CONVERTER STATUS	3x05051 4x05051 I:5050	0,0x0000 B:00 00			UINT16 R/O	
DIP SWITCH	3x10010 4x10010 I:10009	15,0x000F B:00 0F			UINT16 R/O	
Returns the current setting of the Dip switches. For ULTRA SLIM IOs 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)						
SOFTWARE RESET						
RESET	1x06001 2x06001 I:6000	0,0x00 B:00		N/A:NO CHANGE	BIT R/W	YES
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	3x06001 4x06001 I:6000	0,0x0000 B:00 00		N/A:NO CHANGE	UINT16 R/W	YES
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).						
PRODUCT DATA						
HW_GROUP	3x65201 4x65201 I:65200	8336,0x2090 B:20 90			UINT16 R/O	
This is the group of hardware of the current product						
SW_GROUP	3x65202 4x65202 I:65201	4096,0x1000 B:10 00			UINT16 R/O	
This is the group of software of the current product						
SW_VERSION	3x65203 4x65203 I:65202	4352,0x1100 B:11 00			UINT16 R/O	
		SW VERSION:1.1.0				
This is the cuirrent software version of the firmware						
SW_AUTHOR	3x65204 4x65204 I:65203	18771,0x4953 B:49 53			UINT16 R/O	
This is the cuirrent software author of the firmware						
MODBUS SETTINGS						
UNIT_ID	3x65222 4x65222 I:65221	65535,0xFFFF B:FF FF		N/A:NO CHANGE	UINT16 R/W	NO
		UNIT ID:255				

f the host reads this register, the current programmed unit ID is returned. All values above unit ID 255 define also the unit ID 255.
If the host write a new value into this register, the new value will be stored in the FLASH as the new unit ID. The new unit ID is activated after a power off/power on cycle or a software reboot of the module.
The host can execute a reboot in writing to the register RESET SYSTEM.
NOTE:DIP switch 4 must set to OFF to activate this unit ID, otherwise the unit ID is 255.

HINT:This settings will be active after you repower or reset your device !!

BAUD_RATE	3x65223 4x65223 I:65222	4294967295,0xFFFFFFFF B:FF FF FF FF	38400	38400	UINT32 R/W	NO
		57600Bd		ENTER BAUD RATE		

This is the current configured baud rate for DIP switch mode DIP1=ON, DIP2=ON (default is 57600bd)
DIP switch settings:
DIP1-DIP2
OFF-OFF:9600bd
ON-OFF:19200bd
OFF-ON:38400bd
ON-ON:default 57600bd or the defined baud rate

Valid baud rates are:
300bd
600bd
1200bd
2400bd
4800bd
9600bd
19200bd
38400bd
all other:57600bd

HINT:This settings will be active after you repower or reset your device !!

PARITY	3x65225 4x65225 I:65224	65535,0xFFFF B:FF FF		N/A:NO CHANGE	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	3x65226 4x65226 I:65225	65535,0xFFFF B:FF FF		N/A:NO CHANGE	UINT16 R/W	NO
		ONE STOPBIT		SELECT STOPBITS		

f 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

GET VERSION	**ASCII READ COMMAND**	#VERSION<CR> #VER<CR> Result: #VERSION:<VersionHi>,<VersionMed>,<VersionLo><CR>	ASCII	
	TX	#VERSION<CR>		
	RX	#255,VERSION:1.1.0<CR>		
		Current SW version:1.1.0		
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> #TYP<CR> Result: #TYPE:<Type><CR>	ASCII	
	TX	#TYPE<CR>		
	RX	#255,TYPE:RESI-1S0-SIO<CR>		
		Current module type:RESI-1S0-SIO		
Returns the current module type				
GET OWNER	**ASCII READ COMMAND**	#OWNER<CR> #OWN<CR> Result: #OWNER:<Owner><CR>	ASCII	
	TX	#OWNER<CR>		
	RX	#255,OWNER:RESI<CR>		
		Current owner:RESI		
Returns the current owner of the module				
GET CREATOR	**ASCII READ COMMAND**	#CREATOR<CR> #CRE<CR> Result: #CREATOR:<Creator><CR>	ASCII	
	TX	#CREATOR<CR>		
	RX	#255,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> #COPY<CR> Result: #COPYRIGHT:<Copyright><CR>	ASCII	
	TX	#COPYRIGHT<CR>		
	RX	#255,COPYRIGHT:2016,2020 BY RESI AND DI HC SIGL,MSC WWW.RESI.CC<CR>		
		Current copyright:2016,2020 BY RESI AND DI HC SIGL,MSC WWW.RESI.CC		
Returns the current copyright of the module				

GET DIP SWITCH	**ASCII READ COMMAND**	#GET DIP<CR> #GDIP<CR> Result: #GDIP:<DIPSwitchDec>,<DIPSwitchHex><CR>	ASCII	
	TX	#GET DIP<CR>		
	RX	#255,GDIP:15,0xF<CR>		
		Current DIP SWITCH settings:1111		
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)				
ASCII COMMANDS				
SET MODBUS ADDRESS	**ASCII WRITE COMMAND**	#SET MODBUS ADDRESS:<UNITID><CR> #SMBADR:<UNITID><CR> Result: #OK<CR>	ASCII	NO
	UNITID	1		
	TX	#SET MODBUS ADDRESS:1<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**	#SET MODBUS BAUDRATE:<BAUD><CR> #SMBBAUD:<BAUD><CR> Result: #OK<CR>	ASCII	NO
	BAUD	57600:57600BD		
	TX	#SET MODBUS BAUDRATE:57600<CR>		
	RX	N/A		
Sets a new baudrate for the serial interface, if DIP Switches DIP1=ON and DIP2=ON. The following baudrates are allowed: 300bd 600bd 1200bd 2400bd 4800bd 9600bd 19200bd 38400bd all others are interpreted as 57600bd HINT: The new setup parameters will be active after a restart of the module.				

SET MODBUS PARITY	**ASCII WRITE COMMAND**	#SET MODBUS PARITY:<PARITY><CR> #SMBPAR:<PARITY><CR> Result: #OK<CR>	ASCII	NO
	PARITY	NONE:NO PARITY		
	TX	#SET MODBUS PARITY:NONE<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**	#SET MODBUS STOP:<STOPBIT><CR> #SETMBSTOP:<STOPBIT><CR> Result: #OK<CR>	ASCII	NO
	STOPBIT	ONE:ONE STOPBIT		
	TX	#SET MODBUS STOP:ONE<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**	#SET MODBUS PARAMS:<UNITID>,<BAUD>,<PARITY>,<STOPBIT><CR> #SMBPARAMS:<UNITID>,<BAUD>,<PARITY>,<STOPBIT><CR> Result: #OK<CR>	ASCII	NO
	UNITID	1		
	BAUD	57600:57600BD		
	PARITY	NONE:NO PARITY		
	STOPBIT	ONE:ONE STOPBIT		
	TX	#SET MODBUS PARAMS:1,57600,NONE,ONE<CR>		
	RX	N/A		
Sets all parameters for serrial interface				
GET MODBUS ADDRESS	**ASCII READ COMMAND**	#GET MODBUS ADDRESS<CR> #GMBADR<CR> Result: #GMBADR:<MBUnitDec>,<MBFLASHDec>,<MBUnitHex>,<MBFLASHHex><CR>	ASCII	
	TX	#GET MODBUS ADDRESS<CR>		
	RX	#255,GMBADR:255,0xFF,65535,0xFFFF<CR>		
		Current MODBUS unit ID for DIP4=OFF:255,0xFF,65535,0xFFFF		

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**	#GET MODBUS BAUDRATE<CR> #GMBBAUD<CR> Result: #GMBBAUD:<BaudRate><CR>	ASCII	
	TX	#GET MODBUS BAUDRATE<CR>		
	RX	#255,GMBBAUD:57600<CR>		
		Current baudrate for DIP1+2=ON:57600		

Returns the current defined baud rate for the serial interface, if DIP switches DIP1=ON and DIP2=ON.
The following baudrates are allowed:
300bd
600bd
1200bd
2400bd
4800bd
9600bd
19200bd
38400bd
all others are interpreted as 57600bd

GET MODBUS PARITY	**ASCII READ COMMAND**	#GET MODBUS PARITY<CR> #GMBPAR<CR> Result: #GMBPAR:<MBParity><CR>	ASCII	
	TX	#GET MODBUS PARITY<CR>		
	RX	#255,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**	#GET MODBUS STOP<CR> #GMBSTOP<CR> Result: #GMBSTOP:<MBStop><CR>	ASCII	
	TX	#GET MODBUS STOP<CR>		
	RX	#255,GMBSTOP:ONE<CR>		
		Current stopbit(s):ONE		

Returns the current configured amount of stop bits for the serial interface.
MBStops
ONE: one stop bit
TWO: two stop bits

GET MODBUS PARAMS	**ASCII READ COMMAND**	#GET MODBUS PARAMS<CR> #GMBPARAMS<CR> Result: #GMBPARAMS:<MBUnitDec>,<MBFLASHDec>,<MBUnitHex>,<MBFLASHHex>, <MBBaudrateDec>,<MBBaudrateHex>,<MBParity>,<MBStops><CR>	ASCII	
	TX	#GET MODBUS PARAMS<CR>		
	RX	#255,GMBPARAMS:255,0xFF,65535,0xFFFF,57600,0xE100,NONE,ONE<CR>		
		Current MODBUS unit ID used:255		
		Current MODBUS unit ID in FLASH:65535		
		Current baudrate in FLASH:57600		
		Current parity in FLASH:NONE		
		Current stopbit(s) in FLASH:ONE		
Returns the complete settings for serial interface				
ASCII COMMANDS				
RESET	**ASCII WRITE COMMAND**	#RESET<CR> #RST<CR> Result: #OK<CR>	ASCII	NO
	TX	#RESET<CR>		
	RX	N/A		
Executes a software reset (Reboot) of the module.				
FACTORY RESET	**ASCII WRITE COMMAND**	#FACTORY RESET<CR> #FRST<CR> Result: #OK<CR>	ASCII	NO
	TX	#FACTORY RESET<CR>		
	RX	N/A		
Executes a factory reset of all parameters to default values within the module and reboots the module				

2RTD STATUS	3x05052 4x05052 I:5051	0,0x0000 B:00 00			SINT16 R/O	
Shows the internal converter status: =0: Everything is ok !=0: Internal converter problem or error						
MEASUREMENT DATA						
CH1:VALID_TEMP	3x00001 4x00001 I:0	262,0x0106 B:01 06			SINT16 R/O	
		26,2				
Current valid temperature of the 1st channel. Value: temperature*10 Unit: in the temperature unit set by CH1_UNIT This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 -> -9990 in °C will be returned.						
CH2:VALID_TEMP	3x00002 4x00002 I:1	-9990,0xD8FA B:D8 FA			SINT16 R/O	
		-999,0				
Current valid temperature of the 2nd channel. Value: temperature*10 Unit: in the temperature unit set by CH2_UNIT This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 -> -9990 in °C will be returned.						
CH1:REAL_TEMP	3x00003 4x00003 I:2	262,0x0106 B:01 06			SINT16 R/O	
		26,2				
Last measured temperature value for the 1st channel. Value: temperature*10 Unit: in the temperature unit set by CH1_UNIT This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP. If the measurement result is completely invalid this register returns the value -999.0 -> -9990 in °C.						
CH2:REAL_TEMP	3x00004 4x00004 I:3	-9990,0xD8FA B:D8 FA			SINT16 R/O	
		-999,0				
Last measured temperature value for the 2nd channel. Value: temperature*10 Unit: in the temperature unit set by CH2_UNIT This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP. If the measurement result is completely invalid this register returns the value -999.0 -> -9990 in °C.						
CH1:AVG_TEMP	3x00005 4x00005 I:4	262,0x0106 B:01 06			SINT16 R/O	

		26,2			
Last average temperature calculated for sensor channel 1. Value: temperature*10 Unit: in the temperature unit set by CH1_UNIT The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired, the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running this register delivers the value -999.0 -> -9990 in °C.					
CH2:AVG_TEMP	3x00006 4x00006 I:5	-9990,0xD8FA B:D8 FA		SINT16 R/O	
		-999,0			
Last average temperature calculated for sensor channel 2. Value: temperature*10 Unit: in the temperature unit set by CH2_UNIT The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired, the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running this register delivers the value -999.0 -> -9990 in °C.					
CH1:STATUS	3x00007 4x00007 I:6	1,0x0001 B:00 01		UINT16 R/O	
		CH1:Sensor status bits:0000.0000.0000.0001			
		CH1:BIT0:VALID:1			
		CH1:BIT1:ADC OUT OF RANGE:0			
		CH1:BIT2:SENSOR UNDER RANGE:0			
		CH1:BIT3:SENSOR OVER RANGE:0			
		CH1:BIT6:HART ADC OUT OF RANGE:0			
		CH1:BIT7:SENSOR HART FAULT:0			
This registers delivers the current status of the last measurement of the 1st sensor channel. Value: Each bit has an individual meaning					

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

CH2:STATUS	3x00008 4x00008 I:7	203,0x00CB B:00 CB			UINT16 R/O	
		CH2:Sensor status bits:0000.0000.1100.1011				
		CH2:BIT0:VALID:1				
		CH2:BIT1:ADC OUT OF RANGE:1				
		CH2:BIT2:SENSOR UNDER RANGE:0				
		CH2:BIT3:SENSOR OVER RANGE:1				
		CH2:BIT6:HART ADC OUT OF RANGE:1				
		CH2:BIT7:SENSOR HART FAULT:1				

This registers delivers the current status of the last measurement of the 2nd sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

MEASUREMENT DATA						
CH1:VALID_TEMP	3x00101 4x00101 I:100	2627832,0x002818F8 B:00 28 18 F8			SINT32 R/O	
		26,27832				

Current valid temperature of the 1st channel.
Value: temperature*10000
Unit: in the temperature unit set by CH1_UNIT

This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 -> -99900000 in °C will be returned.

CH2:VALID_TEMP	3x00103 4x00103 I:102	-99900000,0xFA0BA5A0 B:FA 0B A5 A0			SINT32 R/O	
		-999,00000				

Current valid temperature of the 2nd channel.
Value: temperature*10000
Unit: in the temperature unit set by CH2_UNIT

This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 -> -99900000 in °C will be returned.

CH1:REAL_TEMP	3x00105 4x00105 I:104	2627832,0x002818F8 B:00 28 18 F8			SINT32 R/O	
		26,27832				

Last measured temperature value for the 1st channel.
Value: temperature*10000
Unit: in the temperature unit set by CH1_UNIT

This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP.
If the measurement result is completely invalid this register returns the value
-999.0 -> -99900000 in °C.

CH2:REAL_TEMP	3x00107 4x00107 I:106	-99900000,0xFA0BA5A0 B:FA 0B A5 A0			SINT32 R/O	
		-999,00000				

Last measured temperature value for the 2nd channel.
Value: temperature*10000
Unit: in the temperature unit set by CH2_UNIT

This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP.
If the measurement result is completely invalid this register returns the value
-999.0 -> -99900000 in °C.

CH1:AVG_TEMP	3x00109 4x00109 I:108	2626949,0x00281585 B:00 28 15 85			SINT32 R/O	
		26,26949				

Last average temperature calculated for sensor channel 1.
Value: temperature*10000
Unit: in the temperature unit set by CH1_UNIT

The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired,
the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running
this register delivers the value -999.0 -> -99900000 in °C.

CH2:AVG_TEMP	3x00111 4x00111 I:110	-99900000,0xFA0BA5A0 B:FA 0B A5 A0			SINT32 R/O	
		-999,00000				

Last average temperature calculated for sensor channel 2.
Value: temperature*10000
Unit: in the temperature unit set by CH2_UNIT

The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired,
the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running
this register delivers the value -999.0 -> -99900000 in °C.

CH1:STATUS	3x00113 4x00113 I:112	1,0x00000001 B:00 00 00 01			UINT32 R/O	
		CH1:Sensor status bits:0000.0000.0000.0001				
		CH1:BIT0:VALID:1				
		CH1:BIT1:ADC OUT OF RANGE:0				
		CH1:BIT2:SENSOR UNDER RANGE:0				
		CH1:BIT3:SENSOR OVER RANGE:0				
		CH1:BIT6:HART ADC OUT OF RANGE:0				
		CH1:BIT7:SENSOR HART FAULT:0				

This registers delivers the current status of the last measurement of the 1st sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

CH2:STATUS	3x00115 4x00115 I:114	203,0x000000CB B:00 00 00 CB			UINT32 R/O	
		CH2:Sensor status bits:0000.0000.1100.1011				
		CH2:BIT0:VALID:1				
		CH2:BIT1:ADC OUT OF RANGE:1				
		CH2:BIT2:SENSOR UNDER RANGE:0				
		CH2:BIT3:SENSOR OVER RANGE:1				
		CH2:BIT6:HART ADC OUT OF RANGE:1				
		CH2:BIT7:SENSOR HART FAULT:1				

This registers delivers the current status of the last measurement of the 2nd sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

MEASUREMENT DATA						
CH1:VALID_TEMP	3x00201 4x00201 I:200	2627832,0x002818F8 B:18 F8 00 28			SINT32R R/O	
		26,27832				

Current valid temperature of the 1st channel.
Value: temperature*10000
Unit: in the temperature unit set by CH1_UNIT

This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 -> -99900000 in °C will be returned.

CH2:VALID_TEMP	3x00203 4x00203 I:202	-99900000,0xFA0BA5A0 B:A5 A0 FA 0B			SINT32R R/O	
		-999,00000				

Current valid temperature of the 2nd channel.
Value: temperature*10000
Unit: in the temperature unit set by CH2_UNIT

This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 -> -99900000 in °C will be returned.

CH1:REAL_TEMP	3x00205 4x00205 I:204	2627832,0x002818F8 B:18 F8 00 28			SINT32R R/O	
		26,27832				

Last measured temperature value for the 1st channel.
Value: temperature*10000
Unit: in the temperature unit set by CH1_UNIT

This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP.
If the measurement result is completely invalid this register returns the value
-999.0 -> -99900000 in °C.

CH2:REAL_TEMP	3x00207 4x00207 I:206	-99900000,0xFA0BA5A0 B:A5 A0 FA 0B			SINT32R R/O	
		-999,00000				

Last measured temperature value for the 2nd channel.
Value: temperature*10000
Unit: in the temperature unit set by CH2_UNIT

This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP.
If the measurement result is completely invalid this register returns the value
-999.0 -> -99900000 in °C.

CH1:AVG_TEMP	3x00209 4x00209 I:208	2626949,0x00281585 B:15 85 00 28			SINT32R R/O	
		26,26949				

Last average temperature calculated for sensor channel 1.
Value: temperature*10000
Unit: in the temperature unit set by CH1_UNIT

The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired,
the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running
this register delivers the value -999.0 -> -99900000 in °C.

CH2:AVG_TEMP	3x00211 4x00211 I:210	-99900000,0xFA0BA5A0 B:A5 A0 FA 0B			SINT32R R/O	
		-999,00000				

Last average temperature calculated for sensor channel 2.
Value: temperature*10000
Unit: in the temperature unit set by CH2_UNIT

The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired,
the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running
this register delivers the value -999.0 -> -99900000 in °C.

CH1:STATUS	3x00213 4x00213 I:212	1,0x00000001 B:00 01 00 00			UINT32R R/O	
		CH1:Sensor status bits:0000.0000.0000.0001				
		CH1:BIT0:VALID:1				
		CH1:BIT1:ADC OUT OF RANGE:0				
		CH1:BIT2:SENSOR UNDER RANGE:0				
		CH1:BIT3:SENSOR OVER RANGE:0				
		CH1:BIT6:HART ADC OUT OF RANGE:0				
		CH1:BIT7:SENSOR HART FAULT:0				

This registers delivers the current status of the last measurement of the 1st sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

CH2:STATUS	3x00215 4x00215 I:214	203,0x000000CB B:00 CB 00 00			UINT32R R/O	
		CH2:Sensor status bits:0000.0000.1100.1011				
		CH2:BIT0:VALID:1				
		CH2:BIT1:ADC OUT OF RANGE:1				
		CH2:BIT2:SENSOR UNDER RANGE:0				
		CH2:BIT3:SENSOR OVER RANGE:1				
		CH2:BIT6:HART ADC OUT OF RANGE:1				
		CH2:BIT7:SENSOR HART FAULT:1				

This registers delivers the current status of the last measurement of the 2nd sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

MEASUREMENT DATA						
CH1:VALID_TEMP	3x00301 4x00301 I:300	26.278320,0x41D23A00 B:41 D2 3A 00			FLOAT32 R/O	
		26,278320				

Current valid temperature of the 1st channel. Value: temperature Unit: in the temperature unit set by CH1_UNIT This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 in °C will be returned.						
CH2:VALID_TEMP	3x00303 4x00303 I:302	-999.000000,0xC479C000 B:C4 79 C0 00			FLOAT32 R/O	
		-999,000000				
Current valid temperature of the 2nd channel. Value: temperature Unit: in the temperature unit set by CH2_UNIT This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 in °C will be returned.						
CH1:REAL_TEMP	3x00305 4x00305 I:304	26.278320,0x41D23A00 B:41 D2 3A 00			FLOAT32 R/O	
		26,278320				
Last measured temperature value for the 1st channel. Value: temperature Unit: in the temperature unit set by CH1_UNIT This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP. If the measurement result is completely invalid this register returns the value -999.0 in °C.						
CH2:REAL_TEMP	3x00307 4x00307 I:306	-999.000000,0xC479C000 B:C4 79 C0 00			FLOAT32 R/O	
		-999,000000				
Last measured temperature value for the 2nd channel. Value: temperature Unit: in the temperature unit set by CH2_UNIT This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP. If the measurement result is completely invalid this register returns the value -999.0 in °C.						
CH1:AVG_TEMP	3x00309 4x00309 I:308	26.269491,0x41D227EB B:41 D2 27 EB			FLOAT32 R/O	
		26,269491				
Last average temperature calculated for sensor channel 1. Value: temperature Unit: in the temperature unit set by CH1_UNIT The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired, the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running this register delivers the value -999.0 in °C.						
CH2:AVG_TEMP	3x00311 4x00311 I:310	-999.000000,0xC479C000 B:C4 79 C0 00			FLOAT32 R/O	
		-999,000000				

Last average temperature calculated for sensor channel 2.
Value: temperature
Unit: in the temperature unit set by CH2_UNIT

The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired,
the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running
this register delivers the value -999.0 in °C.

CH1:STATUS	3x00313 4x00313 I:312	1.000000,0x3F800000 B:3F 80 00 00			FLOAT32 R/O	
		CH1:Sensor status bits:0000.0000.0000.0001				
		CH1:BIT0:VALID:1				
		CH1:BIT1:ADC OUT OF RANGE:0				
		CH1:BIT2:SENSOR UNDER RANGE:0				
		CH1:BIT3:SENSOR OVER RANGE:0				
		CH1:BIT6:HART ADC OUT OF RANGE:0				
		CH1:BIT7:SENSOR HART FAULT:0				

This registers delivers the current status of the last measurement of the 1st sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

CH2:STATUS	3x00315 4x00315 I:314	203.000000,0x434B0000 B:43 4B 00 00			FLOAT32 R/O	
		CH2:Sensor status bits:0000.0000.1100.1011				
		CH2:BIT0:VALID:1				
		CH2:BIT1:ADC OUT OF RANGE:1				
		CH2:BIT2:SENSOR UNDER RANGE:0				
		CH2:BIT3:SENSOR OVER RANGE:1				
		CH2:BIT6:HART ADC OUT OF RANGE:1				
		CH2:BIT7:SENSOR HART FAULT:1				

This registers delivers the current status of the last measurement of the 2nd sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

MEASUREMENT DATA						
CH1:VALID_TEMP	3x00401 4x00401 I:400	26.278320,0x41D23A00 B:3A 00 41 D2			FLOAT32R R/O	
		26,278320				

Current valid temperature of the 1st channel.
Value: temperature
Unit: in the temperature unit set by CH1_UNIT

This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 in °C will be returned.

CH2:VALID_TEMP	3x00403 4x00403 I:402	-999.000000,0xC479C000 B:C0 00 C4 79			FLOAT32R R/O	
		-999,000000				

Current valid temperature of the 2nd channel.
Value: temperature
Unit: in the temperature unit set by CH2_UNIT

This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 in °C will be returned.

CH1:REAL_TEMP	3x00405 4x00405 I:404	26.278320,0x41D23A00 B:3A 00 41 D2			FLOAT32R R/O	
		26,278320				

Last measured temperature value for the 1st channel.
Value: temperature
Unit: in the temperature unit set by CH1_UNIT

This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP.
If the measurement result is completely invalid this register returns the value
-999.0 in °C.

CH2:REAL_TEMP	3x00407 4x00407 I:406	-999.000000,0xC479C000 B:C0 00 C4 79			FLOAT32R R/O	
		-999,000000				

Last measured temperature value for the 2nd channel.
Value: temperature
Unit: in the temperature unit set by CH2_UNIT

This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP.
If the measurement result is completely invalid this register returns the value
-999.0 in °C.

CH1:AVG_TEMP	3x00409 4x00409 I:408	26.269491,0x41D227EB B:27 EB 41 D2			FLOAT32R R/O	
		26,269491				

Last average temperature calculated for sensor channel 1.
Value: temperature
Unit: in the temperature unit set by CH1_UNIT

The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired,
the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running
this register delivers the value -999.0 in °C.

CH2:AVG_TEMP	3x00411 4x00411 I:410	-999.000000,0xC479C000 B:C0 00 C4 79			FLOAT32R R/O	
		-999,000000				

Last average temperature calculated for sensor channel 2.
Value: temperature
Unit: in the temperature unit set by CH2_UNIT

The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired,
the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running
this register delivers the value -999.0 in °C.

CH1:STATUS	3x00413 4x00413 I:412	1.000000,0x3F800000 B:00 00 3F 80			FLOAT32R R/O	
		CH1:Sensor status bits:0000.0000.0000.0001				
		CH1:BIT0:VALID:1				
		CH1:BIT1:ADC OUT OF RANGE:0				
		CH1:BIT2:SENSOR UNDER RANGE:0				
		CH1:BIT3:SENSOR OVER RANGE:0				
		CH1:BIT6:HART ADC OUT OF RANGE:0				
		CH1:BIT7:SENSOR HART FAULT:0				

This registers delivers the current status of the last measurement of the 1st sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

CH2:STATUS	3x00415 4x00415 I:414	203.000000,0x434B0000 B:00 00 43 4B			FLOAT32R R/O	
		CH2:Sensor status bits:0000.0000.1100.1011				
		CH2:BIT0:VALID:1				
		CH2:BIT1:ADC OUT OF RANGE:1				
		CH2:BIT2:SENSOR UNDER RANGE:0				
		CH2:BIT3:SENSOR OVER RANGE:1				
		CH2:BIT6:HART ADC OUT OF RANGE:1				
		CH2:BIT7:SENSOR HART FAULT:1				

This registers delivers the current status of the last measurement of the 2nd sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

MEASUREMENT DATA						
CH1:VALID_TEMP	3x00501 4x00501 I:500	26.278320,0x403A474000000000 B:40 3A 47 40 00 00 00 00			DOUBLE64 R/O	
		26,278320				

Current valid temperature of the 1st channel. Value: temperature Unit: in the temperature unit set by CH1_UNIT This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 in °C will be returned.						
CH2:VALID_TEMP	3x00505 4x00505 I:504	-999.000000,0xC08F380000000000 B:C0 8F 38 00 00 00 00 00			DOUBLE64 R/O	
		-999,000000				
Current valid temperature of the 2nd channel. Value: temperature Unit: in the temperature unit set by CH2_UNIT This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 in °C will be returned.						
CH1:REAL_TEMP	3x00509 4x00509 I:508	26.278320,0x403A474000000000 B:40 3A 47 40 00 00 00 00			DOUBLE64 R/O	
		26,278320				
Last measured temperature value for the 1st channel. Value: temperature Unit: in the temperature unit set by CH1_UNIT This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP. If the measurement result is completely invalid this register returns the value -999.0 in °C.						
CH2:REAL_TEMP	3x00513 4x00513 I:512	-999.000000,0xC08F380000000000 B:C0 8F 38 00 00 00 00 00			DOUBLE64 R/O	
		-999,000000				
Last measured temperature value for the 2nd channel. Value: temperature Unit: in the temperature unit set by CH2_UNIT This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP. If the measurement result is completely invalid this register returns the value -999.0 in °C.						
CH1:AVG_TEMP	3x00517 4x00517 I:516	26.269491,0x403A44FD55555555 B:40 3A 44 FD 55 55 55 55			DOUBLE64 R/O	
		26,269491				
Last average temperature calculated for sensor channel 1. Value: temperature Unit: in the temperature unit set by CH1_UNIT The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired, the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running this register delivers the value -999.0 in °C.						
CH2:AVG_TEMP	3x00521 4x00521 I:520	-999.000000,0xC08F380000000000 B:C0 8F 38 00 00 00 00 00			DOUBLE64 R/O	
		-999,000000				

Last average temperature calculated for sensor channel 2.
Value: temperature
Unit: in the temperature unit set by CH2_UNIT

The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired,
the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running
this register delivers the value -999.0 in °C.

CH1:STATUS	3x00525 4x00525 I:524	1.000000,0x3FF0000000000000 B:3F F0 00 00 00 00 00 00			DOUBLE64 R/O	
		CH1:Sensor status bits:0000.0000.0000.0001				
		CH1:BIT0:VALID:1				
		CH1:BIT1:ADC OUT OF RANGE:0				
		CH1:BIT2:SENSOR UNDER RANGE:0				
		CH1:BIT3:SENSOR OVER RANGE:0				
		CH1:BIT6:HART ADC OUT OF RANGE:0				
		CH1:BIT7:SENSOR HART FAULT:0				

This registers delivers the current status of the last measurement of the 1st sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

CH2:STATUS	3x00529 4x00529 I:528	203.000000,0x4069600000000000 B:40 69 60 00 00 00 00 00			DOUBLE64 R/O	
		CH2:Sensor status bits:0000.0000.1100.1011				
		CH2:BIT0:VALID:1				
		CH2:BIT1:ADC OUT OF RANGE:1				
		CH2:BIT2:SENSOR UNDER RANGE:0				
		CH2:BIT3:SENSOR OVER RANGE:1				
		CH2:BIT6:HART ADC OUT OF RANGE:1				
		CH2:BIT7:SENSOR HART FAULT:1				

This registers delivers the current status of the last measurement of the 2nd sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

MEASUREMENT DATA						
CH1:VALID_TEMP	3x00701 4x00701 I:700	26.278320,0x403A474000000000 B:00 00 00 00 47 40 40 3A			DOUBLE64R R/O	
		26,278320				

Current valid temperature of the 1st channel. Value: temperature Unit: in the temperature unit set by CH1_UNIT This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 in °C will be returned.						
CH2:VALID_TEMP	3x00705 4x00705 I:704	-999.000000,0xC08F380000000000 B:00 00 00 00 38 00 C0 8F			DOUBLE64R R/O	
		-999,000000				
Current valid temperature of the 2nd channel. Value: temperature Unit: in the temperature unit set by CH2_UNIT This is the last valid measured temperature. If there was no valid measurement in the past, the value -999.0 in °C will be returned.						
CH1:REAL_TEMP	3x00709 4x00709 I:708	26.278320,0x403A474000000000 B:00 00 00 00 47 40 40 3A			DOUBLE64R R/O	
		26,278320				
Last measured temperature value for the 1st channel. Value: temperature Unit: in the temperature unit set by CH1_UNIT This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP. If the measurement result is completely invalid this register returns the value -999.0 in °C.						
CH2:REAL_TEMP	3x00713 4x00713 I:712	-999.000000,0xC08F380000000000 B:00 00 00 00 38 00 C0 8F			DOUBLE64R R/O	
		-999,000000				
Last measured temperature value for the 2nd channel. Value: temperature Unit: in the temperature unit set by CH2_UNIT This is the last measured temperature on the ADC. If the was an erroneous conversion, this value will not be stored into the register VALID_TEMP. If the measurement result is completely invalid this register returns the value -999.0 in °C.						
CH1:AVG_TEMP	3x00717 4x00717 I:716	26.269491,0x403A44FD55555555 B:55 55 55 55 44 FD 40 3A			DOUBLE64R R/O	
		26,269491				
Last average temperature calculated for sensor channel 1. Value: temperature Unit: in the temperature unit set by CH1_UNIT The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired, the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running this register delivers the value -999.0 in °C.						
CH2:AVG_TEMP	3x00721 4x00721 I:720	-999.000000,0xC08F380000000000 B:00 00 00 00 38 00 C0 8F			DOUBLE64R R/O	
		-999,000000				

Last average temperature calculated for sensor channel 2.
Value: temperature
Unit: in the temperature unit set by CH2_UNIT

The module adds internally all values of the register VALID_TEMP_IN_C for a configured time span. After the time span has expired,
the module calculates the average temperature and stores the result into this register. After a module reboot while the first time span is running
this register delivers the value -999.0 in °C.

CH1:STATUS	3x00725 4x00725 I:724	1.000000,0x3FF0000000000000 B:00 00 00 00 00 00 3F F0			DOUBLE64R R/O	
		CH1:Sensor status bits:0000.0000.0000.0001				
		CH1:BIT0:VALID:1				
		CH1:BIT1:ADC OUT OF RANGE:0				
		CH1:BIT2:SENSOR UNDER RANGE:0				
		CH1:BIT3:SENSOR OVER RANGE:0				
		CH1:BIT6:HART ADC OUT OF RANGE:0				
		CH1:BIT7:SENSOR HART FAULT:0				

This registers delivers the current status of the last measurement of the 1st sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

CH2:STATUS	3x00729 4x00729 I:728	203.000000,0x4069600000000000 B:00 00 00 00 60 00 40 69			DOUBLE64R R/O	
		CH2:Sensor status bits:0000.0000.1100.1011				
		CH2:BIT0:VALID:1				
		CH2:BIT1:ADC OUT OF RANGE:1				
		CH2:BIT2:SENSOR UNDER RANGE:0				
		CH2:BIT3:SENSOR OVER RANGE:1				
		CH2:BIT6:HART ADC OUT OF RANGE:1				
		CH2:BIT7:SENSOR HART FAULT:1				

This registers delivers the current status of the last measurement of the 2nd sensor channel.
Value: Each bit has an individual meaning

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

INTERNAL DATA						
CH1:AVG_SUM	3x00901 4x00901 I:900	262.699219,0x40706B3000000000 B:40 70 6B 30 00 00 00 00			DOUBLE64 R/O	
		262,699219				

Current sum of the average calculation for the 1st channel. Value: temperature Unit: in °Celsius [°C] This is current temporary temperature sum for the average calculation.						
CH2:AVG_SUM	3x00905 4x00905 I:904	0.000000,0x00000000 B:00 00 00 00 00 00 00 00			DOUBLE64 R/O	
		0,000000				
Current sum of the average calculation for the 2nd channel. Value: temperature Unit: in °Celsius [°C] This is current temporary temperature sum for the average calculation.						
CH1:AVG_SUM	3x00909 4x00909 I:908	262.699219,0x40706B3000000000 B:00 00 00 00 6B 30 40 70			DOUBLE64R R/O	
		262,699219				
Current sum of the average calculation for the 1st channel. Value: temperature Unit: in °Celsius [°C] This is current temporary temperature sum for the average calculation.						
CH2:AVG_SUM	3x00913 4x00913 I:912	0.000000,0x00000000 B:00 00 00 00 00 00 00 00			DOUBLE64R R/O	
		0,000000				
Current sum of the average calculation for the 2nd channel. Value: temperature Unit: in °Celsius [°C] This is current temporary temperature sum for the average calculation.						
CH1:AVG_COUNTER	3x00917 4x00917 I:916	10,0x0000000A B:00 00 00 0A			UINT32 R/O	
		10,000000				
Current count of summated temperature values for the average temperature calculation for the 1st channel Value: Count Unit: in pieces This is the counter register for the average value calculation. Each time the average sum is updated this counter will be incremented by 1. At the end of the time span, the module divides the sum by this counter value to calculate the average temperature value.						
CH2:AVG_COUNTER	3x00919 4x00919 I:918	0,0x00000000 B:00 00 00 00			UINT32 R/O	
		0,000000				
Current count of summated temperature values for the average temperature calculation for the 2nd channel Value: Count Unit: in pieces This is the counter register for the average value calculation. Each time the average sum is updated this counter will be incremented by 1. At the end of the time span, the module divides the sum by this counter value to calculate the average temperature value.						

CH1:AVG_COUNTER	3x00921 4x00921 I:920	10,0x0000000A B:00 0A 00 00			UINT32R R/O	
		10,000000				
Current count of summated temperature values for the average temperature calculation for the 1st channel Value: Count Unit: in pieces This is the counter register for the average value calculation. Each time the average sum is updated this counter will be incremented by 1. At the end of the time span, the module divides the sum by this counter value to calculate the average temperature value.						
CH2:AVG_COUNTER	3x00923 4x00923 I:922	0,0x00000000 B:00 00 00 00			UINT32R R/O	
		0,000000				
Current count of summated temperature values for the average temperature calculation for the 2nd channel Value: Count Unit: in pieces This is the counter register for the average value calculation. Each time the average sum is updated this counter will be incremented by 1. At the end of the time span, the module divides the sum by this counter value to calculate the average temperature value.						
CH1:AVG_TIMER	3x00925 4x00925 I:924	5630,0x000015FE B:00 00 15 FE			UINT32 R/O	
		5630,000000				
Current interval downcounter timer value for average calculation of 1st channel in Milliseconds.						
CH2:AVG_TIMER	3x00927 4x00927 I:926	5635,0x00001603 B:00 00 16 03			UINT32 R/O	
		5635,000000				
Current interval downcounter timer value for average calculation of 2nd channel in Milliseconds.						
CH1:AVG_TIMER	3x00929 4x00929 I:928	5203,0x00001453 B:14 53 00 00			UINT32R R/O	
		5203,000000				
Current interval downcounter timer value for average calculation of 1st channel in Milliseconds.						
CH2:AVG_TIMER	3x00931 4x00931 I:930	5208,0x00001458 B:14 58 00 00			UINT32R R/O	
		5208,000000				
Current interval downcounter timer value for average calculation of 2nd channel in Milliseconds.						

CH1:SENSOR CONFIGURATION						
CH1:SENSOR TYPE	3x06021 4x06021 I:6020	0,0x0000 B:00 00		0x0033	UINT16 R/W	NO
		CH1:Sensor type:Platin Sensor 100Ω		3:Platin Sensor 10Ω	TYPE	
		CH1:Excitation current:Measurement current 500µA		3:Measurement current 10µA	CURRENT	

		CH1:Linearisation curve:EUROPE		0:EUROPE	LIN.TYPE	
		CH1:Temperature unit:CELSIUS		0:CELSIUS	UNIT	
This register defines the type of the connected sensor to sensor channel 1. Format Bit 0..3:CH1_TYPE:Sensor type 0:PT100 1:PT1000 2:PT1000 α=0.00375 3:PT10 4:PT50 5:PT200 6:PT500 7:NI120 8:NI1000-DIN43760 9:R Bit 4..7:CH1_CURRENT:Excitation current 0:500µA 1:1mA 2:5µA 3:10µA 4:25µA 5:50µA 6:100µA 7:250µA Bit 8..11:CH1_LINEARISATION:Linearization standard 0:Europe 1:America 2:Japan 3:ITS-90 4:DON'T CARE Bit 12..15:CH1_UNIT:Display unit: 15, 0:°Celsius [°C] 1:°Fahrenheit [°F] 2:°Kelvin [°K] This value will be stored into an internal FLASH memory. The new setting will be valid after a REBOOT of the module!						
CH1:ZERO_OFFSET	3x06022 4x06022 I:6021	0,0x00000000 B:00 00 00 00	1001000	1,001000	UINT32 R/O	
		0,000000		ENTER ZERO OFFSET		
In this register you can set up a zero offset value to compensate a long cable. The value represents a temperature value as an integer value in the format °C *100000! The offset -1.23456 will be -123456. Therefore you can define an offset with five digits after the comma! This value will be stored into an internal FLASH memory. The new setting will be valid after a REBOOT of the module! IMPORTANT: The internal FLASH memory cannot be written indefinitely!						
CH1:AVG_INTERVAL	3x06024 4x06024 I:6023	10,0x0000000A B:00 00 00 0A	100	100	UINT32 R/O	
		10		ENTER AVERAGE INTERVAL		

This register contains the time span in Seconds for the average calculation of the 1st sensor channel

This value will be stored into an internal FLASH memory. The new setting will be valid after a REBOOT of the module!
IMPORTANT: The internal FLASH memory cannot be written indefinitely!

CH2:SENSOR CONFIGURATION						
CH2:SENSOR TYPE	3x06041 4x06041 I:6040	0,0x0000 B:00 00		0x1151	UINT16 R/W	YES
		CH2:Sensor type:Platin Sensor 100Ω		1:Platin Sensor 1000Ω	TYPE	
		CH2:Excitation current:Measurement current 500µA		5:Measurement current 50µA	CURRENT	
		CH2:Linearisation curve:EUROPE		1:AMERICA	LIN.TYPE	
		CH2:Temperature unit:CELSIUS		1:FAHRENHEIT	UNIT	

This register defines the type of the connected sensor to sensor channel 2.
Format
Bit 0..3:CH1_TYPE:Sensor type
0:PT100
1:PT1000
2:PT1000 α=0.00375
3:PT10
4:PT50
5:PT200
6:PT500
7:NI120
8:NI1000-DIN43760
9:R
Bit 4..7:CH1_CURRENT:Excitation current
0:500µA
1:1mA
2:5µA
3:10µA
4:25µA
5:50µA
6:100µA
7:250µA
Bit 8..11:CH1_LINEARISATION:Linearization standard
0:Europe
1:America
2:Japan
3:ITS-90
4:DON'T CARE
Bit 12..15:CH1_UNIT:Display unit: 15,
0:°Celsius [°C]
1:°Fahrenheit [°F]
2:°Kelvin [°K]

This value will be stored into an internal FLASH memory. The new setting will be valid after a REBOOT of the module!

CH2:ZERO_OFFSET	3x06042 4x06042 I:6041	0,0x00000000 B:00 00 00 00	1500000	1,500000	UINT32 R/W	YES
		0,000000		ENTER ZERO OFFSET		

In this register you can set up a zero offset value to compensate a long cable. The value represents a temperature value as an integer value in the format °C *100000! The offset -1.23456 will be -123456. Therefore you can define an offset with five digits after the comma! This value will be stored into an internal FLASH memory. The new setting will be valid after a REBOOT of the module! IMPORTANT: The internal FLASH memory cannot be written indefinitely!						
CH2:AVG_INTERVAL	3x06044 4x06044 I:6043	10,0x0000000A B:00 00 00 0A	200	200	UINT32 R/W	YES
		10		ENTER AVERAGE INTERVAL		

GET TEMP1	**ASCII READ COMMAND**	#GET TEMP1<CR> #GT1<CR> Result: #GT1:<SENSOR1Dbl><CR>	ASCII	
	TX	#GET TEMP1<CR>		
	RX	#255,GT1:-999.000000<CR>		
		Current sensor temperature CH1:-999		
Returns the last measured valid temperature on channel sensor 1 as a floating point number.SENSOR1DblThe last valid measured temperature value of sensor 1 as floating point number with a . as a decimal point character.The temperature value is returned in the actual configured unit in register CH1_UNIT (°Celsius, °Fahrenheit or °Kelvin)				
GET TEMP2	**ASCII READ COMMAND**	#GET TEMP2<CR> #GT2<CR> Result: #GT2:<SENSOR2Dbl><CR>	ASCII	
	TX	#GET TEMP2<CR>		
	RX	#255,GT2:-999.000000<CR>		
		Current sensor temperature CH2:-999		
Returns the last measured valid temperature on channel sensor 2 as a floating point number.SENSOR2DblThe last valid measured temperature value of sensor 2 as floating point number with a . as a decimal point character.The temperature value is returned in the actual configured unit in register CH2_UNIT (°Celsius, °Fahrenheit or °Kelvin)				
GET TEMPS	**ASCII READ COMMAND**	#GET TEMPS<CR> #GTS<CR> Result: #GTS:<SENSOR1Dbl>,<SENSOR2Dbl><CR>	ASCII	
	TX	#GET TEMPS<CR>		
	RX	#255,GTS:-999.000000,-999.000000<CR>		
		Current sensor temperature CH1:-999,CH2:-999		
Returns the last measured valid temperatures on both channels as a floating point number. SENSOR1Dbl The last valid measured temperature value of sensor 1 as floating point number with a . as a decimal point character. SENSOR2Dbl The last valid measured temperature value of sensor 2 as floating point number with a . as a decimal point character. The temperature value is returned in the actual configured unit in register CHx_UNIT (°Celsius, °Fahrenheit or °Kelvin).				
GET REAL TEMP1	**ASCII READ COMMAND**	#GET REAL TEMP1<CR> #GRT1<CR> Result: #GRT1:<REALTEMP1Dbl><CR>	ASCII	
	TX	#GET REAL TEMP1<CR>		
	RX	#255,GRT1:-999.000000<CR>		
		Real sensor temperature CH1:-999		
Returns the last measured temperature values on sensor input 1 as a floating point number. The measured value can be an erroneous or invalid measurement result or a valid measurement result. REALTEMP1Dbl The last temperature measurement result from sensor 1 as floating point number with a . for the decimal point. The temperature value is returned in the actual configured unit in register CH1_UNIT (°Celsius, °Fahrenheit or °Kelvin).				

GET REAL TEMP2	**ASCII READ COMMAND**	#GET REAL TEMP2<CR> #GRT2<CR> Result: #GRT2:<REALTEMP2Dbl><CR>	ASCII	
	TX	#GET REAL TEMP2<CR>		
	RX	#255,GRT2:-999.000000<CR>		
		Real sensor temperature CH2:-999		
Returns the last measured temperature values on sensor input 2 as a floating point number. The measured value can be an erroneous or invalid measurement result or a valid measurement result. REALTEMP2Dbl The last temperature measurement result from sensor 2 as floating point number with a . for the decimal point. The temperature value is returned in the actual configured unit in register CH2_UNIT (°Celsius, °Fahrenheit or °Kelvin).				
GET REAL TEMPS	**ASCII READ COMMAND**	#GET REAL TEMPS<CR> #GRTS<CR> Result: #GRTS:<REALTEMP1Dbl>,<REALTEMP2Dbl><CR>	ASCII	
	TX	#GET REAL TEMPS<CR>		
	RX	#255,GRTS:-999.000000,-999.000000<CR>		
		Real sensor temperature CH1:-999,CH2:-999		
Returns the last measured temperature values on both sensor inputs as floating point numbers. The measured values can be erroneous or invalid measurement results or valid measurement results. REALTEMP1Dbl The last temperature measurement result from sensor 1 as floating point number with a . for the decimal point. REALTEMP2Dbl The last temperature measurement result from sensor 2 as floating point number with a . for the decimal point. The temperature value is returned in the actual configured unit in register CHx_UNIT (°Celsius, °Fahrenheit or °Kelvin).				
GET AVG TEMP1	**ASCII READ COMMAND**	#GET AVG TEMP1<CR> #GAT1<CR> Result: #GAT1:<AVGTEMP1Dbl><CR>	ASCII	
	TX	#GET AVG TEMP1<CR>		
	RX	#255,GAT1:-999.000000<CR>		
		Average sensor temperature CH1:-999		
Returns the last calculated average temperature for sensor input 1 as a floating point number. AVGTEMP1Dbl The last calculated average temperature result for sensor 1 as floating point number with a . for the decimal point. The temperature value is returned in the actual configured unit in register CH1_UNIT (°Celsius, °Fahrenheit or °Kelvin).				
GET AVG TEMP2	**ASCII READ COMMAND**	#GET AVG TEMP2<CR> #GAT2<CR> Result: #GAT2:<AVGTEMP2Dbl><CR>	ASCII	
	TX	#GET AVG TEMP2<CR>		
	RX	#255,GAT2:-999.000000<CR>		
		Average sensor temperature CH2:-999		

Returns the last calculated average temperature for sensor input 2 as a floating point number. AVGTEMP2Dbl The last calculated average temperature result for sensor 2 as floating point number with a . for the decimal point. The temperature value is returned in the actual configured unit in register CH2_UNIT (°Celsius, °Fahrenheit or °Kelvin).				
GET AVG TEMPS	**ASCII READ COMMAND**	#GET AVG TEMPS<CR> #GATS<CR> Result: GATS:<AVGTEMP1Dbl>,<AVGTEMP2Dbl><CR>	ASCII	
	TX	#GET AVG TEMPS<CR>		
	RX	#255,GATS:-999.000000,-999.000000<CR>		
		Average sensor temperature CH1:-999,CH2:-999		
Returns the last calculated average temperatures for both sensor inputs as floating point numbers. AVGTEMP1Dbl The last calculated average temperature result for sensor 1 as floating point number with a . for the decimal point. AVGTEMP2Dbl The last calculated average temperature result for sensor 2 as floating point number with a . for the decimal point. The temperature value is returned in the actual configured unit in register CHx_UNIT (°Celsius, °Fahrenheit or °Kelvin).				
SET AVG INTERVAL1	**ASCII WRITE COMMAND**	#SET AVG INTERVAL1:<AVGINTERVAL1><CR> #SAI1:<AVGINTERVAL1><CR> Result: #OK<CR>	ASCII	NO
	AVGINTERVAL1	11		
	TX	#SET AVG INTERVAL1:11<CR>		
	RX	N/A		
Defines a new time interval for the average calculation in Seconds for channel 1. AVGINTERVAL1 The new time span for the average calculation on sensor input 1 in Seconds. This value is stored in the internal FLASH memory.				
SET AVG INTERVAL2	**ASCII WRITE COMMAND**	#SET AVG INTERVAL2:<AVGINTERVAL2><CR> #SAI2:<AVGINTERVAL2><CR>	ASCII	NO
	AVGINTERVAL2	12		
	TX	#SET AVG INTERVAL2:12<CR>		
	RX	N/A		
Defines a new time interval for the average calculation in Seconds for channel 2. AVGINTERVAL2 The new time span for the average calculation on sensor input 2 in Seconds. This value is stored in the internal FLASH memory.				

SET AVG INTERVALS	**ASCII WRITE COMMAND**	#SET AVG INTERVALS:<AVGINTERVAL1>,<AVGINTERVAL2><CR> #SAIS:<AVGINTERVAL1>,<AVGINTERVAL2><CR>	ASCII	NO
	AVGINTERVAL1	13		
	AVGINTERVAL2	14		
	TX	#SET AVG INTERVALS:13,14<CR>		
	RX	N/A		
Defines a new time interval for the average calculation in Seconds for both channels. AVGINTERVAL1 The new time span for the average calculation on sensor input 1 in Seconds. AVGINTERVAL2 The new time span for the average calculation on sensor input 2 in Seconds. All values are stored in the internal FLASH memory.				
GET AVG INTERVAL1	**ASCII READ COMMAND**	#GET AVG INTERVAL1<CR> #GAI1<CR> Result: #GAI1:<AVGINTERVAL1Dec>,<AVGINTERVAL1Hex><CR>	ASCII	
	TX	#GET AVG INTERVAL1<CR>		
	RX	#255,GAI1:10,0xA<CR>		
		Average interval CH1:10		
Returns the current configured time span for the average calculation in Seconds as decimal or hexadecimal value for sensor channel 1. AVGINTERVAL1Dec AVGINTERVAL1Hex The configured time span for the average calculation for sensor input 1 in Seconds				
GET AVG INTERVAL2	**ASCII READ COMMAND**	#GET AVG INTERVAL2<CR> #GAI2<CR> Result: #GAI2:<AVGINTERVAL2Dec>,<AVGINTERVAL2Hex><CR>	ASCII	
	TX	#GET AVG INTERVAL2<CR>		
	RX	#255,GAI2:10,0xA<CR>		
		Average interval CH2:10		
Returns the current configured time span for the average calculation in Seconds as decimal or hexadecimal value for sensor channel 2. AVGINTERVAL2Dec AVGINTERVAL2Hex The configured time span for the average calculation for sensor input 2 in Seconds				
GET AVG INTERVALS	**ASCII READ COMMAND**	#GET AVG INTERVALS<CR> #GAIS<CR> Result: #GAIS:<AVGINTERVAL1Dec>,<AVGINTERVAL2Dec>, <AVGINTERVAL1Hex>,<AVGINTERVAL2Hex><CR>	ASCII	
	TX	#GET AVG INTERVALS<CR>		
	RX	#255,GAIS:10,10,0xA,0xA<CR>		
		Average interval CH1:10,CH2:10		

Returns the current configured time span for the average calculation in Seconds
as decimal or hexadecimal value for both sensor channels.
AVGINTERVAL1Dec
AVGINTERVAL1Hex
The configured time span for the average calculation for sensor input 1 in Seconds

AVGINTERVAL2Dec
AVGINTERVAL2Hex
The configured time span for the average calculation for sensor input 2 in Seconds

SET OFFSET TEMP1	**ASCII WRITE COMMAND**	#SET OFFSET TEMP1:<OFSTEMP1><CR> #SOT1:<OFSTEMP1><CR> Result: #OK	ASCII	NO
	OFSTEMP1	1,234		
	TX	#SET OFFSET TEMP1:1.234<CR>		
	RX	N/A		

Defines a new zero offset value for sensor input 1 as a temperature value in the current configured temperature unit.

OFSTEMP1
the new zero offset as a floating point number for sensor channel 1 with a . as a comma sign.

This value is stored in the internal FLASH memory.

SET OFFSET TEMP2	**ASCII WRITE COMMAND**	#SET OFFSET TEMP2:<OFSTEMP2><CR> #SOT2:<OFSTEMP2><CR> Result: #OK<CR>	ASCII	NO
	OFSTEMP2	1,234		
	TX	#SET OFFSET TEMP2:1.234<CR>		
	RX	N/A		

Defines a new zero offset value for sensor input 2 as a temperature value in the current configured temperature unit.

OFSTEMP2
the new zero offset as a floating point number for sensor channel 2 with a . as a comma sign.

This value is stored in the internal FLASH memory.

SET OFFSET TEMPS	**ASCII WRITE COMMAND**	#SET OFFSET TEMPS:<OFSTEMP1>,<OFSTEMP2><CR> #SOTS:<OFSTEMP1>,<OFSTEMP2><CR> Result: #OK<CR>	ASCII	NO
	OFSTEMP1	1,234		
	OFSTEMP2	2,3456		
	TX	#SET OFFSET TEMPS:1.234,2.3456<CR>		
	RX	N/A		

Defines a new zero offset value for both sensor inputs as a temperature value in the current configured temperature unit.OFSTEMP1the new zero offset as a floating point number for sensor channel 1 with a . as a comma sign.
OFSTEMP2the new zero offset as a floating point number for sensor channel 2 with a . as a comma sign. All values are stored in the internal FLASH memory

GET OFFSET TEMP1	**ASCII READ COMMAND**	#GET OFFSET TEMP1<CR> #GOT1<CR> Result: #GOT1:<OFSTEMP1Dbl><CR>	ASCII	
	TX	#GET OFFSET TEMP1<CR>		
	RX	#255,GOT1:0.000000<CR>		
		Current offset for CH1:0		
Returns the current configured zero offset values for sensor channel 1 as a floating point number. OFSTEMP1Dbl The configured zero offset value for sensor input 1 as floating point number with a . as a comma sign. The offset value is returned in the actual configured unit in register CH1_UNIT (°Celsius, °Fahrenheit or °Kelvin).				
GET OFFSET TEMP2	**ASCII READ COMMAND**	#GET OFFSET TEMP2<CR> #GOT2<CR> Result: #GOT2:<OFSTEMP2Dbl><CR>	ASCII	
	TX	#GET OFFSET TEMP2<CR>		
	RX	#255,GOT2:0.000000<CR>		
		Current offset for CH2:0		
Returns the current configured zero offset values for sensor channel 2 as a floating point number. OFSTEMP2Dbl The configured zero offset value for sensor input 2 as floating point number with a . as a comma sign. The offset value is returned in the actual configured unit in register CH2_UNIT (°Celsius, °Fahrenheit or °Kelvin).				
GET OFFSET TEMPS	**ASCII READ COMMAND**	#GET OFFSET TEMPS<CR> #GOTS<CR> Result: #GOTS:,<OFSTEMP1Dbl><OFSTEMP2Dbl><CR>	ASCII	
	TX	#GET OFFSET TEMPS<CR>		
	RX	#255,GOTS:0.000000,0.000000<CR>		
		Current offsets CH1:0,CH2:0		
Returns the current configured zero offset values for both sensor channels as a floating point number.OFSTEMP1DblThe configured zero offset value for sensor input 1 as floating point number with a . as a comma sign.OFSTEMP2DblThe configured zero offset value for sensor input 2 as floating point number with a . as a comma sign.The offset values are returned in the actual configured unit in register CHx_UNIT (°Celsius, °Fahrenheit or °Kelvin).				
SET SENSOR CONFIG1	**ASCII WRITE COMMAND**	#SET SENSOR CONFIG1:<STYPE>,<SCURRENT>,<SLINEARISATION>,<SUNIT><CR> #SSC1:<STYPE>,<SCURRENT>,<SLINEARISATION>,<SUNIT><CR> Result: #OK<CR>	ASCII	NO
	STYPE	NI1000-DIN43760:Nickel Sensor 1000Ω according to DIN43760		
	SCURRENT	5MYA:Measurement current 5µA		
	SLINEARISATION	ITS90		
	SUNIT	KELVIN		
	TX	#SET SENSOR CONFIG1:NI1000-DIN43760,5MYA,ITS90,KELVIN<CR>		
	RX	N/A		

Defines a new configuration for sensor input 1. The changes are valid after a REBOOT of the module. The configuration data will be written to the internal FLASH memory.

SType
The current type of the sensor:
PT100 Platin 100Ω
PT1000 Platin 1000Ω
PT1000_375 Platin 1000Ω α=0.00375
PT10 Platin 10Ω
PT50 Platin 50Ω
PT200 Platin 200Ω
PT500 Platin 500Ω
NI120 Nickel 120Ω
NI1000-DIN43760 Nickel 1000Ω DIN43760 linearization
R pure resistor measurement

SCurrent
The actual measurement current for the sensor
500MYA 500µA
1MA 1mA
5MYA 5µA
10MYA 10µA
20MYA 20µA
50MYA 50µA
100MYA 100µA
250MYA 250µA

SLinearisation
The actual linearization method for the sensor
EUROPE
AMERICA
JAPAN
ITS90
DONT_CARE

SUnit
The actual temperature unit for the sensor
CELSIUS
FAHRENHEIT
KELVIN

SET SENSOR CONFIG2	**ASCII WRITE COMMAND**	#SET SENSOR CONFIG2:<STYPE>,<SCURRENT>,<SLINEARISATION>,<SUNIT><CR> #SSC2:<STYPE>,<SCURRENT>,<SLINEARISATION>,<SUNIT><CR> Result: #OK<CR>	ASCII	NO
	STYPE	PT1000:Platin Sensor 1000Ω		
	SCURRENT	50MYA:Measurement current 50µA		
	SLINEARISATION	AMERICA		
	SUNIT	FAHRENHEIT		
	TX	#SET SENSOR CONFIG2:PT1000,50MYA,AMERICA,FAHRENHEIT<CR>		
	RX	N/A		

Defines a new configuration for sensor input 2. The changes are valid after a REBOOT of the module. The configuration data will be written to the internal FLASH memory.

SType The current type of the sensor: PT100 Platin 100Ω PT1000 Platin 1000Ω PT1000_375 Platin 1000Ω α=0.00375 PT10 Platin 10Ω PT50 Platin 50Ω PT200 Platin 200Ω PT500 Platin 500Ω NI120 Nickel 120Ω NI1000-DIN43760 Nickel 1000Ω DIN43760 linearization R pure resistor measurement
SCurrent The actual measurement current for the sensor 500MYA 500µA 1MA 1mA 5MYA 5µA 10MYA 10µA 20MYA 20µA 50MYA 50µA 100MYA 100µA 250MYA 250µA
SLinearisation The actual linearization method for the sensor EUROPE AMERICA JAPAN ITS90 DONT_CARE
SUnit The actual temperature unit for the sensor CELSIUS FAHRENHEIT KELVIN

SET SENSOR CONFIGS	**ASCII WRITE COMMAND**	#SET SENSOR CONFIGS:S1,<S1TYPE>,<S1CURRENT>,<S1LINEARISATION>,<S1UNIT>, S2,<S2TYPE>,<S2CURRENT>,<S2LINEARISATION>,<S2UNIT><CR> #SSCS:S1,<S1TYPE>,<S1CURRENT>,<S1LINEARISATION>,<S1UNIT>, S2,<S2TYPE>,<S2CURRENT>,<S2LINEARISATION>,<S2UNIT><CR> Result: #OK<CR>	ASCII	NO
	S1TYPE	PT1000:Platin Sensor 1000Ω		
	S1CURRENT	50MYA:Measurement current 50µA		
	S1LINEARISATION	AMERICA		
	S1UNIT	FAHRENHEIT		
	S2TYPE	PT500:Platin Sensor 500Ω		
	S2CURRENT	50MYA:Measurement current 50µA		
	S2LINEARISATION	AMERICA		
	S2UNIT	FAHRENHEIT		
	TX	#SET SENSOR CONFIGS:S1,PT1000,50MYA,AMERICA,FAHRENHEIT,S2,PT500,50MYA,AMERICA,FAHRENHEIT<CR>		
	RX	N/A		

Defines a new configuration for both sensor inputs. The changes are valid after a REBOOT of the module. The configuration data will be written to the internal FLASH memory.				
S1Type S2Type The current type of the sensor: PT100 Platin 100Ω PT1000 Platin 1000Ω PT1000_375 Platin 1000Ω α=0.00375 PT10 Platin 10Ω PT50 Platin 50Ω PT200 Platin 200Ω PT500 Platin 500Ω NI120 Nickel 120Ω NI1000-DIN43760 Nickel 1000Ω DIN43760 linearization R pure resistor measurement				
S1Current S2Current The actual measurement current for the sensor 500MYA 500µA 1MA 1mA 5MYA 5µA 10MYA 10µA 20MYA 20µA 50MYA 50µA 100MYA 100µA 250MYA 250µA				
S1Linearisation S2Linearisation The actual linearization method for the sensor EUROPE AMERICA JAPAN ITS90 DONT_CARE				
S1Unit S2Unit The actual temperature unit for the sensor CELSIUS FAHRENHEIT KELVIN				
GET SENSOR CONFIG1	**ASCII READ COMMAND**	#GET SENSOR CONFIG1<CR> #GSC1<CR> Result: #GSC1:<SType>,<SCurrent>,<SLinearisation>,<SUnit><CR>	ASCII	
	TX	#GET SENSOR CONFIG1<CR>		
	RX	#255,GSC1:PT100,500MYA,EUROPE,CELSIUS<CR>		
		CH1:Sensor type:PT100		
		CH1:Measurement current:500MYA		
		CH1:Linearisation:EUROPE		
		CH1:Temperature unit:CELSIUS		
Shows the current configuration of sensor input 1:				

SType
The current type of the sensor:
PT100 Platin 100Ω
PT1000 Platin 1000Ω
PT1000_375 Platin 1000Ω α=0.00375
PT10 Platin 10Ω
PT50 Platin 50Ω
PT200 Platin 200Ω
PT500 Platin 500Ω
NI120 Nickel 120Ω
NI1000-DIN43760 Nickel 1000Ω DIN43760 linearization
R pure resistor measurement

SCurrent
The actual measurement current for the sensor
500MYA 500µA
1MA 1mA
5MYA 5µA
10MYA 10µA
20MYA 20µA
50MYA 50µA
100MYA 100µA
250MYA 250µA

SLinearisation
The actual linearization method for the sensor
EUROPE
AMERICA
JAPAN
ITS90
DONT_CARE

SUnit
The actual temperature unit for the sensor
CELSIUS
FAHRENHEIT
KELVIN

GET SENSOR CONFIG2	**ASCII READ COMMAND**	#GET SENSOR CONFIG2<CR> #GSC2<CR> Result: #GSC2:<SType>,<SCurrent>,<SLinearisation>,<SUnit><CR>	ASCII	
	TX	#GET SENSOR CONFIG2<CR>		
	RX	#255,GSC2:PT100,500MYA,EUROPE,CELSIUS<CR>		
		CH2:Sensor type:PT100		
		CH2:Measurement current:500MYA		
		CH2:Linearisation:EUROPE		
		CH2:Temperature unit:CELSIUS		

Shows the current configuration of sensor input 2:

SType
The current type of the sensor:
PT100 Platin 100Ω
PT1000 Platin 1000Ω
PT1000_375 Platin 1000Ω α=0.00375
PT10 Platin 10Ω
PT50 Platin 50Ω
PT200 Platin 200Ω
PT500 Platin 500Ω
NI120 Nickel 120Ω
NI1000-DIN43760 Nickel 1000Ω DIN43760 linearization
R pure resistor measurement

SCurrent
The actual measurement current for the sensor
500MYA 500µA
1MA 1mA
5MYA 5µA
10MYA 10µA
20MYA 20µA
50MYA 50µA
100MYA 100µA
250MYA 250µA

SLinearisation
The actual linearization method for the sensor
EUROPE
AMERICA
JAPAN
ITS90
DONT_CARE

SUnit
The actual temperature unit for the sensor
CELSIUS
FAHRENHEIT
KELVIN

GET SENSOR CONFIGS	**ASCII READ COMMAND**	#GET SENSOR CONFIGS<CR> #GSCS<CR> Result: #GSCS:S1,<S1Type>,<S1Current>,<S1Linearisation>,<S1Unit>, S2,<S2Type>,<S2Current>,<S2Linearisation>,<S2Unit><CR>	ASCII	
	TX	#GET SENSOR CONFIGS<CR>		
	RX	#255,GSCS:S1,PT100,500MYA,EUROPE,CELSIUS,S2,PT100,500MYA,EUROPE,CELSIUS<CR>		
		CH1:Sensor type:PT100		
		CH1:Measurement current:500MYA		
		CH1:Linearisation:EUROPE		
		CH1:Temperature unit:CELSIUS		
		CH2:Sensor type:PT100		
		CH2:Measurement current:500MYA		
		CH2:Linearisation:EUROPE		
		CH2:Temperature unit:CELSIUS		

Show the current configuration of both sensor inputs:

S1Type
S2Type
The current type of the sensor:
PT100 Platin 100Ω
PT1000 Platin 1000Ω
PT1000_375 Platin 1000Ω α=0.00375
PT10 Platin 10Ω
PT50 Platin 50Ω
PT200 Platin 200Ω
PT500 Platin 500Ω
NI120 Nickel 120Ω
NI1000-DIN43760 Nickel 1000Ω DIN43760 linearization
R pure resistor measurement

S1Current
S2Current
The actual measurement current for the sensor
500MYA 500µA
1MA 1mA
5MYA 5µA
10MYA 10µA
20MYA 20µA
50MYA 50µA
100MYA 100µA
250MYA 250µA

S1Linearisation
S2Linearisation
The actual linearization method for the sensor
EUROPE
AMERICA
JAPAN
ITS90
DONT_CARE

S1Unit
S2Unit
The actual temperature unit for the sensor
CELSIUS
FAHRENHEIT
KELVIN

GET SENSOR STATUS	**ASCII READ COMMAND**	#GET SENSOR STATUS<CR> #GSS<CR> Result: #GSS:<S1StatusDec>,<S2StatusDec>,<S1StatusHex>,<S2StatusHex><CR>	ASCII	
	TX	#GET SENSOR STATUS<CR>		
	RX	#255,GSS:203,203,0xCB,0xCB<CR>		
		CH1:Sensor status bits:0000.0000.1100.1011		
		CH1:BIT0:VALID:1		
		CH1:BIT1:ADC OUT OF RANGE:1		
		CH1:BIT2:SENSOR UNDER RANGE:0		
		CH1:BIT3:SENSOR OVER RANGE:1		
		CH1:BIT6:HART ADC OUT OF RANGE:1		
		CH1:BIT7:SENSOR HART FAULT:1		
		CH2:Sensor status bits:0000.0000.1100.1011		

		CH2:BIT0:VALID:1		
		CH2:BIT1:ADC OUT OF RANGE:1		
		CH2:BIT2:SENSOR UNDER RANGE:0		
		CH2:BIT3:SENSOR OVER RANGE:1		
		CH2:BIT6:HART ADC OUT OF RANGE:1		
		CH2:BIT7:SENSOR HART FAULT:1		

Returns the current status for both sensor inputs:

S1StatusDec
S1StatusHex
Status for the first sensor input

S2StatusDec
S2StatusHex
Status for the second sensor input

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

GET SENSOR STATUS1	**ASCII READ COMMAND**	#GET SENSOR STATUS1<CR> #GSS1<CR> Result: #GSS1:<SStatusDec>,<SStatusHex><CR>	ASCII	
	TX	#GET SENSOR STATUS1<CR>		
	RX	#255,GSS1:203,0xCB<CR>		
		CH1:Sensor status bits:0000.0000.1100.1011		
		CH1:BIT0:VALID:1		
		CH1:BIT1:ADC OUT OF RANGE:1		
		CH1:BIT2:SENSOR UNDER RANGE:0		

		CH1:BIT3:SENSOR OVER RANGE:1		
		CH1:BIT6:HART ADC OUT OF RANGE:1		
		CH1:BIT7:SENSOR HART FAULT:1		

Returns the status for the first sensor input 1.

SStatusDec
SStatusHex
Status of the first sensor channel 1

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0

GET SENSOR STATUS2	**ASCII READ COMMAND**	#GET SENSOR STATUS2<CR> #GSS2<CR> Result: #GSS2:<SStatusDec>,<SStatusHex><CR>	ASCII	
	TX	#GET SENSOR STATUS2<CR>		
	RX	#255,GSS2:203,0xCB<CR>		
		CH2:Sensor status bits:0000.0000.1100.1011		
		CH2:BIT0:VALID:1		
		CH2:BIT1:ADC OUT OF RANGE:1		
		CH2:BIT2:SENSOR UNDER RANGE:0		
		CH2:BIT3:SENSOR OVER RANGE:1		
		CH2:BIT6:HART ADC OUT OF RANGE:1		
		CH2:BIT7:SENSOR HART FAULT:1		

Returns the status for the second sensor input 2.

SStatusDec
SStatusHex
Status of the first sensor channel 2

Explanation of status bits:
Bit 0:VALID
=1: If the measurement result is valid, this bit is set and all other bits in the status are 0!

=0: if the system detects a conversion error or problem, this bit is 0 and the measurement result must be discarded!

Bit 1:ADC OUT OF RANGE
=1: If the product of 2kΩ * excitation current >1V, this bit is 1 and the measurement result is invalid.

The absolute input voltage of the ACD beyond ±1.125 • VREF/2

=0: Everything is ok

Bit 2: SENSOR UNDER RANGE
=1: The current measured temperature is beyond the lower limit for the selected sensor type.
For PT: -200°C, for NI-120: -80°C

=0: Everything is ok

Bit 3: SENSOR OVER RANGE
=1: The current measured temperature is above the upper limit for the selected sensor type.
For PT: +850°C, for NI-120: +260°C

=0: Everything is ok

Bit 4: NOT USED
Ignore this bit

Bit 5: NOT USED
Ignore this bit

Bit 6: HARD ADC OUT OF RANGE
=1: Erroneous readout of the ADC value. A possibility is an extreme high noise level on the signal. The sensor value will be discarded. A second option is an open wiring for the sensor.

=0: Everything is ok

Bit 7: SENSOR HARD FAULT
=1: Sensor wiring is open or no sensor is cabled to the module. Sensor has a shortcut or the internal sense resistor has an error.

=0: Everything is ok
Bits 8..15: ALWAYS ZERO
Are always 0