x*100mA, range 0-25mA<br>=65535,0xFFFF: The channel is not configured as current output          |                               |                               |     |   |                         |               |
| Writing a new value onto this register sets current output x to a new output value in Milliampere                                   |                               |                               |     |   |                         |               |
| CURRENT OUTPUT2<br>IN MILIAMPERE  | 3x40066<br>4x40066<br>I:40065 | 65535,0xFFFF<br>B:FF FF       | 500 | 5 |                         | UINT16<br>R/W |
|   |                               | Actual value of COx:65535=N/V |     |   | ENTER NEW VALUE FOR COx |               |
| CURRENT OUTPUT3<br>IN MILIAMPERE  | 3x40067<br>4x40067<br>I:40066 | 65535,0xFFFF<br>B:FF FF       | 500 | 5 |                         | UINT16<br>R/W |

|   |                               |                               |      |                         |               |    |
|---|-------------------------------|-------------------------------|------|-------------------------|---------------|----|
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT4<br>IN MILIAMPERE  | 3x40068<br>4x40068<br>I:40067 | 65535,0xFFFF<br>B:FF FF       | 500  | 5                       | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT5<br>IN MILIAMPERE  | 3x40069<br>4x40069<br>I:40068 | 65535,0xFFFF<br>B:FF FF       | 500  | 5                       | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT6<br>IN MILIAMPERE  | 3x40070<br>4x40070<br>I:40069 | 65535,0xFFFF<br>B:FF FF       | 500  | 5                       | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT7<br>IN MILIAMPERE  | 3x40071<br>4x40071<br>I:40070 | 65535,0xFFFF<br>B:FF FF       | 500  | 5                       | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT8<br>IN MILIAMPERE  | 3x40072<br>4x40072<br>I:40071 | 65535,0xFFFF<br>B:FF FF       | 500  | 5                       | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| <b>AIOX:CURRENT OUTPUTS</b>   |                               |                               |      |                         |               |    |
| CURRENT OUTPUT1<br>IN PERCENT   | 3x40073<br>4x40073<br>I:40072 | 65535,0xFFFF<br>B:FF FF       | 5000 | 50                      | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| Current value of current output in x*100%, range 0-125% (100%=20mA)<br>=65535,0xFFFF: The channel is not configured as current output |                               |                               |      |                         |               |    |
| Writing a new value onto this register sets current output x to a new output value in percent   |                               |                               |      |                         |               |    |
| CURRENT OUTPUT2<br>IN PERCENT   | 3x40074<br>4x40074<br>I:40073 | 65535,0xFFFF<br>B:FF FF       | 5000 | 50                      | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT3<br>IN PERCENT   | 3x40075<br>4x40075<br>I:40074 | 65535,0xFFFF<br>B:FF FF       | 5000 | 50                      | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT4<br>IN PERCENT   | 3x40076<br>4x40076<br>I:40075 | 65535,0xFFFF<br>B:FF FF       | 5000 | 50                      | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT5<br>IN PERCENT   | 3x40077<br>4x40077<br>I:40076 | 65535,0xFFFF<br>B:FF FF       | 5000 | 50                      | UINT16<br>R/W | NO |
|   |                               | Actual value of COx:65535=N/V |      | ENTER NEW VALUE FOR COx |               |    |

|  |                               |  |      |                         |               |    |
|--|-------------------------------|--|------|-------------------------|---------------|----|
| CURRENT OUTPUT6<br>IN PERCENT  | 3x40078<br>4x40078<br>I:40077 | 65535,0xFFFF<br>B:FF FF                      | 5000 | 50                      | UINT16<br>R/W | NO |
|  |                               | Actual value of COx:65535=N/V                |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT7<br>IN PERCENT  | 3x40079<br>4x40079<br>I:40078 | 65535,0xFFFF<br>B:FF FF                      | 5000 | 50                      | UINT16<br>R/W | NO |
|  |                               | Actual value of COx:65535=N/V                |      | ENTER NEW VALUE FOR COx |               |    |
| CURRENT OUTPUT8<br>IN PERCENT  | 3x40080<br>4x40080<br>I:40079 | 65535,0xFFFF<br>B:FF FF                      | 5000 | 50                      | UINT16<br>R/W | NO |
|  |                               | Actual value of COx:65535=N/V                |      | ENTER NEW VALUE FOR COx |               |    |
| <b>AIOX:CURRENT OUTPUTS</b>  |                               |  |      |                         |               |    |
| CURRENT OUTPUT1<br>MEASURED VOLTS  | 3x40081<br>4x40081<br>I:40080 | 65535,0xFFFF<br>B:FF FF                      |      |                         | UINT16<br>R/O |    |
|  |                               | Actual measured output voltage COx:65535=N/V |      |                         |               |    |
| Current measured output voltage for current output x*100V, range 0-10V<br>=65535,0xFFFF: The channel is not configured as current output |                               |  |      |                         |               |    |
| CURRENT OUTPUT2<br>MEASURED VOLTS  | 3x40082<br>4x40082<br>I:40081 | 65535,0xFFFF<br>B:FF FF                      |      |                         | UINT16<br>R/O |    |
|  |                               | Actual measured output voltage COx:65535=N/V |      |                         |               |    |
| CURRENT OUTPUT3<br>MEASURED VOLTS  | 3x40083<br>4x40083<br>I:40082 | 65535,0xFFFF<br>B:FF FF                      |      |                         | UINT16<br>R/O |    |
|  |                               | Actual measured output voltage COx:65535=N/V |      |                         |               |    |
| CURRENT OUTPUT4<br>MEASURED VOLTS  | 3x40084<br>4x40084<br>I:40083 | 65535,0xFFFF<br>B:FF FF                      |      |                         | UINT16<br>R/O |    |
|  |                               | Actual measured output voltage COx:65535=N/V |      |                         |               |    |
| CURRENT OUTPUT5<br>MEASURED VOLTS  | 3x40085<br>4x40085<br>I:40084 | 65535,0xFFFF<br>B:FF FF                      |      |                         | UINT16<br>R/O |    |
|  |                               | Actual measured output voltage COx:65535=N/V |      |                         |               |    |
| CURRENT OUTPUT6<br>MEASURED VOLTS  | 3x40086<br>4x40086<br>I:40085 | 65535,0xFFFF<br>B:FF FF                      |      |                         | UINT16<br>R/O |    |
|  |                               | Actual measured output voltage COx:65535=N/V |      |                         |               |    |
| CURRENT OUTPUT7<br>MEASURED VOLTS  | 3x40087<br>4x40087<br>I:40086 | 65535,0xFFFF<br>B:FF FF                      |      |                         | UINT16<br>R/O |    |
|  |                               | Actual measured output voltage COx:65535=N/V |      |                         |               |    |
| CURRENT OUTPUT8<br>MEASURED VOLTS  | 3x40088<br>4x40088<br>I:40087 | 65535,0xFFFF<br>B:FF FF                      |      |                         | UINT16<br>R/O |    |

|   |                               |  |  |  |               |  |
|---|-------------------------------|--|--|--|---------------|--|
|   |                               | Actual measured output voltage COx:65535=N/V     |  |  |               |  |
| <b>AIOX:DIGITAL INPUTS</b>  |                               |  |  |  |               |  |
| DIGITAL INPUT1  | 3x40089<br>4x40089<br>I:40088 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|   |                               | Actual state of digital input DIx:65535=N/V      |  |  |               |  |
| Current measured state of digital input DIx<br>=0: Digital input is OFF or loop is closed<br>=1: Digital input is ON (+24V attached) or loop is open<br>=65535,0xFFFF: The channel is not configured as digital input |                               |  |  |  |               |  |
| DIGITAL INPUT2  | 3x40090<br>4x40090<br>I:40089 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|   |                               | Actual state of digital input DIx:65535=N/V      |  |  |               |  |
| DIGITAL INPUT3  | 3x40091<br>4x40091<br>I:40090 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|   |                               | Actual measured output voltage COx:65535=N/V     |  |  |               |  |
| DIGITAL INPUT4  | 3x40092<br>4x40092<br>I:40091 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|   |                               | Actual measured output voltage COx:65535=N/V     |  |  |               |  |
| DIGITAL INPUT5  | 3x40093<br>4x40093<br>I:40092 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|   |                               | Actual measured output voltage COx:65535=N/V     |  |  |               |  |
| DIGITAL INPUT6  | 3x40094<br>4x40094<br>I:40093 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|   |                               | Actual measured output voltage COx:65535=N/V     |  |  |               |  |
| DIGITAL INPUT7  | 3x40095<br>4x40095<br>I:40094 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|   |                               | Actual measured output voltage COx:65535=N/V     |  |  |               |  |
| DIGITAL INPUT8  | 3x40096<br>4x40096<br>I:40095 | 65535,0xFFFF<br>B:FF FF                          |  |  | UINT16<br>R/O |  |
|   |                               | Actual measured output voltage COx:65535=N/V     |  |  |               |  |
| <b>AIOX:DIGITAL INPUTS</b>  |                               |  |  |  |               |  |
| DIGITAL INPUT1<br>MEASURED CURRENT  | 3x40097<br>4x40097<br>I:40096 | -32768,0x8000<br>B:80 00                         |  |  | SINT16<br>R/O |  |
|   |                               | Actual measured output current of DIx:-32768=N/V |  |  |               |  |
| Returns the measured output current in x*100mA on DIGITAL INPUT VOx, Range -25mA..+25mA<br>=-32768,0x8000: The channel is not configured as DIGITAL INPUT   |                               |  |  |  |               |  |

|                                    |                               |  |  |  |               |  |
|------------------------------------|-------------------------------|--|--|--|---------------|--|
| DIGITAL INPUT2<br>MEASURED CURRENT | 3x40098<br>4x40098<br>I:40097 | -32768,0x8000<br>B:80 00                         |  |  | SINT16<br>R/O |  |
|                                    |                               | Actual measured output current of DIx:-32768=N/V |  |  |               |  |
| DIGITAL INPUT3<br>MEASURED CURRENT | 3x40099<br>4x40099<br>I:40098 | -32768,0x8000<br>B:80 00                         |  |  | SINT16<br>R/O |  |
|                                    |                               | Actual measured output current of DIx:-32768=N/V |  |  |               |  |
| DIGITAL INPUT4<br>MEASURED CURRENT | 3x40100<br>4x40100<br>I:40099 | -32768,0x8000<br>B:80 00                         |  |  | SINT16<br>R/O |  |
|                                    |                               | Actual measured output current of DIx:-32768=N/V |  |  |               |  |
| DIGITAL INPUT5<br>MEASURED CURRENT | 3x40101<br>4x40101<br>I:40100 | -32768,0x8000<br>B:80 00                         |  |  | SINT16<br>R/O |  |
|                                    |                               | Actual measured output current of DIx:-32768=N/V |  |  |               |  |
| DIGITAL INPUT6<br>MEASURED CURRENT | 3x40102<br>4x40102<br>I:40101 | -32768,0x8000<br>B:80 00                         |  |  | SINT16<br>R/O |  |
|                                    |                               | Actual measured output current of DIx:-32768=N/V |  |  |               |  |
| DIGITAL INPUT7<br>MEASURED CURRENT | 3x40103<br>4x40103<br>I:40102 | -32768,0x8000<br>B:80 00                         |  |  | SINT16<br>R/O |  |
|                                    |                               | Actual measured output current of DIx:-32768=N/V |  |  |               |  |
| DIGITAL INPUT8<br>MEASURED CURRENT | 3x40104<br>4x40104<br>I:40103 | -32768,0x8000<br>B:80 00                         |  |  | SINT16<br>R/O |  |
|                                    |                               | Actual measured output current of DIx:-32768=N/V |  |  |               |  |

| Register NAME<br>Command NAME   | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE     | DO<br>WRITE |
|---|--|---------------------------------|-------------------|--------------|---------------|-------------|
| <b>AIOX:RTD INPUTS OHM*10</b>   |  |                                 |                   |              |               |             |
| RTD INPUT1<br>IN OHM*10   | 3x41001<br>4x41001<br>I:41000          | 65534,0xFFFE<br>B:FF FE         |                   |              | UINT16<br>R/O |             |
| Actual measured ohm value of RTDIx:65534=OPEN   |  |                                 |                   |              |               |             |
| Current measured RTD in Ohm*10 between 0 and 600000<br>=0..60000: Current measured resistance in Ohm*10<br>=65534,0xFFFE: The sensor or cabling is open (broken, not connected, or out of range)<br>=65535,0xFFFF: The channel is not configured as RTD input |  |                                 |                   |              |               |             |
| RTD INPUT2<br>IN OHM*10   | 3x41002<br>4x41002<br>I:41001          | 65534,0xFFFE<br>B:FF FE         |                   |              | UINT16<br>R/O |             |
| Actual measured ohm value of RTDIx:65534=OPEN   |  |                                 |                   |              |               |             |
| RTD INPUT3<br>IN OHM*10   | 3x41003<br>4x41003<br>I:41002          | 65534,0xFFFE<br>B:FF FE         |                   |              | UINT16<br>R/O |             |
| Actual measured ohm value of RTDIx:65534=OPEN   |  |                                 |                   |              |               |             |
| RTD INPUT4<br>IN OHM*10   | 3x41004<br>4x41004<br>I:41003          | 65534,0xFFFE<br>B:FF FE         |                   |              | UINT16<br>R/O |             |
| Actual measured ohm value of RTDIx:65534=OPEN   |  |                                 |                   |              |               |             |
| RTD INPUT5<br>IN OHM*10   | 3x41005<br>4x41005<br>I:41004          | 65534,0xFFFE<br>B:FF FE         |                   |              | UINT16<br>R/O |             |
| Actual measured ohm value of RTDIx:65534=OPEN   |  |                                 |                   |              |               |             |
| RTD INPUT6<br>IN OHM*10   | 3x41006<br>4x41006<br>I:41005          | 65534,0xFFFE<br>B:FF FE         |                   |              | UINT16<br>R/O |             |
| Actual measured ohm value of RTDIx:65534=OPEN   |  |                                 |                   |              |               |             |
| RTD INPUT7<br>IN OHM*10   | 3x41007<br>4x41007<br>I:41006          | 65534,0xFFFE<br>B:FF FE         |                   |              | UINT16<br>R/O |             |
| Actual measured ohm value of RTDIx:65534=OPEN   |  |                                 |                   |              |               |             |
| RTD INPUT8<br>IN OHM*10   | 3x41008<br>4x41008<br>I:41007          | 65534,0xFFFE<br>B:FF FE         |                   |              | UINT16<br>R/O |             |
| Actual measured ohm value of RTDIx:65534=OPEN   |  |                                 |                   |              |               |             |
| <b>AIOX:RTD INPUTS OHM*1</b>  |  |                                 |                   |              |               |             |
| RTD INPUT1<br>IN OHM  | 3x41009<br>4x41009<br>I:41008          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |

|  |                               |  |  |  |               |  |
|--|-------------------------------|--|--|--|---------------|--|
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |
| Current measured RTD in Ohm*1 between 0 and 60000<br>=0..60000: Current measured resistance in Ohm*1<br>=65534,0xFFFF: The sensor or cabling is open (broken, not connected, or out of range)<br>=65535,0xFFFF: The channel is not configured as RTD input   |                               |  |  |  |               |  |
| RTD INPUT2<br>IN OHM   | 3x41010<br>4x41010<br>l:41009 | 65535,0xFFFF<br>B:FF FF                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |
| RTD INPUT3<br>IN OHM   | 3x41011<br>4x41011<br>l:41010 | 65535,0xFFFF<br>B:FF FF                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |
| RTD INPUT4<br>IN OHM   | 3x41012<br>4x41012<br>l:41011 | 65535,0xFFFF<br>B:FF FF                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |
| RTD INPUT5<br>IN OHM   | 3x41013<br>4x41013<br>l:41012 | 65535,0xFFFF<br>B:FF FF                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |
| RTD INPUT6<br>IN OHM   | 3x41014<br>4x41014<br>l:41013 | 65535,0xFFFF<br>B:FF FF                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |
| RTD INPUT7<br>IN OHM   | 3x41015<br>4x41015<br>l:41014 | 65535,0xFFFF<br>B:FF FF                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |
| RTD INPUT8<br>IN OHM   | 3x41016<br>4x41016<br>l:41015 | 65535,0xFFFF<br>B:FF FF                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |
| <b>AIOX:RTD INPUTS OHM/10</b>  |                               |  |  |  |               |  |
| RTD INPUT1<br>IN OHM/10  | 3x41017<br>4x41017<br>l:41016 | 65535,0xFFFF<br>B:FF FF                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |
| Current measured RTD in Ohm/10 between 0 and 60000<br>=0..60000: Current measured resistance in Ohm/10<br>=65534,0xFFFF: The sensor or cabling is open (broken, not connected, or out of range)<br>=65535,0xFFFF: The channel is not configured as RTD input |                               |  |  |  |               |  |
| RTD INPUT2<br>IN OHM/10  | 3x41018<br>4x41018<br>l:41017 | 65535,0xFFFF<br>B:FF FF                      |  |  | UINT16<br>R/O |  |
|  |                               | Actual measured ohm value of RTDlx:65535=N/V |  |  |               |  |



|  |                               |                          |  |  |               |  |
|--|-------------------------------|--------------------------|--|--|---------------|--|
| RTD INPUT3<br>IN OHM/10  | 3x41019<br>4x41019<br>I:41018 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured ohm value of RTDIx:65535=N/V   |                               |                          |  |  |               |  |
| RTD INPUT4<br>IN OHM/10  | 3x41020<br>4x41020<br>I:41019 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured ohm value of RTDIx:65535=N/V   |                               |                          |  |  |               |  |
| RTD INPUT5<br>IN OHM/10  | 3x41021<br>4x41021<br>I:41020 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured ohm value of RTDIx:65535=N/V   |                               |                          |  |  |               |  |
| RTD INPUT6<br>IN OHM/10  | 3x41022<br>4x41022<br>I:41021 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured ohm value of RTDIx:65535=N/V   |                               |                          |  |  |               |  |
| RTD INPUT7<br>IN OHM/10  | 3x41023<br>4x41023<br>I:41022 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured ohm value of RTDIx:65535=N/V   |                               |                          |  |  |               |  |
| RTD INPUT8<br>IN OHM/10  | 3x41024<br>4x41024<br>I:41023 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured ohm value of RTDIx:65535=N/V   |                               |                          |  |  |               |  |
| <b>AIOX:RTD INPUTS PT100 CELSIUS</b>   |                               |                          |  |  |               |  |
| RTD INPUT1<br>AS PT100 IN CELSIUS  | 3x41025<br>4x41025<br>I:41024 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |  |               |  |
| Current measured RTD sensor value linearized as PT100 sensor in Celsius*100 in the range of -5000 to +13000 for -50.0 to +130.0 °C<br>-32766,0x8002: Measured value is below -50°C<br>-32767,0x8001: Measured value is above +130°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |  |               |  |
| RTD INPUT2<br>AS PT100 IN CELSIUS  | 3x41026<br>4x41026<br>I:41025 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |  |               |  |
| RTD INPUT3<br>AS PT100 IN CELSIUS  | 3x41027<br>4x41027<br>I:41026 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |  |               |  |
| RTD INPUT4<br>AS PT100 IN CELSIUS  | 3x41028<br>4x41028<br>I:41027 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |  |               |  |

|   |                               |                          |  |               |  |
|---|-------------------------------|--------------------------|--|---------------|--|
| RTD INPUT5<br>AS PT100 IN CELSIUS   | 3x41029<br>4x41029<br>I:41028 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| RTD INPUT6<br>AS PT100 IN CELSIUS   | 3x41030<br>4x41030<br>I:41029 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| RTD INPUT7<br>AS PT100 IN CELSIUS   | 3x41031<br>4x41031<br>I:41030 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| RTD INPUT8<br>AS PT100 IN CELSIUS   | 3x41032<br>4x41032<br>I:41031 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| <b>AIOX:RTD INPUTS PT1000 CELSIUS</b>   |                               |                          |  |               |  |
| RTD INPUT1<br>AS PT1000 IN CELSIUS  | 3x41033<br>4x41033<br>I:41032 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| Current measured RTD sensor value linearized as PT1000 sensor in Celsius*100 in the range of -5000 to +13000 for -50.0 to +130.0 °C<br>-32766,0x8002: Measured value is below -50°C<br>-32767,0x8001: Measured value is above +130°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |               |  |
| RTD INPUT2<br>AS PT1000 IN CELSIUS  | 3x41034<br>4x41034<br>I:41033 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT3<br>AS PT1000 IN CELSIUS  | 3x41035<br>4x41035<br>I:41034 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT4<br>AS PT1000 IN CELSIUS  | 3x41036<br>4x41036<br>I:41035 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT5<br>AS PT1000 IN CELSIUS  | 3x41037<br>4x41037<br>I:41036 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT6<br>AS PT1000 IN CELSIUS  | 3x41038<br>4x41038<br>I:41037 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |

|  |                               |                          |  |               |  |
|--|-------------------------------|--------------------------|--|---------------|--|
| RTD INPUT7<br>AS PT1000 IN CELSIUS   | 3x41039<br>4x41039<br>I:41038 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDlx:-32768=N/V  |                               |                          |  |               |  |
| RTD INPUT8<br>AS PT1000 IN CELSIUS   | 3x41040<br>4x41040<br>I:41039 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDlx:-32768=N/V  |                               |                          |  |               |  |
| <b>AIOX:RTD INPUTS NI1000-DIN43760 CELSIUS</b>   |                               |                          |  |               |  |
| RTD INPUT1<br>AS NI1000-DIN43760 IN CELSIUS  | 3x41041<br>4x41041<br>I:41040 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V   |                               |                          |  |               |  |
| Current measured RTD sensor value linearized as NI1000-DIN43760 sensor in Celsius*100 in the range of -5000 to +13000 for -50.0 to +130.0 °C<br>-32766,0x8002: Measured value is below -50°C<br>-32767,0x8001: Measured value is above +130°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |               |  |
| RTD INPUT2<br>AS NI1000-DIN43760 IN CELSIUS  | 3x41042<br>4x41042<br>I:41041 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT3<br>AS NI1000-DIN43760 IN CELSIUS  | 3x41043<br>4x41043<br>I:41042 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT4<br>AS NI1000-DIN43760 IN CELSIUS  | 3x41044<br>4x41044<br>I:41043 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT5<br>AS NI1000-DIN43760 IN CELSIUS  | 3x41045<br>4x41045<br>I:41044 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT6<br>AS NI1000-DIN43760 IN CELSIUS  | 3x41046<br>4x41046<br>I:41045 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT7<br>AS NI1000-DIN43760 IN CELSIUS  | 3x41047<br>4x41047<br>I:41046 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT8<br>AS NI1000-DIN43760 IN CELSIUS  | 3x41048<br>4x41048<br>I:41047 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V   |                               |                          |  |               |  |
| <b>AIOX:RTD INPUTS PT100 KELVIN</b>  |                               |                          |  |               |  |

|   |                               |                         |  |  |               |  |
|---|-------------------------------|-------------------------|--|--|---------------|--|
| RTD INPUT1<br>AS PT100 IN KELVIN  | 3x41049<br>4x41049<br>I:41048 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| Current measured RTD sensor value linearized as PT100 sensor in Kelvin*100 in the range of 22315 to 40315 for 223.15 to 403.15 °K<br>65533,0xFFFFD: Measured value is below 223,15°K<br>65534,0xFFFFE: Measured value is above 403,15°K<br>65535,0xFFFFF: The channel is not configured as RTD input  |                               |                         |  |  |               |  |
| RTD INPUT2<br>AS PT100 IN KELVIN  | 3x41050<br>4x41050<br>I:41049 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| RTD INPUT3<br>AS PT100 IN KELVIN  | 3x41051<br>4x41051<br>I:41050 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| RTD INPUT4<br>AS PT100 IN KELVIN  | 3x41052<br>4x41052<br>I:41051 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| RTD INPUT5<br>AS PT100 IN KELVIN  | 3x41053<br>4x41053<br>I:41052 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| RTD INPUT6<br>AS PT100 IN KELVIN  | 3x41054<br>4x41054<br>I:41053 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| RTD INPUT7<br>AS PT100 IN KELVIN  | 3x41055<br>4x41055<br>I:41054 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| RTD INPUT8<br>AS PT100 IN KELVIN  | 3x41056<br>4x41056<br>I:41055 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| <b>AIOX:RTD INPUTS PT1000 KELVIN</b>  |                               |                         |  |  |               |  |
| RTD INPUT1<br>AS PT1000 IN KELVIN   | 3x41057<br>4x41057<br>I:41056 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |  |               |  |
| Current measured RTD sensor value linearized as PT1000 sensor in Kelvin*100 in the range of 22315 to 40315 for 223.15 to 403.15 °K<br>65533,0xFFFFD: Measured value is below 223,15°K<br>65534,0xFFFFE: Measured value is above 403,15°K<br>65535,0xFFFFF: The channel is not configured as RTD input |                               |                         |  |  |               |  |

|   |                               |                         |  |               |  |
|---|-------------------------------|-------------------------|--|---------------|--|
| RTD INPUT2<br>AS PT1000 IN KELVIN   | 3x41058<br>4x41058<br>I:41057 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |               |  |
| RTD INPUT3<br>AS PT1000 IN KELVIN   | 3x41059<br>4x41059<br>I:41058 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |               |  |
| RTD INPUT4<br>AS PT1000 IN KELVIN   | 3x41060<br>4x41060<br>I:41059 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |               |  |
| RTD INPUT5<br>AS PT1000 IN KELVIN   | 3x41061<br>4x41061<br>I:41060 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |               |  |
| RTD INPUT6<br>AS PT1000 IN KELVIN   | 3x41062<br>4x41062<br>I:41061 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |               |  |
| RTD INPUT7<br>AS PT1000 IN KELVIN   | 3x41063<br>4x41063<br>I:41062 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |               |  |
| RTD INPUT8<br>AS PT1000 IN KELVIN   | 3x41064<br>4x41064<br>I:41063 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |               |  |
| <b>AIOX:RTD INPUTS NI1000-DIN43760 KELVIN</b>   |                               |                         |  |               |  |
| RTD INPUT1<br>AS NI1000-DIN43760 IN KELVIN  | 3x41065<br>4x41065<br>I:41064 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                         |  |               |  |
| Current measured RTD sensor value linearized as NI1000-DIN43760 sensor in Kelvin*100 in the range of 22315 to 40315 for 223.15 to 403.15 °K<br>65533,0xFFFF: Measured value is below 223,15°K<br>65534,0xFFFF: Measured value is above 403,15°K<br>65535,0xFFFF: The channel is not configured as RTD input |                               |                         |  |               |  |
| RTD INPUT2<br>AS NI1000-DIN43760 IN KELVIN  | 3x41066<br>4x41066<br>I:41065 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                         |  |               |  |
| RTD INPUT3<br>AS NI1000-DIN43760 IN KELVIN  | 3x41067<br>4x41067<br>I:41066 | 65535,0xFFFF<br>B:FF FF |  | UINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                         |  |               |  |

|   |                               |                          |  |  |               |  |
|---|-------------------------------|--------------------------|--|--|---------------|--|
| RTD INPUT4<br>AS NI1000-DIN43760 IN KELVIN  | 3x41068<br>4x41068<br>I:41067 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                          |  |  |               |  |
| RTD INPUT5<br>AS NI1000-DIN43760 IN KELVIN  | 3x41069<br>4x41069<br>I:41068 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                          |  |  |               |  |
| RTD INPUT6<br>AS NI1000-DIN43760 IN KELVIN  | 3x41070<br>4x41070<br>I:41069 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                          |  |  |               |  |
| RTD INPUT7<br>AS NI1000-DIN43760 IN KELVIN  | 3x41071<br>4x41071<br>I:41070 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                          |  |  |               |  |
| RTD INPUT8<br>AS NI1000-DIN43760 IN KELVIN  | 3x41072<br>4x41072<br>I:41071 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                          |  |  |               |  |
| <b>AIOX:RTD INPUTS PT100 FAHRENHEIT</b>   |                               |                          |  |  |               |  |
| RTD INPUT1<br>AS PT100 IN FAHRENHEIT  | 3x41073<br>4x41073<br>I:41072 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |  |               |  |
| Current measured RTD sensor value linearized as PT100 sensor in Fahrenheit*100 in the range of -5800 to +26600 for -58.0 to +266.0 °F<br>-32766,0x8002: Measured value is below -58°C<br>-32767,0x8001: Measured value is above +266°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |  |               |  |
| RTD INPUT2<br>AS PT100 IN FAHRENHEIT  | 3x41074<br>4x41074<br>I:41073 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |  |               |  |
| RTD INPUT3<br>AS PT100 IN FAHRENHEIT  | 3x41075<br>4x41075<br>I:41074 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |  |               |  |
| RTD INPUT4<br>AS PT100 IN FAHRENHEIT  | 3x41076<br>4x41076<br>I:41075 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |  |               |  |
| RTD INPUT5<br>AS PT100 IN FAHRENHEIT  | 3x41077<br>4x41077<br>I:41076 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |  |               |  |

|  |                               |                          |  |               |  |
|--|-------------------------------|--------------------------|--|---------------|--|
| RTD INPUT6<br>AS PT100 IN FAHRENHEIT   | 3x41078<br>4x41078<br>I:41077 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT7<br>AS PT100 IN FAHRENHEIT   | 3x41079<br>4x41079<br>I:41078 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| RTD INPUT8<br>AS PT100 IN FAHRENHEIT   | 3x41080<br>4x41080<br>I:41079 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| <b>AIOX:RTD INPUTS PT1000 FAHRENHEIT</b>   |                               |                          |  |               |  |
| RTD INPUT1<br>AS PT1000 IN FAHRENHEIT  | 3x41081<br>4x41081<br>I:41080 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| Current measured RTD sensor value linearized as PT1000 sensor in Fahrenheit*100 in the range of -5800 to +26600 for -58.0 to +266.0 °F<br>-32766,0x8002: Measured value is below -58°C<br>-32767,0x8001: Measured value is above +266°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |               |  |
| RTD INPUT2<br>AS PT1000 IN FAHRENHEIT  | 3x41082<br>4x41082<br>I:41081 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| RTD INPUT3<br>AS PT1000 IN FAHRENHEIT  | 3x41083<br>4x41083<br>I:41082 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| RTD INPUT4<br>AS PT1000 IN FAHRENHEIT  | 3x41084<br>4x41084<br>I:41083 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| RTD INPUT5<br>AS PT1000 IN FAHRENHEIT  | 3x41085<br>4x41085<br>I:41084 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| RTD INPUT6<br>AS PT1000 IN FAHRENHEIT  | 3x41086<br>4x41086<br>I:41085 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| RTD INPUT7<br>AS PT1000 IN FAHRENHEIT  | 3x41087<br>4x41087<br>I:41086 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |

|   |                               |  |  |  |               |  |
|---|-------------------------------|--|--|--|---------------|--|
| RTD INPUT8<br>AS PT1000 IN FAHRENHEIT   | 3x41088<br>4x41088<br>I:41087 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Actual measured PT1000 temperature RTDlx:-32768=N/V   |                               |  |  |  |               |  |
| <b>AIOX:RTD INPUTS NI1000-DIN43760 FAHRENHEIT</b>   |                               |  |  |  |               |  |
| RTD INPUT1<br>AS NI1000-DIN43760 IN FAHRENHEIT  | 3x41089<br>4x41089<br>I:41088 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V  |                               |  |  |  |               |  |
| Current measured RTD sensor value linearized as NI1000-DIN43760 sensor in Fahrenheit*100 in the range of -5800 to +26600 for -58.0 to +266.0 °F<br>-32766,0x8002: Measured value is below -58°C<br>-32767,0x8001: Measured value is above +266°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |  |  |  |               |  |
| RTD INPUT2<br>AS NI1000-DIN43760 IN FAHRENHEIT  | 3x41090<br>4x41090<br>I:41089 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V  |                               |  |  |  |               |  |
| RTD INPUT3<br>AS NI1000-DIN43760 IN FAHRENHEIT  | 3x41091<br>4x41091<br>I:41090 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V  |                               |  |  |  |               |  |
| RTD INPUT4<br>AS NI1000-DIN43760 IN FAHRENHEIT  | 3x41092<br>4x41092<br>I:41091 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V  |                               |  |  |  |               |  |
| RTD INPUT5<br>AS NI1000-DIN43760 IN FAHRENHEIT  | 3x41093<br>4x41093<br>I:41092 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V  |                               |  |  |  |               |  |
| RTD INPUT6<br>AS NI1000-DIN43760 IN FAHRENHEIT  | 3x41094<br>4x41094<br>I:41093 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V  |                               |  |  |  |               |  |
| RTD INPUT7<br>AS NI1000-DIN43760 IN FAHRENHEIT  | 3x41095<br>4x41095<br>I:41094 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V  |                               |  |  |  |               |  |
| RTD INPUT8<br>AS NI1000-DIN43760 IN FAHRENHEIT  | 3x41096<br>4x41096<br>I:41095 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Actual measured NI1000-DIN43760 temperature RTDlx:-32768=N/V  |                               |  |  |  |               |  |
| <b>AIOX:RTD INPUTS OHM*100</b>  |                               |  |  |  |               |  |
| RTD INPUT1<br>IN OHM*100  | 3x41501<br>4x41501<br>I:41500 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O |  |
| Actual measured ohm value of RTDlx:-1=N/V   |                               |  |  |  |               |  |



| Current measured RTD in Ohm*100<br>=0xFFFFFFFF: The channel is not configured as RTD input |                               |  |  |  |                |  |
|--|-------------------------------|--|--|--|----------------|--|
| RTD INPUT2<br>IN OHM*100   | 3x41503<br>4x41503<br>I:41502 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |
| RTD INPUT3<br>IN OHM*100   | 3x41505<br>4x41505<br>I:41504 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |
| RTD INPUT4<br>IN OHM*100   | 3x41507<br>4x41507<br>I:41506 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |
| RTD INPUT5<br>IN OHM*100   | 3x41509<br>4x41509<br>I:41508 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |
| RTD INPUT6<br>IN OHM*100   | 3x41511<br>4x41511<br>I:41510 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |
| RTD INPUT7<br>IN OHM*100   | 3x41513<br>4x41513<br>I:41512 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |
| RTD INPUT8<br>IN OHM*100   | 3x41515<br>4x41515<br>I:41514 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |
| <b>AIOX:RTD INPUTS OHM*100</b>   |                               |  |  |  |                |  |
| RTD INPUT1<br>IN OHM*100   | 3x41517<br>4x41517<br>I:41516 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32R<br>R/O |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |
| Current measured RTD in Ohm*100<br>=0xFFFFFFFF: The channel is not configured as RTD input |                               |  |  |  |                |  |
| RTD INPUT2<br>IN OHM*100   | 3x41519<br>4x41519<br>I:41518 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32R<br>R/O |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |
| RTD INPUT3<br>IN OHM*100   | 3x41521<br>4x41521<br>I:41520 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32R<br>R/O |  |
| Actual measured ohm value of RTDIx:-1=N/V  |                               |  |  |  |                |  |

|                          |                               |   |  |  |                |  |
|--------------------------|-------------------------------|---|--|--|----------------|--|
| RTD INPUT4<br>IN OHM*100 | 3x41523<br>4x41523<br>I:41522 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF    |  |  | UINT32R<br>R/O |  |
|                          |                               | Actual measured ohm value of RTDlx:-1=N/V |  |  |                |  |
| RTD INPUT5<br>IN OHM*100 | 3x41525<br>4x41525<br>I:41524 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF    |  |  | UINT32R<br>R/O |  |
|                          |                               | Actual measured ohm value of RTDlx:-1=N/V |  |  |                |  |
| RTD INPUT6<br>IN OHM*100 | 3x41527<br>4x41527<br>I:41526 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF    |  |  | UINT32R<br>R/O |  |
|                          |                               | Actual measured ohm value of RTDlx:-1=N/V |  |  |                |  |
| RTD INPUT7<br>IN OHM*100 | 3x41529<br>4x41529<br>I:41528 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF    |  |  | UINT32R<br>R/O |  |
|                          |                               | Actual measured ohm value of RTDlx:-1=N/V |  |  |                |  |
| RTD INPUT8<br>IN OHM*100 | 3x41531<br>4x41531<br>I:41530 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF    |  |  | UINT32R<br>R/O |  |
|                          |                               | Actual measured ohm value of RTDlx:-1=N/V |  |  |                |  |

| Register NAME<br>Command NAME   | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE     | DO<br>WRITE |
|---|--|---------------------------------|-------------------|--------------|---------------|-------------|
| <b>AIOX:AVERAGE RTD INPUTS OHM*10</b>   |  |                                 |                   |              |               |             |
| AVERAGE RTD INPUT1<br>IN OHM*10   | 3x42001<br>4x42001<br>l:42000          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |
| Measured average ohm value of RTDix:65535=N/V   |  |                                 |                   |              |               |             |
| Measured average RTD in Ohm*10 between 0 and 600000<br>=0..60000: Measured average resistance in Ohm*10<br>=65534,0xFFFF: The sensor or cabling is open (broken, not connected, or out of range)<br>=65535,0xFFFF: The channel is not configured as RTD input |  |                                 |                   |              |               |             |
| AVERAGE RTD INPUT2<br>IN OHM*10   | 3x42002<br>4x42002<br>l:42001          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |
| Measured average ohm value of RTDix:65535=N/V   |  |                                 |                   |              |               |             |
| AVERAGE RTD INPUT3<br>IN OHM*10   | 3x42003<br>4x42003<br>l:42002          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |
| Measured average ohm value of RTDix:65535=N/V   |  |                                 |                   |              |               |             |
| AVERAGE RTD INPUT4<br>IN OHM*10   | 3x42004<br>4x42004<br>l:42003          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |
| Measured average ohm value of RTDix:65535=N/V   |  |                                 |                   |              |               |             |
| AVERAGE RTD INPUT5<br>IN OHM*10   | 3x42005<br>4x42005<br>l:42004          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |
| Measured average ohm value of RTDix:65535=N/V   |  |                                 |                   |              |               |             |
| AVERAGE RTD INPUT6<br>IN OHM*10   | 3x42006<br>4x42006<br>l:42005          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |
| Measured average ohm value of RTDix:65535=N/V   |  |                                 |                   |              |               |             |
| AVERAGE RTD INPUT7<br>IN OHM*10   | 3x42007<br>4x42007<br>l:42006          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |
| Measured average ohm value of RTDix:65535=N/V   |  |                                 |                   |              |               |             |
| AVERAGE RTD INPUT8<br>IN OHM*10   | 3x42008<br>4x42008<br>l:42007          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |
| Measured average ohm value of RTDix:65535=N/V   |  |                                 |                   |              |               |             |
| <b>AIOX:AVERAGE RTD INPUTS OHM*1</b>  |  |                                 |                   |              |               |             |
| AVERAGE RTD INPUT1<br>IN OHM  | 3x42009<br>4x42009<br>l:42008          | 65535,0xFFFF<br>B:FF FF         |                   |              | UINT16<br>R/O |             |

|  |                               |   |  |  |               |  |
|--|-------------------------------|---|--|--|---------------|--|
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |
| Measured average RTD in Ohm*1 between 0 and 60000<br>=0..60000: Measured average resistance in Ohm*1<br>=65534,0xFFFF: The sensor or cabling is open (broken, not connected, or out of range)<br>=65535,0xFFFF: The channel is not configured as RTD input   |                               |   |  |  |               |  |
| AVERAGE RTD INPUT2<br>IN OHM   | 3x42010<br>4x42010<br>I:42009 | 65535,0xFFFF<br>B:FF FF                       |  |  | UINT16<br>R/O |  |
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |
| AVERAGE RTD INPUT3<br>IN OHM   | 3x42011<br>4x42011<br>I:42010 | 65535,0xFFFF<br>B:FF FF                       |  |  | UINT16<br>R/O |  |
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |
| AVERAGE RTD INPUT4<br>IN OHM   | 3x42012<br>4x42012<br>I:42011 | 65535,0xFFFF<br>B:FF FF                       |  |  | UINT16<br>R/O |  |
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |
| AVERAGE RTD INPUT5<br>IN OHM   | 3x42013<br>4x42013<br>I:42012 | 65535,0xFFFF<br>B:FF FF                       |  |  | UINT16<br>R/O |  |
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |
| AVERAGE RTD INPUT6<br>IN OHM   | 3x42014<br>4x42014<br>I:42013 | 65535,0xFFFF<br>B:FF FF                       |  |  | UINT16<br>R/O |  |
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |
| AVERAGE RTD INPUT7<br>IN OHM   | 3x42015<br>4x42015<br>I:42014 | 65535,0xFFFF<br>B:FF FF                       |  |  | UINT16<br>R/O |  |
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |
| AVERAGE RTD INPUT8<br>IN OHM   | 3x42016<br>4x42016<br>I:42015 | 65535,0xFFFF<br>B:FF FF                       |  |  | UINT16<br>R/O |  |
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS OHM/10</b>  |                               |   |  |  |               |  |
| AVERAGE RTD INPUT1<br>IN OHM/10  | 3x42017<br>4x42017<br>I:42016 | 65535,0xFFFF<br>B:FF FF                       |  |  | UINT16<br>R/O |  |
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |
| Measured average RTD in Ohm/10 between 0 and 60000<br>=0..60000: Measured average resistance in Ohm/10<br>=65534,0xFFFF: The sensor or cabling is open (broken, not connected, or out of range)<br>=65535,0xFFFF: The channel is not configured as RTD input |                               |   |  |  |               |  |
| AVERAGE RTD INPUT2<br>IN OHM/10  | 3x42018<br>4x42018<br>I:42017 | 65535,0xFFFF<br>B:FF FF                       |  |  | UINT16<br>R/O |  |
|  |                               | Measured average ohm value of RTDix:65535=N/V |  |  |               |  |

|   |                               |                          |  |  |               |  |
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| AVERAGE RTD INPUT3<br>IN OHM/10   | 3x42019<br>4x42019<br>I:42018 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average ohm value of RTDix:65535=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT4<br>IN OHM/10   | 3x42020<br>4x42020<br>I:42019 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average ohm value of RTDix:65535=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT5<br>IN OHM/10   | 3x42021<br>4x42021<br>I:42020 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average ohm value of RTDix:65535=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT6<br>IN OHM/10   | 3x42022<br>4x42022<br>I:42021 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average ohm value of RTDix:65535=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT7<br>IN OHM/10   | 3x42023<br>4x42023<br>I:42022 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average ohm value of RTDix:65535=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT8<br>IN OHM/10   | 3x42024<br>4x42024<br>I:42023 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average ohm value of RTDix:65535=N/V   |                               |                          |  |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS PT100 CELSIUS</b>  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT1<br>AS PT100 IN CELSIUS   | 3x42025<br>4x42025<br>I:42024 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| Calculated average value of RTD sensor value linearized as PT100 sensor in Celsius*100 in the range of -5000 to +13000 for -50.0 to +130.0 °C<br>-32766,0x8002: Measured value is below -50°C<br>-32767,0x8001: Measured value is above +130°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT2<br>AS PT100 IN CELSIUS   | 3x42026<br>4x42026<br>I:42025 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT3<br>AS PT100 IN CELSIUS   | 3x42027<br>4x42027<br>I:42026 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT4<br>AS PT100 IN CELSIUS   | 3x42028<br>4x42028<br>I:42027 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |

|  |                               |                          |  |               |  |
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| AVERAGE RTD INPUT5<br>AS PT100 IN CELSIUS  | 3x42029<br>4x42029<br>I:42028 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| AVERAGE RTD INPUT6<br>AS PT100 IN CELSIUS  | 3x42030<br>4x42030<br>I:42029 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| AVERAGE RTD INPUT7<br>AS PT100 IN CELSIUS  | 3x42031<br>4x42031<br>I:42030 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| AVERAGE RTD INPUT8<br>AS PT100 IN CELSIUS  | 3x42032<br>4x42032<br>I:42031 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS PT1000 CELSIUS</b>  |                               |                          |  |               |  |
| AVERAGE RTD INPUT1<br>AS PT1000 IN CELSIUS   | 3x42033<br>4x42033<br>I:42032 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| Calculated average value of RTD sensor value linearized as PT1000 sensor in Celsius*100 in the range of -5000 to +13000 for -50.0 to +130.0 °C<br>-32766,0x8002: Measured value is below -50°C<br>-32767,0x8001: Measured value is above +130°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |               |  |
| AVERAGE RTD INPUT2<br>AS PT1000 IN CELSIUS   | 3x42034<br>4x42034<br>I:42033 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| AVERAGE RTD INPUT3<br>AS PT1000 IN CELSIUS   | 3x42035<br>4x42035<br>I:42034 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| AVERAGE RTD INPUT4<br>AS PT1000 IN CELSIUS   | 3x42036<br>4x42036<br>I:42035 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| AVERAGE RTD INPUT5<br>AS PT1000 IN CELSIUS   | 3x42037<br>4x42037<br>I:42036 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| AVERAGE RTD INPUT6<br>AS PT1000 IN CELSIUS   | 3x42038<br>4x42038<br>I:42037 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |

|   |                               |                          |  |  |               |  |
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| AVERAGE RTD INPUT7<br>AS PT1000 IN CELSIUS  | 3x42039<br>4x42039<br>I:42038 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDix:-32768=N/V  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT8<br>AS PT1000 IN CELSIUS  | 3x42040<br>4x42040<br>I:42039 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDix:-32768=N/V  |                               |                          |  |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS NI1000-DIN43760 CELSIUS</b>  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT1<br>AS NI1000-DIN43760 IN CELSIUS   | 3x42041<br>4x42041<br>I:42040 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| Calculated average value of RTD sensor value linearized as NI1000-DIN43760 sensor in Celsius*100 in the range of -5000 to +13000 for -50.0 to +130.0 °C<br>-32766,0x8002: Measured value is below -50°C<br>-32767,0x8001: Measured value is above +130°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT2<br>AS NI1000-DIN43760 IN CELSIUS   | 3x42042<br>4x42042<br>I:42041 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT3<br>AS NI1000-DIN43760 IN CELSIUS   | 3x42043<br>4x42043<br>I:42042 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT4<br>AS NI1000-DIN43760 IN CELSIUS   | 3x42044<br>4x42044<br>I:42043 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT5<br>AS NI1000-DIN43760 IN CELSIUS   | 3x42045<br>4x42045<br>I:42044 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT6<br>AS NI1000-DIN43760 IN CELSIUS   | 3x42046<br>4x42046<br>I:42045 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT7<br>AS NI1000-DIN43760 IN CELSIUS   | 3x42047<br>4x42047<br>I:42046 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT8<br>AS NI1000-DIN43760 IN CELSIUS   | 3x42048<br>4x42048<br>I:42047 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V   |                               |                          |  |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS PT100 KELVIN</b>   |                               |                          |  |  |               |  |

|  |                               |                         |  |  |               |  |
|--|-------------------------------|-------------------------|--|--|---------------|--|
| AVERAGE RTD INPUT1<br>AS PT100 IN KELVIN   | 3x42049<br>4x42049<br>I:42048 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:65535=655,35°K  |                               |                         |  |  |               |  |
| Average value of measured RTD sensor linearized as PT100 sensor in Kelvin*100 in the range of 22315 to 40315 for 223.15 to 403.15 °K<br>65533,0xFFFFD: Measured value is below 223,15°K<br>65534,0xFFFFE: Measured value is above 403,15°K<br>65535,0xFFFFF: The channel is not configured as RTD input  |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT2<br>AS PT100 IN KELVIN   | 3x42050<br>4x42050<br>I:42049 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:65535=655,35°K  |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT3<br>AS PT100 IN KELVIN   | 3x42051<br>4x42051<br>I:42050 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:65535=655,35°K  |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT4<br>AS PT100 IN KELVIN   | 3x42052<br>4x42052<br>I:42051 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:65535=655,35°K  |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT5<br>AS PT100 IN KELVIN   | 3x42053<br>4x42053<br>I:42052 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:65535=655,35°K  |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT6<br>AS PT100 IN KELVIN   | 3x42054<br>4x42054<br>I:42053 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:65535=655,35°K  |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT7<br>AS PT100 IN KELVIN   | 3x42055<br>4x42055<br>I:42054 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:65535=655,35°K  |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT8<br>AS PT100 IN KELVIN   | 3x42056<br>4x42056<br>I:42055 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT100 temperature RTDix:65535=655,35°K  |                               |                         |  |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS PT1000 KELVIN</b>   |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT1<br>AS PT1000 IN KELVIN  | 3x42057<br>4x42057<br>I:42056 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT1000 temperature RTDix:65535=655,35°K   |                               |                         |  |  |               |  |
| Average value of measured RTD sensor linearized as PT1000 sensor in Kelvin*100 in the range of 22315 to 40315 for 223.15 to 403.15 °K<br>65533,0xFFFFD: Measured value is below 223,15°K<br>65534,0xFFFFE: Measured value is above 403,15°K<br>65535,0xFFFFF: The channel is not configured as RTD input |                               |                         |  |  |               |  |



|  |                               |                         |  |  |               |  |
|--|-------------------------------|-------------------------|--|--|---------------|--|
| AVERAGE RTD INPUT2<br>AS PT1000 IN KELVIN  | 3x42058<br>4x42058<br>I:42057 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT3<br>AS PT1000 IN KELVIN  | 3x42059<br>4x42059<br>I:42058 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT4<br>AS PT1000 IN KELVIN  | 3x42060<br>4x42060<br>I:42059 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT5<br>AS PT1000 IN KELVIN  | 3x42061<br>4x42061<br>I:42060 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT6<br>AS PT1000 IN KELVIN  | 3x42062<br>4x42062<br>I:42061 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT7<br>AS PT1000 IN KELVIN  | 3x42063<br>4x42063<br>I:42062 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT8<br>AS PT1000 IN KELVIN  | 3x42064<br>4x42064<br>I:42063 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:65535=655,35°K   |                               |                         |  |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS NI1000-DIN43760 KELVIN</b>  |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT1<br>AS NI1000-DIN43760 IN KELVIN   | 3x42065<br>4x42065<br>I:42064 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| Average value of measured RTD sensor linearized as NI1000-DIN43760 sensor in Kelvin*100 in the range of 22315 to 40315 for 223.15 to 403.15 °K<br>65533,0xFFFF: Measured value is below 223,15°K<br>65534,0xFFFF: Measured value is above 403,15°K<br>65535,0xFFFF: The channel is not configured as RTD input |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT2<br>AS NI1000-DIN43760 IN KELVIN   | 3x42066<br>4x42066<br>I:42065 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |
| AVERAGE RTD INPUT3<br>AS NI1000-DIN43760 IN KELVIN   | 3x42067<br>4x42067<br>I:42066 | 65535,0xFFFF<br>B:FF FF |  |  | UINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDIx:65535=655,35°K  |                               |                         |  |  |               |  |

|  |                               |                          |  |  |               |  |
|--|-------------------------------|--------------------------|--|--|---------------|--|
| AVERAGE RTD INPUT4<br>AS NI1000-DIN43760 IN KELVIN   | 3x42068<br>4x42068<br>I:42067 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDlx:65535=655,35°K  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT5<br>AS NI1000-DIN43760 IN KELVIN   | 3x42069<br>4x42069<br>I:42068 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDlx:65535=655,35°K  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT6<br>AS NI1000-DIN43760 IN KELVIN   | 3x42070<br>4x42070<br>I:42069 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDlx:65535=655,35°K  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT7<br>AS NI1000-DIN43760 IN KELVIN   | 3x42071<br>4x42071<br>I:42070 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDlx:65535=655,35°K  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT8<br>AS NI1000-DIN43760 IN KELVIN   | 3x42072<br>4x42072<br>I:42071 | 65535,0xFFFF<br>B:FF FF  |  |  | UINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDlx:65535=655,35°K  |                               |                          |  |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS PT100 FAHRENHEIT</b>  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT1<br>AS PT100 IN FAHRENHEIT   | 3x42073<br>4x42073<br>I:42072 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDlx:-32768=N/V  |                               |                          |  |  |               |  |
| Average value of measured RTD sensor value linearized as PT100 sensor in Fahrenheit*100 in the range of -5800 to +26600 for -58.0 to +266.0 °F<br>-32766,0x8002: Measured value is below -58°C<br>-32767,0x8001: Measured value is above +266°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT2<br>AS PT100 IN FAHRENHEIT   | 3x42074<br>4x42074<br>I:42073 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDlx:-32768=N/V  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT3<br>AS PT100 IN FAHRENHEIT   | 3x42075<br>4x42075<br>I:42074 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDlx:-32768=N/V  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT4<br>AS PT100 IN FAHRENHEIT   | 3x42076<br>4x42076<br>I:42075 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDlx:-32768=N/V  |                               |                          |  |  |               |  |
| AVERAGE RTD INPUT5<br>AS PT100 IN FAHRENHEIT   | 3x42077<br>4x42077<br>I:42076 | -32768,0x8000<br>B:80 00 |  |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDlx:-32768=N/V  |                               |                          |  |  |               |  |

|   |                               |                          |  |               |  |
|---|-------------------------------|--------------------------|--|---------------|--|
| AVERAGE RTD INPUT6<br>AS PT100 IN FAHRENHEIT  | 3x42078<br>4x42078<br>I:42077 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| AVERAGE RTD INPUT7<br>AS PT100 IN FAHRENHEIT  | 3x42079<br>4x42079<br>I:42078 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| AVERAGE RTD INPUT8<br>AS PT100 IN FAHRENHEIT  | 3x42080<br>4x42080<br>I:42079 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT100 temperature RTDIx:-32768=N/V   |                               |                          |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS PT1000 FAHRENHEIT</b>  |                               |                          |  |               |  |
| AVERAGE RTD INPUT1<br>AS PT1000 IN FAHRENHEIT   | 3x42081<br>4x42081<br>I:42080 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| Average value of measured RTD sensor value linearized as PT1000 sensor in Fahrenheit*100 in the range of -5800 to +26600 for -58.0 to +266.0 °F<br>-32766,0x8002: Measured value is below -58°C<br>-32767,0x8001: Measured value is above +266°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |                          |  |               |  |
| AVERAGE RTD INPUT2<br>AS PT1000 IN FAHRENHEIT   | 3x42082<br>4x42082<br>I:42081 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| AVERAGE RTD INPUT3<br>AS PT1000 IN FAHRENHEIT   | 3x42083<br>4x42083<br>I:42082 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| AVERAGE RTD INPUT4<br>AS PT1000 IN FAHRENHEIT   | 3x42084<br>4x42084<br>I:42083 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| AVERAGE RTD INPUT5<br>AS PT1000 IN FAHRENHEIT   | 3x42085<br>4x42085<br>I:42084 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| AVERAGE RTD INPUT6<br>AS PT1000 IN FAHRENHEIT   | 3x42086<br>4x42086<br>I:42085 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |
| AVERAGE RTD INPUT7<br>AS PT1000 IN FAHRENHEIT   | 3x42087<br>4x42087<br>I:42086 | -32768,0x8000<br>B:80 00 |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDIx:-32768=N/V  |                               |                          |  |               |  |

|  |                               |  |  |  |               |  |
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| AVERAGE RTD INPUT8<br>AS PT1000 IN FAHRENHEIT  | 3x42088<br>4x42088<br>I:42087 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Measured average PT1000 temperature RTDix:-32768=N/V   |                               |  |  |  |               |  |
| <b>AIOX:AVERAGE RTD INPUTS NI1000-DIN43760 FAHRENHEIT</b>  |                               |  |  |  |               |  |
| AVERAGE RTD INPUT1<br>AS NI1000-DIN43760 IN FAHRENHEIT   | 3x42089<br>4x42089<br>I:42088 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V  |                               |  |  |  |               |  |
| Average value of measured RTD sensor value linearized as NI1000-DIN43760 sensor in Fahrenheit*100 in the range of -5800 to +26600 for -58.0 to +266.0 °F<br>-32766,0x8002: Measured value is below -58°C<br>-32767,0x8001: Measured value is above +266°C<br>-32768,0x8000: The channel is not configured as RTD input |                               |  |  |  |               |  |
| AVERAGE RTD INPUT2<br>AS NI1000-DIN43760 IN FAHRENHEIT   | 3x42090<br>4x42090<br>I:42089 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V  |                               |  |  |  |               |  |
| AVERAGE RTD INPUT3<br>AS NI1000-DIN43760 IN FAHRENHEIT   | 3x42091<br>4x42091<br>I:42090 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V  |                               |  |  |  |               |  |
| AVERAGE RTD INPUT4<br>AS NI1000-DIN43760 IN FAHRENHEIT   | 3x42092<br>4x42092<br>I:42091 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V  |                               |  |  |  |               |  |
| AVERAGE RTD INPUT5<br>AS NI1000-DIN43760 IN FAHRENHEIT   | 3x42093<br>4x42093<br>I:42092 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V  |                               |  |  |  |               |  |
| AVERAGE RTD INPUT6<br>AS NI1000-DIN43760 IN FAHRENHEIT   | 3x42094<br>4x42094<br>I:42093 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V  |                               |  |  |  |               |  |
| AVERAGE RTD INPUT7<br>AS NI1000-DIN43760 IN FAHRENHEIT   | 3x42095<br>4x42095<br>I:42094 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V  |                               |  |  |  |               |  |
| AVERAGE RTD INPUT8<br>AS NI1000-DIN43760 IN FAHRENHEIT   | 3x42096<br>4x42096<br>I:42095 | -32768,0x8000<br>B:80 00               |  |  | SINT16<br>R/O |  |
| Measured average NI1000-DIN43760 temperature RTDix:-32768=N/V  |                               |  |  |  |               |  |
| <b>AIOX:RTD INPUTS OHM*100</b>   |                               |  |  |  |               |  |
| AVERAGE RTD INPUT1<br>IN OHM*100   | 3x42501<br>4x42501<br>I:42500 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |               |  |

|  |                               |  |  |  |                |  |
|--|-------------------------------|--|--|--|----------------|--|
| Measured average RTD in Ohm*100<br>=0xFFFFFFFF: The channel is not configured as RTD input |                               |  |  |  |                |  |
| AVERAGE RTD INPUT2<br>IN OHM*100   | 3x42503<br>4x42503<br>I:42502 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |
| AVERAGE RTD INPUT3<br>IN OHM*100   | 3x42505<br>4x42505<br>I:42504 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |
| AVERAGE RTD INPUT4<br>IN OHM*100   | 3x42507<br>4x42507<br>I:42506 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |
| AVERAGE RTD INPUT5<br>IN OHM*100   | 3x42509<br>4x42509<br>I:42508 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |
| AVERAGE RTD INPUT6<br>IN OHM*100   | 3x42511<br>4x42511<br>I:42510 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |
| AVERAGE RTD INPUT7<br>IN OHM*100   | 3x42513<br>4x42513<br>I:42512 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |
| AVERAGE RTD INPUT8<br>IN OHM*100   | 3x42515<br>4x42515<br>I:42514 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32<br>R/O  |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |
| <b>AIOX:AVERAGE RTD INPUTS OHM*100</b>   |                               |  |  |  |                |  |
| AVERAGE RTD INPUT1<br>IN OHM*100   | 3x42517<br>4x42517<br>I:42516 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32R<br>R/O |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |
| Measured average RTD in Ohm*100<br>=0xFFFFFFFF: The channel is not configured as RTD input |                               |  |  |  |                |  |
| AVERAGE RTD INPUT2<br>IN OHM*100   | 3x42519<br>4x42519<br>I:42518 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32R<br>R/O |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |
| AVERAGE RTD INPUT3<br>IN OHM*100   | 3x42521<br>4x42521<br>I:42520 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF |  |  | UINT32R<br>R/O |  |
| Measured average ohm value of RTDix:-1=N/V   |                               |  |  |  |                |  |

|                                  |                               |  |  |  |                |  |
|----------------------------------|-------------------------------|--|--|--|----------------|--|
| AVERAGE RTD INPUT4<br>IN OHM*100 | 3x42523<br>4x42523<br>I:42522 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF     |  |  | UINT32R<br>R/O |  |
|                                  |                               | Measured average ohm value of RTDix:-1=N/V |  |  |                |  |
| AVERAGE RTD INPUT5<br>IN OHM*100 | 3x42525<br>4x42525<br>I:42524 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF     |  |  | UINT32R<br>R/O |  |
|                                  |                               | Measured average ohm value of RTDix:-1=N/V |  |  |                |  |
| AVERAGE RTD INPUT6<br>IN OHM*100 | 3x42527<br>4x42527<br>I:42526 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF     |  |  | UINT32R<br>R/O |  |
|                                  |                               | Measured average ohm value of RTDix:-1=N/V |  |  |                |  |
| AVERAGE RTD INPUT7<br>IN OHM*100 | 3x42529<br>4x42529<br>I:42528 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF     |  |  | UINT32R<br>R/O |  |
|                                  |                               | Measured average ohm value of RTDix:-1=N/V |  |  |                |  |
| AVERAGE RTD INPUT8<br>IN OHM*100 | 3x42531<br>4x42531<br>I:42530 | 4294967295,0xFFFFFFFF<br>B:FF FF FF FF     |  |  | UINT32R<br>R/O |  |
|                                  |                               | Measured average ohm value of RTDix:-1=N/V |  |  |                |  |

| Register NAME<br>Command NAME   | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE | NEW<br>VALUE | DATA TYPE     | DO<br>WRITE |
|---|--|---------------------------------|-------------------|--------------|---------------|-------------|
| <b>AIOX CHIP TEMPERATURE</b>  |  |                                 |                   |              |               |             |
| TEMPERATURE CHIP 1<br>IN CELSIUS  | 3x43001<br>4x43001<br>l:43000          | 464,0x01D0<br>B:01 D0           |                   |              | UINT16<br>R/O |             |
| Actual measured temperature of CHIPx:46,4°C   |  |                                 |                   |              |               |             |
| Current measured chip temperature for CHIPx in x*10 °C. Each CHIP supports 4 AIOX channels.   |  |                                 |                   |              |               |             |
| TEMPERATURE CHIP 2<br>IN CELSIUS  | 3x43002<br>4x43002<br>l:43001          | 475,0x01DB<br>B:01 DB           |                   |              | UINT16<br>R/O |             |
| Actual measured temperature of CHIPx:47,5°C   |  |                                 |                   |              |               |             |
| <b>AIOX CHIP TEMPERATURE</b>  |  |                                 |                   |              |               |             |
| AVERAGE TEMPERATURE CHIP 1<br>IN CELSIUS  | 3x43003<br>4x43003<br>l:43002          | 464,0x01D0<br>B:01 D0           |                   |              | UINT16<br>R/O |             |
| Measured average temperature of CHIPx:46,4°C  |  |                                 |                   |              |               |             |
| Measured average chip temperature for CHIPx in x*10 °C. Each CHIP supports 4 AIOX channels.   |  |                                 |                   |              |               |             |
| AVERAGE TEMPERATURE CHIP 2<br>IN CELSIUS  | 3x43004<br>4x43004<br>l:43003          | 475,0x01DB<br>B:01 DB           |                   |              | UINT16<br>R/O |             |
| Measured average temperature of CHIPx:47,5°C  |  |                                 |                   |              |               |             |
| <b>AIOX CHIP VOLTAGES</b>   |  |                                 |                   |              |               |             |
| Vavdd CHIP 1<br>IN VOLT   | 3x43005<br>4x43005<br>l:43004          | 146,0x0092<br>B:00 92           |                   |              | UINT16<br>R/O |             |
| Actual measured voltage Vavdd of CHIPx:14,6V  |  |                                 |                   |              |               |             |
| Current measured voltage Vavdd for CHIPx in x*10 Volts. Each CHIP supports 4 AIOX channels.<br>This must be >14.5V, if not, there is a severe wiring or other hardware issue! |  |                                 |                   |              |               |             |
| Vavdd CHIP 2<br>IN VOLT   | 3x43006<br>4x43006<br>l:43005          | 146,0x0092<br>B:00 92           |                   |              | UINT16<br>R/O |             |
| Actual measured voltage Vavdd of CHIPx:14,6V  |  |                                 |                   |              |               |             |
| <b>AIOX CHIP VOLTAGES</b>   |  |                                 |                   |              |               |             |
| AVERAGE Vavdd CHIP 1<br>IN VOLT   | 3x43007<br>4x43007<br>l:43006          | 146,0x0092<br>B:00 92           |                   |              | UINT16<br>R/O |             |
| Measured average voltage Vavdd of CHIPx:14,6V   |  |                                 |                   |              |               |             |
| Current measured voltage Vavdd for CHIPx in x*10 Volts. Each CHIP supports 4 AIOX channels.<br>This must be >14.5V, if not, there is a severe wiring or other hardware issue! |  |                                 |                   |              |               |             |
| AVERAGE Vavdd CHIP 2<br>IN VOLT   | 3x43008<br>4x43008<br>l:43007          | 146,0x0092<br>B:00 92           |                   |              | UINT16<br>R/O |             |

|   |                               |   |  |  |               |  |
|---|-------------------------------|---|--|--|---------------|--|
|   |                               | Measured average voltage Vavdd of CHIPx:14,6V |  |  |               |  |
| <b>AIOX CHIP VOLTAGES</b>   |                               |   |  |  |               |  |
| Vagnd CHIP 1<br>IN VOLT   | 3x43009<br>4x43009<br>I:43008 | 0,0x0000<br>B:00 00                           |  |  | UINT16<br>R/O |  |
|   |                               | Actual measured voltage Vagnd of CHIPx:0,0V   |  |  |               |  |
| Current measured voltage Vagnd for CHIPx in x*10 Volts. Each CHIP supports 4 AIOX channels.<br>This must be 0V, if not, there is a severe wiring or other hardware issue!   |                               |   |  |  |               |  |
| Vagnd CHIP 2<br>IN VOLT   | 3x43010<br>4x43010<br>I:43009 | 0,0x0000<br>B:00 00                           |  |  | UINT16<br>R/O |  |
|   |                               | Actual measured voltage Vagnd of CHIPx:0,0V   |  |  |               |  |
| <b>AIOX CHIP VOLTAGES</b>   |                               |   |  |  |               |  |
| AVERAGE Vagnd CHIP 1<br>IN VOLT   | 3x43011<br>4x43011<br>I:43010 | 0,0x0000<br>B:00 00                           |  |  | UINT16<br>R/O |  |
|   |                               | Measured average voltage Vagnd of CHIPx:0,0V  |  |  |               |  |
| Current measured voltage Vagnd for CHIPx in x*10 Volts. Each CHIP supports 4 AIOX channels.<br>This must be 0V, if not, there is a severe wiring or other hardware issue!   |                               |   |  |  |               |  |
| AVERAGE Vagnd CHIP 2<br>IN VOLT   | 3x43012<br>4x43012<br>I:43011 | 0,0x0000<br>B:00 00                           |  |  | UINT16<br>R/O |  |
|   |                               | Measured average voltage Vagnd of CHIPx:0,0V  |  |  |               |  |
| <b>AIOX CHIP STATUS</b>   |                               |   |  |  |               |  |
| LIVE STATUS CHIP 1  | 3x43013<br>4x43013<br>I:43012 | 30720,0x7800<br>B:78 00                       |  |  | UINT16<br>R/O |  |
|   |                               | Actual live status of CHIPx:7800              |  |  |               |  |
| Current live status for CHIPx. Each CHIP supports 4 AIOX channels.<br>Each result bit stands for a different state:<br>Bit 0: VI_ERR_CURR_A: Status of channel A:Voltage or current error detected on Channel A. This bit is interpreted differently depending on which of the following IO function selected:<br>Voltage output: short-circuit error. The error condition is debounced for 2 ms before the status bit is set.<br>Current output: open circuit error. The error condition is debounced for 2 ms before the status bit is set.<br>Current input, loop powered: short-circuit error. A short to ground is detected<br>Current input, externally powered: short-circuit error. A current source >25 mA is detected<br>Bit 1: VI_ERR_CURR_B: Status of voltage input B. Same like VI_ERR_CURR_A<br>Bit 2: VI_ERR_CURR_C: Status of voltage input C. Same like VI_ERR_CURR_A<br>Bit 3: VI_ERR_CURR_D: Status of voltage input D. Same like VI_ERR_CURR_A<br>Bit 4: HI_TEMP_STATUS: If the die temperature is typically at or above 115°C, the HI_TEMP_STATUS bit is asserted<br>Bit 5: CHARGE_PUMP_STATUS: Charge pump error detected.<br>Bit 6: ALDO5V_STATUS: ALDO5V Power Supply Monitor Error. This bit is asserted when the ALDO5V pin falls below 4.05 V. Usually ~5V.<br>Bit 7: AVDD_STATUS: AVDD Power Supply Monitor Error. This bit is asserted when the AVDD pin falls below 9.26 V. Usually ~17V.<br>Bit 8: DVCC_STATUS: DVCC Power Supply Monitor Error. This bit is asserted when the DVCC pin falls below 1.93 V. Usually ~3.3V.<br>Bit 9: ALDO1V8_STATUS: ALDO1V8 Power Supply Monitor Error. This bit is asserted when the ALDO1V8 pin falls below 1.35 V. Usually ~1.8V.<br>Bit 10-12: ADC_CH_CURR: Current converted channel of the ADC (0:A, 1:B, 2:C, 3:D, 4:Diagnostic 0, 5:Diagnostic 1, 6:Diagnostic 2, 7:Diagnostic 3)<br>Bit 13: ADC_BUSY: ADC busy status bit.<br>Bit 14: ADC_DATA_RDY:ADC data ready. The ADC_DATA_RDY bit asserts when a conversion cycle has completed. The bit stays asserted until a user writes 1 to clear the bit. In single conversion mode, the ADC_RDY pin follows the ADC_DATA_RDY bit and only deasserts when the ADC_DATA_RDY bit is cleared. In continuous conversion mode, the ADC_RDY pin returns high after 24 µs.<br>Bit 15: RESERVED: Reserved |                               |   |  |  |               |  |



|   |                               |                         |  |  |               |  |
|---|-------------------------------|-------------------------|--|--|---------------|--|
| LIVE STATUS CHIP 2  | 3x43014<br>4x43014<br>I:43013 | 24576,0x6000<br>B:60 00 |  |  | UINT16<br>R/O |  |
| Actual live status of CHIPx:6000  |                               |                         |  |  |               |  |
| <b>AIOX CHIP STATUS</b>   |                               |                         |  |  |               |  |
| ALERT STATUS CHIP 1   | 3x43015<br>4x43015<br>I:43014 | 33792,0x8400<br>B:84 00 |  |  | UINT16<br>R/O |  |
| Actual alert status of CHIPx:8400   |                               |                         |  |  |               |  |
| <p>Current alert status for CHIPx. Each CHIP supports 4 AIOX channels.<br/> Each result bit stands for a different state:<br/> Bit 0: VI_ERR_CURR_A: Status of channel A:Voltage or current error detected on Channel A. This bit is interpreted differently depending on which of the following IO function selected:<br/> Voltage output: short-circuit error. The error condition is debounced for 2 ms before the status bit is set.<br/> Current output: open circuit error. The error condition is debounced for 2 ms before the status bit is set.<br/> Current input, loop powered: short-circuit error. A short to ground is detected<br/> Current input, externally powered: short-circuit error. A current source &gt;25 mA is detected<br/> Bit 1: VI_ERR_CURR_B: Status of voltage input B. Same like VI_ERR_CURR_A<br/> Bit 2: VI_ERR_CURR_C: Status of voltage input C. Same like VI_ERR_CURR_A<br/> Bit 3: VI_ERR_CURR_D: Status of voltage input D. Same like VI_ERR_CURR_A<br/> Bit 4: HI_TEMP_STATUS: If the die temperature is typically at or above 115°C, the HI_TEMP_STATUS bit is asserted<br/> Bit 5: CHARGE_PUMP_STATUS: Charge pump error detected.<br/> Bit 6: ALDO5V_STATUS: ALDO5V Power Supply Monitor Error. This bit is asserted when the ALDO5V pin falls below 4.05 V. Usually ~5V.<br/> Bit 7: AVDD_STATUS: AVDD Power Supply Monitor Error. This bit is asserted when the AVDD pin falls below 9.26 V. Usually ~17V.<br/> Bit 8: DVCC_STATUS: DVCC Power Supply Monitor Error. This bit is asserted when the DVCC pin falls below 1.93 V. Usually ~3.3V.<br/> Bit 9: ALDO1V8_STATUS: ALDO1V8 Power Supply Monitor Error. This bit is asserted when the ALDO1V8 pin falls below 1.35 V. Usually ~1.8V.<br/> Bit 10: ADC_CONV_ERR: ADC Conversion Error. ADC results may be outside the selected measurement range.<br/> Bit 11: ADC_SAT_ERR: ADC Saturation Error. ADC may be outside the user selected measurement range.<br/> Bit 12: SPI_SCLK_CNT_ERR: SPI SCLK count error detected. This bit is asserted if an SPI command is applied but 32 SCLKs are not provided.<br/> Bit 13: SPI_CRC_ERR: SPI CRC error detected. This bit is asserted if an invalid CRC is received.<br/> Bit 14: CAL_MEM_ERR: Calibration Memory Error. This flag asserts under the following two conditions: When a calibration memory CRC error or an uncorrectable error correcting code (ECC) error is detected on the calibration memory upload.<br/> It is not possible to clear this bit if there is a CRC error or uncorrectable ECC error. It is recommended to reset the device and check the supplies in this situation. When there is an attempted SPI access to a register before the calibration memory refresh is complete. Do not address the device until the calibration memory is refreshed. Writing 1 to this bit clears the flag, if the flag is asserted due to this condition.<br/> Bit 15: RESET_OCCURRED: Reset occurred. This bit is asserted after a reset event, which asserts the ALERT pin after the reset. Write a 1 to this bit to clear the flag. Note that a mask bit is not provided for this bit.</p> |                               |                         |  |  |               |  |
| ALERT STATUS CHIP 2   | 3x43016<br>4x43016<br>I:43015 | 33792,0x8400<br>B:84 00 |  |  | UINT16<br>R/O |  |
| Actual alert status of CHIPx:8400   |                               |                         |  |  |               |  |
| <b>AIOX SPI STATUS</b>  |                               |                         |  |  |               |  |
| SPI ERRORS CHIP 1   | 3x43017<br>4x43017<br>I:43016 | 0,0x0000<br>B:00 00     |  |  | UINT16<br>R/O |  |
| Actual SPI error counter of CHIPx:0 error(s)  |                               |                         |  |  |               |  |
| <p>Current SPI error counter for CHIPx. Each CHIP supports 4 AIOX channels.<br/> This command shows the actual SPI errors since power up for every chip</p>   |                               |                         |  |  |               |  |
| SPI ERRORS CHIP 2   | 3x43018<br>4x43018<br>I:43017 | 0,0x0000<br>B:00 00     |  |  | UINT16<br>R/O |  |
| Actual SPI error counter of CHIPx:0 error(s)  |                               |                         |  |  |               |  |
| <b>AIOX STATE MACHINES</b>  |                               |                         |  |  |               |  |

|   |                               |                             |       |              |               |     |
|---|-------------------------------|-----------------------------|-------|--------------|---------------|-----|
| STATE MACHINE CHIP 1  | 3x43019<br>4x43019<br>l:43018 | 12070,0x2F26<br>B:2F 26     |       |              | UINT16<br>R/O |     |
|   |                               | Actual state of CHIPx:12070 |       |              |               |     |
| This command shows the acutal state of the internal communication state machine for CHIPx   |                               |                             |       |              |               |     |
| STATE MACHINE CHIP 2  | 3x43020<br>4x43020<br>l:43019 | 12050,0x2F12<br>B:2F 12     |       |              | UINT16<br>R/O |     |
|   |                               | Actual state of CHIPx:12050 |       |              |               |     |
| <b>AIOX ONLINE</b>  |                               |                             |       |              |               |     |
| IS ONLINE CHIP 1  | 3x43021<br>4x43021<br>l:43020 | 1,0x0001<br>B:00 01         |       |              | UINT16<br>R/O |     |
|   |                               | Is CHIPx online:1=YES       |       |              |               |     |
| This command shows the acutal state of the internal communication state machine for CHIPx   |                               |                             |       |              |               |     |
| IS ONLINE CHIP 2  | 3x43022<br>4x43022<br>l:43021 | 1,0x0001<br>B:00 01         |       |              | UINT16<br>R/O |     |
|   |                               | Is CHIPx online:1=YES       |       |              |               |     |
| <b>AIOX CLEAR ALARM STATE</b>   |                               |                             |       |              |               |     |
| CLEAR ALERT STATES CHIP 1   | 3x43023<br>4x43023<br>l:43022 | 0,0x0000<br>B:00 00         | 65535 |              | UINT16<br>R/W | YES |
|   |                               | 0:VI_ERR_A                  |       | 1:RESET FLAG |               |     |
|   |                               | 1:VI_ERR_B                  |       | 1:RESET FLAG |               |     |
|   |                               | 2:VI_ERR_C                  |       | 1:RESET FLAG |               |     |
|   |                               | 3:VI_ERR_D                  |       | 1:RESET FLAG |               |     |
|   |                               | 4:HI_TEMP_ERR               |       | 1:RESET FLAG |               |     |
|   |                               | 5:CHARGE_PUMP_ERR           |       | 1:RESET FLAG |               |     |
|   |                               | 6:ALDO5V_ERR                |       | 1:RESET FLAG |               |     |
|   |                               | 7:AVDD_ERR                  |       | 1:RESET FLAG |               |     |
|   |                               | 8:DVCC_ERR                  |       | 1:RESET FLAG |               |     |
|   |                               | 9:ALDO1V8_ERR               |       | 1:RESET FLAG |               |     |
|   |                               | 10:ADC_CONV_ERR             |       | 1:RESET FLAG |               |     |
|   |                               | 11:ADC_SAT_ERR              |       | 1:RESET FLAG |               |     |
|   |                               | 12:SPI_SCLK_ERR             |       | 1:RESET FLAG |               |     |
|   |                               | 13:SPI_CRC_ERR              |       | 1:RESET FLAG |               |     |
|   |                               | 14:CAL_MEM_ERR              |       | 1:RESET FLAG |               |     |
|   |                               | 15:RESET_OCCURED            |       | 1:RESET FLAG |               |     |
| With this command you can reset individual alert bits in the alert status register of CHIPx |                               |                             |       |              |               |     |
| CLEAR ALERT STATES CHIP 2   | 3x43024<br>4x43024<br>l:43023 | 0,0x0000<br>B:00 00         | 65535 |              | UINT16<br>R/W | YES |
|   |                               | 0:VI_ERR_A                  |       | 1:RESET FLAG |               |     |
|   |                               | 1:VI_ERR_B                  |       | 1:RESET FLAG |               |     |

|  |  |                   |              |  |  |
|--|--|-------------------|--------------|--|--|
|  |  | 2:VI_ERR_C        | 1:RESET FLAG |  |  |
|  |  | 3:VI_ERR_D        | 1:RESET FLAG |  |  |
|  |  | 4:HI_TEMP_ERR     | 1:RESET FLAG |  |  |
|  |  | 5:CHARGE_PUMP_ERR | 1:RESET FLAG |  |  |
|  |  | 6:ALDO5V_ERR      | 1:RESET FLAG |  |  |
|  |  | 7:AVDD_ERR        | 1:RESET FLAG |  |  |
|  |  | 8:DVCC_ERR        | 1:RESET FLAG |  |  |
|  |  | 9:ALDO1V8_ERR     | 1:RESET FLAG |  |  |
|  |  | 10:ADC_CONV_ERR   | 1:RESET FLAG |  |  |
|  |  | 11:ADC_SAT_ERR    | 1:RESET FLAG |  |  |
|  |  | 12:SPI_SCLK_ERR   | 1:RESET FLAG |  |  |
|  |  | 13:SPI_CRC_ERR    | 1:RESET FLAG |  |  |
|  |  | 14:CAL_MEM_ERR    | 1:RESET FLAG |  |  |
|  |  | 15:RESET_OCCURED  | 1:RESET FLAG |  |  |

With this command you can reset individual alert bits in the alert status register of CHIPx

#### AIOX RESET STATE MACHINE

|                               |                               |                     |   |                       |               |     |
|-------------------------------|-------------------------------|---------------------|---|-----------------------|---------------|-----|
| RESET CHIP 1<br>STATE MACHINE | 3x43025<br>4x43025<br>I:43024 | 0,0x0000<br>B:00 00 | 1 | 1:RESET STATE MACHINE | UINT16<br>R/W | YES |
|-------------------------------|-------------------------------|---------------------|---|-----------------------|---------------|-----|

This command restarts the state machine for chip CHIPx . The affected chip will be resetted & initialized completely

|                               |                               |                     |   |                       |               |     |
|-------------------------------|-------------------------------|---------------------|---|-----------------------|---------------|-----|
| RESET CHIP 2<br>STATE MACHINE | 3x43026<br>4x43026<br>I:43025 | 0,0x0000<br>B:00 00 | 1 | 1:RESET STATE MACHINE | UINT16<br>R/W | YES |
|-------------------------------|-------------------------------|---------------------|---|-----------------------|---------------|-----|

| Register NAME<br>Command NAME  | MODBUS<br>Register<br>ASCII<br>Command | Register VALUE<br>ASCII Command | NEW REAL<br>VALUE               | NEW<br>VALUE | DATA TYPE     | DO<br>WRITE |
|--|--|---------------------------------|---------------------------------|--------------|---------------|-------------|
| <b>AIOX CONFIG OUTPUT VALUES</b>   |  |                                 |                                 |              |               |             |
| CONFIG OUTPUT VALUE AIOX1  | 3x44001<br>4x44001<br>I:44000          | 65535,0xFFFF<br>B:FF FF         | 100                             | 1            | UINT16<br>R/W | YES         |
| Actual config value for AIOx:N/A   |  |                                 | ENTER NEW CONFIG VALUE FOR AIOx |              |               |             |
| This command sets for all outputs the standard value in Volt*100 or in mA*100, which are used when the controller is restarted or a watchdog condition has occurred and the channel is used as voltage output or current output.<br>For voltage outputs the range is 0 to 1100 (0 to 11,0V).<br>For current outputs the range is 0 to 2500 (0 to 25mA).<br>All IOs with a different usage type will return 65535,0xFFFF. |  |                                 |                                 |              |               |             |
| CONFIG OUTPUT VALUE AIOX2  | 3x44002<br>4x44002<br>I:44001          | 65535,0xFFFF<br>B:FF FF         | 200                             | 2            | UINT16<br>R/W | YES         |
| Actual config value for AIOx:N/A   |  |                                 | ENTER NEW CONFIG VALUE FOR AIOx |              |               |             |
| CONFIG OUTPUT VALUE AIOX3  | 3x44003<br>4x44003<br>I:44002          | 65535,0xFFFF<br>B:FF FF         | 300                             | 3            | UINT16<br>R/W | YES         |
| Actual config value for AIOx:N/A   |  |                                 | ENTER NEW CONFIG VALUE FOR AIOx |              |               |             |
| CONFIG OUTPUT VALUE AIOX4  | 3x44004<br>4x44004<br>I:44003          | 65535,0xFFFF<br>B:FF FF         | 400                             | 4            | UINT16<br>R/W | YES         |
| Actual config value for AIOx:N/A   |  |                                 | ENTER NEW CONFIG VALUE FOR AIOx |              |               |             |
| CONFIG OUTPUT VALUE AIOX5  | 3x44005<br>4x44005<br>I:44004          | 65535,0xFFFF<br>B:FF FF         | 500                             | 5            | UINT16<br>R/W | YES         |
| Actual config value for AIOx:N/A   |  |                                 | ENTER NEW CONFIG VALUE FOR AIOx |              |               |             |
| CONFIG OUTPUT VALUE AIOX6  | 3x44006<br>4x44006<br>I:44005          | 65535,0xFFFF<br>B:FF FF         | 600                             | 6            | UINT16<br>R/W | YES         |
| Actual config value for AIOx:N/A   |  |                                 | ENTER NEW CONFIG VALUE FOR AIOx |              |               |             |
| CONFIG OUTPUT VALUE AIOX7  | 3x44007<br>4x44007<br>I:44006          | 65535,0xFFFF<br>B:FF FF         | 700                             | 7            | UINT16<br>R/W | YES         |
| Actual config value for AIOx:N/A   |  |                                 | ENTER NEW CONFIG VALUE FOR AIOx |              |               |             |
| CONFIG OUTPUT VALUE AIOX8  | 3x44008<br>4x44008<br>I:44007          | 65535,0xFFFF<br>B:FF FF         | 800                             | 8            | UINT16<br>R/W | YES         |
| Actual config value for AIOx:N/A   |  |                                 | ENTER NEW CONFIG VALUE FOR AIOx |              |               |             |
| <b>INTER PROCESSOR COMMUNICATION</b>   |  |                                 |                                 |              |               |             |
| AIOX IS ONLINE   | 3x50000<br>4x50000<br>I:49999          | 1,0x0001<br>B:00 01             |                                 |              | UINT16<br>R/O |             |

|   |   |  |  |
|---|---|--|--|
|   | Actual communication status co-processor to AIOX processor:OK |  |  |
| <p>This command returns the actual state of the serial communication between the ARM co-processor and the additional processor for the AIOX.<br/>=1: Currently the communication is fine<br/>=0: There is a mayor problem/hardware fault between the two processors</p> |   |  |  |