Command NAME	ASCII command type	ASCII command structure	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
ASCII COMMANDS						
HEART BEAT	ASCII READ COMMAND	#HB<CR> Result: #HB<CR>			ASCII	
	TX	#1,HB<CR>				
	RX	#1,HB<CR>				
Sends an Heartbeat to test the communcation						
GET VERSION	ASCII READ COMMAND	#VERSION<CR> Result: #VERSION:<VersionHi>,<VersionMed>,<VersionLo><CR>			ASCII	
	TX	#1,VERSION<CR>				
	RX	#1,VERSION:1.2.00<CR>				
		Current SW version:1.2.00				
Returns the version number of the module VersionHi: Version number high (1..255) VersionMed: Version number medium (1..255) VersionLo: Version number low (1..255)						
GET TYPE	ASCII READ COMMAND	#TYPE<CR> Result: #TYPE:<Type><CR>			ASCII	
	TX	#1,TYPE<CR>				
	RX	#1,TYPE:RESI-16DI15DO-SIO<CR>				
		Current module type:RESI-16DI15DO-SIO				
Returns the current module type						
GET FEATURES	ASCII READ COMMAND	#FTRS<CR> Result: #FTRS:<Type><CR>			ASCII	
	TX	#1,FTRS<CR>				
	RX	#1,FTRS:RESI-16DI15DO-SIO,RS485,DI:16,DO:15,DOIC:MAX14915<CR>				
		Current module type:#1,FTRS:RESI-16DI15DO-SIO,RS485,DI:16,DO:15,DOIC:MAX14915<CR>				
Returns the current module features						
GET OWNER	ASCII READ COMMAND	#OWNER<CR> Result: #OWNER:<Owner><CR>			ASCII	
	TX	#1,OWNER<CR>				
	RX	#1,OWNER:RESI<CR>				
		Current owner:RESI				
Returns the current owner of the module						

GET CREATOR	ASCII READ COMMAND	#CREATOR<CR> Result: #CREATOR:<Creator><CR>	ASCII	
	TX	#1,CREATOR<CR>		
	RX	#1,CREATOR:DI HC SIGL,MSC<CR>		
		Current creator:DI HC SIGL,MSC		
Returns the current creator of the module				
GET COPYRIGHT	ASCII READ COMMAND	#COPYRIGHT<CR> Result: #COPYRIGHT:<Copyright><CR>	ASCII	
	TX	#1,COPYRIGHT<CR>		
	RX	#1,COPYRIGHT:2015-24 BY RESI AND DI HC SIGL,MSC WWW.RESI.CC<CR>		
		Current copyright:2015-24 BY RESI AND DI HC SIGL,MSC WWW.RESI.CC		
Returns the current copyright of the module				
GET SERIAL NUMBER	ASCII READ COMMAND	#SN<CR> Result: #SN:<Serial><CR>	ASCII	
	TX	#1,SN<CR>		
	RX	#1,SN:0E8014000657465538343020<CR>		
		Current serial number:0E8014000657465538343020		
Returns the current serial number of the module				
GET INTERNAL STATUS	ASCII READ COMMAND	#INTSTAT<CR> Result: #INTSTAT:<Status><CR>	ASCII	
	TX	#1,INTSTAT<CR>		
	RX	#1,INTSTAT:I2C1:0,I2C2:0,FRAM:44<CR>		
Returns the device specific internal status				
GET DIP SWITCH	ASCII READ COMMAND	#GDIP<CR> Result: #GDIP:<DIPSwitchDec>,<DIPSwitchHex><CR>	ASCII	
	TX	#1,GDIP<CR>		
	RX	#1,GDIP:65,0x41<CR>		
		Current DIP SWITCH settings:0100.0001		
Returns the current setting of the Dip switches as decimal number and as hexadecimal number. DIPSwitchDec DIPSwitchHex The current value 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, if available (=0:OFF, =1:ON) Bit 5: DIP Switch 6, if available (=0:OFF, =1:ON) Bit 6: DIP Switch 7, if available (=0:OFF, =1:ON) Bit 7: DIP Switch 8, if available (=0:OFF, =1:ON)				
ASCII COMMANDS				

SET MODBUS ADDRESS	ASCII WRITE COMMAND	#SMBADR:<UNITID><CR> Result: #OK<CR>	ASCII	NO
	UNITID	123		
	TX	#1,SMBADR:123<CR>		
	RX	N/A		

Redefines the unit ID of the module. This change will affect the MODBUS/RTU communication immediately. As a Unit IO you can use the values 0dec to 255dec.

HINT: The new settings are activated after a system reboot or power off on cycle!

SET MODBUS BAUDRATE	ASCII WRITE COMMAND	#SMBBAUD:<BAUD><CR> Result: #OK<CR>	ASCII	NO
	BAUD	128000:128000BD		
	TX	#1,SMBBAUD:128000<CR>		
	RX	N/A		

Sets a new baud rate in the FLASH
For ULTRA SLIM IOs RESI-xxx-SIO: This baudrate is only used, if DIP switch mode DIP1=ON+DIP2=ON (BR) (default is 57600bd)
For BIG IOs RESI-xxx-SIO: This baudrate is only used, if DIP switch mode DIP7=ON (PARAMETER) (default is 57600bd)
The following baudrates are allowed:
300bd, 600bd, 900bd, 1200bd, 2400bd, 4800bd,
9600bd, 19200bd, 38400bd, 57600bd, 115200bd, 128000bd
230400bd, 250000bd, 256000bd

HINT: The new setup parameters will be active after a restart of the module.

SET MODBUS PARITY	ASCII WRITE COMMAND	#SMBPAR:<PARITY><CR> Result: #OK<CR>	ASCII	NO
	PARITY	ODD:ODD PARITY		
	TX	#1,SMBPAR:ODD<CR>		
	RX	N/A		

Sets a new parity for the serial interface.
MBParity:
NONE: no parity
EVEN: even parity
ODD: odd parity

HINT: The new setup parameters will be active after a restart of the module.

SET MODBUS STOPS	ASCII WRITE COMMAND	#SMBSTOP:<STOPBIT><CR> Result: #OK<CR>	ASCII	NO
	STOPBIT	TWO:TWO STOPBITS		
	TX	#1,SMBSTOP:TWO<CR>		
	RX	N/A		

Sets a new amount of stop bits for the serial interface. MBStops ONE: one stop bit TWO: two stop bits HINT: The new setup parameters will be active after a restart of the module.				
SET MODBUS PARAMS	ASCII WRITE COMMAND	#SMBPARAMS:<UNITID>,<BAUD>,<PARITY>,<STOPBIT><CR> Result: #OK<CR>	ASCII	NO
	UNITID	3		
	BAUD	115200:115200BD		
	PARITY	EVEN:EVEN PARITY		
	STOPBIT	TWO:TWO STOPBITS		
	TX	#1,SMBPARAMS:3,115200,EVEN,TWO<CR>		
	RX	N/A		
Sets all parameters for serrial interface				
GET MODBUS ADDRESS	ASCII READ COMMAND	#GMBADR<CR> Result: #GMBADR:<MBUnitDec>,<MBFLASHDec>,<MBUnitHex>,<MBFLASHHex><CR>	ASCII	
	TX	#1,GMBADR<CR>		
	RX	#1,GMBADR:1,15,0x1,0xF<CR>		
		Current MODBUS unit ID:1,15,0x1,0xF		
Shows the current used MODBUS/RTU or ASCII unit address and shows also the stored unit address in the FLASH memory, which is only used if the DIP switch for the bus address is set to 0. MBUnitDec,MBUnitHex The current used MODBUS/RTU unit or ASCII address for communication MBFLASHDec,MBFLASHHex The internal stored MODBUS/RTU unit address or ASCII address from the FLASH memory, if the DIP switch DIP3 is OFF.				
GET MODBUS BAUDRATE	ASCII READ COMMAND	#GMBBAUD<CR> Result: #GMBBAUD:<BaudRate><CR>	ASCII	
	TX	#1,GMBBAUD<CR>		
	RX	#1,GMBBAUD:115200,0x1C200<CR>		
		Current baudrate:115200,0x1C200		
This is the current configured baud rate in the FLASH For ULTRA SLIM IOs RESI-xxx-SIO: This baudrate is only used, if DIP switch mode DIP1=ON+DIP2=ON (BR) (default is 57600bd) For BIG IOs RESI-xxx-SIO: This baudrate is only used, if DIP switch mode DIP7=ON (PARAMETER) (default is 57600bd) The following baudrates are allowed: 300bd, 600bd, 900bd, 1200bd, 2400bd, 4800bd, 9600bd, 19200bd, 38400bd, 57600bd, 115200bd, 128000bd 230400bd, 250000bd, 256000bd				
GET MODBUS PARITY	ASCII READ COMMAND	#GMBPAR<CR> Result: #GMBPAR:<MBParity><CR>	ASCII	
	TX	#1,GMBPAR<CR>		
	RX	#1,GMBPAR:NONE<CR>		

		Current parity:NONE		
Shows the current configured parity of the serial interface. MBParity NONE: no parity EVEN: even parity ODD: odd parity				
GET MODBUS STOP	ASCII READ COMMAND	#GMBSTOP<CR> Result: #GMBSTOP:<MBStop><CR>	ASCII	
	TX	#1,GMBSTOP<CR>		
	RX	#1,GMBPAR:ONE<CR>		
		Current stopbit(s):ONE		
Shows the current configured parity of the serial interface. MBParity NONE: no parity EVEN: even parity ODD: odd parity				
GET MODBUS PARAMS	ASCII READ COMMAND	#GMBPARAMS<CR> Result: #GMBPARAMS:<MBUnitDec>,<MBFLASHDec>,<MBUnitHex>,<MBFLASHHex>, <MBBaudrateDec>,<MBBaudrateHex>,<MBParity>,<MBStops><CR>	ASCII	
	TX	#1,GMBPARAMS<CR>		
	RX	#1,GMBPARAMS:1,0x1,15,0xF,115200,0x1C200,NONE,ONE<CR>		
		Current MODBUS unit ID used:1		
		Current MODBUS unit ID in FLASH:15		
		Current baudrate in FLASH:115200		
		Current parity in FLASH:NONE		
		Current stopbit(s) in FLASH:ONE		
Returns the complete settings for serial interface				
ASCII COMMANDS				
RESET	ASCII WRITE COMMAND	#RST<CR> Result: #OK<CR>	ASCII	NO
	TX	#1,RST<CR>		
	RX	N/A		
Executes a software reset (Reboot) of the module.				
FACTORY RESET	ASCII WRITE COMMAND	#FRST<CR> Result: #OK<CR>	ASCII	NO
	TX	#1,FRST<CR>		
	RX	N/A		
Performs a factory reset of all internal saved parameters				
SET MODBUS WATCHDOG TIMER	ASCII WRITE COMMAND	#SMBWATCHDOG:<WDTIME><CR> Result: #OK<CR>	ASCII	YES

	WDTIME	100		
	TX	#1,SMBWATCHDOG:100<CR>		
	RX	#1,OK<CR>		

Enables or disables the WATCHDOG Timer for the IO module.
WDTIME:
1..65535: Time for Watchdog in 1/100s
=0: Watchdog is deactivated
HINT: The Watchdog is internally handled every 100ms. If the IO module receives no valid frame within this time period, the outputs are set to predefined values!

GET MODBUS WATCHDOG TIMER	ASCII READ COMMAND	#GMBWATCHDOG<CR> Result: #GMBWATCHDOG:<WDTIME><CR>	ASCII	
	TX	#1,GMBWATCHDOG<CR>		
	RX	#1,GMBWATCHDOG:0,0x0<CR>		
		Current watchdog time:0 -> 0,0s		

Shows the actual configured time for the telegram watchdog function of the IO module.
WDTIME:
1..65535: Time for Watchdog in 1/100s
=0: Watchdog is deactivated
HINT: The Watchdog is internally handled every 100ms. If the IO module receives no valid frame within this time period, the outputs are set to predefined values!

CPU PARAMETERS

GET CPU VOLTAGE	ASCII READ COMMAND	#GCPUTEMP<CR> Result: #GCPUTEMP:<CPUTemp><CR>	ASCII	
	TX	#1,GCPUTEMP<CR>		
	RX	#1,GCPUTEMP:36.2510<CR>		
		Current internal temperature of CPU:36.2510°C		

Current internal temperature of CPU in ° Celsius.

GET CPU VOLTAGE	ASCII READ COMMAND	#GCPUVOLT<CR> Result: #GCPUVOLT:<CPUVoltage><CR>	ASCII	
	TX	#1,GCPUVOLT<CR>		
	RX	#1,GCPUVOLT:3.3107<CR>		
		Current supply voltage of CPU:3.3107V		

Current internal supply voltage of CPU in Volt.

GET CPU BACKUP	ASCII READ COMMAND	#GCPUBACK<CR> Result: #GCPUBACK:<CPUBackupVoltage><CR>	ASCII	
	TX	#1,GCPUBACK<CR>		
	RX	#1,GCPUBACK:3.3004<CR>		
		Current backup voltage of CPU:3.3004V		

Current internal backup capacitor voltage of CPU in Volt.

Register NAME	MODBUS Register	Register VALUE	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
PRODUCT DATA						
HW_GROUP	3x65201 4x65201 I:65200	16384,0x4000 B:40 00			UINT16 R/O	
This is the group of hardware of the current product						
SW_GROUP	3x65202 4x65202 I:65201	32807,0x8027 B:80 27			UINT16 R/O	
This is the group of software of the current product						
SW_VERSION	3x65203 4x65203 I:65202	4608,0x1200 B:12 00			UINT16 R/O	
		SW VERSION:1.2.0				
This is the current software version of the firmware						
SW_AUTHOR	3x65204 4x65204 I:65203	18771,0x4953 B:49 53			UINT16 R/O	
This is the current software author of the firmware						
MODBUS SETTINGS						
UNIT_ID	3x65222 4x65222 I:65221	1,0x0001 B:00 01			UINT16 R/O	
		UNIT ID:1				
If the host reads this register, the current defined unit ID is returned.						
FLASH UNIT_ID	3x65223 4x65223 I:65222	15,0x000F B:00 0F		27	UINT16 R/W	NO
		UNIT ID:15				
If the host reads this register, the current defined unit ID from the FLASH is returned. This UnitID is used if DIP switch for UnitID is set to 15						
HINT:This settings will be active after you repower or reset your device !!						
BAUD_RATE	3x65224 4x65224 I:65223	115200,0x0001C200 B:00 01 C2 00	57600	57600	UINT32 R/W	NO
		115200Bd		ENTER BAUD RATE		
This is the current configured baud rate in the FLASH For ULTRA SLIM IOs RESI-xxx-SIO: This baudrate is only used, if DIP switch mode DIP1=ON+DIP2=ON (BR) (default is 57600bd) For BIG IOs RESI-xxx-SIO: This baudrate is only used, if DIP switch mode DIP7=ON (PARAMETER) (default is 57600bd)						

Valid baud rates are: 300bd, 600bd, 900bd, 1200bd, 2400bd, 4800bd, 9600bd, 19200bd, 38400bd, 57600bd, 115200bd, 128000bd 230400bd, 250000bd, 256000bd						
HINT:This settings will be active after you repower or reset your device !!						
PARITY	3x65226 4x65226 I:65225	0,0x0000 B:00 00		1:EVEN PARITY	UINT16 R/W	NO
		NO PARITY		SELECT PARITY		
If the register is read out, the currently set parity of the serial interface is returned. Writing a value to this register will change the new parity in FLASH. This will only take effect after a restart of the module. This can be triggered by writing to the RESET SYSTEM register. Parity values are 0: no parity 1: even parity 2: odd parity						
STOP BITS	3x65227 4x65227 I:65226	1,0x0001 B:00 01		2:TWO STOPBITS	UINT16 R/W	NO
		ONE STOPBIT		SELECT STOPBITS		
If the register is read out, the currently set number of stop bits of the serial interface is returned. Writing a value to this register will change the new number of stop bits in the FLASH. This will only take effect after a restart of the module. This can be triggered by writing to the RESET SYSTEM register. Values for stop bits are 1: one stop bit 2: two stop bits						
MODBUS TIMING	3x65228 4x65228 I:65227	0,0x0000 B:00 00		10	UINT16 R/W	NO
		Actual timing:0ms				
If the host reads this register, the current defined timing for MODBUS telegrams is returned. This timing is a time in ms which extends the standard 1.5 character timeout between two consecutive bytes on the serial line. If you write a new value to this register, the new settings are stored into the internal FLASH. Reboot the device to activate the new settings.						
MODBUS WATCHDOG TIME	3x65229 4x65229 I:65228	0,0x0000 B:00 00		50	UINT16 R/W	YES
		Actual watchdog time in 1/100s:0 -> 0,0s				
Writing a value onto this register defines a new time for the internal communcation watchdog timer. The value is a timespan in 1/100s. =0: The communcation watchdog is disabled =1..65535: Communcation watchdog will be trigegred after x 1/100s pause on communcation line In case of an communcation watchdog, the module sets all outputs to the states defined in the configuration output registers Reading this registe will return the current stored time from the internal FLASH						
CPU DATA						
SERIAL1	3x65521 4x65521 I:65520	32782,0x800E B:80 0E			UINT16 R/O	

Serial number of module as 96 bit unsigned integer number						
SERIAL2	3x65522 4x65522 I:65521	20,0x0014 B:00 14			UINT16 R/O	
SERIAL3	3x65523 4x65523 I:65522	22278,0x5706 B:57 06			UINT16 R/O	
SERIAL4	3x65524 4x65524 I:65523	21830,0x5546 B:55 46			UINT16 R/O	
SERIAL5	3x65525 4x65525 I:65524	13368,0x3438 B:34 38			UINT16 R/O	
SERIAL6	3x65526 4x65526 I:65525	8240,0x2030 B:20 30			UINT16 R/O	
		SERIAL:0E8014000657465538343020				
Serial number of module as 96 bit unsigned integer number						
CPU TEMPERATURE	3x65527 4x65527 I:65526	3663,0x0E4F B:0E 4F			UINT16 R/O	
		Current internal temperature of CPU:36,63°C				
Current internal temperature of CPU in ° Celsius multiplied by 100.						
CPU VOLTAGE	3x65528 4x65528 I:65527	331,0x014B B:01 4B			UINT16 R/O	
		Current supply voltage of CPU:3,31V				
Current internal supply voltage of CPU in Volt multiplied by 100.						
CPU BACKUP VOLTAGE	3x65529 4x65529 I:65528	330,0x014A B:01 4A			UINT16 R/O	
		Current backup voltage of CPU:3,30V				
Current internal backup capacitor voltage of CPU in Volt multiplied by 100.						
DIP SWITCH STATUS						
DIP SWITCH	3x65300 4x65300 I:65299	65,0x0041 B:00 41			UINT16 R/O	
Returns the current 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)						

CONVERTER STATUS						
CONVERTER STATUS	3x65534 4x65534 I:65533	0,0x0000 B:00 00			UINT16 R/O	
Current status of the converter						
FACTORY RESET	3x65535 4x65535 I:65534	0,0x0000 B:00 00		1:PERFORM FACTORY RESET	UINT16 R/W	NO
Performs a factory reset of all internal saved parameters						
SOFTWARE RESET						
RESET	1x65536 2x65536 I:65535	0,0x00 B:00		N/A:NO CHANGE	BIT 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).						
RESET	3x65536 4x65535 I:65535	0,0x0000 B:00 00		N/A:NO CHANGE	UINT16 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).						

Command NAME	ASCII command type	ASCII command structure	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
ASCII COMMANDS						
DIGITAL INPUTS						
GET DIGITAL INPUTS	ASCII READ COMMAND	#GDIS<CR> Result: #GDIS:<DISDec>,<DISHex><CR>			ASCII	
	TX	#1,GDIS<CR>				
	RX	#1,GDIS:0,0x0<CR>				
		Actual status of digital inputs:0000.0000.0000.0000				
Returns the actual state of all digital inputs as decimal number and as hexadecimal number. DISDec, DISHex The current state of 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 13: State of DI14 (=0:OFF, =1:ON) Bit 14: State of DI15 (=0:OFF, =1:ON) Bit 15: State of DI16 (=0:OFF, =1:ON)							
GET DIGITAL INPUT DIx	ASCII READ COMMAND	#GDI<DINR><CR> Result: #GDI<DINR>:<DIxDec>,<DIxHex><CR>			ASCII	
	DINR	1				
	TX	#1,GDI1<CR>				
	RX	#1,GDI1:0,0x0<CR>				
		Actual status of digital input DI1:0=OFF				
<DINR>: 1=DI1..16=DI16						
Returns the actual state of the digital input DIx as decimal number and as hexadecimal number. DIxDec, DIxHex: The current state of the digital input x: =0: Digital input is OFF =1: Digital input is ON						
GET ALL CHANGES	ASCII READ COMMAND	#GAC<CR> Result: #GAC:<ChangesDec>,<ChangesHex><CR>			ASCII	
	TX	#1,GAC<CR>				
	RX	#1,GAC:0,0x0<CR>				
		Actual change counter:0				
Returns the counter for changes on all digital inputs. As soon as the module detects a short keypress or long key press or long key release event, this counter is incremented by 1. If this values has changed sience the last polling request, the host knows, that at least one digital input has changed its state.						

CHANGE ALL DIS PART x	ASCII READ COMMAND	#CADISP<PART><CR> Result: #CADISP<PART>:<ChangeDInDec>,...,<ChangeDIn+15Dec>, <ChangeDInHex>,...,<ChangeDIn+15Hex><CR>	ASCII	
	PART	1		
	TX	#1,CADISP1<CR>		
	RX	#1,CADISP1:0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0<CR>		
		Actual counter for changes on DI1:0		
		Actual counter for changes on DI2:0		
		Actual counter for changes on DI3:0		
		Actual counter for changes on DI4:0		
		Actual counter for changes on DI5:0		
		Actual counter for changes on DI6:0		
		Actual counter for changes on DI7:0		
		Actual counter for changes on DI8:0		
		Actual counter for changes on DI9:0		
		Actual counter for changes on DI10:0		
		Actual counter for changes on DI11:0		
		Actual counter for changes on DI12:0		
		Actual counter for changes on DI13:0		
		Actual counter for changes on DI14:0		
		Actual counter for changes on DI15:0		
		Actual counter for changes on DI16:0		
<PART>: 1..1, 1=DI1-DI16				
Returns for each digital input the counter for changes. As soon as the module detects a signal change on a digital input, the change counter for the affected digital input is incremented by 1. A signal change can be: Detection of a short keypress Detection of the start of a long keypress Detection of a release of a long keypress The parameter <PART> defines the part of the digital inputs. The command returns maximal 16 digital inputs.				
CHANGE DIx	ASCII READ COMMAND	#CDI<DINR><CR> Result: #CDI<DINR>:<ChangesDec>,<ChangesHex><CR>	ASCII	
	DINR	1		
	TX	#1,CDI1<CR>		
	RX	#1,CDI1:0,0x0<CR>		
		Actual counter for changes on digital input DI1:0		
<DINR>: 1=DI1..16=DI16				
Returns for digital input <DINR> the counter for signal changes. As soon as the module detects a signal change on a digital input, the change counter for the affected digital input is incremented by 1. A signal change can be: Detection of a short keypress Detection of the start of a long keypress Detection of a release of a long keypress				

SHORT KEY ALL DIS PART x	ASCII READ COMMAND	#SKADISP<PART><CR> Result: #SKADISP<PART>:<ShortKeyDInDec>,...,<ShortKeyDIn+15Dec>, <ShortKeyDInHex>,...,<ShortKeyDIn+15Hex><CR>	ASCII	
	PART	1		
	TX	#1,SKADISP1<CR>		
	RX	#1,SKADISP1:0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0<CR>		
		Actual counter for short keypress events on DI1:0		
		Actual counter for short keypress events on DI2:0		
		Actual counter for short keypress events on DI3:0		
		Actual counter for short keypress events on DI4:0		
		Actual counter for short keypress events on DI5:0		
		Actual counter for short keypress events on DI6:0		
		Actual counter for short keypress events on DI7:0		
		Actual counter for short keypress events on DI8:0		
		Actual counter for short keypress events on DI9:0		
		Actual counter for short keypress events on DI10:0		
		Actual counter for short keypress events on DI11:0		
		Actual counter for short keypress events on DI12:0		
		Actual counter for short keypress events on DI13:0		
		Actual counter for short keypress events on DI14:0		
		Actual counter for short keypress events on DI15:0		
		Actual counter for short keypress events on DI16:0		
<PART>: 1..1, 1=DI1-DI16				
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 READ COMMAND	#SKDI<DINR><CR> Result: #SKDI<DINR>:<ShortKeyDec>,<ShortKeyHex><CR>	ASCII	
	DINR	1		
	TX	#1,SKDI1<CR>		
	RX	#1,SKDI1:0,0x0<CR>		
		Actual counter for short keypress events on digital input DI1:0		
<DINR>: 1=DI1..16=DI16				
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 PART x	ASCII READ COMMAND	#LKSADISP<PART><CR> Result: #LKSADISP<PART>:<LongKeyStartDInDec>,...,<LongKeyStartDIn+15Dec>, <LongKeyStartDInHex>,...,<LongKeyStartDIn+15Hex><CR>	ASCII	
	PART	1		

	TX	#1,LKSADISP1<CR>		
	RX	#1,LKSADISP1:0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0<CR>		
		Actual counter for long keypress start events on DI1:0		
		Actual counter for long keypress start events on DI2:0		
		Actual counter for long keypress start events on DI3:0		
		Actual counter for long keypress start events on DI4:0		
		Actual counter for long keypress start events on DI5:0		
		Actual counter for long keypress start events on DI6:0		
		Actual counter for long keypress start events on DI7:0		
		Actual counter for long keypress start events on DI8:0		
		Actual counter for long keypress start events on DI9:0		
		Actual counter for long keypress start events on DI10:0		
		Actual counter for long keypress start events on DI11:0		
		Actual counter for long keypress start events on DI12:0		
		Actual counter for long keypress start events on DI13:0		
		Actual counter for long keypress start events on DI14:0		
		Actual counter for long keypress start events on DI15:0		
		Actual counter for long keypress start events on DI16:0		
<PART>: 1..1, 1=DI1-DI16				
Returns for each digital input the counter for long keypress start events. As soon as the module detects the start of a long 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.				
LONG KEY START DIx	ASCII READ COMMAND	#LKSDI<DINR><CR> Result: #LKSDI<DINR>:<LongKeyStartDec>,<LongKeyStartHex><CR>	ASCII	
	DINR	1		
	TX	#1,LKSDI1<CR>		
	RX	#1,LKSDI1:0,0x0<CR>		
		Actual counter for long keypress start events on digital input DI1:0		
<DINR>: 1=DI1..16=DI16				
Returns for digital input <DINR> the counter for long keypress start events. As soon as the module detects the start of a long keypress on a digital input, the counter for the affected digital input is incremented by 1.				
LONG KEY END ALL DIS PART x	ASCII READ COMMAND	#LKEADISP<PART><CR> Result: #LKEADISP<PART>:<LongKeyEndDInDec>,...,<LongKeyEndDIn+15Dec>, <LongKeyEndDInHex>,...,<LongKeyEndDIn+15Hex><CR>	ASCII	
	PART	1		
	TX	#1,LKEADISP1<CR>		
	RX	#1,LKEADISP1:0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0<CR>		
		Actual counter for long keypress end events on DI1:0		
		Actual counter for long keypress end events on DI2:0		

		Actual counter for long keypress end events on DI3:0		
		Actual counter for long keypress end events on DI4:0		
		Actual counter for long keypress end events on DI5:0		
		Actual counter for long keypress end events on DI6:0		
		Actual counter for long keypress end events on DI7:0		
		Actual counter for long keypress end events on DI8:0		
		Actual counter for long keypress end events on DI9:0		
		Actual counter for long keypress end events on DI10:0		
		Actual counter for long keypress end events on DI11:0		
		Actual counter for long keypress end events on DI12:0		
		Actual counter for long keypress end events on DI13:0		
		Actual counter for long keypress end events on DI14:0		
		Actual counter for long keypress end events on DI15:0		
		Actual counter for long keypress end events on DI16:0		
<PART>: 1..1, 1=DI1-DI16				
Returns for each digital input the counter for long keypress end events. As soon as the module detects the end of a long 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.				
LONG KEY END DIx	ASCII READ COMMAND	#LKEDI<DINR><CR> Result: #LKEDI<DINR>:<LongKeyEndDec>,<LongKeyEndHex><CR>	ASCII	
	DINR	1		
	TX	#1,LKEDI1<CR>		
	RX	#1,LKEDI1:0,0x0<CR>		
		Actual counter for long keypress end events on digital input DI1:0		
<DINR>: 1=DI1..16=DI16				
Returns for digital input <DINR> the counter for long keypress end events. As soon as the module detects the end of a long keypress on a digital input, the counter for the affected digital input is incremented by 1.				
RISE ALL DIS PART x	ASCII READ COMMAND	#RADISP<PART><CR> Result: #RADISP<PART>:<RiseDInDec>,...,<RiseDIn+15Dec>, <RiseDInHex>,...,<RiseDIn+15Hex><CR>	ASCII	
	PART	1		
	TX	#1,RADISP1<CR>		
	RX	#1,RADISP1:0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0<CR>		
		Actual counter for rising edges on DI1:0		
		Actual counter for rising edges on DI2:0		
		Actual counter for rising edges on DI3:0		
		Actual counter for rising edges on DI4:0		
		Actual counter for rising edges on DI5:0		
		Actual counter for rising edges on DI6:0		
		Actual counter for rising edges on DI7:0		

		Actual counter for rising edges on DI8:0		
		Actual counter for rising edges on DI9:0		
		Actual counter for rising edges on DI10:0		
		Actual counter for rising edges on DI11:0		
		Actual counter for rising edges on DI12:0		
		Actual counter for rising edges on DI13:0		
		Actual counter for rising edges on DI14:0		
		Actual counter for rising edges on DI15:0		
		Actual counter for rising edges on DI16:0		
<PART>: 1..1, 1=DI1-DI16				
Returns for each digital input the counter for rising edges. As soon as the module detects a rising edge on a digital input, the rising 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.				
RISE DIx	ASCII READ COMMAND	#RDI<DINR><CR> Result: #RDI<DINR>:<RiseDec>,<RiseHex><CR>	ASCII	
	DINR	1		
	TX	#1,RDI1<CR>		
	RX	#1,RDI1:0,0x0<CR>		
		Actual counter for rising edges on digital input DI1:0		
<DINR>: 1=DI1..16=DI16				
Returns for digital input <DINR> the counter for rising edges. As soon as the module detects a rising edge on a digital input, the rising edge counter for the affected digital input is incremented by 1.				
FALL ALL DIS PART x	ASCII READ COMMAND	#FADISP<PART><CR> Result: #FADISP<PART>:<FallDInDec>,...,<FallDIn+15Dec>, <FallDInHex>,...,<FallDIn+15Hex><CR>	ASCII	
	PART	1		
	TX	#1,FADISP1<CR>		
	RX	#1,FADISP1:0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0,0x0<CR>		
		Actual counter for falling edges on DI1:0		
		Actual counter for falling edges on DI2:0		
		Actual counter for falling edges on DI3:0		
		Actual counter for falling edges on DI4:0		
		Actual counter for falling edges on DI5:0		
		Actual counter for falling edges on DI6:0		
		Actual counter for falling edges on DI7:0		
		Actual counter for falling edges on DI8:0		
		Actual counter for falling edges on DI9:0		
		Actual counter for falling edges on DI10:0		
		Actual counter for falling edges on DI11:0		
		Actual counter for falling edges on DI12:0		

		Actual counter for falling edges on DI13:0		
		Actual counter for falling edges on DI14:0		
		Actual counter for falling edges on DI15:0		
		Actual counter for falling edges on DI16:0		
<PART>: 1..1, 1=DI1-DI16				
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 DIx	ASCII READ COMMAND	#FDI<DINR><CR> Result: #FDI<DINR>:<FallDec>,<FallHex><CR>	ASCII	
	DINR	1		
	TX	#1,FDI1<CR>		
	RX	#1,FDI1:0,0x0<CR>		
		Actual counter for falling edges on digital input DI1:0		
<DINR>: 1=DI1..16=DI16				
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 WRITE COMMAND	#RC<CR> Result: #OK<CR>	ASCII	NO
	TX	#1,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 WRITE COMMAND	#EVTON<CR> Result: #OK<CR>	ASCII	NO
	TX	#1,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 WRITE COMMAND	#EVTOFF<CR> Result: #OK<CR>	ASCII	NO
	TX	#1,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
ASCII COMMANDS						
DIGITAL OUTPUTS						
UPDATE DIGITAL INPUTS AND OUTPUTS	ASCII WRITE COMMAND	#UDIOS:<OutAllDOS><CR> Result: #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				
	TX	#1,UDIOS:0<CR>				
	RX	#1,UDIOS:0,0x0<CR>				
		Actual status of digital inputs:0000.0000.0000.0000				

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 12: State of DO13 (=0:OFF, =1:ON)
Bit 13: State of DO14 (=0:OFF, =1:ON)
Bit 14: State of DO15 (=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 13: State of DI14 (=0:OFF, =1:ON)
Bit 14: State of DI15 (=0:OFF, =1:ON)
Bit 15: State of DI16 (=0:OFF, =1:ON)

SET DIGITAL OUTPUTS	ASCII WRITE COMMAND	#SDOS:<OutAllDOS><CR> Result: #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		
	TX	#1,SDOS:0<CR>		
	RX	#1,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 12: State of DO13 (=0:OFF, =1:ON)
Bit 13: State of DO14 (=0:OFF, =1:ON)
Bit 14: State of DO15 (=0:OFF, =1:ON)

SET DIGITAL OUTPUT DOx	ASCII WRITE COMMAND	#SDO<DONR>:<Out><CR> Result: #OK<CR>	ASCII	YES
	DONR	1		
	DOx	0:OFF		
	TX	#1,SDO1:0<CR>		
	RX	#1,OK<CR>		

<DONR>: 1=DO1..15=DO15

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 READ COMMAND	#GDOS<CR> Result: #GDOS:<DOSDec>,<DOSHex><CR>	ASCII	
	TX	#1,GDOS<CR>		
	RX	#1,GDOS:0,0x0<CR>		
		Actual status of digital outputs:000.0000.0000.0000		
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 12: State of DO13 (=0:OFF, =1:ON) Bit 13: State of DO14 (=0:OFF, =1:ON) Bit 14: State of DO15 (=0:OFF, =1:ON)				
GET DIGITAL OUTPUT DOx	ASCII READ COMMAND	#GDO<DONR><CR> Result: #GDO<DONR>:<DOxDec>,<DOxHex><CR>	ASCII	
	DONR	1		
	TX	#1,GDO1<CR>		
	RX	#1,GDO1:0,0x0<CR>		
		Actual status of digital output DO1:0=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 WRITE COMMAND	#PDO<DONR>:<Time><CR> Result: #OK<CR>	ASCII	YES
	DONR	1		
	TIME	200		
	TX	#1,PDO1:200<CR>		
	RX	#1,OK<CR>		
<DONR>: 1=DO1..15=DO15				
<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 READ COMMAND	#GPT<DONR><CR> Result: #GPT:<TimeDec>,<TimeHex><CR>	ASCII	
	DONR	1		
	TX	#1,GPT1<CR>		

	RX	#1,GPT1:19938,0x4DE2<CR>		
		Actual pulse time for DO1:19,9s		

<DONR>: 1=DO1..15=DO15

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
ASCII COMMANDS						
DIGITAL OUTPUTS						
DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION WHILE ON						
SET DIGITAL OUTPUTS ENABLE OPEN WIRE DETECTION WHILE ON	ASCII WRITE COMMAND	#SDOEOWDONS:<OpenWireDOS><CR> Result: #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				
	TX	#1,SDOEOWDONS:0<CR>				
	RX	#1,OK<CR>				
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 13: New mode for DO14 (=0:DISABLED, =1:ENABLED) Bit 14: New mode for DO15 (=0:DISABLED, =1:ENABLED)						
SET DIGITAL OUTPUT ENABLE OPEN WIRE DETECTION WHILE ON	ASCII WRITE COMMAND	#SDOEOWDON<DONR>:<OpenWireDOx><CR> Result: #OK<CR>			ASCII	YES
	DONR	1				
	DOx	0:DISABLE				
	TX	#1,SDOEOWDON1:0<CR>				
	RX	#1,OK<CR>				
<DONR>: 1=DO1..15=DO15						
<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 ENABLE OPEN WIRE DETECTION WHILE ON	ASCII READ COMMAND	#GDOEOWDONS<CR> Result: #GDOEOWDONS:<OpenWireDOSDec>,<OpenWireDOSHex><CR>	ASCII	
	TX	#1,GDOEOWDONS<CR>		
	RX	#1,GDOEOWDONS:0,0x0<CR>		
		Actual mode for open wire diagnostic while ON of digital outputs:		
		DO1-DO15:000.0000.0000.0000		
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 13: Open wire diagnostic mode of DO14 (=0:DISABLED, =1:ENABLED) Bit 14: Open wire diagnostic mode of DO15 (=0:DISABLED, =1:ENABLED)				
GET DIGITAL OUTPUT ENABLE OPEN WIRE DETECTION WHILE ON	ASCII READ COMMAND	#GDOEOWDON<DONR><CR> Result: #GDOEOWDON<DONR>:<OpenWireDOxDec>,<OpenWireDOxHex><CR>	ASCII	
	DONR	1		
	TX	#1,GDOEOWDON1<CR>		
	RX	#1,GDOEOWDON1:0,0x0<CR>		
		Actual open wire diagnostic mode while ON of digital output DO1:0=DISABLED		
<DONR>: 1=DO1..15=DO15				
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 ENABLE OPEN WIRE DETECTION WHILE OFF	ASCII WRITE COMMAND	#SDOEOWDOFFS:<OpenWireDOS><CR> Result: #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		
	TX	#1,SDOEOWDOFFS:0<CR>		
	RX	#1,OK<CR>		
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. 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 13: New mode for DO14 (=0:DISABLED, =1:ENABLED) Bit 14: New mode for DO15 (=0:DISABLED, =1:ENABLED)				
SET DIGITAL OUTPUT ENABLE OPEN WIRE DETECTION WHILE OFF	ASCII WRITE COMMAND	#SDOEOWDOFF<DONR>:<OpenWireDOx><CR> Result: #OK<CR>	ASCII	YES
	DONR	1		
	DOx	0:DISABLE		
	TX	#1,SDOEOWDOFF1:0<CR>		
	RX	#1,OK<CR>		
<DONR>: 1=DO1..15=DO15				
<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. 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 ENABLE OPEN WIRE DETECTION WHILE OFF	ASCII READ COMMAND	#GDOEOWDOFFS<CR> Result: #GDOEOWDOFFS:<OpenWireDOSDec>,<OpenWireDOSHex><CR>	ASCII	
	TX	#1,GDOEOWDOFFS<CR>		
	RX	#1,GDOEOWDOFFS:0,0x0<CR>		
		Actual mode for open wire diagnostic while OFF of digital outputs:		
		DO1-DO15:000.0000.0000.0000		
Returns the actual mode for open wire diagnostic while digital output is OFF as decimal number and as hexadecimal number. OpenWireDOSDec, OpenWireDOSHex The current mode for open wire diagnostic while OFF 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 13: Open wire diagnostic mode of DO14 (=0:DISABLED, =1:ENABLED) Bit 14: Open wire diagnostic mode of DO15 (=0:DISABLED, =1:ENABLED)				
GET DIGITAL OUTPUT ENABLE OPEN WIRE DETECTION WHILE OFF	ASCII READ COMMAND	#GDOEOWDOFF<DONR><CR> Result: #GDOEOWDOFF<DONR>:<OpenWireDOxDec>,<OpenWireDOxHex><CR>	ASCII	

	DONR	1		
	TX	#1,GDOEOWDOFF1<CR>		
	RX	#1,GDOEOWDOFF1:0,0x0<CR>		
		Actual open wire diagnostic mode while OFF of digital output DO1:0=DISABLED		

<DONR>: 1=DO1..15=DO15

Returns the actual open wire diagnostic mode while OFF 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 SHORTCUT TO VDD DETECTION WHILE OFF

SET DIGITAL OUTPUTS ENABLE SHORTCUT TO VDD DETECTION WHILE OFF	ASCII WRITE COMMAND	#SDOESVDDS:<ShortCutDOS><CR> Result: #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		
	TX	#1,SDOESVDDS:0<CR>		
	RX	#1,OK<CR>		

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 13: New mode for DO14 (=0:DISABLED, =1:ENABLED)
Bit 14: New mode for DO15 (=0:DISABLED, =1:ENABLED)

SET DIGITAL OUTPUT ENABLE SHORTCUT TO VDD DETECTION WHILE OFF	ASCII WRITE COMMAND	#SDOESVDD<DONR>:<ShortCutDOx><CR> Result: #OK<CR>	ASCII	YES
	DONR	1		
	DOx	0:DISABLE		
	TX	#1,SDOESVDD1:0<CR>		

	RX	#1,OK<CR>		
<DONR>: 1=DO1..15=DO15				
<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 ENABLE SHORT CUT TO VDD DETECTION WHILE OFF	ASCII READ COMMAND	#GDOESVDDS<CR> Result: #GDOESDDS:<ShortCutDOSDec>,<ShortCutDOSHex><CR>	ASCII	
	TX	#1,GDOESVDDS<CR>		
	RX	#1,GDOESVDDS:0,0x0<CR>		
		Actual mode for shortcut to VDD diagnostic while OFF of digital outputs:		
		DO1-DO15:000.0000.0000.0000		
Returns the actual mode for shortcut to VDD diagnostic while digital output is OFF as decimal number and as hexadecimal number. ShortCutDOSDec, ShortCutDOSHex The current mode for shortcut diagnostic while OFF 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 13: Open wire diagnostic mode of DO14 (=0:DISABLED, =1:ENABLED) Bit 14: Open wire diagnostic mode of DO15 (=0:DISABLED, =1:ENABLED)				
GET DIGITAL OUTPUT ENABLE SHORT CUT TO VDD DETECTION WHILE OFF	ASCII READ COMMAND	#GDOESVDD<DONR><CR> Result: #GDOESVDD<DONR>:<ShortCutDOxDec>,<ShortCutDOxHex><CR>	ASCII	
	DONR	1		
	TX	#1,GDOESVDD1<CR>		
	RX	#1,GDOESVDD1:0,0x0<CR>		
		Actual shortcut to VDD diagnostic mode while OFF of digital output DO1:0=DISABLED		
<DONR>: 1=DO1..15=DO15				
Returns the actual short cut to VDD diagnostic mode while OFF of the digital output DOx as decimal number and as hexadecimal number. ShortCutDOxDec, ShortCutDOxHex 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: SPI STATUS				
GET SPI STATUS DIGITAL OUTPUT GROUPS	ASCII READ COMMAND	#GSSDOGS<CR> Result: #GSSDOGS:<SPIDOGSDec>,<SPIDOGSHex><CR>	ASCII	
	TX	#1,GSSDOGS<CR>		
	RX	#1,GSSDOGS:0,0x0<CR>		
		Actual SPI status of digital output groups:00		
digital output group #1, chip #1:DO1-DO8 digital output group #2, chip #2:DO9-DO15				

Returns the actual SPI communication state of the corresponding output group as decimal number and as hexadecimal number. SPIDOGSDec,SPIDOGSHex The current SPI communication state of the digital output group: Bit 0: SPI communication state for digital output group #1 (=0:NO FAULT, =1:FAULT) Bit 1: SPI communication state for digital output group #2 (=0:NO FAULT, =1:FAULT)				
GET SPI STATUS DIGITAL OUTPUT GROUPx	ASCII READ COMMAND	#GSSDOG<DOGRP><CR> Result: #GSSDOG<DOGRP>:<SPIDOGxDec>,<SPIDOGxHex><CR>	ASCII	
	DOGRP	1		
	TX	#1,GSSDOG1<CR>		
	RX	#1,GSSDOG1:0,0x0<CR>		
		Actual SPI status of digital output group DOG1:0=NO FAULT		
<DOGRP>: 1=CHIP1..2=CHIP2				
digital output group #1, chip #1:DO1-DO8 digital output group #2, chip #2:DO9-DO15				
Returns the actual SPI communication state of the digital output group DOGRP as decimal number and as hexadecimal number. SPIDOGxDec, SPIDOGxHex The current SPI communication state of the digital output group DOGRP: =0: SPI communication state for output group is OK (NO FAULT) =1: SPI communication state for output group is FAULT				
DIGITAL OUTPUTS: INTERRUPT STATUS				
GET DIGITAL OUTPUTS INTERRUPT STATUS	ASCII READ COMMAND	#GDOINTS<CR> Result: #GDOINTS:<InterruptStatusDec>,<InterruptStatusHex><CR>	ASCII	
	TX	#1,GDOINTS<CR>		
	RX	#1,GDOINTS:0,0x0<CR>		
		Actual interrupt status of all digital output groups:		
		CHIP #1:0000.0000		
		CHIP #2:0000.0000		
digital output group #1, chip #1:DO1-DO8 digital output group #2, chip #2:DO9-DO15				
Returns the actual interrupt state of all output groups as decimal number and as hexadecimal number. InterruptStatusDec,InterruptStatusHex: The current interrupt state of digital output group 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: 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)				
GET DIGITAL OUTPUT GROUPx INTERRUPT STATUS	ASCII READ COMMAND	#GDOINT<DOGRP><CR> Result: #GDOINT<DOGRP>:<InterruptStatusDec>,<InterruptStatusHex><CR>	ASCII	
	DOGRP	1		

	TX	#1,GDOINT1<CR>		
	RX	#1,GDOINT1:0,0x0<CR>		
		Actual interrupt status of digital output group 1:0000.0000		

<DOGRP>: 1=CHIP1..2=CHIP2

digital output group #1, chip #1:DO1-DO8
digital output group #2, chip #2:DO9-DO15

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 GLOBAL ERRORS	ASCII READ COMMAND	#GDOERRS<CR> Result: #GDOERRS:<GlobalErrorsDec>,<GlobalErrorsHex><CR>	ASCII	
	TX	#1,GDOERRS<CR>		
	RX	#1,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

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 GLOBAL ERRORS	ASCII READ COMMAND	#GDOERR<DOGRP><CR> Result: #GDOERR<DOGRP>:<GlobalErrorsDec>,<GlobalErrorsHex><CR>	ASCII	
	DOGRP	1		
	TX	#1,GDOERR1<CR>		

	RX	#1,GDOERR1:0,0x0<CR>		
		Actual global errors of digital output group 1:0000.0000		
<DOGRP>: 1=CHIP1..2=CHIP2				
digital output group #1, chip #1:DO1-DO8 digital output group #2, chip #2:DO9-DO15				
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 THERMAL OVERLOAD DETECTION	ASCII READ COMMAND	#GDOTOS<CR> Result: #GDOTOS:<StatusDOSDec>,<StatusDOSHex><CR>	ASCII	
	TX	#1,GDOTOS<CR>		
	RX	#1,GDOTOS:0,0x0<CR>		
		Actual thermal overload detection status of digital outputs:		
		DO1-DO15:000.0000.0000.0000		
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 13: Thermal overload detected on DO14 (=0:NO, =1:YES) Bit 14: Thermal overload detected on DO15 (=0:NO, =1:YES)				
GET DIGITAL OUTPUT DOx THERMAL OVERLOAD DETECTION	ASCII READ COMMAND	#GDOTO<DONR><CR> Result: #GDOTO<DONR>:<StatusDOxDec>,<StatusDOxHex><CR>	ASCII	
	DONR	1		
	TX	#1,GDOTO1<CR>		
	RX	#1,GDOTO1:0,0x0<CR>		
		Thermal overload detected on DO1:0=NO		
<DONR>: 1=DO1..15=DO15				
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 CURRENT LIMIT DETECTION	ASCII READ COMMAND	#GDOCLS<CR> Result: #GDOCLS:<StatusDOSDec>,<StatusDOSHex><CR>	ASCII	
	TX	#1,GDOCLS<CR>		
	RX	#1,GDOCLS:0,0x0<CR>		
		Actual current limit detection status of digital outputs:		
		DO1-DO15:000.0000.0000.0000		

Returns the actual state of the current limit detection for all digital outputs as decimal number and as hexadecimal number.
StatusDOSDec, StatusDOSHex
The current detection state of the digital outputs:
Bit 0: Current limit reached for DO1 (=0:NO, =1:YES)
Bit 1: Current limit reached for DO2 (=0:NO, =1:YES)
...
Bit 13: Current limit reached for DO14 (=0:NO, =1:YES)
Bit 14: Current limit reached for DO15 (=0:NO, =1:YES)

GET DIGITAL OUTPUT DOx CURRENT LIMIT DETECTION	ASCII READ COMMAND	#GDOCL<DONR><CR> Result: #GDOCL<DONR>:<StatusDOxDec>,<StatusDOxHex><CR>	ASCII	
	DONR	1		
	TX	#1,GDOCL1<CR>		
	RX	#1,GDOCL1:0,0x0<CR>		
		Actual current limit detection status of DO1:0=OK		

<DONR>: 1=DO1..15=DO15

Returns the actual state of the current limit 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: OPEN WIRE DETECTION WHILE ON

GET DIGITAL OUTPUTS OPEN WIRE FAULT DETECTION WHILE ON	ASCII READ COMMAND	#GDOOWFONS<CR> Result: #GDOOWFONS:<StatusDOSDec>,<StatusDOSHex><CR>	ASCII	
	TX	#1,GDOOWFONS<CR>		
	RX	#1,GDOOWFONS:0,0x0<CR>		
		Actual open wire fault detection status while ON of digital outputs:		
		DO1-DO15:000.0000.0000.0000		

Returns the actual state of the open wire fault detection while ON for all digital outputs as decimal number and as hexadecimal number.
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 13: State of DO14 (=0:OK, =1:FAULT)
Bit 14: State of DO15 (=0:OK, =1:FAULT)

GET DIGITAL OUTPUT DOx OPEN WIRE FAULT DETECTION WHILE ON	ASCII READ COMMAND	#GDOOWFON<DONR><CR> Result: #GDOOWFON<DONR>:<StatusDOxDec>,<StatusDOxHex><CR>	ASCII	

	DONR	1		
	TX	#1,GDOOWFON1<CR>		
	RX	#1,GDOOWFON1:0,0x0<CR>		
		Actual open wire fault detection status while ON of DO1:0=OK		
<DONR>: 1=DO1..15=DO15				
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 OPEN WIRE FAULT DETECTION WHILE OFF	ASCII READ COMMAND	#GDOOWFOFFS<CR> Result: #GDOOWFOFFS:<StatusDOSDec>,<StatusDOSHex><CR>	ASCII	
	TX	#1,GDOOWFOFFS<CR>		
	RX	#1,GDOOWFOFFS:0,0x0<CR>		
		Actual open wire fault detection status while OFF of digital outputs:		
		DO1-DO15:000.0000.0000.0000		
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 13: State of DO14 (=0:OK, =1:FAULT) Bit 14: State of DO15 (=0:OK, =1:FAULT)				
GET DIGITAL OUTPUT DOx OPEN WIRE FAULT DETECTION WHILE OFF	ASCII READ COMMAND	#GDOOWFOFF<DONR><CR> Result: #GDOOWFOFF<DONR>:<StatusDOxDec>,<StatusDOxHex><CR>	ASCII	
	DONR	1		
	TX	#1,GDOOWFOFF1<CR>		
	RX	#1,GDOOWFOFF1:0,0x0<CR>		
		Actual open wire fault detection status while OFF of DO1:0=OK		
<DONR>: 1=DO1..15=DO15				
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 SHORTCUT TO VDD FAULT DETECTION WHILE OFF	ASCII READ COMMAND	#GDOSVDDS<CR> Result: #GDOSVDDS:<StatusDOSDec>,<StatusDOSHex><CR>	ASCII	
	TX	#1,GDOSVDDS<CR>		
	RX	#1,GDOSVDDS:0,0x0<CR>		
		Actual shortcut to VDD fault detection status while OFF of digital outputs:		

		DO1-DO15:000.0000.0000.0000		
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 13: State of DO14 (=0:OK, =1:FAULT) Bit 14: State of DO15 (=0:OK, =1:FAULT)				
GET DIGITAL OUTPUT DOx SHORTCUT TO VDD FAULT DETECTION WHILE OFF	ASCII READ COMMAND	#GDOSVDD<DONR><CR> Result: #GDOSVDD<DONR>:<StatusDOxDec>,<StatusDOxHex><CR>	ASCII	
	DONR	1		
	TX	#1,GDOSVDD1<CR>		
	RX	#1,GDOSVDD1:0,0x0<CR>		
		Actual shortcut to VDD fault detection status while OFF of DO1:0=OK		
<DONR>: 1=DO1..15=DO15				
Returns the actual state of the shortcut to VDD 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				
GET DIGITAL OUTPUTS CHIPSET NAME	ASCII READ COMMAND	#GDOCHIPSET<CR> Result: #GDOCHIPSET:<ChipSetName>	ASCII	
	TX	#1,GDOCHIPSET<CR>		
	RX	#1,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> Result: #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				
	TX	#1,SCDOS:0<CR>				
	RX	#1,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 13: New state of DO14 (=0:OFF, =1:ON) Bit 14: New state of DO15 (=0:OFF, =1:ON)						
GET INITIAL & WATCHDOG STATE FOR DIGITAL OUTPUTS	ASCII READ COMMAND	#GCDOS<CR> Result: #GCDOS:<DOSDec>,<DOSHex><CR>			ASCII	
	TX	#1,GCDOS<CR>				
	RX	#1,GCDOS:0,0x0<CR>				
		Init & watchdog configuration for digital outputs:				

		DO1-DO15:000.0000.0000.0000		
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 13: State of DO14 (=0:OFF, =1:ON) Bit 14: State of DO15 (=0:OFF, =1:ON)				
DIGITAL OUTPUTS: INIT & WATCHDOG ENABLE OPEN WIRE DETECTION WHILE ON				
SET CONFIG DIGITAL OUTPUTS ENABLE OPEN WIRE DETECTION WHILE ON	ASCII WRITE COMMAND	#SCDOEOWDONS:<OpenWireDOS><CR> Result: #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		
	TX	#1,SCDOEOWDONS:32767<CR>		
	RX	#1,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. 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 13: New mode for DO14 (=0:DISABLED, =1:ENABLED) Bit 14: New mode for DO15 (=0:DISABLED, =1:ENABLED)				
GET CONFIG DIGITAL OUTPUTS ENABLE OPEN WIRE DETECTION WHILE ON	ASCII READ COMMAND	#GCDOEOWDONS<CR> Result: #GCDOEOWDONS:<OpenWireDOSDec>,<OpenWireDOSHex><CR>	ASCII	
	TX	#1,GCDOEOWDONS<CR>		
	RX	#1,GCDOEOWDONS:32767,0x7FFF<CR>		
		Init & watchdog configuration for open wire diagnostic while ON of digital outputs:		

		DO1-DO15:000.0000.0000.0000		
Returns the actual mode for open wire diagnostic while digital output is ON as decimal number and as hexadecimal number. This values are used after power on of the module an after a watchdog event. 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 13: Open wire diagnostic mode of DO14 (=0:DISABLED, =1:ENABLED) Bit 14: Open wire diagnostic mode of DO15 (=0:DISABLED, =1:ENABLED)				
DIGITAL OUTPUTS: INIT & WATCHDOG ENABLE OPEN WIRE DETECTION WHILE OFF				
SET CONFIG DIGITAL OUTPUTS ENABLE OPEN WIRE DETECTION WHILE OFF	ASCII WRITE COMMAND	#SCDOEOWDOFFS:<OpenWireDOS><CR> Result: #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		
	TX	#1,SCDOEOWDOFFS:32767<CR>		
	RX	#1,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 13: New mode for DO14 (=0:DISABLED, =1:ENABLED) Bit 14: New mode for DO15 (=0:DISABLED, =1:ENABLED)				
GET CONFIG DIGITAL OUTPUTS ENABLE OPEN WIRE DETECTION WHILE OFF	ASCII READ COMMAND	#GCDOEOWDOFFS<CR> Result: #GCDOEOWDOFFS:<OpenWireDOSDec>,<OpenWireDOSHex><CR>	ASCII	
	TX	#1,GCDOEOWDOFFS<CR>		
	RX	#1,GCDOEOWDOFFS:32767,0x7FFF<CR>		
		Init & watchdog configuration for open wire diagnostic while OFF of digital outputs:		

		DO1-DO15:000.0000.0000.0000		
Returns the actual mode for open wire diagnostic while digital output is OFF as decimal number and as hexadecimal number. This values are used after power on of the module an after a watchdog event. OpenWireDOSDec, OpenWireDOSHex The current mode for open wire diagnostic while OFF 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 13: Open wire diagnostic mode of DO14 (=0:DISABLED, =1:ENABLED) Bit 14: Open wire diagnostic mode of DO15 (=0:DISABLED, =1:ENABLED)				
DIGITAL OUTPUTS: INIT & WATCHDOG ENABLE SHORTCUT TO VDD DETECTION WHILE OFF				
SET CONFIG DIGITAL OUTPUTS ENABLE SHORTCUT TO VDD DETECTION WHILE OFF	ASCII WRITE COMMAND	#SCDOESVDDS:<ShortCutDOS><CR> Result: #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		
	TX	#1,SCDOESVDDS:32767<CR>		
	RX	#1,OK<CR>		
Sets the shortcut to VDD detection mode for all digital outputs to the new mode ShortCutDOS for init & watchdog. This enables the diagnostic of shortcut to VDD 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 13: New mode for DO14 (=0:DISABLED, =1:ENABLED) Bit 14: New mode for DO15 (=0:DISABLED, =1:ENABLED)				
GET CONFIG DIGITAL OUTPUTS ENABLE SHORT CUT TO VDD DETECTION WHILE OFF	ASCII READ COMMAND	#GCDOESVDDS<CR> Result: #GCDOESDDS:<ShortCutDOSDec>,<ShortCutDOSHex><CR>	ASCII	
	TX	#1,GCDOESVDDS<CR>		
	RX	#1,GCDOESVDDS:32767,0x7FFF<CR>		
		Init & watchdog configuration for shortcut to VDD diagnostic while OFF of digital outputs:		

		DO1-DO15:000.0000.0000.0000		

Returns the actual mode for shortcut to VDD diagnostic while digital output is OFF as decimal number and as hexadecimal number.
This values are used after power on of the module an after a watchdog event.
ShortCutDOSDec, ShortCutDOSHex
The current mode for shortcut diagnostic while OFF 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 14: Open wire diagnostic mode of DO14 (=0:DISABLED, =1:ENABLED)
Bit 15: Open wire diagnostic mode of DO15 (=0:DISABLED, =1:ENABLED)

Register NAME Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
STATUS DIGITAL INPUTS						
DI1	1x00001 2x00001 I:0	0,0x00 B:00			BIT R/O	
		Actual state of DI1:0=OFF				
Current state of the digital input DIx =0:DI is OFF, =1:DI is ON						
DI2	1x00002 2x00002 I:1	0,0x00 B:00			BIT R/O	
		Actual state of DI2:0=OFF				
DI3	1x00003 2x00003 I:2	0,0x00 B:00			BIT R/O	
		Actual state of DI3:0=OFF				
DI4	1x00004 2x00004 I:3	0,0x00 B:00			BIT R/O	
		Actual state of DI4:0=OFF				
DI5	1x00005 2x00005 I:4	0,0x00 B:00			BIT R/O	
		Actual state of DI5:0=OFF				
DI6	1x00006 2x00006 I:5	0,0x00 B:00			BIT R/O	
		Actual state of DI6:0=OFF				
DI7	1x00007 2x00007 I:6	0,0x00 B:00			BIT R/O	
		Actual state of DI7:0=OFF				
DI8	1x00008 2x00008 I:7	0,0x00 B:00			BIT R/O	
		Actual state of DI8:0=OFF				
DI9	1x00009 2x00009 I:8	0,0x00 B:00			BIT R/O	
		Actual state of DI9:0=OFF				

DI10	1x00010 2x00010 I:9	0,0x00 B:00			BIT R/O	
		Actual state of DI10:0=OFF				
DI11	1x00011 2x00011 I:10	0,0x00 B:00			BIT R/O	
		Actual state of DI11:0=OFF				
DI12	1x00012 2x00012 I:11	0,0x00 B:00			BIT R/O	
		Actual state of DI12:0=OFF				
DI13	1x00013 2x00013 I:12	0,0x00 B:00			BIT R/O	
		Actual state of DI13:0=OFF				
DI14	1x00014 2x00014 I:13	0,0x00 B:00			BIT R/O	
		Actual state of DI14:0=OFF				
DI15	1x00015 2x00015 I:14	0,0x00 B:00			BIT R/O	
		Actual state of DI15:0=OFF				
DI16	1x00016 2x00016 I:15	0,0x00 B:00			BIT R/O	
		Actual state of DI16:0=OFF				
STATUS DIGITAL OUTPUTS						
DO1	1x00017 2x00017 I:16	0,0x00 B:00		1	BIT R/W	NO
		Actual state of DO1:0=OFF		ENTER NEW STATE (0 or 1)		
Current state of the digital output DOx =0:DO is OFF, =1:DO is ON Writing on this register changes the state of the digital output						
DO2	1x00018 2x00018 I:17	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO2:0=OFF		ENTER NEW STATE (0 or 1)		
DO3	1x00019 2x00019 I:18	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO3:0=OFF		ENTER NEW STATE (0 or 1)		

DO4	1x00020 2x00020 I:19	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO4:0=OFF		ENTER NEW STATE (0 or 1)		
DO5	1x00021 2x00021 I:20	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO5:0=OFF		ENTER NEW STATE (0 or 1)		
DO6	1x00022 2x00022 I:21	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO6:0=OFF		ENTER NEW STATE (0 or 1)		
DO7	1x00023 2x00023 I:22	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO7:0=OFF		ENTER NEW STATE (0 or 1)		
DO8	1x00024 2x00024 I:23	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO8:0=OFF		ENTER NEW STATE (0 or 1)		
DO9	1x00025 2x00025 I:24	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO9:0=OFF		ENTER NEW STATE (0 or 1)		
DO10	1x00026 2x00026 I:25	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO10:0=OFF		ENTER NEW STATE (0 or 1)		
DO11	1x00027 2x00027 I:26	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO11:0=OFF		ENTER NEW STATE (0 or 1)		
DO12	1x00028 2x00028 I:27	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO12:0=OFF		ENTER NEW STATE (0 or 1)		
DO13	1x00029 2x00029 I:28	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO13:0=OFF		ENTER NEW STATE (0 or 1)		
DO14	1x00030 2x00030 I:29	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO14:0=OFF		ENTER NEW STATE (0 or 1)		

DO15	1x00031 2x00031 I:30	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO15:0=OFF		ENTER NEW STATE (0 or 1)		
DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION ON						
ENABLE OPEN WIRE DETECTION ON DO1	1x00032 2x00032 I:31	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON 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 =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 DETECTION ON DO2	1x00033 2x00033 I:32	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO2:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO3	1x00034 2x00034 I:33	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO3:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO4	1x00035 2x00035 I:34	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO4:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO5	1x00036 2x00036 I:35	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO5:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO6	1x00037 2x00037 I:36	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO6:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO7	1x00038 2x00038 I:37	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO7:0=OFF		ENTER NEW SETUP MODE (0 or 1)		

ENABLE OPEN WIRE DETECTION ON DO8	1x00039 2x00039 I:38	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO8:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO9	1x00040 2x00040 I:39	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO9:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO10	1x00041 2x00041 I:40	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO10:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO11	1x00042 2x00042 I:41	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO11:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO12	1x00043 2x00043 I:42	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO12:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO13	1x00044 2x00044 I:43	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO13:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO14	1x00045 2x00045 I:44	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO14:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO15	1x00046 2x00046 I:45	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state ON of DO15:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION OFF						
ENABLE OPEN WIRE DETECTION OFF DO1	1x00047 2x00047 I:46	0,0x00 B:00		1	BIT R/W	NO

		Actual setup of open wire detection for state OFF 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 =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 DETECTION OFF DO2	1x00048 2x00048 I:47	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state OFF of DO2:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO3	1x00049 2x00049 I:48	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state OFF of DO3:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO4	1x00050 2x00050 I:49	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state OFF of DO4:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO5	1x00051 2x00051 I:50	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state OFF of DO5:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO6	1x00052 2x00052 I:51	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state OFF of DO6:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO7	1x00053 2x00053 I:52	0,0x00 B:00		1	BIT R/W	NO
		Actual setup of open wire detection for state OFF of DO7:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO8	1x00054 2x00054 I:53	0,0x00 B:00		1	BIT 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	1x00055 2x00055 I:54	0,0x00 B:00		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	1x00056 2x00056 I:55	0,0x00 B:00	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	1x00057 2x00057 I:56	0,0x00 B:00	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	1x00058 2x00058 I:57	0,0x00 B:00	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	1x00059 2x00059 I:58	0,0x00 B:00	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	1x00060 2x00060 I:59	0,0x00 B:00	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	1x00061 2x00061 I:60	0,0x00 B:00	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)		
DIGITAL OUTPUTS: ENABLE SHORT TO VDD DETECTION					
ENABLE SHORT TO VDD DETECTION DO1	1x00062 2x00062 I:61	0,0x00 B:00	1	BIT R/W	NO
		Actual setup of open wire detection for state OFF 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 =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 DETECTION DO2	1x00063 2x00063 I:62	0,0x00 B:00	1	BIT R/W	NO

		Actual setup of open wire detection for state OFF of DO2:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE SHORT TO VDD DETECTION DO3	1x00064 2x00064 I:63	0,0x00 B:00	1	BIT R/W	NO
		Actual setup of open wire detection for state OFF of DO3:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE SHORT TO VDD DETECTION DO4	1x00065 2x00065 I:64	0,0x00 B:00	1	BIT R/W	NO
		Actual setup of open wire detection for state OFF of DO4:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE SHORT TO VDD DETECTION DO5	1x00066 2x00066 I:65	0,0x00 B:00	1	BIT 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 DETECTION DO6	1x00067 2x00067 I:66	0,0x00 B:00	1	BIT 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 DETECTION DO7	1x00068 2x00068 I:67	0,0x00 B:00	1	BIT 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 DETECTION DO8	1x00069 2x00069 I:68	0,0x00 B:00	1	BIT 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 DETECTION DO9	1x00070 2x00070 I:69	0,0x00 B:00	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 SHORT TO VDD DETECTION DO10	1x00071 2x00071 I:70	0,0x00 B:00	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 SHORT TO VDD DETECTION DO11	1x00072 2x00072 I:71	0,0x00 B:00	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 SHORT TO VDD DETECTION DO12	1x00073 2x00073 I:72	0,0x00 B:00	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 SHORT TO VDD DETECTION DO13	1x00074 2x00074 I:73	0,0x00 B:00	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 SHORT TO VDD DETECTION DO14	1x00075 2x00075 I:74	0,0x00 B:00	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 SHORT TO VDD DETECTION DO15	1x00076 2x00076 I:75	0,0x00 B:00	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)		
DIGITAL OUTPUTS: OPEN WIRE DETECTION STATUS WHILE ON					
OPEN WIRE FAULT WHILE ON DO1	1x00077 2x00077 I:76	0,0x00 B:00		BIT R/O	
		Actual detection state of an open wire fault 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 =0:No fault, =1:Fault-open wire detected					
OPEN WIRE FAULT WHILE ON DO2	1x00078 2x00078 I:77	0,0x00 B:00		BIT R/O	
		Actual detection state of an open wire fault in state ON for DO2:0=OK			
OPEN WIRE FAULT WHILE ON DO3	1x00079 2x00079 I:78	0,0x00 B:00		BIT R/O	
		Actual detection state of an open wire fault in state ON for DO3:0=OK			
OPEN WIRE FAULT WHILE ON DO4	1x00080 2x00080 I:79	0,0x00 B:00		BIT R/O	
		Actual detection state of an open wire fault in state ON for DO4:0=OK			

OPEN WIRE FAULT WHILE ON DO5	1x00081 2x00081 I:80	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO5:0=OK				
OPEN WIRE FAULT WHILE ON DO6	1x00082 2x00082 I:81	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO6:0=OK				
OPEN WIRE FAULT WHILE ON DO7	1x00083 2x00083 I:82	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO7:0=OK				
OPEN WIRE FAULT WHILE ON DO8	1x00084 2x00084 I:83	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO8:0=OK				
OPEN WIRE FAULT WHILE ON DO9	1x00085 2x00085 I:84	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO9:0=OK				
OPEN WIRE FAULT WHILE ON DO10	1x00086 2x00086 I:85	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO10:0=OK				
OPEN WIRE FAULT WHILE ON DO11	1x00087 2x00087 I:86	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO11:0=OK				
OPEN WIRE FAULT WHILE ON DO12	1x00088 2x00088 I:87	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO12:0=OK				
OPEN WIRE FAULT WHILE ON DO13	1x00089 2x00089 I:88	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO13:0=OK				

OPEN WIRE FAULT WHILE ON DO14	1x00090 2x00090 I:89	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO14:0=OK				
OPEN WIRE FAULT WHILE ON DO15	1x00091 2x00091 I:90	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state ON for DO15:0=OK				
DIGITAL OUTPUTS: OPEN WIRE DETECTION STATUS WHILE OFF						
OPEN WIRE FAULT WHILE OFF DO1	1x00092 2x00092 I:91	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault 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 =0:No fault, =1:Fault-open wire detected						
OPEN WIRE FAULT WHILE OFF DO2	1x00093 2x00093 I:92	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO2:0=OK				
OPEN WIRE FAULT WHILE OFF DO3	1x00094 2x00094 I:93	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO3:0=OK				
OPEN WIRE FAULT WHILE OFF DO4	1x00095 2x00095 I:94	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO4:0=OK				
OPEN WIRE FAULT WHILE OFF DO5	1x00096 2x00096 I:95	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO5:0=OK				
OPEN WIRE FAULT WHILE OFF DO6	1x00097 2x00097 I:96	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO6:0=OK				

OPEN WIRE FAULT WHILE OFF DO7	1x00098 2x00098 I:97	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO7:0=OK				
OPEN WIRE FAULT WHILE OFF DO8	1x00099 2x00099 I:98	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO8:0=OK				
OPEN WIRE FAULT WHILE OFF DO9	1x00100 2x00100 I:99	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO9:0=OK				
OPEN WIRE FAULT WHILE OFF DO10	1x00101 2x00101 I:100	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO10:0=OK				
OPEN WIRE FAULT WHILE OFF DO11	1x00102 2x00102 I:101	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO11:0=OK				
OPEN WIRE FAULT WHILE OFF DO12	1x00103 2x00103 I:102	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO12:0=OK				
OPEN WIRE FAULT WHILE OFF DO13	1x00104 2x00104 I:103	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO13:0=OK				
OPEN WIRE FAULT WHILE OFF DO14	1x00105 2x00105 I:104	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO14:0=OK				
OPEN WIRE FAULT WHILE OFF DO15	1x00106 2x00106 I:105	0,0x00 B:00			BIT R/O	
		Actual detection state of an open wire fault in state OFF for DO15:0=OK				

DIGITAL OUTPUTS: SHORTCUT DETECTION STATUS TO VDD WHILE OFF						
OPEN WIRE SHORTCUT TO VDD DO1	1x00107 2x00107 I:106	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO1:0=OK				
The current detection state of a shortcut to VDD in the output state OFF for the digital output DOx =0:No fault, =1:Fault-shortcut to VDD detected						
OPEN WIRE SHORTCUT TO VDD DO2	1x00108 2x00108 I:107	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO2:0=OK				
OPEN WIRE SHORTCUT TO VDD DO3	1x00109 2x00109 I:108	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO3:0=OK				
OPEN WIRE SHORTCUT TO VDD DO4	1x00110 2x00110 I:109	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO4:0=OK				
OPEN WIRE SHORTCUT TO VDD DO5	1x00111 2x00111 I:110	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO5:0=OK				
OPEN WIRE SHORTCUT TO VDD DO6	1x00112 2x00112 I:111	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO6:0=OK				
OPEN WIRE SHORTCUT TO VDD DO7	1x00113 2x00113 I:112	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO7:0=OK				

OPEN WIRE SHORTCUT TO VDD DO8	1x00114 2x00114 I:113	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO8:0=OK				
OPEN WIRE SHORTCUT TO VDD DO9	1x00115 2x00115 I:114	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO9:0=OK				
OPEN WIRE SHORTCUT TO VDD DO10	1x00116 2x00116 I:115	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO10:0=OK				
OPEN WIRE SHORTCUT TO VDD DO11	1x00117 2x00117 I:116	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO11:0=OK				
OPEN WIRE SHORTCUT TO VDD DO12	1x00118 2x00118 I:117	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO12:0=OK				
OPEN WIRE SHORTCUT TO VDD DO13	1x00119 2x00119 I:118	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO13:0=OK				
OPEN WIRE SHORTCUT TO VDD DO14	1x00120 2x00120 I:119	0,0x00 B:00			BIT R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO14:0=OK				
OPEN WIRE SHORTCUT TO VDD DO15	1x00121 2x00121 I:120	0,0x00 B:00			BIT R/O	

		Actual detection state of a shortcut to VDD in state OFF for VDD DO15:0=OK				
DIGITAL OUTPUTS: THERMAL OVERLOAD DETECTION STATUS						
THERMAL OVERLOAD DETECTION STATUS DO1	1x00122 2x00122 I:121	0,0x00 B:00			BIT R/O	
		Actual detection state of a thermal overload for DO1:0=OK				
The current detection state of a thermal overload for the digital output DOx =0:No fault, =1:Fault-thermal overload detected						
THERMAL OVERLOAD DETECTION STATUS DO2	1x00123 2x00123 I:122	0,0x00 B:00			BIT R/O	
		Actual detection state of a thermal overload for DO2:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO3	1x00124 2x00124 I:123	0,0x00 B:00			BIT R/O	
		Actual detection state of a thermal overload for DO3:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO4	1x00125 2x00125 I:124	0,0x00 B:00			BIT R/O	
		Actual detection state of a thermal overload for DO4:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO5	1x00126 2x00126 I:125	0,0x00 B:00			BIT R/O	
		Actual detection state of a thermal overload for DO5:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO6	1x00127 2x00127 I:126	0,0x00 B:00			BIT R/O	
		Actual detection state of a thermal overload for DO6:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO7	1x00128 2x00128 I:127	0,0x00 B:00			BIT R/O	
		Actual detection state of a thermal overload for DO7:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO8	1x00129 2x00129 I:128	0,0x00 B:00			BIT R/O	

		Actual detection state of a thermal overload for DO8:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO9	1x00130 2x00130 I:129	0,0x00 B:00		BIT R/O	
		Actual detection state of a thermal overload for DO9:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO10	1x00131 2x00131 I:130	0,0x00 B:00		BIT R/O	
		Actual detection state of a thermal overload for DO10:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO11	1x00132 2x00132 I:131	0,0x00 B:00		BIT R/O	
		Actual detection state of a thermal overload for DO11:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO12	1x00133 2x00133 I:132	0,0x00 B:00		BIT R/O	
		Actual detection state of a thermal overload for DO12:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO13	1x00134 2x00134 I:133	0,0x00 B:00		BIT R/O	
		Actual detection state of a thermal overload for DO13:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO14	1x00135 2x00135 I:134	0,0x00 B:00		BIT R/O	
		Actual detection state of a thermal overload for DO14:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO15	1x00136 2x00136 I:135	0,0x00 B:00		BIT R/O	
		Actual detection state of a thermal overload for DO15:0=OK			
DIGITAL OUTPUTS: CURRENT LIMIT DETECTION STATUS WHILE ON					
CURRENT LIMIT DETECTION STATUS WHILE ON DO1	1x00137 2x00137 I:136	0,0x00 B:00		BIT R/O	
		Actual detection state of a current limit while ON for DO1:0=OK			
The current detection state of a current limit while output is ON for the digital output DOx =0:No fault, =1:Fault-current limit error					

CURRENT LIMIT DETECTION STATUS WHILE ON DO2	1x00138 2x00138 I:137	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO2:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO3	1x00139 2x00139 I:138	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO3:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO4	1x00140 2x00140 I:139	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO4:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO5	1x00141 2x00141 I:140	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO5:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO6	1x00142 2x00142 I:141	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO6:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO7	1x00143 2x00143 I:142	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO7:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO8	1x00144 2x00144 I:143	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO8:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO9	1x00145 2x00145 I:144	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO9:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO10	1x00146 2x00146 I:145	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO10:0=OK				

CURRENT LIMIT DETECTION STATUS WHILE ON DO11	1x00147 2x00147 I:146	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO11:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO12	1x00148 2x00148 I:147	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO12:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO13	1x00149 2x00149 I:148	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO13:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO14	1x00150 2x00150 I:149	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO14:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO15	1x00151 2x00151 I:150	0,0x00 B:00			BIT R/O	
		Actual detection state of a current limit while ON for DO15:0=OK				
DIGITAL OUTPUTS: GLOBAL ERRORS						
CHIP #1:DO1-DO8						
GLOBAL ERRORS BIT 0	1x00152 2x00152 I:151	0,0x00 B:00			BIT R/O	
		BIT 0:Internal under voltage detected:0=OK				
GLOBAL ERRORS BIT 1	1x00153 2x00153 I:152	0,0x00 B:00			BIT R/O	
		BIT 1:VA under voltage detected (<2.3V):0=OK				
GLOBAL ERRORS BIT 2	1x00154 2x00154 I:153	0,0x00 B:00			BIT R/O	
		BIT 2:VDD not good detected (<17V):0=OK				
GLOBAL ERRORS BIT 3	1x00155 2x00155 I:154	0,0x00 B:00			BIT R/O	
		BIT 3:VDD warning detected (<12V):0=OK				

GLOBAL ERRORS BIT 4	1x00156 2x00156 I:155	0,0x00 B:00			BIT R/O	
		BIT 4:VDD under voltage detected (<8V):0=OK				
GLOBAL ERRORS BIT 5	1x00157 2x00157 I:156	0,0x00 B:00			BIT R/O	
		BIT 5:Thermal shutdown:0=OK				
GLOBAL ERRORS BIT 6	1x00158 2x00158 I:157	0,0x00 B:00			BIT R/O	
		BIT 6:Synchronisation error detected:0=OK				
GLOBAL ERRORS BIT 7	1x00159 2x00159 I:158	0,0x00 B:00			BIT 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 #2:DO9-DO15						
GLOBAL ERRORS BIT 0	1x00160 2x00160 I:159	0,0x00 B:00			BIT R/O	
		BIT 0:Internal under voltage detected:0=OK				
GLOBAL ERRORS BIT 1	1x00161 2x00161 I:160	0,0x00 B:00			BIT R/O	
		BIT 1:VA under voltage detected (<2.3V):0=OK				
GLOBAL ERRORS BIT 2	1x00162 2x00162 I:161	0,0x00 B:00			BIT R/O	
		BIT 2:VDD not good detected (<17V):0=OK				
GLOBAL ERRORS BIT 3	1x00163 2x00163 I:162	0,0x00 B:00			BIT R/O	
		BIT 3:VDD warning detected (<12V):0=OK				
GLOBAL ERRORS BIT 4	1x00164 2x00164 I:163	0,0x00 B:00			BIT R/O	
		BIT 4:VDD under voltage detected (<8V):0=OK				
GLOBAL ERRORS BIT 5	1x00165 2x00165 I:164	0,0x00 B:00			BIT R/O	
		BIT 5:Thermal shutdown:0=OK				

GLOBAL ERRORS BIT 6	1x00166 2x00166 I:165	0,0x00 B:00			BIT R/O	
		BIT 6:Synchronisation error detected:0=OK				
GLOBAL ERRORS BIT 7	1x00167 2x00167 I:166	0,0x00 B:00			BIT 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						
CHIP #1:DO1-DO8						
INTERRUPT STATUS BIT 0	1x00168 2x00168 I:167	0,0x00 B:00			BIT R/O	
		BIT 0:Overload detected:0=OK				
INTERRUPT STATUS BIT 1	1x00169 2x00169 I:168	0,0x00 B:00			BIT R/O	
		BIT 1:Current limit detected:0=OK				
INTERRUPT STATUS BIT 2	1x00170 2x00170 I:169	0,0x00 B:00			BIT R/O	
		BIT 2:Open wire while OFF detected:0=OK				
INTERRUPT STATUS BIT 3	1x00171 2x00171 I:170	0,0x00 B:00			BIT R/O	
		BIT 3:Open wire while ON detected:0=OK				
INTERRUPT STATUS BIT 4	1x00172 2x00172 I:171	0,0x00 B:00			BIT R/O	
		BIT 4:Short to VDD while ON detected:0=OK				
INTERRUPT STATUS BIT 5	1x00173 2x00173 I:172	0,0x00 B:00			BIT R/O	
		BIT 5:Thermal error detected-shutdown:0=OK				
INTERRUPT STATUS BIT 6	1x00174 2x00174 I:173	0,0x00 B:00			BIT R/O	
		BIT 6:Supply error detected:0=OK				
INTERRUPT STATUS BIT 7	1x00175 2x00175 I:174	0,0x00 B:00			BIT 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 BIT 0	1x00176 2x00176 I:175	0,0x00 B:00			BIT R/O	
		BIT 0:Overload detected:0=OK				
INTERRUPT STATUS BIT 1	1x00177 2x00177 I:176	0,0x00 B:00			BIT R/O	
		BIT 1:Current limit detected:0=OK				
INTERRUPT STATUS BIT 2	1x00178 2x00178 I:177	0,0x00 B:00			BIT R/O	
		BIT 2:Open wire while OFF detected:0=OK				
INTERRUPT STATUS BIT 3	1x00179 2x00179 I:178	0,0x00 B:00			BIT R/O	
		BIT 3:Open wire while ON detected:0=OK				
INTERRUPT STATUS BIT 4	1x00180 2x00180 I:179	0,0x00 B:00			BIT R/O	
		BIT 4:Short to VDD while ON detected:0=OK				
INTERRUPT STATUS BIT 5	1x00181 2x00181 I:180	0,0x00 B:00			BIT R/O	
		BIT 5:Thermal error detected-shutdown:0=OK				
INTERRUPT STATUS BIT 6	1x00182 2x00182 I:181	0,0x00 B:00			BIT R/O	
		BIT 6:Supply error detected:0=OK				
INTERRUPT STATUS BIT 7	1x00183 2x00183 I:182	0,0x00 B:00			BIT 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						
SPI COMMUNICATION DIGITAL OUTPUTS						
SPI COMMUNICATION CHIP #1: DO1-DO8	1x00184 2x00184 I:183	0,0x00 B:00			BIT R/O	
		Actual SPI communication state:0=NO FAULT				
The current monitoring state of the SPI communication for the digital output group =0:No fault, =1:Fault						

SPI COMMUNICATION CHIP #2: DO9-DO15	1x00185 2x00185 I:184	0,0x00 B:00			BIT R/O	
		Actual SPI communication state:0=NO FAULT				
The current monitoring state of the SPI communication for the digital output group =0:No fault, =1:Fault						
DIGITAL INPUTS: RESET						
RESET COUNTERS	1x10000 2x10000 I:9999	0,0x00 B:00		1:PERFORM RESET	BIT 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.						
STATUS REAL DIGITAL INPUTS						
DI1	1x15001 2x14001 I:15000	0,0x00 B:00			BIT 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 thie line =0:DI is OFF, =1:DI is ON						
DI2	1x15002 2x15002 I:15001	0,0x00 B:00			BIT R/O	
		Actual state of DI2:0=OFF				
DI3	1x15003 2x15003 I:15002	0,0x00 B:00			BIT R/O	
		Actual state of DI3:0=OFF				
DI4	1x15004 2x15004 I:15003	0,0x00 B:00			BIT R/O	
		Actual state of DI4:0=OFF				
DI5	1x15005 2x15005 I:15004	0,0x00 B:00			BIT R/O	
		Actual state of DI5:0=OFF				
DI6	1x15006 2x15006 I:15005	0,0x00 B:00			BIT R/O	
		Actual state of DI6:0=OFF				
DI7	1x15007 2x15007 I:15006	0,0x00 B:00			BIT R/O	
		Actual state of DI7:0=OFF				
DI8	1x15008 2x15008 I:15007	0,0x00 B:00			BIT R/O	

		Actual state of DI8:0=OFF				
DI9	1x15009 2x15009 I:15008	0,0x00 B:00			BIT R/O	
		Actual state of DI9:0=OFF				
DI10	1x15010 2x15010 I:15009	0,0x00 B:00			BIT R/O	
		Actual state of DI10:0=OFF				
DI11	1x15011 2x15011 I:15010	0,0x00 B:00			BIT R/O	
		Actual state of DI11:0=OFF				
DI12	1x15012 2x15012 I:15011	0,0x00 B:00			BIT R/O	
		Actual state of DI12:0=OFF				
DI13	1x15013 2x15013 I:15012	0,0x00 B:00			BIT R/O	
		Actual state of DI13:0=OFF				
DI14	1x15014 2x15014 I:15013	0,0x00 B:00			BIT R/O	
		Actual state of DI14:0=OFF				
DI15	1x15015 2x15015 I:15014	0,0x00 B:00			BIT R/O	
		Actual state of DI15:0=OFF				
DI16	1x15016 2x15016 I:15015	0,0x00 B:00			BIT R/O	
		Actual state of DI16:0=OFF				
STATUS DIGITAL INPUTS						
UNFILTERED DI1	1x15017 2x15017 I:15016	0,0x00 B:00			BIT 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 thie line =0:DI is OFF, =1:DI is ON						
UNFILTERED DI2	1x15018 2x15018 I:15017	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI2:0=OFF				

UNFILTERED DI3	1x15019 2x15019 I:15018	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI3:0=OFF				
UNFILTERED DI4	1x15020 2x15020 I:15019	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI4:0=OFF				
UNFILTERED DI5	1x15021 2x15021 I:15020	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI5:0=OFF				
UNFILTERED DI6	1x15022 2x15022 I:15021	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI6:0=OFF				
UNFILTERED DI7	1x15023 2x15023 I:15022	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI7:0=OFF				
UNFILTERED DI8	1x15024 2x15024 I:15023	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI8:0=OFF				
UNFILTERED DI9	1x15025 2x15025 I:15024	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI9:0=OFF				
UNFILTERED DI10	1x15026 2x15026 I:15025	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI10:0=OFF				
UNFILTERED DI11	1x15027 2x15027 I:15026	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI11:0=OFF				
UNFILTERED DI12	1x15028 2x15028 I:15027	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI12:0=OFF				
UNFILTERED DI13	1x15029 2x15029 I:15028	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI13:0=OFF				

UNFILTERED DI14	1x15030 2x15030 I:15029	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI14:0=OFF				
UNFILTERED DI15	1x15031 2x15031 I:15030	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI15:0=OFF				
UNFILTERED DI16	1x15032 2x15032 I:15031	0,0x00 B:00			BIT R/O	
		Actual state of UNFILTERED DI16:0=OFF				
STATUS DIGITAL OUTPUTS						
DO1	1x16001 2x16001 I:16000	0,0x00 B:00		1	BIT R/W	NO
		Actual state of DO1:0=OFF		ENTER NEW STATE (0 or 1)		
Current state of the digital output DOx =0:DO is OFF, =1:DO is ON Writing on this register changes the state of the digital output						
DO2	1x16002 2x16002 I:16001	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO2:0=OFF		ENTER NEW STATE (0 or 1)		
DO3	1x16003 2x16003 I:16002	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO3:0=OFF		ENTER NEW STATE (0 or 1)		
DO4	1x16004 2x16004 I:16003	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO4:0=OFF		ENTER NEW STATE (0 or 1)		
DO5	1x16005 2x16005 I:16004	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO5:0=OFF		ENTER NEW STATE (0 or 1)		
DO6	1x16006 2x16006 I:16005	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO6:0=OFF		ENTER NEW STATE (0 or 1)		
DO7	1x16007 2x16007 I:16006	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO7:0=OFF		ENTER NEW STATE (0 or 1)		

DO8	1x16008 2x16008 I:16007	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO8:0=OFF		ENTER NEW STATE (0 or 1)		
DO9	1x16009 2x16009 I:16008	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO9:0=OFF		ENTER NEW STATE (0 or 1)		
DO10	1x16010 2x16010 I:16009	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO10:0=OFF		ENTER NEW STATE (0 or 1)		
DO11	1x16011 2x16011 I:16010	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO11:0=OFF		ENTER NEW STATE (0 or 1)		
DO12	1x16012 2x16012 I:16011	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO12:0=OFF		ENTER NEW STATE (0 or 1)		
DO13	1x16013 2x16013 I:16012	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO13:0=OFF		ENTER NEW STATE (0 or 1)		
DO14	1x16014 2x16014 I:16013	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO14:0=OFF		ENTER NEW STATE (0 or 1)		
DO15	1x16015 2x16015 I:16014	0,0x00 B:00		0	BIT R/W	NO
		Actual state of DO15:0=OFF		ENTER NEW STATE (0 or 1)		

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

DI HAS CHANGED DI13	1x20013 2x20013 I:20012	0,0x00 B:00			BIT R/O	
DI HAS CHANGED DI14	1x20014 2x20014 I:20013	0,0x00 B:00			BIT R/O	
DI HAS CHANGED DI15	1x20015 2x20015 I:20014	0,0x00 B:00			BIT R/O	
DI HAS CHANGED DI16	1x20016 2x20016 I:20015	1,0x01 B:01			BIT R/O	
DIGITAL INPUTS: SHORT KEYPRESS EVENT ON DIGITAL INPUT DETECTED						
SHORT KEYPRESS ON DI1	1x20017 2x20017 I:20016	1,0x01 B:01			BIT R/O	
If a short keypress event was detected on the digital input this bit inverts its last state						
SHORT KEYPRESS ON DI2	1x20018 2x20018 I:20017	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI3	1x20019 2x20019 I:20018	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI4	1x20020 2x20020 I:20019	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI5	1x20021 2x20021 I:20020	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI6	1x20022 2x20022 I:20021	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI7	1x20023 2x20023 I:20022	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI8	1x20024 2x20024 I:20023	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI9	1x20025 2x20025 I:20024	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI10	1x20026 2x20026 I:20025	0,0x00 B:00			BIT R/O	

SHORT KEYPRESS ON DI11	1x20027 2x20027 I:20026	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI12	1x20028 2x20028 I:20027	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI13	1x20029 2x20029 I:20028	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI14	1x20030 2x20030 I:20029	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI15	1x20031 2x20031 I:20030	0,0x00 B:00			BIT R/O	
SHORT KEYPRESS ON DI16	1x20032 2x20032 I:20031	1,0x01 B:01			BIT R/O	
DIGITAL INPUTS: LONG KEYPRESS START EVENT ON DIGITAL INPUT DETECTED						
LONG KEYPRESS START ON DI1	1x20033 2x20033 I:20032	1,0x01 B:01			BIT R/O	
If a long keypress start event was detected on the digital input this bit inverts its last state						
LONG KEYPRESS START ON DI2	1x20034 2x20034 I:20033	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI3	1x20035 2x20035 I:20034	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI4	1x20036 2x20036 I:20035	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI5	1x20037 2x20037 I:20036	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI6	1x20038 2x20038 I:20037	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI7	1x20039 2x20039 I:20038	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI8	1x20040 2x20040 I:20039	0,0x00 B:00			BIT R/O	

LONG KEYPRESS START ON DI9	1x20041 2x20041 I:20040	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI10	1x20042 2x20042 I:20041	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI11	1x20043 2x20043 I:20042	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI12	1x20044 2x20044 I:20043	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI13	1x20045 2x20045 I:20044	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI14	1x20046 2x20046 I:20045	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI15	1x20047 2x20047 I:20046	0,0x00 B:00			BIT R/O	
LONG KEYPRESS START ON DI16	1x20048 2x20048 I:20047	0,0x00 B:00			BIT R/O	
DIGITAL INPUTS: LONG KEYPRESS END EVENT ON DIGITAL INPUT DETECTED						
LONG KEYPRESS END ON DI1	1x20049 2x20049 I:20048	1,0x01 B:01			BIT R/O	
If a long keypress end event was detected on the digital input this bit inverts its last state						
LONG KEYPRESS END ON DI2	1x20050 2x20050 I:20049	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI3	1x20051 2x20051 I:20050	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI4	1x20052 2x20052 I:20051	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI5	1x20053 2x20053 I:20052	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI6	1x20054 2x20054 I:20053	0,0x00 B:00			BIT R/O	

LONG KEYPRESS END ON DI7	1x20055 2x20055 I:20054	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI8	1x20056 2x20056 I:20055	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI9	1x20057 2x20057 I:20056	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI10	1x20058 2x20058 I:20057	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI11	1x20059 2x20059 I:20058	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI12	1x20060 2x20060 I:20059	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI13	1x20061 2x20061 I:20060	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI14	1x20062 2x20062 I:20061	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI15	1x20063 2x20063 I:20062	0,0x00 B:00			BIT R/O	
LONG KEYPRESS END ON DI16	1x20064 2x20064 I:20063	0,0x00 B:00			BIT R/O	
DIGITAL INPUTS: RISING EDGE ON DIGITAL INPUT DETECTED						
RISING EDGE ON DI1	1x20065 2x20065 I:20064	0,0x00 B:00			BIT R/O	
If a rising edge was detected on the digital input this bit inverts its last state						
RISING EDGE ON DI2	1x20066 2x20066 I:20065	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI3	1x20067 2x20067 I:20066	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI4	1x20068 2x20068 I:20067	0,0x00 B:00			BIT R/O	

RISING EDGE ON DI5	1x20069 2x20069 I:20068	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI6	1x20070 2x20070 I:20069	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI7	1x20071 2x20071 I:20070	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI8	1x20072 2x20072 I:20071	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI9	1x20073 2x20073 I:20072	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI10	1x20074 2x20074 I:20073	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI11	1x20075 2x20075 I:20074	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI12	1x20076 2x20076 I:20075	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI13	1x20077 2x20077 I:20076	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI14	1x20078 2x20078 I:20077	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI15	1x20079 2x20079 I:20078	0,0x00 B:00			BIT R/O	
RISING EDGE ON DI16	1x20080 2x20080 I:20079	1,0x01 B:01			BIT R/O	
DIGITAL INPUTS: FALLING EDGE ON DIGITAL INPUT DETECTED						
FALLING EDGE ON DI1	1x20081 2x20081 I:20080	0,0x00 B:00			BIT R/O	
If a falling edge was detected on the digital input this bit inverts its last state						
FALLING EDGE ON DI2	1x20082 2x20082 I:20081	0,0x00 B:00			BIT R/O	

FALLING EDGE ON DI3	1x20083 2x20083 I:20082	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI4	1x20084 2x20084 I:20083	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI5	1x20085 2x20085 I:20084	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI6	1x20086 2x20086 I:20085	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI7	1x20087 2x20087 I:20086	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI8	1x20088 2x20088 I:20087	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI9	1x20089 2x20089 I:20088	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI10	1x20090 2x20090 I:20089	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI11	1x20091 2x20091 I:20090	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI12	1x20092 2x20092 I:20091	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI13	1x20093 2x20093 I:20092	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI14	1x20094 2x20094 I:20093	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI15	1x20095 2x20095 I:20094	0,0x00 B:00			BIT R/O	
FALLING EDGE ON DI16	1x20096 2x20096 I:20095	1,0x01 B:01			BIT R/O	

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

DI10	3x00010 4x00010 I:9	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI10:0=OFF				
DI11	3x00011 4x00011 I:10	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI11:0=OFF				
DI12	3x00012 4x00012 I:11	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI12:0=OFF				
DI13	3x00013 4x00013 I:12	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI13:0=OFF				
DI14	3x00014 4x00014 I:13	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI14:0=OFF				
DI15	3x00015 4x00015 I:14	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI15:0=OFF				
DI16	3x00016 4x00016 I:15	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI16:0=OFF				
STATUS DIGITAL OUTPUTS						
DO1	3x00017 4x00017 I:16	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual state of DO1:0=OFF		ENTER NEW STATE (0 or 1)		
Current state of the digital output DOx =0:DO is OFF, =1:DO is ON Writing on this register changes the state of the digital output						
DO2	3x00018 4x00018 I:17	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO2:0=OFF		ENTER NEW STATE (0 or 1)		
DO3	3x00019 4x00019 I:18	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO3:0=OFF		ENTER NEW STATE (0 or 1)		

DO4	3x00020 4x00020 I:19	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO4:0=OFF		ENTER NEW STATE (0 or 1)		
DO5	3x00021 4x00021 I:20	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO5:0=OFF		ENTER NEW STATE (0 or 1)		
DO6	3x00022 4x00022 I:21	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO6:0=OFF		ENTER NEW STATE (0 or 1)		
DO7	3x00023 4x00023 I:22	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO7:0=OFF		ENTER NEW STATE (0 or 1)		
DO8	3x00024 4x00024 I:23	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO8:0=OFF		ENTER NEW STATE (0 or 1)		
DO9	3x00025 4x00025 I:24	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO9:0=OFF		ENTER NEW STATE (0 or 1)		
DO10	3x00026 4x00026 I:25	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO10:0=OFF		ENTER NEW STATE (0 or 1)		
DO11	3x00027 4x00027 I:26	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO11:0=OFF		ENTER NEW STATE (0 or 1)		
DO12	3x00028 4x00028 I:27	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO12:0=OFF		ENTER NEW STATE (0 or 1)		
DO13	3x00029 4x00029 I:28	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO13:0=OFF		ENTER NEW STATE (0 or 1)		
DO14	3x00030 4x00030 I:29	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO14:0=OFF		ENTER NEW STATE (0 or 1)		

DO15	3x00031 4x00031 I:30	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO15:0=OFF		ENTER NEW STATE (0 or 1)		
DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION ON						
ENABLE OPEN WIRE DETECTION ON DO1	3x00032 4x00032 I:31	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON 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 =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 DETECTION ON DO2	3x00033 4x00033 I:32	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO2:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO3	3x00034 4x00034 I:33	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO3:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO4	3x00035 4x00035 I:34	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO4:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO5	3x00036 4x00036 I:35	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO5:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO6	3x00037 4x00037 I:36	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO6:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO7	3x00038 4x00038 I:37	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO7:0=OFF		ENTER NEW SETUP MODE (0 or 1)		

ENABLE OPEN WIRE DETECTION ON DO8	3x00039 4x00039 I:38	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO8:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO9	3x00040 4x00040 I:39	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO9:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO10	3x00041 4x00041 I:40	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO10:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO11	3x00042 4x00042 I:41	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO11:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO12	3x00043 4x00043 I:42	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO12:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO13	3x00044 4x00044 I:43	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO13:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO14	3x00045 4x00045 I:44	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO14:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION ON DO15	3x00046 4x00046 I:45	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual setup of open wire detection for state ON of DO15:0=OFF		ENTER NEW SETUP MODE (0 or 1)		
DIGITAL OUTPUTS: ENABLE OPEN WIRE DETECTION OFF						
ENABLE OPEN WIRE DETECTION OFF DO1	3x00047 4x00047 I:46	0,0x0000 B:00 00		1	UINT16 R/W	NO

		Actual setup of open wire detection for state OFF 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 =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 DETECTION OFF DO2	3x00048 4x00048 I:47	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO2:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO3	3x00049 4x00049 I:48	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO3:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO4	3x00050 4x00050 I:49	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO4:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO5	3x00051 4x00051 I:50	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO5:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO6	3x00052 4x00052 I:51	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO6:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO7	3x00053 4x00053 I:52	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO7:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE OPEN WIRE DETECTION OFF DO8	3x00054 4x00054 I:53	0,0x0000 B:00 00	1	UINT16 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	3x00055 4x00055 I:54	0,0x0000 B:00 00	1	UINT16 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	3x00056 4x00056 I:55	0,0x0000 B:00 00	1	UINT16 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	3x00057 4x00057 I:56	0,0x0000 B:00 00	1	UINT16 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	3x00058 4x00058 I:57	0,0x0000 B:00 00	1	UINT16 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	3x00059 4x00059 I:58	0,0x0000 B:00 00	1	UINT16 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	3x00060 4x00060 I:59	0,0x0000 B:00 00	1	UINT16 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	3x00061 4x00061 I:60	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO15:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
DIGITAL OUTPUTS: ENABLE SHORT TO VDD DETECTION					
ENABLE SHORT TO VDD DETECTION DO1	3x00062 4x00062 I:61	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF 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 =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 DETECTION DO2	3x00063 4x00063 I:62	0,0x0000 B:00 00	1	UINT16 R/W	NO

		Actual setup of open wire detection for state OFF of DO2:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE SHORT TO VDD DETECTION DO3	3x00064 4x00064 I:63	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO3:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE SHORT TO VDD DETECTION DO4	3x00065 4x00065 I:64	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO4:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
ENABLE SHORT TO VDD DETECTION DO5	3x00066 4x00066 I:65	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO6	3x00067 4x00067 I:66	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO7	3x00068 4x00068 I:67	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO8	3x00069 4x00069 I:68	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO9	3x00070 4x00070 I:69	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO10	3x00071 4x00071 I:70	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO11	3x00072 4x00072 I:71	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO12	3x00073 4x00073 I:72	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO13	3x00074 4x00074 I:73	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO14	3x00075 4x00075 I:74	0,0x0000 B:00 00	1	UINT16 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 DETECTION DO15	3x00076 4x00076 I:75	0,0x0000 B:00 00	1	UINT16 R/W	NO
		Actual setup of open wire detection for state OFF of DO15:0=OFF	ENTER NEW SETUP MODE (0 or 1)		
DIGITAL OUTPUTS: OPEN WIRE DETECTION STATUS WHILE ON					
OPEN WIRE FAULT WHILE ON DO1	3x00077 4x00077 I:76	0,0x0000 B:00 00		UINT16 R/O	
		Actual detection state of an open wire fault 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 =0:No fault, =1:Fault-open wire detected					
OPEN WIRE FAULT WHILE ON DO2	3x00078 4x00078 I:77	0,0x0000 B:00 00		UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO2:0=OK			
OPEN WIRE FAULT WHILE ON DO3	3x00079 4x00079 I:78	0,0x0000 B:00 00		UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO3:0=OK			
OPEN WIRE FAULT WHILE ON DO4	3x00080 4x00080 I:79	0,0x0000 B:00 00		UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO4:0=OK			

OPEN WIRE FAULT WHILE ON DO5	3x00081 4x00081 I:80	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO5:0=OK				
OPEN WIRE FAULT WHILE ON DO6	3x00082 4x00082 I:81	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO6:0=OK				
OPEN WIRE FAULT WHILE ON DO7	3x00083 4x00083 I:82	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO7:0=OK				
OPEN WIRE FAULT WHILE ON DO8	3x00084 4x00084 I:83	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO8:0=OK				
OPEN WIRE FAULT WHILE ON DO9	3x00085 4x00085 I:84	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO9:0=OK				
OPEN WIRE FAULT WHILE ON DO10	3x00086 4x00086 I:85	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO10:0=OK				
OPEN WIRE FAULT WHILE ON DO11	3x00087 4x00087 I:86	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO11:0=OK				
OPEN WIRE FAULT WHILE ON DO12	3x00088 4x00088 I:87	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO12:0=OK				
OPEN WIRE FAULT WHILE ON DO13	3x00089 4x00089 I:88	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO13:0=OK				

OPEN WIRE FAULT WHILE ON DO14	3x00090 4x00090 I:89	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO14:0=OK				
OPEN WIRE FAULT WHILE ON DO15	3x00091 4x00091 I:90	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state ON for DO15:0=OK				
DIGITAL OUTPUTS: OPEN WIRE DETECTION STATUS WHILE OFF						
OPEN WIRE FAULT WHILE OFF DO1	3x00092 4x00092 I:91	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault 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 =0:No fault, =1:Fault-open wire detected						
OPEN WIRE FAULT WHILE OFF DO2	3x00093 4x00093 I:92	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO2:0=OK				
OPEN WIRE FAULT WHILE OFF DO3	3x00094 4x00094 I:93	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO3:0=OK				
OPEN WIRE FAULT WHILE OFF DO4	3x00095 4x00095 I:94	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO4:0=OK				
OPEN WIRE FAULT WHILE OFF DO5	3x00096 4x00096 I:95	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO5:0=OK				
OPEN WIRE FAULT WHILE OFF DO6	3x00097 4x00097 I:96	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO6:0=OK				

OPEN WIRE FAULT WHILE OFF DO7	3x00098 4x00098 I:97	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO7:0=OK				
OPEN WIRE FAULT WHILE OFF DO8	3x00099 4x00099 I:98	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO8:0=OK				
OPEN WIRE FAULT WHILE OFF DO9	3x00100 4x00100 I:99	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO9:0=OK				
OPEN WIRE FAULT WHILE OFF DO10	3x00101 4x00101 I:100	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO10:0=OK				
OPEN WIRE FAULT WHILE OFF DO11	3x00102 4x00102 I:101	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO11:0=OK				
OPEN WIRE FAULT WHILE OFF DO12	3x00103 4x00103 I:102	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO12:0=OK				
OPEN WIRE FAULT WHILE OFF DO13	3x00104 4x00104 I:103	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO13:0=OK				
OPEN WIRE FAULT WHILE OFF DO14	3x00105 4x00105 I:104	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO14:0=OK				
OPEN WIRE FAULT WHILE OFF DO15	3x00106 4x00106 I:105	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of an open wire fault in state OFF for DO15:0=OK				

DIGITAL OUTPUTS: SHORTCUT DETECTION STATUS TO VDD WHILE OFF						
OPEN WIRE SHORTCUT TO VDD DO1	3x00107 4x00107 I:106	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO1:0=OK				
The current detection state of a shortcut to VDD in the output state OFF for the digital output DOx =0:No fault, =1:Fault-shortcut to VDD detected						
OPEN WIRE SHORTCUT TO VDD DO2	3x00108 4x00108 I:107	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO2:0=OK				
OPEN WIRE SHORTCUT TO VDD DO3	3x00109 4x00109 I:108	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO3:0=OK				
OPEN WIRE SHORTCUT TO VDD DO4	3x00110 4x00110 I:109	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO4:0=OK				
OPEN WIRE SHORTCUT TO VDD DO5	3x00111 4x00111 I:110	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO5:0=OK				
OPEN WIRE SHORTCUT TO VDD DO6	3x00112 4x00112 I:111	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO6:0=OK				
OPEN WIRE SHORTCUT TO VDD DO7	3x00113 4x00113 I:112	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO7:0=OK				

OPEN WIRE SHORTCUT TO VDD DO8	3x00114 4x00114 I:113	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO8:0=OK				
OPEN WIRE SHORTCUT TO VDD DO9	3x00115 4x00115 I:114	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO9:0=OK				
OPEN WIRE SHORTCUT TO VDD DO10	3x00116 4x00116 I:115	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO10:0=OK				
OPEN WIRE SHORTCUT TO VDD DO11	3x00117 4x00117 I:116	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO11:0=OK				
OPEN WIRE SHORTCUT TO VDD DO12	3x00118 4x00118 I:117	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO12:0=OK				
OPEN WIRE SHORTCUT TO VDD DO13	3x00119 4x00119 I:118	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO13:0=OK				
OPEN WIRE SHORTCUT TO VDD DO14	3x00120 4x00120 I:119	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a shortcut to VDD in state OFF for VDD DO14:0=OK				
OPEN WIRE SHORTCUT TO VDD DO15	3x00121 4x00121 I:120	0,0x0000 B:00 00			UINT16 R/O	

		Actual detection state of a shortcut to VDD in state OFF for VDD DO15:0=OK				
DIGITAL OUTPUTS: THERMAL OVERLOAD DETECTION STATUS						
THERMAL OVERLOAD DETECTION STATUS DO1	3x00122 4x00122 I:121	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a thermal overload for DO1:0=OK				
The current detection state of a thermal overload for the digital output DOx =0:No fault, =1:Fault-thermal overload detected						
THERMAL OVERLOAD DETECTION STATUS DO2	3x00123 4x00123 I:122	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a thermal overload for DO2:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO3	3x00124 4x00124 I:123	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a thermal overload for DO3:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO4	3x00125 4x00125 I:124	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a thermal overload for DO4:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO5	3x00126 4x00126 I:125	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a thermal overload for DO5:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO6	3x00127 4x00127 I:126	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a thermal overload for DO6:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO7	3x00128 4x00128 I:127	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a thermal overload for DO7:0=OK				
THERMAL OVERLOAD DETECTION STATUS DO8	3x00129 4x00129 I:128	0,0x0000 B:00 00			UINT16 R/O	

		Actual detection state of a thermal overload for DO8:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO9	3x00130 4x00130 I:129	0,0x0000 B:00 00			UINT16 R/O
		Actual detection state of a thermal overload for DO9:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO10	3x00131 4x00131 I:130	0,0x0000 B:00 00			UINT16 R/O
		Actual detection state of a thermal overload for DO10:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO11	3x00132 4x00132 I:131	0,0x0000 B:00 00			UINT16 R/O
		Actual detection state of a thermal overload for DO11:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO12	3x00133 4x00133 I:132	0,0x0000 B:00 00			UINT16 R/O
		Actual detection state of a thermal overload for DO12:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO13	3x00134 4x00134 I:133	0,0x0000 B:00 00			UINT16 R/O
		Actual detection state of a thermal overload for DO13:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO14	3x00135 4x00135 I:134	0,0x0000 B:00 00			UINT16 R/O
		Actual detection state of a thermal overload for DO14:0=OK			
THERMAL OVERLOAD DETECTION STATUS DO15	3x00136 4x00136 I:135	0,0x0000 B:00 00			UINT16 R/O
		Actual detection state of a thermal overload for DO15:0=OK			
DIGITAL OUTPUTS: CURRENT LIMIT DETECTION STATUS WHILE ON					
CURRENT LIMIT DETECTION STATUS WHILE ON DO1	3x00137 4x00137 I:136	0,0x0000 B:00 00			UINT16 R/O
		Actual detection state of a current limit while ON for DO1:0=OK			
The current detection state of a current limit while output is ON for the digital output DOx =0:No fault, =1:Fault-current limit error					

CURRENT LIMIT DETECTION STATUS WHILE ON DO2	3x00138 4x00138 I:137	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO2:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO3	3x00139 4x00139 I:138	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO3:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO4	3x00140 4x00140 I:139	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO4:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO5	3x00141 4x00141 I:140	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO5:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO6	3x00142 4x00142 I:141	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO6:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO7	3x00143 4x00143 I:142	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO7:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO8	3x00144 4x00144 I:143	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO8:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO9	3x00145 4x00145 I:144	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO9:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO10	3x00146 4x00146 I:145	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO10:0=OK				

CURRENT LIMIT DETECTION STATUS WHILE ON DO11	3x00147 4x00147 I:146	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO11:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO12	3x00148 4x00148 I:147	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO12:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO13	3x00149 4x00149 I:148	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO13:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO14	3x00150 4x00150 I:149	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO14:0=OK				
CURRENT LIMIT DETECTION STATUS WHILE ON DO15	3x00151 4x00151 I:150	0,0x0000 B:00 00			UINT16 R/O	
		Actual detection state of a current limit while ON for DO15:0=OK				
DIGITAL OUTPUTS: GLOBAL ERRORS						
CHIP #1:DO1-DO8						
GLOBAL ERRORS BIT 0	3x00152 4x00152 I:151	0,0x0000 B:00 00			UINT16 R/O	
		BIT 0:Internal under voltage detected:0=OK				
GLOBAL ERRORS BIT 1	3x00153 4x00153 I:152	0,0x0000 B:00 00			UINT16 R/O	
		BIT 1:VA under voltage detected (<2.3V):0=OK				
GLOBAL ERRORS BIT 2	3x00154 4x00154 I:153	0,0x0000 B:00 00			UINT16 R/O	
		BIT 2:VDD not good detected (<17V):0=OK				
GLOBAL ERRORS BIT 3	3x00155 4x00155 I:154	0,0x0000 B:00 00			UINT16 R/O	
		BIT 3:VDD warning detected (<12V):0=OK				

GLOBAL ERRORS BIT 4	3x00156 4x00156 I:155	0,0x0000 B:00 00			UINT16 R/O	
		BIT 4:VDD under voltage detected (<8V):0=OK				
GLOBAL ERRORS BIT 5	3x00157 4x00157 I:156	0,0x0000 B:00 00			UINT16 R/O	
		BIT 5:Thermal shutdown:0=OK				
GLOBAL ERRORS BIT 6	3x00158 4x00158 I:157	0,0x0000 B:00 00			UINT16 R/O	
		BIT 6:Synchronisation error detected:0=OK				
GLOBAL ERRORS BIT 7	3x00159 4x00159 I:158	0,0x0000 B:00 00			UINT16 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 #2:DO9-DO15						
GLOBAL ERRORS BIT 0	3x00160 4x00160 I:159	0,0x0000 B:00 00			UINT16 R/O	
		BIT 0:Internal under voltage detected:0=OK				
GLOBAL ERRORS BIT 1	3x00161 4x00161 I:160	0,0x0000 B:00 00			UINT16 R/O	
		BIT 1:VA under voltage detected (<2.3V):0=OK				
GLOBAL ERRORS BIT 2	3x00162 4x00162 I:161	0,0x0000 B:00 00			UINT16 R/O	
		BIT 2:VDD not good detected (<17V):0=OK				
GLOBAL ERRORS BIT 3	3x00163 4x00163 I:162	0,0x0000 B:00 00			UINT16 R/O	
		BIT 3:VDD warning detected (<12V):0=OK				
GLOBAL ERRORS BIT 4	3x00164 4x00164 I:163	0,0x0000 B:00 00			UINT16 R/O	
		BIT 4:VDD under voltage detected (<8V):0=OK				
GLOBAL ERRORS BIT 5	3x00165 4x00165 I:164	0,0x0000 B:00 00			UINT16 R/O	
		BIT 5:Thermal shutdown:0=OK				

GLOBAL ERRORS BIT 6	3x00166 4x00166 I:165	0,0x0000 B:00 00			UINT16 R/O	
		BIT 6:Synchronisation error detected:0=OK				
GLOBAL ERRORS BIT 7	3x00167 4x00167 I:166	0,0x0000 B:00 00			UINT16 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						
CHIP #1:DO1-DO8						
INTERRUPT STATUS BIT 0	3x00168 4x00168 I:167	0,0x0000 B:00 00			UINT16 R/O	
		BIT 0:Overload detected:0=OK				
INTERRUPT STATUS BIT 1	3x00169 4x00169 I:168	0,0x0000 B:00 00			UINT16 R/O	
		BIT 1:Current limit detected:0=OK				
INTERRUPT STATUS BIT 2	3x00170 4x00170 I:169	0,0x0000 B:00 00			UINT16 R/O	
		BIT 2:Open wire while OFF detected:0=OK				
INTERRUPT STATUS BIT 3	3x00171 4x00171 I:170	0,0x0000 B:00 00			UINT16 R/O	
		BIT 3:Open wire while ON detected:0=OK				
INTERRUPT STATUS BIT 4	3x00172 4x00172 I:171	0,0x0000 B:00 00			UINT16 R/O	
		BIT 4:Short to VDD while ON detected:0=OK				
INTERRUPT STATUS BIT 5	3x00173 4x00173 I:172	0,0x0000 B:00 00			UINT16 R/O	
		BIT 5:Thermal error detected-shutdown:0=OK				
INTERRUPT STATUS BIT 6	3x00174 4x00174 I:173	0,0x0000 B:00 00			UINT16 R/O	
		BIT 6:Supply error detected:0=OK				
INTERRUPT STATUS BIT 7	3x00175 4x00175 I:174	0,0x0000 B:00 00			UINT16 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 BIT 0	3x00176 4x00176 I:175	0,0x0000 B:00 00			UINT16 R/O	
		BIT 0:Overload detected:0=OK				
INTERRUPT STATUS BIT 1	3x00177 4x00177 I:176	0,0x0000 B:00 00			UINT16 R/O	
		BIT 1:Current limit detected:0=OK				
INTERRUPT STATUS BIT 2	3x00178 4x00178 I:177	0,0x0000 B:00 00			UINT16 R/O	
		BIT 2:Open wire while OFF detected:0=OK				
INTERRUPT STATUS BIT 3	3x00179 4x00179 I:178	0,0x0000 B:00 00			UINT16 R/O	
		BIT 3:Open wire while ON detected:0=OK				
INTERRUPT STATUS BIT 4	3x00180 4x00180 I:179	0,0x0000 B:00 00			UINT16 R/O	
		BIT 4:Short to VDD while ON detected:0=OK				
INTERRUPT STATUS BIT 5	3x00181 4x00181 I:180	0,0x0000 B:00 00			UINT16 R/O	
		BIT 5:Thermal error detected-shutdown:0=OK				
INTERRUPT STATUS BIT 6	3x00182 4x00182 I:181	0,0x0000 B:00 00			UINT16 R/O	
		BIT 6:Supply error detected:0=OK				
INTERRUPT STATUS BIT 7	3x00183 4x00183 I:182	0,0x0000 B:00 00			UINT16 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						
SPI COMMUNICATION DIGITAL OUTPUTS						
SPI COMMUNICATION CHIP #1: DO1-DO8	3x00184 4x00184 I:183	0,0x0000 B:00 00			UINT16 R/O	
		Actual SPI communication state:0=NO FAULT				
The current monitoring state of the SPI communication for the digital output group =0:No fault, =1:Fault						

SPI COMMUNICATION CHIP #2: DO9-DO15	3x00185 4x00185 I:184	0,0x0000 B:00 00			UINT16 R/O	
		Actual SPI communication state:0=NO FAULT				
The current monitoring state of the SPI communication for the digital output group =0:No fault, =1:Fault						
DIGITAL INPUTS: RESET						
RESET COUNTERS	3x10000 4x10000 I:9999	0,0x0000 B:00 00		1:PERFORM RESET	UINT16 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 4x10001 I:10000	14,0x000E B:00 0E			UINT16 R/O	
		14 event(s)				
As soon as the module registrates 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 DI1..DI16	3x10002 4x10002 I:10001	0,0x0000 B:00 00			UINT16 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 DIGITAL OUTPUTS						

STATUS OF ALL DOS DO1-DO15	3x10003 4x10003 I:10002	0,0x0000 B:00 00		#BEZUG!	UINT16 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 all digital outputs
Bit 0: =0:DO1 is OFF, =1:DO1 is ON
Bit 1: =0:DO2 is OFF, =1:DO2 is ON
...
Bit 13: =0:DO14 is OFF, =1:DO14 is ON
Bit 14: =0:DO15 is OFF, =1:DO15 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-DO15	3x10004 4x10004 I:10003	0,0x0000 B:00 00		#BEZUG!	UINT16 R/W	NO
		Actual setup of open wire detection while ON for DO1:0=DISABLED		1		
		Actual setup of open wire detection while ON for DO2:0=DISABLED		1		
		Actual setup of open wire detection while ON for DO3:0=DISABLED		1		
		Actual setup of open wire detection while ON for DO4:0=DISABLED		1		
		Actual setup of open wire detection while ON for DO5:0=DISABLED		1		
		Actual setup of open wire detection while ON for DO6:0=DISABLED		1		
		Actual setup of open wire detection while ON for DO7:0=DISABLED		1		
		Actual setup of open wire detection while ON for DO8:0=DISABLED		1		

		Actual setup of open wire detection while ON for DO9:0=DISABLED	1		
		Actual setup of open wire detection while ON for DO10:0=DISABLED	1		
		Actual setup of open wire detection while ON for DO11:0=DISABLED	1		
		Actual setup of open wire detection while ON for DO12:0=DISABLED	1		
		Actual setup of open wire detection while ON for DO13:0=DISABLED	1		
		Actual setup of open wire detection while ON for DO14:0=DISABLED	1		
		Actual setup of open wire detection while ON for DO15:0=DISABLED	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 13: =0:Open wire detection for DO14 is DISABLED, =1:Open wire detection for DO14 is ENABLED
Bit 14: =0:Open wire detection for DO15 is DISABLED, =1:Open wire detection for DO15 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-DO15	3x10005 4x10005 I:10004	0,0x0000 B:00 00		#BEZUG!	UINT16 R/W	NO
		Actual setup of open wire detection while OFF for DO1:0=DISABLED		1		
		Actual setup of open wire detection while OFF for DO2:0=DISABLED		1		
		Actual setup of open wire detection while OFF for DO3:0=DISABLED		1		
		Actual setup of open wire detection while OFF for DO4:0=DISABLED		1		
		Actual setup of open wire detection while OFF for DO5:0=DISABLED		1		
		Actual setup of open wire detection while OFF for DO6:0=DISABLED		1		
		Actual setup of open wire detection while OFF for DO7:0=DISABLED		1		
		Actual setup of open wire detection while OFF for DO8:0=DISABLED		1		
		Actual setup of open wire detection while OFF for DO9:0=DISABLED		1		
		Actual setup of open wire detection while OFF for DO10:0=DISABLED		1		

		Actual setup of open wire detection while OFF for DO11:0=DISABLED	1		
		Actual setup of open wire detection while OFF for DO12:0=DISABLED	1		
		Actual setup of open wire detection while OFF for DO13:0=DISABLED	1		
		Actual setup of open wire detection while OFF for DO14:0=DISABLED	1		
		Actual setup of open wire detection while OFF for DO15:0=DISABLED	1		
Actual setup state for open wire detection while OFF 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 13: =0:Open wire detection for DO14 is DISABLED, =1:Open wire detection for DO14 is ENABLED Bit 14: =0:Open wire detection for DO15 is DISABLED, =1:Open wire detection for DO15 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 DETECTION WHILE OFF DO1-DO15	3x10006 4x10006 I:10005	0,0x0000 B:00 00	#BEZUG!	UINT16 R/W	NO
		Actual setup of shortcut detection to VDD while OFF for DO1:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO2:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO3:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO4:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO5:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO6:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO7:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO8:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO9:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO10:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO11:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO12:0=DISABLED	1		

		Actual setup of shortcut detection to VDD while OFF for DO13:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO14:0=DISABLED	1		
		Actual setup of shortcut detection to VDD while OFF for DO15:0=DISABLED	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 13: =0:Shortcut to VDD detection for DO14 is DISABLED, =1:Shortcut to VDD detection for DO14 is ENABLED Bit 14: =0:Shortcut to VDD detection for DO15 is DISABLED, =1:Shortcut to VDD detection for DO15 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-DO15	3x10007 4x10007 I:10006	0,0x0000 B:00 00		UINT16 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 for DO12:0=OFF			
		Actual state of open wire detection while ON for DO13:0=OFF			
		Actual state of open wire detection while ON for DO14:0=OFF			

		Actual state of open wire detection while ON for DO15:0=OFF			
Actual diagnostic state for open wire detection while ON 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 13: =0:Output DO14 is OK, =1:Fault-Open wire detected on DO14 Bit 14: =0:Output DO15 is OK, =1:Fault-Open wire detected on DO15					
DIGITAL OUTPUTS:OPEN WIRE WHILE OFF DETECTION STATE					
OPEN WIRE DETECTION STATE WHILE OFF DO1-DO15	3x10008 4x10008 I:10007	0,0x0000 B:00 00		UINT16 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 DO9:0=OFF			
		Actual state of open wire detection while OFF for DO10:0=OFF			
		Actual state of open wire detection while OFF for DO11:0=OFF			
		Actual state of open wire detection while OFF for DO12:0=OFF			
		Actual state of open wire detection while OFF for DO13:0=OFF			
		Actual state of open wire detection while OFF for DO14:0=OFF			
		Actual state of open wire detection while OFF for DO15:0=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 13: =0:Output DO14 is OK, =1:Fault-Open wire detected on DO14 Bit 14: =0:Output DO15 is OK, =1:Fault-Open wire detected on DO15						
DIGITAL OUTPUTS:SHORTCUT TO VDD WHILE OFF DETECTION STATE						
SHORTCUT TO VDD WHILE OFF DETECTION STATE DO1-DO15	3x10009 4x10009 I:10008	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of shortcut to VDD detection while OFF for DO1:0=OFF				
		Actual state of shortcut to VDD detection while OFF for DO2:0=OFF				
		Actual state of shortcut to VDD detection while OFF 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 diagnostic state for shortcut to VDD detection while OFF for digital output DOx Bit 0: =0:Output DO1 is OK, =1:Fault-shortcut detected on DO1 Bit 1: =0:Output DO2 is OK, =1:Fault-shortcut detected on DO2 ... Bit 13: =0:Output DO14 is OK, =1:Fault-shortcut detected on DO14 Bit 14: =0:Output DO15 is OK, =1:Fault-shortcut detected on DO15						

DIGITAL OUTPUTS:THERMAL OVERLOAD DETECTION STATE						
THERMAL OVERLOAD DETECTION STATE DO1-DO15	3x10010 4x10010 I:10009	0,0x0000 B:00 00			UINT16 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 digital output DOx Bit 0: =0:Output DO1 is OK, =1:Fault-Thermal overload on DO1 Bit 1: =0:Output DO2 is OK, =1:Fault-Thermal overload on DO2 ... Bit 13: =0:Output DO14 is OK, =1:Fault-Thermal overload on DO14 Bit 14: =0:Output DO15 is OK, =1:Fault-Thermal overload on DO15						
DIGITAL OUTPUTS:CURRENT LIMIT DETECTION STATE						
CURRENT LIMIT DETECTION STATE DO1-DO15	3x10011 4x10011 I:10010	0,0x0000 B:00 00			UINT16 R/O	

		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 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 13: =0:Output DO14 is OK, =1:Fault-Current limit on DO14 Bit 14: =0:Output DO15 is OK, =1:Fault-Current limit on DO15					
DIGITAL OUTPUTS: GLOBAL ERRORS					
CHIP #1:DO1-DO8					
CHIP #2:DO9-DO15					
GLOBAL ERRORS FOR CHIP #1+#2	3x10012 4x10012 I:10011	0,0x0000 B:00 00		UINT16 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						
DIGITAL OUTPUTS: INTERRUPT STATUS						
CHIP #1:DO1-DO8						
CHIP #2:DO9-DO15						
INTERRUPT STATUS FOR CHIP#1+#2	3x10013 4x10013 I:10012	0,0x0000 B:00 00			UINT16 R/O	
		BIT 0:CHIP#1:Overload detected:0=OK				
		BIT 1:CHIP#1:Current limit detected:0=OK				
		BIT 2:CHIP#1:Open wire while OFF detected:0=OK				
		BIT 3:CHIP#1:Open wire while ON detected:0=OK				
		BIT 4:CHIP#1:Shortcut to VDD detected:0=OK				
		BIT 5:CHIP#1:Thermal shutdown:0=OK				
		BIT 6:CHIP#1:Supply error detected:0=OK				
		BIT 7:CHIP#1:Communication error detected:0=OK				
		BIT 8:CHIP#2:Overload detected:0=OK				
		BIT 9:CHIP#2:Current limit detected:0=OK				
		BIT 10:CHIP#2:Open wire while OFF detected:0=OK				
		BIT 11:CHIP#2:Open wire while ON detected:0=OK				
		BIT 12:CHIP#2:Shortcut to VDD detected:0=OK				
		BIT 13:CHIP#2:Thermal shutdown:0=OK				
		BIT 14:CHIP#2:Supply error detected:0=OK				
		BIT 15:CHIP#2: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						

SPI COMMUNICATION DIGITAL OUTPUTS	3x10014 4x10014 I:10013	0,0x0000 B:00 00			UINT16 R/O	
		Actual SPI communcation state of CHIP#1:0=OK				
		Actual SPI communcation state of CHIP#2:0=OK				
The current monitoring state of the SPI communication for the digital output group =0:No fault, =1:Fault Current SPI communication state of all digital output groups Bit x: =0:CHIP x has no fault, =1:CHIP x SPI Fault						
DIGITAL OUTPUTS: NUMBER OF CHIPSET						
NUMBER OF DIGITAL OUTPUT CHIPS	3x10099 4x10099 I:10098	4,0x0004 B:00 04			UINT16 R/O	
		Actual number of installed DO CHIPS:4				
The actual number of used output chips						
DIGITAL OUTPUTS: CHIPSET TYPE						
DIGITAL OUTPUTS CHIPSET TYPE	3x10100 4x10100 I:10099	1,0x0001 B:00 01			UINT16 R/O	
		Actual chipset for DOs:1=MAX14915				
The current chipset for the digital outputs: =0: NCV7608 =1: MAX14915						
STATUS OF DIGITAL OUTPUTS						
REAL STATUS OF ALL DOS DO1-DO15	3x10501 4x10501 I:10500	0,0x0000 B:00 00			UINT16 R/O	
		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				

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 13: =0:DO14 is OFF, =1:DO14 is ON Bit 14: =0:DO15 is OFF, =1:DO15 is ON Write on this register sets all digital outputs to a new state						
STATUS REAL DIGITAL INPUTS						
DI1	3x15001 4x15001 I:15000	0,0x0000 B:00 00			UINT16 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 thie line =0:DI is OFF, =1:DI is ON						
DI2	3x15002 4x15002 I:15001	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI2:0=OFF				
DI3	3x15003 4x15003 I:15002	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI3:0=OFF				
DI4	3x15004 4x15004 I:15003	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI4:0=OFF				
DI5	3x15005 4x15005 I:15004	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI5:0=OFF				
DI6	3x15006 4x15006 I:15005	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI6:0=OFF				
DI7	3x15007 4x15007 I:15006	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI7:0=OFF				
DI8	3x15008 4x15008 I:15007	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI8:0=OFF				
DI9	3x15009 4x15009 I:15008	0,0x0000 B:00 00			UINT16 R/O	

		Actual state of DI9:0=OFF				
DI10	3x15010 4x15010 I:15009	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI10:0=OFF				
DI11	3x15011 4x15011 I:15010	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI11:0=OFF				
DI12	3x15012 4x15012 I:15011	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI12:0=OFF				
DI13	3x15013 4x15013 I:15012	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI13:0=OFF				
DI14	3x15014 4x15014 I:15013	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI14:0=OFF				
DI15	3x15015 4x15015 I:15014	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI15:0=OFF				
DI16	3x15016 4x15016 I:15015	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of DI16:0=OFF				
STATUS DIGITAL INPUTS						
UNFILTERED DI1	3x15017 4x15017 I:15016	0,0x0000 B:00 00			UINT16 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 thie line =0:DI is OFF, =1:DI is ON						
UNFILTERED DI2	3x15018 4x15018 I:15017	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI2:0=OFF				
UNFILTERED DI3	3x15019 4x15019 I:15018	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI3:0=OFF				

UNFILTERED DI4	3x15020 4x15020 I:15019	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI4:0=OFF				
UNFILTERED DI5	3x15021 4x15021 I:15020	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI5:0=OFF				
UNFILTERED DI6	3x15022 4x15022 I:15021	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI6:0=OFF				
UNFILTERED DI7	3x15023 4x15023 I:15022	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI7:0=OFF				
UNFILTERED DI8	3x15024 4x15024 I:15023	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI8:0=OFF				
UNFILTERED DI9	3x15025 4x15025 I:15024	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI9:0=OFF				
UNFILTERED DI10	3x15026 4x15026 I:15025	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI10:0=OFF				
UNFILTERED DI11	3x15027 4x15027 I:15026	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI11:0=OFF				
UNFILTERED DI12	3x15028 4x15028 I:15027	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI12:0=OFF				
UNFILTERED DI13	3x15029 4x15029 I:15028	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI13:0=OFF				
UNFILTERED DI14	3x15030 4x15030 I:15029	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI14:0=OFF				

UNFILTERED DI15	3x15031 4x15031 I:15030	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI15:0=OFF				
UNFILTERED DI16	3x15032 4x15032 I:15031	0,0x0000 B:00 00			UINT16 R/O	
		Actual state of UNFILTERED DI16:0=OFF				
STATUS DIGITAL OUTPUTS						
DO1	3x16001 4x16001 I:16000	0,0x0000 B:00 00		1	UINT16 R/W	NO
		Actual state of DO1:0=OFF		ENTER NEW STATE (0 or 1)		
Current state of the digital output DOx =0:DO is OFF, =1:DO is ON Writing on this register changes the state of the digital output						
DO2	3x16002 4x16002 I:16001	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO2:0=OFF		ENTER NEW STATE (0 or 1)		
DO3	3x16003 4x16003 I:16002	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO3:0=OFF		ENTER NEW STATE (0 or 1)		
DO4	3x16004 4x16004 I:16003	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO4:0=OFF		ENTER NEW STATE (0 or 1)		
DO5	3x16005 4x16005 I:16004	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO5:0=OFF		ENTER NEW STATE (0 or 1)		
DO6	3x16006 4x16006 I:16005	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO6:0=OFF		ENTER NEW STATE (0 or 1)		
DO7	3x16007 4x16007 I:16006	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO7:0=OFF		ENTER NEW STATE (0 or 1)		
DO8	3x16008 4x16008 I:16007	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO8:0=OFF		ENTER NEW STATE (0 or 1)		

DO9	3x16009 4x16009 I:16008	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO9:0=OFF		ENTER NEW STATE (0 or 1)		
DO10	3x16010 4x16010 I:16009	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO10:0=OFF		ENTER NEW STATE (0 or 1)		
DO11	3x16011 4x16011 I:16010	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO11:0=OFF		ENTER NEW STATE (0 or 1)		
DO12	3x16012 4x16012 I:16011	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO12:0=OFF		ENTER NEW STATE (0 or 1)		
DO13	3x16013 4x16013 I:16012	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO13:0=OFF		ENTER NEW STATE (0 or 1)		
DO14	3x16014 4x16014 I:16013	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO14:0=OFF		ENTER NEW STATE (0 or 1)		
DO15	3x16015 4x16015 I:16014	0,0x0000 B:00 00		0	UINT16 R/W	NO
		Actual state of DO15:0=OFF		ENTER NEW STATE (0 or 1)		

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

PULSE TIME DO13	3x20013 4x20013 I:20012	0,0x0000 B:00 00	400	40,0	UINT16 R/W	NO
PULSE TIME DO14	3x20014 4x20014 I:20013	0,0x0000 B:00 00	500	50,0	UINT16 R/W	NO
PULSE TIME DO15	3x20015 4x20015 I:20014	0,0x0000 B:00 00	20	2,0	UINT16 R/W	NO
PULSE STATUS FOR DIGITAL OUTPUTS						
PULSE TIMER DO1	3x21001 4x21001 I:21000	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
Remaining time of the pulse on digital output x in Milliseconds.						
PULSE TIMER DO2	3x21003 4x21003 I:21002	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO3	3x21005 4x21005 I:21004	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO4	3x21007 4x21007 I:21006	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO5	3x21009 4x21009 I:21008	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO6	3x21011 4x21011 I:21010	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO7	3x21013 4x21013 I:21012	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO8	3x21015 4x21015 I:21014	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO9	3x21017 4x21017 I:21016	0,0x00000000 B:00 00 00 00			UINT32 R/O	

		0,0 seconds				
PULSE TIMER DO10	3x21019 4x21019 I:21018	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO11	3x21021 4x21021 I:21020	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO12	3x21023 4x21023 I:21022	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO13	3x21025 4x21025 I:21024	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO14	3x21027 4x21027 I:21026	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE TIMER DO15	3x21029 4x21029 I:21028	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,0 seconds				
PULSE STATUS FOR DIGITAL OUTPUTS						
PULSE TIMER DO1	3x21031 4x21031 I:21030	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
Remaining time of the pulse on digital output x in Milliseconds.						
PULSE TIMER DO2	3x21033 4x21033 I:21032	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO3	3x21035 4x21035 I:21034	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO4	3x21037 4x21037 I:21036	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				

PULSE TIMER DO5	3x21039 4x21039 I:21038	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO6	3x21041 4x21041 I:21040	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO7	3x21043 4x21043 I:21042	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO8	3x21045 4x21045 I:21044	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO9	3x21047 4x21047 I:21046	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO10	3x21049 4x21049 I:21048	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO11	3x21051 4x21051 I:21050	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO12	3x21053 4x21053 I:21052	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO13	3x21055 4x21055 I:21054	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO14	3x21057 4x21057 I:21056	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				
PULSE TIMER DO15	3x21059 4x21059 I:21058	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,0 seconds				

Register NAME Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
DIGITAL INPUTS						
STATUS DI1 A	3x05001 4x05001 I:5000	2115,0x0843 B:08 43			UINT16 R/O	
		DI:0,CC:3,REC:2,FEC:2				
Status for the digital input DIx Bit 0-4: Lower 5 bits of CHANGE COUNTER Bit 5-9: Lower 5 bits of RISING EDGE COUNTER Bit 10-14: Lower 5 bits of FALLING EDGE COUNTER Bit 15: Current Status of DIx =0: DIx si OFF, =1: DIx is ON						
STATUS DI1 B	3x05002 4x05002 I:5001	1057,0x0421 B:04 21			UINT16 R/O	
		DI:1,SKE:1,LKSE:1,LKEE:1				
Status for the digital input DIx Bit 0-4: Lower 5 bits of SHORT KEYPRESS EVENTS Bit 5-9: Lower 5 bits of LONG KEYPRESS START EVENTS Bit 10-14: Lower 5 bits of LONG KEYPRESS END EVENTS Bit 15: Current Status of DIx =0: DIx si OFF, =1: DIx is ON						
STATUS DI2 A	3x05003 4x05003 I:5002	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI2 B	3x05004 4x05004 I:5003	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI3 A	3x05005 4x05005 I:5004	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI3 B	3x05006 4x05006 I:5005	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI4 A	3x05007 4x05007 I:5006	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				

STATUS DI4 B	3x05008 4x05008 I:5007	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI5 A	3x05009 4x05009 I:5008	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI5 B	3x05010 4x05010 I:5009	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI6 A	3x05011 4x05011 I:5010	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI6 B	3x05012 4x05012 I:5011	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI7 A	3x05013 4x05013 I:5012	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI7 B	3x05014 4x05014 I:5013	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI8 A	3x05015 4x05015 I:5014	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI8 B	3x05016 4x05016 I:5015	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI9 A	3x05017 4x05017 I:5016	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI9 B	3x05018 4x05018 I:5017	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				

STATUS DI10 A	3x05019 4x05019 I:5018	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI10 B	3x05020 4x05020 I:5019	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI11 A	3x05021 4x05021 I:5020	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI11 B	3x05022 4x05022 I:5021	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI12 A	3x05023 4x05023 I:5022	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI12 B	3x05024 4x05024 I:5023	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI13 A	3x05025 4x05025 I:5024	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI13 B	3x05026 4x05026 I:5025	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI14 A	3x05027 4x05027 I:5026	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				
STATUS DI14 B	3x05028 4x05028 I:5027	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI15 A	3x05029 4x05029 I:5028	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,CC:0,REC:0,FEC:0				

STATUS DI15 B	3x05030 4x05030 I:5029	0,0x0000 B:00 00			UINT16 R/O	
		DI:0,SKE:0,LKSE:0,LKEE:0				
STATUS DI16 A	3x05031 4x05031 I:5030	7403,0x1CEB B:1C EB			UINT16 R/O	
		DI:1,CC:11,REC:7,FEC:7				
STATUS DI16 B	3x05032 4x05032 I:5031	4227,0x1083 B:10 83			UINT16 R/O	
		DI:0,SKE:3,LKSE:4,LKEE:4				
STATUS						
FILTER PATTERN DI1	3x05033 4x05033 I:5032	0,0x00000000 B:00 00 00 00			UINT32 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	3x05035 4x05035 I:5034	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI3	3x05037 4x05037 I:5036	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI4	3x05039 4x05039 I:5038	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI5	3x05041 4x05041 I:5040	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI6	3x05043 4x05043 I:5042	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI7	3x05045 4x05045 I:5044	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI8	3x05047 4x05047 I:5046	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI9	3x05049 4x05049 I:5048	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI10	3x05051 4x05051 I:5050	0,0x00000000 B:00 00 00 00			UINT32 R/O	

FILTER PATTERN DI11	3x05053 4x05053 I:5052	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI12	3x05055 4x05055 I:5054	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI13	3x05057 4x05057 I:5056	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI14	3x05059 4x05059 I:5058	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI15	3x05061 4x05061 I:5060	0,0x00000000 B:00 00 00 00			UINT32 R/O	
FILTER PATTERN DI16	3x05063 4x05063 I:5062	0,0x00000000 B:00 00 00 00			UINT32 R/O	
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI1						
RISE DI1	3x07001 4x07001 I:7000	2,0x0002 B:00 02			UINT16 R/O	
		2 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. 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.						
FALL DI1	3x07002 4x07002 I:7001	2,0x0002 B:00 02			UINT16 R/O	
		2 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. 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.						
CHANGE DI1	3x07003 4x07003 I:7002	3,0x0003 B:00 03			UINT16 R/O	
		3 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. 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. The following events are available: Detecion of a short keypress Detection of the start of a long keypress Detection of the end of a long keypress						
SHORT KEYPRESS DI1	3x07004 4x07004 I:7003	1,0x0001 B:00 01			UINT16 R/O	

		1 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. 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 START DI1	3x07005 4x07005 I:7004	1,0x0001 B:00 01			UINT16 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 4x07006 I:7005	1,0x0001 B:00 01			UINT16 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 4x07011 I:7010	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI2	3x07012 4x07012 I:7011	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI2	3x07013 4x07013 I:7012	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI2	3x07014 4x07014 I:7013	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI2	3x07015 4x07015 I:7014	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI2	3x07016 4x07016 I:7015	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI3						

RISE DI3	3x07021 4x07021 I:7020	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI3	3x07022 4x07022 I:7021	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI3	3x07023 4x07023 I:7022	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI3	3x07024 4x07024 I:7023	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI3	3x07025 4x07025 I:7024	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI3	3x07026 4x07026 I:7025	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI4						
RISE DI4	3x07031 4x07031 I:7030	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI4	3x07032 4x07032 I:7031	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI4	3x07033 4x07033 I:7032	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI4	3x07034 4x07034 I:7033	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI4	3x07035 4x07035 I:7034	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				

LONG KEYPRESS END DI4	3x07036 4x07036 I:7035	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI5						
RISE DI5	3x07041 4x07041 I:7040	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI5	3x07042 4x07042 I:7041	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI5	3x07043 4x07043 I:7042	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI5	3x07044 4x07044 I:7043	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI5	3x07045 4x07045 I:7044	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI5	3x07046 4x07046 I:7045	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI6						
RISE DI6	3x07051 4x07051 I:7050	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI6	3x07052 4x07052 I:7051	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI6	3x07053 4x07053 I:7052	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI6	3x07054 4x07054 I:7053	0,0x0000 B:00 00			UINT16 R/O	

		0 event(s)				
LONG KEYPRESS START DI6	3x07055 4x07055 I:7054	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI6	3x07056 4x07056 I:7055	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI7						
RISE DI7	3x07061 4x07061 I:7060	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI7	3x07062 4x07062 I:7061	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI7	3x07063 4x07063 I:7062	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI7	3x07064 4x07064 I:7063	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI7	3x07065 4x07065 I:7064	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI7	3x07066 4x07066 I:7065	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI8						
RISE DI8	3x07071 4x07071 I:7070	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI8	3x07072 4x07072 I:7071	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				

CHANGE DI8	3x07073 4x07073 I:7072	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI8	3x07074 4x07074 I:7073	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI8	3x07075 4x07075 I:7074	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI8	3x07076 4x07076 I:7075	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI9						
RISE DI9	3x07081 4x07081 I:7080	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI9	3x07082 4x07082 I:7081	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI9	3x07083 4x07083 I:7082	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI9	3x07084 4x07084 I:7083	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI9	3x07085 4x07085 I:7084	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI9	3x07086 4x07086 I:7085	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI10						
RISE DI10	3x07091 4x07091 I:7090	0,0x0000 B:00 00			UINT16 R/O	

		0 event(s)				
FALL DI10	3x07092 4x07092 I:7091	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI10	3x07093 4x07093 I:7092	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI10	3x07094 4x07094 I:7093	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI10	3x07095 4x07095 I:7094	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI10	3x07096 4x07096 I:7095	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI11						
RISE DI11	3x07101 4x07101 I:7100	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI11	3x07102 4x07102 I:7101	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI11	3x07103 4x07103 I:7102	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI11	3x07104 4x07104 I:7103	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI11	3x07105 4x07105 I:7104	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI11	3x07106 4x07106 I:7105	0,0x0000 B:00 00			UINT16 R/O	

		0 event(s)			
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI12					
RISE DI12	3x07111 4x07111 I:7110	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			
FALL DI12	3x07112 4x07112 I:7111	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			
CHANGE DI12	3x07113 4x07113 I:7112	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			
SHORT KEYPRESS DI12	3x07114 4x07114 I:7113	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			
LONG KEYPRESS START DI12	3x07115 4x07115 I:7114	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			
LONG KEYPRESS END DI12	3x07116 4x07116 I:7115	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI13					
RISE DI13	3x07121 4x07121 I:7120	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			
FALL DI13	3x07122 4x07122 I:7121	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			
CHANGE DI13	3x07123 4x07123 I:7122	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			
SHORT KEYPRESS DI13	3x07124 4x07124 I:7123	0,0x0000 B:00 00		UINT16 R/O	
		0 event(s)			

LONG KEYPRESS START DI13	3x07125 4x07125 I:7124	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI13	3x07126 4x07126 I:7125	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI14						
RISE DI14	3x07131 4x07131 I:7130	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI14	3x07132 4x07132 I:7131	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI14	3x07133 4x07133 I:7132	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
SHORT KEYPRESS DI14	3x07134 4x07134 I:7133	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI14	3x07135 4x07135 I:7134	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI14	3x07136 4x07136 I:7135	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI15						
RISE DI15	3x07141 4x07141 I:7140	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
FALL DI15	3x07142 4x07142 I:7141	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
CHANGE DI15	3x07143 4x07143 I:7142	0,0x0000 B:00 00			UINT16 R/O	

		0 event(s)				
SHORT KEYPRESS DI15	3x07144 4x07144 I:7143	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS START DI15	3x07145 4x07145 I:7144	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
LONG KEYPRESS END DI15	3x07146 4x07146 I:7145	0,0x0000 B:00 00			UINT16 R/O	
		0 event(s)				
DIGITAL INPUTS: STATUS FOR DIGITAL INPUT DI16						
RISE DI16	3x07151 4x07151 I:7150	7,0x0007 B:00 07			UINT16 R/O	
		7 event(s)				
FALL DI16	3x07152 4x07152 I:7151	7,0x0007 B:00 07			UINT16 R/O	
		7 event(s)				
CHANGE DI16	3x07153 4x07153 I:7152	11,0x000B B:00 0B			UINT16 R/O	
		11 event(s)				
SHORT KEYPRESS DI16	3x07154 4x07154 I:7153	3,0x0003 B:00 03			UINT16 R/O	
		3 event(s)				
LONG KEYPRESS START DI16	3x07155 4x07155 I:7154	4,0x0004 B:00 04			UINT16 R/O	
		4 event(s)				
LONG KEYPRESS END DI16	3x07156 4x07156 I:7155	4,0x0004 B:00 04			UINT16 R/O	
		4 event(s)				

Register NAME Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
INITIAL & WATCHDOG STATUS FOR ALL DIGITAL OUTPUTS						
FRAM INTIAL & WATCHDOG STATUS OF DO1-DO15	3x59001 4x59001 I:59000	0,0x0000 B:00 00		#BEZUG!	UINT16 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		
Current FRAM setting of initial and watchdog state of all digital outputs. This state is used after power on and after a communcation watchdog timeout, if a watchdog time is confgured Bit 0: =0:DO1 is OFF, =1:DO1 is ON Bit 1: =0:DO2 is OFF, =1:DO2 is ON ... Bit 13: =0:DO14 is OFF, =1:DO14 is ON Bit 14: =0:DO15 is OFF, =1:DO15 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						
INTIAL & WATCHDOG SETUP ENABLE OPEN WIRE DETECTION WHILE ON DO1-DO15	3x59002 4x59002 I:59001	0,0x0000 B:00 00		#BEZUG!	UINT16 R/W	NO
		Initial setup of open wire detection while ON for DO1:0=DISABLED		1		
		Initial setup of open wire detection while ON for DO2:0=DISABLED		1		
		Initial setup of open wire detection while ON for DO3:0=DISABLED		1		
		Initial setup of open wire detection while ON for DO4:0=DISABLED		1		

		Initial setup of open wire detection while ON for DO5:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO6:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO7:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO8:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO9:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO10:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO11:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO12:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO13:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO14:0=DISABLED	1		
		Initial setup of open wire detection while ON for DO15:0=DISABLED	1		
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 confgured 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 13: =0:Open wire detection for DO14 is DISABLED, =1:Open wire detection for DO14 is ENABLED Bit 14: =0:Open wire detection for DO15 is DISABLED, =1:Open wire detection for DO15 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					
INTIAL & WATCHDOG SETUP ENABLE OPEN WIRE DETECTION WHILE OFF DO1-DO15	3x59003 4x59003 I:59002	0,0x0000 B:00 00	#BEZUG!	UINT16 R/W	NO
		Initial setup of open wire detection while OFF for DO1:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO2:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO3:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO4:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO5:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO6:0=DISABLED	1		

		Initial setup of open wire detection while OFF for DO7:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO8:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO9:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO10:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO11:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO12:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO13:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO14:0=DISABLED	1		
		Initial setup of open wire detection while OFF for DO15:0=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 confgured 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 13: =0:Open wire detection for DO14 is DISABLED, =1:Open wire detection for DO14 is ENABLED Bit 14: =0:Open wire detection for DO15 is DISABLED, =1:Open wire detection for DO15 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					
INTIAL & WATCHDOG SETUP ENABLE SHORTCUT TO VDD DETECTION WHILE OFF DO1-DO15	3x59004 4x59004 I:59003	0,0x0000 B:00 00	#BEZUG!	UINT16 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		

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 confgured
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 13: =0:Shortcut detection for DO14 is DISABLED, =1:Shortcut detection for DO14 is ENABLED
Bit 14: =0:Shortcut detection for DO15 is DISABLED, =1:Shortcut detection for DO15 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 Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
ASCII COMMANDS						
AIOIX CONFIGURATION						
SET IO TYPES	ASCII WRITE COMMAND	#SIOTYPS:<IOTyp1>,<IOTyp2>,<IOTyp3>,<IOTyp4><CR> Result: #OK<CR>			ASCII	YES
	IOTyp1	VO[0-10V]				
	IOTyp2	VO[0-10V]				
	IOTyp3	VO[0-10V]				
	IOTyp4	VO[0-10V]				
	TX	#1,SIOTYPS:VO[0-10V],VO[0-10V],VO[0-10V],VO[0-10V]<CR>				
	RX	#1,OK<CR>				
This command defines for all 4 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 WRITE COMMAND	#SIOTYP<IONR>:<IOTypx><CR> Result: #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 READ COMMAND	#GIOTYPS<CR> Result: #GIOTYPS:<IOTyp1Txt>,<IOTyp2Txt>,...,<IOTyp4Txt><CR>	ASCII	
	TX	#1,GIOTYPS<CR>		
	RX	#1,GIOTYPS: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]		

This command shows for all 4 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 READ COMMAND	#GIOTYP<IONR><CR> Result: #GIOTYP<IONR>:<IOTypxTxt><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 IN VOLT	ASCII READ COMMAND	#GVISV<CR> Result: #GVISV:<IOVolt1Dbl>,<IOVolt2Dbl>,...,<IOVolt4Dbl><CR>	ASCII	
	TX	#1,GVISV<CR>		
	RX	#1,GVISV: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		

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 IN VOLT	ASCII READ COMMAND	#GVIV<IONR><CR> Result: #GVIV<IONR>:<IOxVoltDbl><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 IN PERCENT	ASCII READ COMMAND	#GVISP<CR> Result: #GVISP:<IOPercent1Dbl>,<IOPercent2Dbl>,...,<IOPercent4Dbl><CR>	ASCII	
	TX	#1,GVISP<CR>		
	RX	#1,GVISP: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%		
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 IN PERCENT	ASCII READ COMMAND	#GVIP<IONR><CR> Result: #GVIP<IONR>:<IOxPercentDbl><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 READ COMMAND	#GVDIS<CR> Result: #GVDIS:<IODI1Dec>,<IODI2Decl>,...,<IODI4Dec><CR>	ASCII	
	TX	#1,GVDIS<CR>		
	RX	#1,GVDIS: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		
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 READ COMMAND	#GVDI<IONR><CR> Result: #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. 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 INPUTS CURRENT	ASCII READ COMMAND	#GVDISC<CR> Result: #GVDISC:<IOmA1Dbl>,<IOmA2Dbl>,...,<IOmA4Dbl><CR>	ASCII	
	TX	#1,GVDISC<CR>		
	RX	#1,GVDISC: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		

This command shows for all VOLTAGE DIGITAL INPUT 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 DIGITAL INPUT CURRENT	ASCII READ COMMAND	#GVDIC<IONR><CR> Result: #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. 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.				
VOLTAGE OUTPUTS				
SET VOLTAGE OUTPUTS IN VOLT	ASCII WRITE COMMAND	#SVOSV:<IO1VoltDbl>,<IO2VoltDbl>,<IO3VoltDbl>,<IO4VoltDbl><CR> Result: #OK<CR>	ASCII	YES
	IO1Volt	10,000		
	IO2Volt	7,500		
	IO3Volt	5,500		
	IO4Volt	2,500		
	TX	#1,SVOSV: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 IN VOLT	ASCII WRITE COMMAND	#SVOV<IONR>:<IOxVoltDbl><CR> Result: #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 IN PERCENT	ASCII WRITE COMMAND	#SVOSP:<IO1PercentDbl>,<IO2PercentDbl>,<IO3PercentDbl>,<IO4PercentDbl><CR> Result: #OK<CR>	ASCII	NO
	IO1Percent	110,000		
	IO2Percent	100,000		
	IO3Percent	75,000		
	IO4Percent	50,000		
	TX	#1,SVOSP: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 IN PERCENT	ASCII WRITE COMMAND	#SVOP<IONR>:<IOxPercentDbl><CR> Result: #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 IN VOLT	ASCII READ COMMAND	#GVOSV<CR> Result: #GVOSV:<IO1VoltDbl>,<IO2VoltDbl>,...,<IO4VoltDbl><CR>	ASCII	
	TX	#1,GVOSV<CR>		
	RX	#1,GVOSV: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		
This command shows for all VOLTAGE OUTPUT IOs the current output voltage in Volt. The range is 0.0V to 11.00V. All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.				
GET VOLTAGE OUTPUT IN VOLT	ASCII READ COMMAND	#GVOV<IONR><CR> Result: #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. The range is 0.0V to 11.00V. All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.				
GET VOLTAGE OUTPUTS IN PERCENT	ASCII READ COMMAND	#GVOSP<CR> Result: #GVOSP:<IO1PercentDbl>,<IO2PercentDbl>,...,<IO4PercentDbl><CR>	ASCII	
	TX	#1,GVOSP<CR>		
	RX	#1,GVOSP: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%		
This command shows for all VOLTAGE OUTPUT IOs the current output voltage in Percent. The range is 0.0V -> 0.00% to 11.00V -> 110.00% (10.00V -> 100.00%). All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.				
GET VOLTAGE OUTPUT IN PERCENT	ASCII READ COMMAND	#GVOP<IONR><CR> Result: #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. The range is 0.0V -> 0.00% to 11.00V -> 110.00% (10.00V -> 100.00%). All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.				
GET VOLTAGE OUTPUTS CURRENT	ASCII READ COMMAND	#GVOSC<CR> Result: #GVOSC:<IOmA1Dbl>,<IOmA2Dbl>,...,<IOmA4Dbl><CR>	ASCII	
	TX	#1,GVOSC<CR>		
	RX	#1,GVOSC: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		
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 READ COMMAND	#GVOC<IONR><CR> Result: #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 IN mA	ASCII READ COMMAND	#GCISMA<CR> Result: #GCISMA:<IO1mADbl>,<IO2mADbl>,...,<IO4mADbl><CR>	ASCII	
	TX	#1,GCISMA<CR>		
	RX	#1,GCISMA: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		
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 IN mA	ASCII READ COMMAND	#GCIMA<IONR><CR> Result: #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 IN PERCENT	ASCII READ COMMAND	#GCISP<CR> Result: #GCISP:<IO1PercentDbl>,<IO2PercentDbl>,...,<IO4PercentDbl><CR>	ASCII	
	TX	#1,GCISP<CR>		
	RX	#1,GCISP: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%		
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 IN PERCENT	ASCII READ COMMAND	#GCIP<IONR><CR> Result: #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 IN mA	ASCII WRITE COMMAND	#SCOSMA:<IO1mADbl>,<IO2mADbl>,<IO3mADbl>,<IO4mADbl><CR> Result: #OK<CR>	ASCII	NO
	IO1mA	2,000		
	IO2mA	4,000		
	IO3mA	6,000		
	IO4mA	25,000		
	TX	#1,SCOSMA:2,4,6,25<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 IN mA	ASCII WRITE COMMAND	#SCOMA<IONR>:<IOxmADbl><CR> Result: #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. The range is 0.00mA to 25.00mA				
SET CURRENT OUTPUTS IN PERCENT	ASCII WRITE COMMAND	#SCOSP:<IO1PercentDbl>,<IO2PercentDbl>,<IO3PercentDbl>,<IO4PercentDbl><CR> Result: #OK<CR>	ASCII	NO
	IO1Percent	125,000		
	IO2Percent	100,000		
	IO3Percent	75,000		
	IO4Percent	50,000		
	TX	#1,SCOSP:125,100,75,50<CR>		
	RX	N/A		
This command sets for all CURRENT OUTPUT IOs the new output current in Percent. The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA -> 100.00%)				
SET CURRENT OUTPUTx IN PERCENT	ASCII WRITE COMMAND	#SCOP<IONR>:<IOxPercentDbl><CR> Result: #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. The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA -> 100.00%)				
GET CURRENT OUTPUTS IN mA	ASCII READ COMMAND	#GCOSMA<CR> Result: #GCOSMA:<IO1mADbl>,<IO2mADbl>,...,<IO4mADbl><CR>	ASCII	
	TX	#1,GCOSMA<CR>		
	RX	#1,GCOSMA: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		
This command shows for all CURRENT OUTPUT IOs the actual output current in mA. The range is 0.00mA to 25.00mA All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.				
GET CURRENT OUTPUT IN mA	ASCII READ COMMAND	#GCOMA<IONR><CR> Result: #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. The range is 0.00mA to 25.00mA All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.				

GET CURRENT OUTPUTS IN PERCENT	ASCII READ COMMAND	#GCOSP<CR> Result: #GCOSP:<IO1PercentDbl>,<IO2PercentDbl>,...,<IO4PercentDbl><CR>	ASCII	
	TX	#1,GCOSP<CR>		
	RX	#1,GCOSP: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%		
This command shows for all CURRENT OUTPUT IOs the actual output current in Percent. The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA -> 100.00%) All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.				
GET CURRENT OUTPUT IN PERCENT	ASCII READ COMMAND	#GCOP<IONR><CR> Result: #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. The range is 0.00mA -> 0.00% to 25.00mA -> 125.00% (20mA -> 100.00%) All IOs with a different usage type will return 999.99 to indicate, that no measurement is done.				
GET CURRENT OUTPUTS VOLTAGE	ASCII READ COMMAND	#GCOSV<CR> Result: #GCOSV:<IO1VoltsDbl>,<IO2VoltsDbl>,...,<IO4VoltsDbl><CR>	ASCII	
	TX	#1,GCOSV<CR>		
	RX	#1,GCOSV: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		
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 READ COMMAND	#GCOV<IONR><CR> Result: #GCOV<IONR>:<IOxVoltDbl><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 READ COMMAND	#GRTDISOHM<CR> Result: #GRTDISOHM:<IO1OhmDbl>,<IO2OhmDbl>,...,<IO4OhmDbl><CR>	ASCII	
	TX	#1,GRTDISOHM<CR>		
	RX	#1,GRTDISOHM: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		
This command shows for RTD INPUT IOs 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 RTD INPUT IN OHM	ASCII READ COMMAND	#GRTDIOHM<IONR><CR> Result: #GRTDIOHM<IONR>:<IOxOhmDbl><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 IN OHM	ASCII READ COMMAND	#GAVGRTDISOHM<CR> Result: #GAVGRTDISOHM:<IO1OhmDbl>,<IO2OhmDbl>,...,<IO4OhmDbl><CR>	ASCII	
	TX	#1,GAVGRTDISOHM<CR>		
	RX	#1,GAVGRTDISOHM: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		
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 IN OHM	ASCII READ COMMAND	#GAVGRTDIOHM<IONR><CR> Result: #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 AS PT100 CELSIUS	ASCII READ COMMAND	#GRTDISPT100C<CR> Result: #GRTDISPT100C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GRTDISPT100C<CR>		
	RX	#1,GRTDISPT100C: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		
This command shows for RTD INPUT IOs the actual measured RTD value linearized as PT100 sensor in °Celisus. -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 AS PT100 CELSIUS	ASCII READ COMMAND	#GRTDIPT100C<IONR><CR> Result: #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 °Celisus -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 AS PT100 CELSIUS	ASCII READ COMMAND	#GAVGRTDISPT100C<CR> Result: #GAVGRTDISPT100C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GAVGRTDISPT100C<CR>		
	RX	#1,GAVGRTDISPT100C: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		
This command shows for RTD INPUT IOs the average measured RTD value linearized as PT100 sensor in °Celisus. -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 AS PT100 CELSIUS	ASCII READ COMMAND	#GAVGRTDIPT100C<IONR><CR> Result: #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 °Celisus -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 AS PT1000 CELSIUS	ASCII READ COMMAND	#GRTDISPT1000C<CR> Result: #GRTDISPT1000C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GRTDISPT1000C<CR>		
	RX	#1,GRTDISPT1000C: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		
This command shows for RTD INPUT IOs the actual measured RTD value linearized as PT1000 sensor in °Celisus. -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 AS PT1000 CELSIUS	ASCII READ COMMAND	#GRTDIPT1000C<IONR><CR> Result: #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 °Celisus -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 AS PT1000 CELSIUS	ASCII READ COMMAND	#GAVGRTDISPT1000C<CR> Result: #GAVGRTDISPT1000C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GAVGRTDISPT1000C<CR>		
	RX	#1,GAVGRTDISPT1000C: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		
This command shows for RTD INPUT IOs the average measured RTD value linearized as PT1000 sensor in °Celisus. -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 AS PT1000 CELSIUS	ASCII READ COMMAND	#GAVGRTDIPT1000C<IONR><CR> Result: #GAVGRTDIPT1000C<IONR>:<IOxDbl><CR>	ASCII	
	IONR	1		
	TX	#1,GAVGRTDIPT1000C1<CR>		
	RX	#1,GAVGRTDIPT1000C1:9999.990<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 °Celisus -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 NI1000-DIN43760 CELSIUS				
GET RTD INPUTS AS NI1000 DIN43760 CELSIUS	ASCII READ COMMAND	#GRTDISNI1000DIN43760C<CR> Result: #GRTDISNI1000DIN43760C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GRTDISNI1000DIN43760C<CR>		
	RX	#1,GRTDISNI1000DIN43760C: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		
This command shows for RTD INPUT IOs the actual measured RTD value linearized as NI1000 DIN43760 sensor in °Celisus. -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 AS NI1000 DIN43760 CELSIUS	ASCII READ COMMAND	#GRTDINI1000DIN43760C<IONR><CR> Result: #GRTDINI1000DIN43760C<IONR>:<IOxDbl><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 °Celisus -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 AS NI1000 DIN43760 CELSIUS	ASCII READ COMMAND	#GAVGRTDISNI1000DIN43760C<CR> Result: #GAVGRTDISNI1000DIN43760C:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GAVGRTDISNI1000DIN43760C<CR>		
	RX	#1,GAVGRTDISNI1000DIN43760C: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		
This command shows for RTD INPUT IOs the average measured RTD value linearized as NI1000 DIN43760 sensor in °Celisus. -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 AS NI1000 DIN43760 CELSIUS	ASCII READ COMMAND	#GAVGRTDINI1000DIN43760C<IONR><CR> Result: #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 °Celisus -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 AS PT100 KELVIN	ASCII READ COMMAND	#GRTDISPT100K<CR> Result: #GRTDISPT100K:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GRTDISPT100K<CR>		
	RX	#1,GRTDISPT100K: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		
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 AS PT100 KELVIN	ASCII READ COMMAND	#GRTDIPT100K<IONR><CR> Result: #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 AS PT100 KELVIN	ASCII READ COMMAND	#GAVGRTDISPT100K<CR> Result: #GAVGRTDISPT100K:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GAVGRTDISPT100K<CR>		

	RX	#1,GAVGRTDISPT100K: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		
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 AS PT100 KELVIN	ASCII READ COMMAND	#GAVGRTDIPT100K<IONR><CR> Result: #GAVGRTDIPT100K<IONR>:<IOxDbl><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 AS PT1000 KELVIN	ASCII READ COMMAND	#GRTDISPT1000K<CR> Result: #GRTDISPT1000K:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GRTDISPT1000K<CR>		
	RX	#1,GRTDISPT1000K: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		
This command shows for RTD INPUT IOs the actual measured RTD value linearized as PT1000 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 AS PT1000 KELVIN	ASCII READ COMMAND	#GRTDIPT1000K<IONR><CR> Result: #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		
This command shows for RTD INPUT IO <IONR> the actual measured RTD value linearized as PT1000 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 AS PT1000 KELVIN	ASCII READ COMMAND	#GAVGRTDISPT1000K<CR> Result: #GAVGRTDISPT1000K:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GAVGRTDISPT1000K<CR>		
	RX	#1,GAVGRTDISPT1000K: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		
This command shows for RTD INPUT IOs the average measured RTD value linearized as PT1000 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 AS PT1000 KELVIN	ASCII READ COMMAND	#GAVGRTDIPT1000K<IONR><CR> Result: #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		
This command shows for RTD INPUT IO <IONR> the average measured RTD value linearized as PT1000 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 NI1000-DIN43760 KELVIN				
GET RTD INPUTS AS NI1000 DIN43760 KELVIN	ASCII READ COMMAND	#GRTDISNI1000DIN43760K<CR> Result: #GRTDISNI1000DIN43760K:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GRTDISNI1000DIN43760K<CR>		
	RX	#1,GRTDISNI1000DIN43760K: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		
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 AS NI1000 DIN43760 KELVIN	ASCII READ COMMAND	#GRTDINI1000DIN43760K<IONR><CR> Result: #GRTDINI1000DIN43760K<IONR>:<IOxDbl><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 AS NI1000 DIN43760 KELVIN	ASCII READ COMMAND	#GAVGRTDISNI1000DIN43760K<CR> Result: #GAVGRTDISNI1000DIN43760K:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GAVGRTDISNI1000DIN43760K<CR>		
	RX	#1,GAVGRTDISNI1000DIN43760K: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		
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 AS NI1000 DIN43760 KELVIN	ASCII READ COMMAND	#GAVGRTDINI1000DIN43760K<IONR><CR> Result: #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 -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 PT100 FAHRENHEIT				
GET RTD INPUTS AS PT100 FAHRENHEIT	ASCII READ COMMAND	#GRTDISPT100F<CR> Result: #GRTDISPT100F:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GRTDISPT100F<CR>		
	RX	#1,GRTDISPT100F: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		
This command shows for RTD INPUT IOs the actual 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 RTD INPUT AS PT100 FAHRENHEIT	ASCII READ COMMAND	#GRTDIPT100F<IONR><CR> Result: #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 -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 AVERAGE RTD INPUTS AS PT100 FAHRENHEIT	ASCII READ COMMAND	#GAVGRTDISPT100F<CR> Result: #GAVGRTDISPT100F:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GAVGRTDISPT100F<CR>		
	RX	#1,GAVGRTDISPT100F: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		
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 AS PT100 FAHRENHEIT	ASCII READ COMMAND	#GAVGRTDIPT100F<IONR><CR> Result: #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 AS PT1000 FAHRENHEIT	ASCII READ COMMAND	#GRTDISPT1000F<CR> Result: #GRTDISPT1000F:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GRTDISPT1000F<CR>		
	RX	#1,GRTDISPT1000F: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		
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 AS PT1000 FAHRENHEIT	ASCII READ COMMAND	#GRTDIPT1000F<IONR><CR> Result: #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 -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 AVERAGE RTD INPUTS AS PT1000 FAHRENHEIT	ASCII READ COMMAND	#GAVGRTDISPT1000F<CR> Result: #GAVGRTDISPT1000F:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GAVGRTDISPT1000F<CR>		
	RX	#1,GAVGRTDISPT1000F: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		
This command shows for RTD INPUT IOs the average 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 AVG RTD INPUT AS PT1000 FAHRENHEIT	ASCII READ COMMAND	#GAVGRTDIPT1000F<IONR><CR> Result: #GAVGRTDIPT1000F<IONR>:<IOxDbl><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 -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 NI1000-DIN43760 FAHRENHEIT				
GET RTD INPUTS AS NI1000 DIN43760 FAHRENHEIT	ASCII READ COMMAND	#GRTDISNI1000DIN43760F<CR> Result: #GRTDISNI1000DIN43760F:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GRTDISNI1000DIN43760F<CR>		

	RX	#1,GRTDISNI1000DIN43760F: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		
This command shows for RTD INPUT IOs the actual measured RTD value linearized as NI1000 DIN43760 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 AS NI1000 DIN43760 FARENEHEIT	ASCII READ COMMAND	#GRTDINI1000DIN43760F<IONR><CR> Result: #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 -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 AVERAGE RTD INPUTS AS NI1000 DIN43760 FARENEHEIT	ASCII READ COMMAND	#GAVGRTDISNI1000DIN43760F<CR> Result: #GAVGRTDISNI1000DIN43760F:<RTD1Dbl>,<RTD2Dbl>,...,<RTD4Dbl><CR>	ASCII	
	TX	#1,GAVGRTDISNI1000DIN43760F<CR>		
	RX	#1,GAVGRTDISNI1000DIN43760F: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		
This command shows for RTD INPUT IOs the average measured RTD value linearized as NI1000 DIN43760 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 AS NI1000 DIN43760 FARENEHEIT	ASCII READ COMMAND	#GAVGRTDINI1000DIN43760F<IONR><CR> Result: #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 -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.				

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

GET SPI ERROR	ASCII READ COMMAND	#GSPIERR<CHIPNR><CR> Result: #GSPIERR<CHIPNR>:<SPIxErrDec>,<SPIxErrHex><CR>	ASCII	
	CHIPNR	1		
	TX	#1,GSPIERR1<CR>		
	RX	#1,GSPIERR1:0,0x0<CR>		
		Actual SPI errors of CHIP1:0		
This command shows the acutal SPI errors since power up for chip <CHIPNR>				
GET CHIP STATEMACHINES	ASCII READ COMMAND	#GCHIPSMS<CR> Result: #GCHIPSMS:<Chip1StateMachine><CR>	ASCII	
	TX	#1,GCHIPSMS<CR>		
	RX	#1,GCHIPSMS:12090<CR>		
		Actual state of CHIP1:12090		
This command shows the acutal state of the internal communication state machine for all chips				
GET CHIP STATEMACHINE	ASCII READ COMMAND	#GCHIPSM<CHIPNR><CR> Result: #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 acutal state of the internal communication state machine for chip <CHIPNR>				
RESET CHIP STATEMACHINE	ASCII WRITE COMMAND	#RCHIPSM<CHIPNR><CR> Result: #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				
CHIP STATUS				
GET ALL LIVE STATES	ASCII READ COMMAND	#GALSTATES<CR> Result: #GALSTATE:<Chip1LiveStateDec>,<Chip1LiveStateHex><CR>	ASCII	
	TX	#1,GALSTATES<CR>		
	RX	#1,GALSTATES:27648,0x6C00<CR>		
		Actual live state of CHIP1:27648,0x6C00		

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 READ COMMAND	#GLSTATE<CHIPNR><CR> Result: #GLSTATE<CHIPNR>:<ChipxLiveStateDec>,<ChipxLiveStateHex><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 READ COMMAND	#GAASTATES<CR> Result: #GAASTATES:<Chip1AlertStateDec>,<Chip1AlertStateHex><CR>	ASCII	
	TX	#1,GAASTATES<CR>		
	RX	#1,GAASTATES:33792,0x8400<CR>		
		Actual alert state of CHIP1:33792,0x8400		

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 READ COMMAND	#GASTATE<CHIPNR><CR> Result: #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 WRITE COMMAND	#CALERTS<CHIPNR>:<AlertState><CR> Result: #OK<CR>		ASCII	YES
	CHIPNR	1			
	Bit 0	1:RESET FLAG	0:VI_ERR_A		
	Bit 1	1:RESET FLAG	1:VI_ERR_B		
	Bit 2	1:RESET FLAG	2:VI_ERR_C		
	Bit 3	1:RESET FLAG	3:VI_ERR_D		
	Bit 4	1:RESET FLAG	4:HI_TEMP_ERR		
	Bit 5	1:RESET FLAG	5:CHARGE_PUMP_ERR		
	Bit 6	1:RESET FLAG	6:ALDO5V_ERR		
	Bit 7	1:RESET FLAG	7:AVDD_ERR		
	Bit 8	1:RESET FLAG	8:DVCC_ERR		
	Bit 9	1:RESET FLAG	9:ALDO1V8_ERR		
	Bit 10	1:RESET FLAG	10:ADC_CONV_ERR		
	Bit 11	1:RESET FLAG	11:ADC_SAT_ERR		
	Bit 12	1:RESET FLAG	12:SPI_SCLK_ERR		
	Bit 13	1:RESET FLAG	13:SPI_CRC_ERR		
	Bit 14	1:RESET FLAG	14:CAL_MEM_ERR		
	Bit 15	1:RESET FLAG	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 READ COMMAND	#GCHIPTEMPS<CR> Result: #GCHIPTEMPS:<Chip1TempDbl><CR>		ASCII	
	TX	#1,GCHIPTEMPS<CR>			
	RX	#1,GCHIPTEMPS:46.37<CR>			
		Actual temperature of CHIP1:46.37°C			
This command returns for every AIOX chip the actual chip temperature in °C					
GET CHIP TEMPERATURE	ASCII READ COMMAND	#GCHIPTEMP<CHIPNR><CR> Result: #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 READ COMMAND	#GAVGCHIPTEMPS<CR> Result: #GAVGCHIPTEMPS:<Chip1AvgTempDbl><CR>		ASCII	

	TX	#1,GAVGCHIPTEMPS<CR>		
	RX	#1,GAVGCHIPTEMPS:46.36<CR>		
		Average temperature of CHIP1:46.36°C		
This command returns for every AIOX chip the average chip temperature in °C				
GET AVERAGE CHIP TEMPERATURE	ASCII READ COMMAND	#GAVGCHIPTEMP<CHIPNR><CR> Result: #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 READ COMMAND	#GVAVDDS<CR> Result: #GVAVDDS:<Chip1VAVDDDbl><CR>	ASCII	
	TX	#1,GVAVDDS<CR>		
	RX	#1,GVAVDDS:14.61<CR>		
		Actual supply voltage of CHIP1:14.61V		
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 READ COMMAND	#GVAVDD<CHIPNR><CR> Result: #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 READ COMMAND	#GAVGVAVDDS<CR> Result: #GAVGVAVDDS:<Chip1AvgVAVDDDbl><CR>	ASCII	
	TX	#1,GAVGVAVDDS<CR>		
	RX	#1,GAVGVAVDDS:14.61<CR>		
		Average supply voltage of CHIP1:14.61V		
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 READ COMMAND	#GAVGVAVDD<CHIPNR><CR> Result: #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 READ COMMAND	#GVAGNDS<CR> Result: #GVAGNDS:<Chip1VAGNDDbl><CR>	ASCII	
	TX	#1,GVAGNDS<CR>		
	RX	#1,GVAGNDS:0.00<CR>		
		Actual ground voltage of CHIP1:0.00V		
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 READ COMMAND	#GVAGND<CHIPNR><CR> Result: #GVAGND<CHIPNR>:<ChipxVAGNDDbl><CR>	ASCII	
	CHIPNR	1		
	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 GROUND VOLTAGES	ASCII READ COMMAND	#GAVGVAGNDS<CR> Result: #GAVGVAGNDS:<Chip1AvgVAGNDDbl><CR>	ASCII	
	TX	#1,GAVGVAGNDS<CR>		
	RX	#1,GAVGVAGNDS:0.00<CR>		
		Average ground voltage of CHIP1:0.00V		
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 GROUND VOLTAGE	ASCII READ COMMAND	#GAVGVAGND<CHIPNR><CR> Result: #GAVGVAGND<CHIPNR>:<ChipxAvgVAVGNDDbl><CR>	ASCII	
	CHIPNR	1		
	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 Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
ASCII COMMANDS						
SET CONFIG OUTPUT VALUES	ASCII WRITE COMMAND	#SCFGOVS:<IO1CfgValDbl>,<IO2CfgValDbl>,<IO3CfgValDbl>,<IO4CfgValDbl><CR> Result: #OK<CR>			ASCII	YES
	IO1Value	,000				
	IO2Value	,000				
	IO3Value	,000				
	IO4Value	,000				
	TX	#1,SCFGOVS: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. For voltage outputs the range is 0 to 11,0V. For current outputs the range is 0 to 25mA.						
SET CONFIG OUTPUT VALUEx	ASCII WRITE COMMAND	#SCFGOV<IONR>:<IOxCfgValueDbl><CR> Result: #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. For voltage outputs the range is 0 to 11,0V. For current outputs the range is 0 to 25mA.						
GET CONFIG OUTPUT VALUES	ASCII READ COMMAND	#GCFGOVS<CR> Result: #GCFGOVS:<IOVolt1Dbl>,<IOVolt2Dbl>,...,<IOVolt4Dbl><CR>			ASCII	
	TX	#1,GCFGOVS<CR>				
	RX	#1,GCFGOVS: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				
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 READ COMMAND	#GCFGOV<IONR><CR> Result: #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 WRITE COMMAND	#R16AIOXCPU<CR> Result: #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 Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
AIOX IO TYPES						
IO TYPE1	3x40001 4x40001 I:40000	0,0x0000 B:00 00		13:RTDI[OHM]	UINT16 R/W	YES
		Actual IO type of AIOx:0:UU		CHOOSE NEW IO TYPE FROM LIST		
Current configured IO type for AIOXx =0: UNUSED =1: VOLTAGE INPUT[0-10V] =2: VOLTAGE INPUT[2-10V] =3: VOLTAGE OUTPUT[0-10V] =4: VOLTAGE OUTPUT[2-10V] =5: CURRENT INPUT LOOP POWERED[0-20mA] =6: CURRENT INPUT LOOP POWERED[4-20mA] =7: CURRENT INPUT EXTERNAL POWERED[0-20mA] =8: CURRENT INPUT EXTERNAL POWERED[4-20mA] =9: CURRENT OUTPUT[0-20mA] =10: CURRENT OUTPUT[4-20mA] =11: DIGITAL INPUT LOGIC 24V= =12: DIGITAL INPUT LOOP POWERED =13: RESISTANCE MEASUREMENT HINT: The last IO type is automatically stored in FRAM and will be used after a system restart.						
IO TYPE2	3x40002 4x40002 I:40001	0,0x0000 B:00 00		12:DI[24V;LP]	UINT16 R/W	YES
		Actual IO type of AIOx:0:UU		CHOOSE NEW IO TYPE FROM LIST		
IO TYPE3	3x40003 4x40003 I:40002	0,0x0000 B:00 00		1:VI[0-10V]	UINT16 R/W	NO
		Actual IO type of AIOx:0:UU		CHOOSE NEW IO TYPE FROM LIST		
IO TYPE4	3x40004 4x40004 I:40003	0,0x0000 B:00 00		1:VI[0-10V]	UINT16 R/W	NO
		Actual IO type of AIOx:0:UU		CHOOSE NEW IO TYPE FROM LIST		
AIOX:VOLTAGE INPUTS						
VOLTAGE INPUT1 IN VOLTS	3x40005 4x40005 I:40004	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
Current value of voltage input in x*100V, range 0-10V =65535,0xFFFF: The channel is not configured as voltage input						

VOLTAGE INPUT2 IN VOLTS	3x40006 4x40006 I:40005	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
VOLTAGE INPUT3 IN VOLTS	3x40007 4x40007 I:40006	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
VOLTAGE INPUT4 IN VOLTS	3x40008 4x40008 I:40007	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
AIOX:VOLTAGE INPUTS						
VOLTAGE INPUT1 IN PERCENT	3x40009 4x40009 I:40008	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
Current value of voltage input in x*100%, range 0-100% =65535,0xFFFF: The channel is not configured as voltage input						
VOLTAGE INPUT3 IN PERCENT	3x40010 4x40010 I:40009	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
VOLTAGE INPUT3 IN PERCENT	3x40011 4x40011 I:40010	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
VOLTAGE INPUT4 IN PERCENT	3x40012 4x40012 I:40011	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
AIOX:VOLTAGE OUTPUTS						
VOLTAGE OUTPUT1 IN VOLTS	3x40013 4x40013 I:40012	65535,0xFFFF B:FF FF	1100	11	UINT16 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 =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 IN VOLTS	3x40014 4x40014 I:40013	65535,0xFFFF B:FF FF	1100	11	UINT16 R/W	NO
		Actual value of VOx:65535=N/V		ENTER NEW VALUE FOR VOx		

VOLTAGE OUTPUT3 IN VOLTS	3x40015 4x40015 I:40014	65535,0xFFFF B:FF FF	1100	11	UINT16 R/W	NO
		Actual value of VOx:65535=N/V		ENTER NEW VALUE FOR VOx		
VOLTAGE OUTPUT4 IN VOLTS	3x40016 4x40016 I:40015	65535,0xFFFF B:FF FF	1100	11	UINT16 R/W	NO
		Actual value of VOx:65535=N/V		ENTER NEW VALUE FOR VOx		
AIOX:VOLTAGE OUTPUTS						
VOLTAGE OUTPUT1 IN PERCENT	3x40017 4x40017 I:40016	65535,0xFFFF B:FF FF	11000	110	UINT16 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) =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 IN PERCENT	3x40018 4x40018 I:40017	65535,0xFFFF B:FF FF	5000	50	UINT16 R/W	NO
		Actual value of VOx:65535=N/V		ENTER NEW VALUE FOR VOx		
VOLTAGE OUTPUT3 IN PERCENT	3x40019 4x40019 I:40018	65535,0xFFFF B:FF FF	3000	30	UINT16 R/W	NO
		Actual value of VOx:65535=N/V		ENTER NEW VALUE FOR VOx		
VOLTAGE OUTPUT4 IN PERCENT	3x40020 4x40020 I:40019	65535,0xFFFF B:FF FF	7500	75	UINT16 R/W	NO
		Actual value of VOx:65535=N/V		ENTER NEW VALUE FOR VOx		
AIOX:VOLTAGE OUTPUTS						
VOLTAGE OUTPUT1 MEASURED CURRENT	3x40021 4x40021 I:40020	-32768,0x8000 B:80 00			SINT16 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 =-32768,0x8000: The channel is not configured as voltage output						
VOLTAGE OUTPUT2 MEASURED CURRENT	3x40022 4x40022 I:40021	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured output current of VOx:-32768=N/V				
VOLTAGE OUTPUT3 MEASURED CURRENT	3x40023 4x40023 I:40022	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured output current of VOx:-32768=N/V				

VOLTAGE OUTPUT4 MEASURED CURRENT	3x40024 4x40024 I:40023	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured output current of VOx:-32768=N/V				
AIOX:CURRENT INPUTS						
CURRENT INPUT1 IN MILLIAMPERE	3x40025 4x40025 I:40024	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of CIx:65535=N/V				
Current value of current input in x*100mA, range 0-25mA =65535,0xFFFF: The channel is not configured as current input						
CURRENT INPUT2 IN MILLIAMPERE	3x40026 4x40026 I:40025	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
CURRENT INPUT3 IN MILLIAMPERE	3x40027 4x40027 I:40026	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
CURRENT INPUT4 IN MILLIAMPERE	3x40028 4x40028 I:40027	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of VIx:65535=N/V				
AIOX:CURRENT INPUTS						
CURRENT INPUT1 IN PERCENT	3x40029 4x40029 I:40028	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of CIx:65535=N/V				
Current value of current input in x*100%, range 0-125% (100%=20mA) =65535,0xFFFF: The channel is not configured as current input						
CURRENT INPUT2 IN PERCENT	3x40030 4x40030 I:40029	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of CIx:65535=N/V				
CURRENT INPUT3 IN PERCENT	3x40031 4x40031 I:40030	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of CIx:65535=N/V				
CURRENT INPUT4 IN PERCENT	3x40032 4x40032 I:40031	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual value of CIx:65535=N/V				
AIOX:CURRENT OUTPUTS						

CURRENT OUTPUT1 IN MILIAMPERE	3x40033 4x40033 I:40032	65535,0xFFFF B:FF FF	500	5	UINT16 R/W	NO
		Actual value of COx:65535=N/V		ENTER NEW VALUE FOR COx		
Current value of current output in x*100mA, range 0-25mA =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 IN MILIAMPERE	3x40034 4x40034 I:40033	65535,0xFFFF B:FF FF	500	5	UINT16 R/W	NO
		Actual value of COx:65535=N/V		ENTER NEW VALUE FOR COx		
CURRENT OUTPUT3 IN MILIAMPERE	3x40035 4x40035 I:40034	65535,0xFFFF B:FF FF	500	5	UINT16 R/W	NO
		Actual value of COx:65535=N/V		ENTER NEW VALUE FOR COx		
CURRENT OUTPUT4 IN MILIAMPERE	3x40036 4x40036 I:40035	65535,0xFFFF B:FF FF	500	5	UINT16 R/W	NO
		Actual value of COx:65535=N/V		ENTER NEW VALUE FOR COx		
AIOX:CURRENT OUTPUTS						
CURRENT OUTPUT1 IN PERCENT	3x40037 4x40037 I:40036	65535,0xFFFF B:FF FF	5000	50	UINT16 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) =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 IN PERCENT	3x40038 4x40038 I:40037	65535,0xFFFF B:FF FF	5000	50	UINT16 R/W	NO
		Actual value of COx:65535=N/V		ENTER NEW VALUE FOR COx		
CURRENT OUTPUT3 IN PERCENT	3x40039 4x40039 I:40038	65535,0xFFFF B:FF FF	5000	50	UINT16 R/W	NO
		Actual value of COx:65535=N/V		ENTER NEW VALUE FOR COx		
CURRENT OUTPUT4 IN PERCENT	3x40040 4x40040 I:40039	65535,0xFFFF B:FF FF	5000	50	UINT16 R/W	NO
		Actual value of COx:65535=N/V		ENTER NEW VALUE FOR COx		
AIOX:CURRENT OUTPUTS						
CURRENT OUTPUT1 MEASURED VOLTS	3x40041 4x40041 I:40040	65535,0xFFFF B:FF FF			UINT16 R/O	

		Actual measured output voltage COx:65535=N/V				
Current measured output voltage for current output x*100V, range 0-10V =65535,0xFFFF: The channel is not configured as current output						
CURRENT OUTPUT2 MEASURED VOLTS	3x40042 4x40042 I:40041	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured output voltage COx:65535=N/V				
CURRENT OUTPUT3 MEASURED VOLTS	3x40043 4x40043 I:40042	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured output voltage COx:65535=N/V				
CURRENT OUTPUT4 MEASURED VOLTS	3x40044 4x40044 I:40043	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured output voltage COx:65535=N/V				
AIOX:DIGITAL INPUTS						
DIGITAL INPUT1	3x40045 4x40045 I:40044	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual state of digital input DIx:65535=N/V				
Current measured state of digital input DIx =0: Digital input is OFF or loop is closed =1: Digital input is ON (+24V attached) or loop is open =65535,0xFFFF: The channel is not configured as digital input						
DIGITAL INPUT2	3x40046 4x40046 I:40045	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual state of digital input DIx:65535=N/V				
DIGITAL INPUT3	3x40047 4x40047 I:40046	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured output voltage COx:65535=N/V				
DIGITAL INPUT4	3x40048 4x40048 I:40047	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured output voltage COx:65535=N/V				
AIOX:DIGITAL INPUTS						
DIGITAL INPUT1 MEASURED CURRENT	3x40049 4x40049 I:40048	-32768,0x8000 B:80 00			SINT16 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 =-32768,0x8000: The channel is not configured as DIGITAL INPUT						

DIGITAL INPUT2 MEASURED CURRENT	3x40050 4x40050 I:40049	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured output current of DIx:-32768=N/V				
DIGITAL INPUT3 MEASURED CURRENT	3x40051 4x40051 I:40050	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured output current of DIx:-32768=N/V				
DIGITAL INPUT4 MEASURED CURRENT	3x40052 4x40052 I:40051	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured output current of DIx:-32768=N/V				

Register NAME Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
AIOX:RTD INPUTS OHM*10						
RTD INPUT1 IN OHM*10	3x41001 4x41001 I:41000	65534,0xFFFE B:FF FE			UINT16 R/O	
		Actual measured ohm value of RTDIx:65534=OPEN				
Current measured RTD in Ohm*10 between 0 and 600000 =0..60000: Current measured resistance in Ohm*10 =65534,0xFFFE: The sensor or cabling is open (broken, not connected, or out of range) =65535,0xFFFF: The channel is not configured as RTD input						
RTD INPUT2 IN OHM*10	3x41002 4x41002 I:41001	65534,0xFFFE B:FF FE			UINT16 R/O	
		Actual measured ohm value of RTDIx:65534=OPEN				
RTD INPUT3 IN OHM*10	3x41003 4x41003 I:41002	65534,0xFFFE B:FF FE			UINT16 R/O	
		Actual measured ohm value of RTDIx:65534=OPEN				
RTD INPUT4 IN OHM*10	3x41004 4x41004 I:41003	65534,0xFFFE B:FF FE			UINT16 R/O	
		Actual measured ohm value of RTDIx:65534=OPEN				
AIOX:RTD INPUTS OHM*1						
RTD INPUT1 IN OHM	3x41005 4x41005 I:41004	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured ohm value of RTDIx:65535=N/V				
Current measured RTD in Ohm*1 between 0 and 60000 =0..60000: Current measured resistance in Ohm*1 =65534,0xFFFE: The sensor or cabling is open (broken, not connected, or out of range) =65535,0xFFFF: The channel is not configured as RTD input						
RTD INPUT2 IN OHM	3x41006 4x41006 I:41005	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured ohm value of RTDIx:65535=N/V				
RTD INPUT3 IN OHM	3x41007 4x41007 I:41006	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured ohm value of RTDIx:65535=N/V				

RTD INPUT4 IN OHM	3x41008 4x41008 I:41007	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured ohm value of RTDIx:65535=N/V				
AIOX:RTD INPUTS OHM/10						
RTD INPUT1 IN OHM/10	3x41009 4x41009 I:41008	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured ohm value of RTDIx:65535=N/V				
Current measured RTD in Ohm/10 between 0 and 60000 =0..60000: Current measured resistance in Ohm/10 =65534,0xFFFE: The sensor or cabling is open (broken, not connected, or out of range) =65535,0xFFFF: The channel is not configured as RTD input						
RTD INPUT2 IN OHM/10	3x41010 4x41010 I:41009	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured ohm value of RTDIx:65535=N/V				
RTD INPUT3 IN OHM/10	3x41011 4x41011 I:41010	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured ohm value of RTDIx:65535=N/V				
RTD INPUT4 IN OHM/10	3x41012 4x41012 I:41011	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured ohm value of RTDIx:65535=N/V				
AIOX:RTD INPUTS PT100 CELSIUS						
RTD INPUT1 AS PT100 IN CELSIUS	3x41013 4x41013 I:41012	-32768,0x8000 B:80 00			SINT16 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 -32766,0x8002: Measured value is below -50°C -32767,0x8001: Measured value is above +130°C -32768,0x8000: The channel is not configured as RTD input						
RTD INPUT2 AS PT100 IN CELSIUS	3x41014 4x41014 I:41013	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT100 temperature RTDIx:-32768=N/V				
RTD INPUT3 AS PT100 IN CELSIUS	3x41015 4x41015 I:41014	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT100 temperature RTDIx:-32768=N/V				
RTD INPUT4 AS PT100 IN CELSIUS	3x41016 4x41016 I:41015	-32768,0x8000 B:80 00			SINT16 R/O	

		Actual measured PT100 temperature RTDIx:-32768=N/V				
AIOX:RTD INPUTS PT1000 CELSIUS						
RTD INPUT1 AS PT1000 IN CELSIUS	3x41017 4x41017 I:41016	-32768,0x8000 B:80 00			SINT16 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 -32766,0x8002: Measured value is below -50°C -32767,0x8001: Measured value is above +130°C -32768,0x8000: The channel is not configured as RTD input						
RTD INPUT2 AS PT1000 IN CELSIUS	3x41018 4x41018 I:41017	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT1000 temperature RTDIx:-32768=N/V				
RTD INPUT3 AS PT1000 IN CELSIUS	3x41019 4x41019 I:41018	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT1000 temperature RTDIx:-32768=N/V				
RTD INPUT4 AS PT1000 IN CELSIUS	3x41020 4x41020 I:41019	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT1000 temperature RTDIx:-32768=N/V				
AIOX:RTD INPUTS NI1000-DIN43760 CELSIUS						
RTD INPUT1 AS NI1000-DIN43760 IN CELSIUS	3x41021 4x41021 I:41020	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:-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 -32766,0x8002: Measured value is below -50°C -32767,0x8001: Measured value is above +130°C -32768,0x8000: The channel is not configured as RTD input						
RTD INPUT2 AS NI1000-DIN43760 IN CELSIUS	3x41022 4x41022 I:41021	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:-32768=N/V				
RTD INPUT3 AS NI1000-DIN43760 IN CELSIUS	3x41023 4x41023 I:41022	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:-32768=N/V				
RTD INPUT4 AS NI1000-DIN43760 IN CELSIUS	3x41024 4x41024 I:41023	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:-32768=N/V				
AIOX:RTD INPUTS PT100 KELVIN						

RTD INPUT1 AS PT100 IN KELVIN	3x41025 4x41025 I:41024	65535,0xFFFF B:FF FF			UINT16 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 65533,0xFFFD: Measured value is below 223,15°K 65534,0xFFFE: Measured value is above 403,15°K 65535,0xFFFF: The channel is not configured as RTD input						
RTD INPUT2 AS PT100 IN KELVIN	3x41026 4x41026 I:41025	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured PT100 temperature RTDIx:65535=655,35°K				
RTD INPUT3 AS PT100 IN KELVIN	3x41027 4x41027 I:41026	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured PT100 temperature RTDIx:65535=655,35°K				
RTD INPUT4 AS PT100 IN KELVIN	3x41028 4x41028 I:41027	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured PT100 temperature RTDIx:65535=655,35°K				
AIOX:RTD INPUTS PT1000 KELVIN						
RTD INPUT1 AS PT1000 IN KELVIN	3x41029 4x41029 I:41028	65535,0xFFFF B:FF FF			UINT16 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 65533,0xFFFD: Measured value is below 223,15°K 65534,0xFFFE: Measured value is above 403,15°K 65535,0xFFFF: The channel is not configured as RTD input						
RTD INPUT2 AS PT1000 IN KELVIN	3x41030 4x41030 I:41029	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured PT1000 temperature RTDIx:65535=655,35°K				
RTD INPUT3 AS PT1000 IN KELVIN	3x41031 4x41031 I:41030	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured PT1000 temperature RTDIx:65535=655,35°K				
RTD INPUT4 AS PT1000 IN KELVIN	3x41032 4x41032 I:41031	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured PT1000 temperature RTDIx:65535=655,35°K				
AIOX:RTD INPUTS NI1000-DIN43760 KELVIN						
RTD INPUT1 AS NI1000-DIN43760 IN KELVIN	3x41033 4x41033 I:41032	65535,0xFFFF B:FF FF			UINT16 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 65533,0xFFFD: Measured value is below 223,15°K 65534,0xFFFE: Measured value is above 403,15°K 65535,0xFFFF: The channel is not configured as RTD input						
RTD INPUT2 AS NI1000-DIN43760 IN KELVIN	3x41034 4x41034 I:41033	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K				
RTD INPUT3 AS NI1000-DIN43760 IN KELVIN	3x41035 4x41035 I:41034	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K				
RTD INPUT4 AS NI1000-DIN43760 IN KELVIN	3x41036 4x41036 I:41035	65535,0xFFFF B:FF FF			UINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:65535=655,35°K				
AIOX:RTD INPUTS PT100 FAHRENHEIT						
RTD INPUT1 AS PT100 IN FAHRENHEIT	3x41037 4x41037 I:41036	-32768,0x8000 B:80 00			SINT16 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 -32766,0x8002: Measured value is below -58°C -32767,0x8001: Measured value is above +266°C -32768,0x8000: The channel is not configured as RTD input						
RTD INPUT2 AS PT100 IN FAHRENHEIT	3x41038 4x41038 I:41037	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT100 temperature RTDIx:-32768=N/V				
RTD INPUT3 AS PT100 IN FAHRENHEIT	3x41039 4x41039 I:41038	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT100 temperature RTDIx:-32768=N/V				
RTD INPUT4 AS PT100 IN FAHRENHEIT	3x41040 4x41040 I:41039	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT100 temperature RTDIx:-32768=N/V				
AIOX:RTD INPUTS PT1000 FAHRENHEIT						
RTD INPUT1 AS PT1000 IN FAHRENHEIT	3x41041 4x41041 I:41040	-32768,0x8000 B:80 00			SINT16 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 -32766,0x8002: Measured value is below -58°C -32767,0x8001: Measured value is above +266°C -32768,0x8000: The channel is not configured as RTD input						
RTD INPUT2 AS PT1000 IN FAHRENHEIT	3x41042 4x41042 I:41041	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT1000 temperature RTDIx:-32768=N/V				
RTD INPUT3 AS PT1000 IN FAHRENHEIT	3x41043 4x41043 I:41042	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT1000 temperature RTDIx:-32768=N/V				
RTD INPUT4 AS PT1000 IN FAHRENHEIT	3x41044 4x41044 I:41043	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured PT1000 temperature RTDIx:-32768=N/V				
AIOX:RTD INPUTS NI1000-DIN43760 FAHRENHEIT						
RTD INPUT1 AS NI1000-DIN43760 IN FAHRENHEIT	3x41045 4x41045 I:41044	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:-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 -32766,0x8002: Measured value is below -58°C -32767,0x8001: Measured value is above +266°C -32768,0x8000: The channel is not configured as RTD input						
RTD INPUT2 AS NI1000-DIN43760 IN FAHRENHEIT	3x41046 4x41046 I:41045	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:-32768=N/V				
RTD INPUT3 AS NI1000-DIN43760 IN FAHRENHEIT	3x41047 4x41047 I:41046	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:-32768=N/V				
RTD INPUT4 AS NI1000-DIN43760 IN FAHRENHEIT	3x41048 4x41048 I:41047	-32768,0x8000 B:80 00			SINT16 R/O	
		Actual measured NI1000-DIN43760 temperature RTDIx:-32768=N/V				
AIOX:RTD INPUTS OHM*100						
RTD INPUT1 IN OHM*100	3x41501 4x41501 I:41500	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32 R/O	
		Actual measured ohm value of RTDIx:0=0,00Ohm				
Current measured RTD in Ohm*100 =0xFFFFFFFF: The channel is not configured as RTD input						

RTD INPUT2 IN OHM*100	3x41503 4x41503 I:41502	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32 R/O	
		Actual measured ohm value of RTDIx:0=0,00Ohm				
RTD INPUT3 IN OHM*100	3x41505 4x41505 I:41504	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32 R/O	
		Actual measured ohm value of RTDIx:0=0,00Ohm				
RTD INPUT4 IN OHM*100	3x41507 4x41507 I:41506	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32 R/O	
		Actual measured ohm value of RTDIx:0=0,00Ohm				
AIOX:RTD INPUTS OHM*100						
RTD INPUT1 IN OHM*100	3x41509 4x41509 I:41508	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32R R/O	
		Actual measured ohm value of RTDIx:0=0,00Ohm				
Current measured RTD in Ohm*100 =0xFFFFFFFF: The channel is not configured as RTD input						
RTD INPUT2 IN OHM*100	3x41511 4x41511 I:41510	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32R R/O	
		Actual measured ohm value of RTDIx:0=0,00Ohm				
RTD INPUT3 IN OHM*100	3x41513 4x41513 I:41512	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32R R/O	
		Actual measured ohm value of RTDIx:0=0,00Ohm				
RTD INPUT4 IN OHM*100	3x41515 4x41515 I:41514	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32R R/O	
		Actual measured ohm value of RTDIx:0=0,00Ohm				

Register NAME Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
AIOX:AVERAGE RTD INPUTS OHM*10						
AVERAGE RTD INPUT1 IN OHM*10	3x42001 4x42001 I:42000	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
Measured average RTD in Ohm*10 between 0 and 600000 =0..60000: Measured average resistance in Ohm*10 =65534,0xFFFE: The sensor or cabling is open (broken, not connected, or out of range) =65535,0xFFFF: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 IN OHM*10	3x42002 4x42002 I:42001	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
AVERAGE RTD INPUT3 IN OHM*10	3x42003 4x42003 I:42002	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
AVERAGE RTD INPUT4 IN OHM*10	3x42004 4x42004 I:42003	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
AIOX:AVERAGE RTD INPUTS OHM*1						
AVERAGE RTD INPUT1 IN OHM	3x42005 4x42005 I:42004	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
Measured average RTD in Ohm*1 between 0 and 60000 =0..60000: Measured average resistance in Ohm*1 =65534,0xFFFE: The sensor or cabling is open (broken, not connected, or out of range) =65535,0xFFFF: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 IN OHM	3x42006 4x42006 I:42005	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
AVERAGE RTD INPUT3 IN OHM	3x42007 4x42007 I:42006	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				

AVERAGE RTD INPUT4 IN OHM	3x42008 4x42008 I:42007	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
AIOX:AVERAGE RTD INPUTS OHM/10						
AVERAGE RTD INPUT1 IN OHM/10	3x42009 4x42009 I:42008	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
Measured average RTD in Ohm/10 between 0 and 60000 =0..60000: Measured average resistance in Ohm/10 =65534,0xFFFE: The sensor or cabling is open (broken, not connected, or out of range) =65535,0xFFFF: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 IN OHM/10	3x42010 4x42010 I:42009	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
AVERAGE RTD INPUT3 IN OHM/10	3x42011 4x42011 I:42010	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
AVERAGE RTD INPUT4 IN OHM/10	3x42012 4x42012 I:42011	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average ohm value of RTDIx:65535=N/V				
AIOX:AVERAGE RTD INPUTS PT100 CELSIUS						
AVERAGE RTD INPUT1 AS PT100 IN CELSIUS	3x42013 4x42013 I:42012	-32768,0x8000 B:80 00			SINT16 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 -32766,0x8002: Measured value is below -50°C -32767,0x8001: Measured value is above +130°C -32768,0x8000: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 AS PT100 IN CELSIUS	3x42014 4x42014 I:42013	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT100 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT3 AS PT100 IN CELSIUS	3x42015 4x42015 I:42014	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT100 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT4 AS PT100 IN CELSIUS	3x42016 4x42016 I:42015	-32768,0x8000 B:80 00			SINT16 R/O	

		Measured average PT100 temperature RTDIx:-32768=N/V				
AIOX:AVERAGE RTD INPUTS PT1000 CELSIUS						
AVERAGE RTD INPUT1 AS PT1000 IN CELSIUS	3x42017 4x42017 I:42016	-32768,0x8000 B:80 00			SINT16 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 -32766,0x8002: Measured value is below -50°C -32767,0x8001: Measured value is above +130°C -32768,0x8000: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 AS PT1000 IN CELSIUS	3x42018 4x42018 I:42017	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT1000 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT3 AS PT1000 IN CELSIUS	3x42019 4x42019 I:42018	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT1000 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT4 AS PT1000 IN CELSIUS	3x42020 4x42020 I:42019	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT1000 temperature RTDIx:-32768=N/V				
AIOX:AVERAGE RTD INPUTS NI1000-DIN43760 CELSIUS						
AVERAGE RTD INPUT1 AS NI1000-DIN43760 IN CELSIUS	3x42021 4x42021 I:42020	-32768,0x8000 B:80 00			SINT16 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 -32766,0x8002: Measured value is below -50°C -32767,0x8001: Measured value is above +130°C -32768,0x8000: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 AS NI1000-DIN43760 IN CELSIUS	3x42022 4x42022 I:42021	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average NI1000-DIN43760 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT3 AS NI1000-DIN43760 IN CELSIUS	3x42023 4x42023 I:42022	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average NI1000-DIN43760 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT4 AS NI1000-DIN43760 IN CELSIUS	3x42024 4x42024 I:42023	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average NI1000-DIN43760 temperature RTDIx:-32768=N/V				
AIOX:AVERAGE RTD INPUTS PT100 KELVIN						

AVERAGE RTD INPUT1 AS PT100 IN KELVIN	3x42025 4x42025 I:42024	65535,0xFFFF B:FF FF			UINT16 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 65533,0xFFFD: Measured value is below 223,15°K 65534,0xFFFE: Measured value is above 403,15°K 65535,0xFFFF: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 AS PT100 IN KELVIN	3x42026 4x42026 I:42025	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average PT100 temperature RTDIx:65535=655,35°K				
AVERAGE RTD INPUT3 AS PT100 IN KELVIN	3x42027 4x42027 I:42026	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average PT100 temperature RTDIx:65535=655,35°K				
AVERAGE RTD INPUT4 AS PT100 IN KELVIN	3x42028 4x42028 I:42027	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average PT100 temperature RTDIx:65535=655,35°K				
AIOX:AVERAGE RTD INPUTS PT1000 KELVIN						
AVERAGE RTD INPUT1 AS PT1000 IN KELVIN	3x42029 4x42029 I:42028	65535,0xFFFF B:FF FF			UINT16 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 65533,0xFFFD: Measured value is below 223,15°K 65534,0xFFFE: Measured value is above 403,15°K 65535,0xFFFF: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 AS PT1000 IN KELVIN	3x42030 4x42030 I:42029	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average PT1000 temperature RTDIx:65535=655,35°K				
AVERAGE RTD INPUT3 AS PT1000 IN KELVIN	3x42031 4x42031 I:42030	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average PT1000 temperature RTDIx:65535=655,35°K				
AVERAGE RTD INPUT4 AS PT1000 IN KELVIN	3x42032 4x42032 I:42031	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average PT1000 temperature RTDIx:65535=655,35°K				
AIOX:AVERAGE RTD INPUTS NI1000-DIN43760 KELVIN						
AVERAGE RTD INPUT1 AS NI1000-DIN43760 IN KELVIN	3x42033 4x42033 I:42032	65535,0xFFFF B:FF FF			UINT16 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 65533,0xFFFD: Measured value is below 223,15°K 65534,0xFFFE: Measured value is above 403,15°K 65535,0xFFFF: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 AS NI1000-DIN43760 IN KELVIN	3x42034 4x42034 I:42033	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average NI1000-DIN43760 temperature RTDIx:65535=655,35°K				
AVERAGE RTD INPUT3 AS NI1000-DIN43760 IN KELVIN	3x42035 4x42035 I:42034	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average NI1000-DIN43760 temperature RTDIx:65535=655,35°K				
AVERAGE RTD INPUT4 AS NI1000-DIN43760 IN KELVIN	3x42036 4x42036 I:42035	65535,0xFFFF B:FF FF			UINT16 R/O	
		Measured average NI1000-DIN43760 temperature RTDIx:65535=655,35°K				
AIOX:AVERAGE RTD INPUTS PT100 FAHRENHEIT						
AVERAGE RTD INPUT1 AS PT100 IN FAHRENHEIT	3x42037 4x42037 I:42036	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT100 temperature RTDIx:-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 -32766,0x8002: Measured value is below -58°C -32767,0x8001: Measured value is above +266°C -32768,0x8000: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 AS PT100 IN FAHRENHEIT	3x42038 4x42038 I:42037	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT100 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT3 AS PT100 IN FAHRENHEIT	3x42039 4x42039 I:42038	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT100 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT4 AS PT100 IN FAHRENHEIT	3x42040 4x42040 I:42039	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT100 temperature RTDIx:-32768=N/V				
AIOX:AVERAGE RTD INPUTS PT1000 FAHRENHEIT						
AVERAGE RTD INPUT1 AS PT1000 IN FAHRENHEIT	3x42041 4x42041 I:42040	-32768,0x8000 B:80 00			SINT16 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 -32766,0x8002: Measured value is below -58°C -32767,0x8001: Measured value is above +266°C -32768,0x8000: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 AS PT1000 IN FAHRENHEIT	3x42042 4x42042 I:42041	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT1000 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT3 AS PT1000 IN FAHRENHEIT	3x42043 4x42043 I:42042	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT1000 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT4 AS PT1000 IN FAHRENHEIT	3x42044 4x42044 I:42043	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average PT1000 temperature RTDIx:-32768=N/V				
AIOX:AVERAGE RTD INPUTS NI1000-DIN43760 FAHRENHEIT						
AVERAGE RTD INPUT1 AS NI1000-DIN43760 IN FAHRENHEIT	3x42045 4x42045 I:42044	-32768,0x8000 B:80 00			SINT16 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 -32766,0x8002: Measured value is below -58°C -32767,0x8001: Measured value is above +266°C -32768,0x8000: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 AS NI1000-DIN43760 IN FAHRENHEIT	3x42046 4x42046 I:42045	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average NI1000-DIN43760 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT3 AS NI1000-DIN43760 IN FAHRENHEIT	3x42047 4x42047 I:42046	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average NI1000-DIN43760 temperature RTDIx:-32768=N/V				
AVERAGE RTD INPUT4 AS NI1000-DIN43760 IN FAHRENHEIT	3x42048 4x42048 I:42047	-32768,0x8000 B:80 00			SINT16 R/O	
		Measured average NI1000-DIN43760 temperature RTDIx:-32768=N/V				
AIOX:RTD INPUTS OHM*100						
AVERAGE RTD INPUT1 IN OHM*100	3x42501 4x42501 I:42500	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32 R/O	
		Measured average ohm value of RTDIx:0=0,00Ohm				
Measured average RTD in Ohm*100 =0xFFFFFFFF: The channel is not configured as RTD input						

AVERAGE RTD INPUT2 IN OHM*100	3x42503 4x42503 I:42502	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32 R/O	
		Measured average ohm value of RTDIx:0=0,00Ohm				
AVERAGE RTD INPUT3 IN OHM*100	3x42505 4x42505 I:42504	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32 R/O	
		Measured average ohm value of RTDIx:0=0,00Ohm				
AVERAGE RTD INPUT4 IN OHM*100	3x42507 4x42507 I:42506	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32 R/O	
		Measured average ohm value of RTDIx:0=0,00Ohm				
AIOX:AVERAGE RTD INPUTS OHM*100						
AVERAGE RTD INPUT1 IN OHM*100	3x42509 4x42509 I:42508	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32R R/O	
		Measured average ohm value of RTDIx:0=0,00Ohm				
Measured average RTD in Ohm*100 =0xFFFFFFFF: The channel is not configured as RTD input						
AVERAGE RTD INPUT2 IN OHM*100	3x42511 4x42511 I:42510	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32R R/O	
		Measured average ohm value of RTDIx:0=0,00Ohm				
AVERAGE RTD INPUT3 IN OHM*100	3x42513 4x42513 I:42512	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32R R/O	
		Measured average ohm value of RTDIx:0=0,00Ohm				
AVERAGE RTD INPUT4 IN OHM*100	3x42515 4x42515 I:42514	4294967295,0xFFFFFFFF B:FF FF FF FF			UINT32R R/O	
		Measured average ohm value of RTDIx:0=0,00Ohm				

Register NAME Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
AIOX CHIP TEMPERATURE						
TEMPERATURE CHIP 1 IN CELSIUS	3x43001 4x43001 I:43000	464,0x01D0 B:01 D0			UINT16 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.						
AIOX CHIP TEMPERATURE						
AVERAGE TEMPERATURE CHIP 1 IN CELSIUS	3x43002 4x43002 I:43001	464,0x01D0 B:01 D0			UINT16 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.						
AIOX CHIP VOLTAGES						
Vavdd CHIP 1 IN VOLT	3x43003 4x43003 I:43002	146,0x0092 B:00 92			UINT16 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. This must be >14.5V, if not, there is a severe wiring or other hardware issue!						
AIOX CHIP VOLTAGES						
AVERAGE Vavdd CHIP 1 IN VOLT	3x43004 4x43004 I:43003	146,0x0092 B:00 92			UINT16 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. This must be >14.5V, if not, there is a severe wiring or other hardware issue!						
AIOX CHIP VOLTAGES						
Vagnd CHIP 1 IN VOLT	3x43005 4x43005 I:43004	0,0x0000 B:00 00			UINT16 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. This must be 0V, if not, there is a severe wiring or other hardware issue!						
AIOX CHIP VOLTAGES						
AVERAGE Vagnd CHIP 1 IN VOLT	3x43006 4x43006 I:43005	0,0x0000 B:00 00			UINT16 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. This must be 0V, if not, there is a severe wiring or other hardware issue!						

AIOX CHIP STATUS						
LIVE STATUS CHIP 1	3x43007 4x43007 I:43006	30720,0x7800 B:78 00			UINT16 R/O	
		Actual live status of CHIPx:7800				

Current live status for CHIPx. Each CHIP supports 4 AIOX channels.
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

AIOX CHIP STATUS						
ALERT STATUS CHIP 1	3x43008 4x43008 I:43007	33792,0x8400 B:84 00			UINT16 R/O	
		Actual alert status of CHIPx:8400				

Current alert status for CHIPx. Each CHIP supports 4 AIOX channels.
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.

AIOX SPI STATUS

SPI ERRORS CHIP 1	3x43009 4x43009 I:43008	0,0x0000 B:00 00			UINT16 R/O	
		Actual SPI error counter of CHIPx:0 error(s)				

Current SPI error counter for CHIPx. Each CHIP supports 4 AIOX channels.
This command shows the acutal SPI errors since power up for every chip

AIOX STATE MACHINES

STATE MACHINE CHIP 1	3x43010 4x43010 I:43009	12070,0x2F26 B:2F 26			UINT16 R/O	
		Actual state of CHIPx:12070				

This command shows the acutal state of the internal communication state machine for CHIPx

AIOX ONLINE

IS ONLINE CHIP 1	3x43011 4x43011 I:43010	1,0x0001 B:00 01			UINT16 R/O	
		Is CHIPx online:1=YES				

This command shows the acutal state of the internal communication state machine for CHIPx

AIOX CLEAR ALARM STATE

CLEAR ALERT STATES CHIP 1	3x43012 4x43012 I:43011	0,0x0000 B:00 00	65535		UINT16 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 STATE MACHINE	3x43013 4x43013 I:43012	0,0x0000 B:00 00	1	1:RESET STATE MACHINE	UINT16 R/W	YES
This command restarts the state machine for chip CHIPx . The affected chip will be resetted & initialized completely						

Register NAME Command NAME	MODBUS Register ASCII Command	Register VALUE ASCII Command	NEW REAL VALUE	NEW VALUE	DATA TYPE	DO WRITE
AIOX CONFIG OUTPUT VALUES						
CONFIG OUTPUT VALUE AIOX1	3x44001 4x44001 I:44000	65535,0xFFFF B:FF FF	100	1	UINT16 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 restartet or a watchdog condition has occured and the channel is used as voltage output or current output. For voltage outputs the range is 0 to 1100 (0 to 11,0V). For current outputs the range is 0 to 2500 (0 to 25mA). All IOs with a different usage type will return 65535,0xFFFF.						
CONFIG OUTPUT VALUE AIOX2	3x44002 4x44002 I:44001	65535,0xFFFF B:FF FF	200	2	UINT16 R/W	YES
		Actual config value for AIOx:N/A		ENTER NEW CONFIG VALUE FOR AIOx		
CONFIG OUTPUT VALUE AIOX3	3x44003 4x44003 I:44002	65535,0xFFFF B:FF FF	300	3	UINT16 R/W	YES
		Actual config value for AIOx:N/A		ENTER NEW CONFIG VALUE FOR AIOx		
CONFIG OUTPUT VALUE AIOX4	3x44004 4x44004 I:44003	65535,0xFFFF B:FF FF	400	4	UINT16 R/W	YES
		Actual config value for AIOx:N/A		ENTER NEW CONFIG VALUE FOR AIOx		
INTER PROCESSOR COMMUNICATION						
AIOX IS ONLINE	3x50000 4x50000 I:49999	1,0x0001 B:00 01			UINT16 R/O	
		Actual communication status co-processor to AIOX processor:OK				
This command returns the actual state of the serial communication between the ARM co-processor and the additional processor for the AIOX. =1: Currently the communication is fine =0: There is a mayor problem/hardware fault between the two processors						