AH2A1-6

ELECTRIC HEATING CONTROLLER

Modbus register map

MODBUS REGISTER MAP

INPUT REGISTERS

		Data type	Description	Raw data range	Values
1	Actual temperature level	signed integer	Actual temperature		200 = 20.0°C
2	Current output duty cycle	signed integer	Current output in %	0—100	100 = 100%
3	Selected setpoint	signed integer	Current setpoint in °C	50—300	300 = 30.0°C, 5—30°C
4—9			Reserved, return 0		
10	Setpoint source selected (Ext.SP / Int.SP)	unsigned integer	Shows which setpoint is used, external by analogue input or internal by trimmer or modbus register	0, 1	0 = External 1 = Internal
11	Working mode (Slave/Master)	unsigned integer	Shows how the controller is working: like master providing analogue output for slave device. Or like slave when the output in % repeat the analogue input	0, 1	0 = Slave 1 = Master
12	Day / Night mode	unsigned integer	Shows which setpoint is active: selected by OC switch	0, 1	0 = Day; 1 = Night
13	Remote Off contact	unsigned integer	Shows if the device is in remote off: selected by CC switch	0, 1	0 = ON, 1 = Stand-by
14	Control board problem		Shows if there is problem with communication with the control board	0, 1	0 = OK 1 = Problem
15—20			Reserved, return 0		

Note: The input registers can be read via the Modbus command: "Read input registers".

HOLDING REGISTERS

		Data type	Description	Raw data range	Values	Default
1	Device Slave Address	unsigned integer	Device address	1—247		1
2	Baud rate	unsigned integer	Modbus communication baud rate	1—4	1 = 9.600, 3 = 38.400, 2 = 19.200, 4 = 57.600	2
3	Parity mode	unsigned integer	Parity mode	0—2	0 = 8N1 1 = 8E1 2 = 8O1	1
4	Device Type	unsigned integer	Device Type: Read Only	6.003	6.003 = AH2A1-6	

HOLDING REGISTERS

		Data type	Description	Raw data range	Values	Default
5	HW Version	unsigned integer	Hardware Version. Read only	XXXX	0x0110 = HW version 1.10	
6	SW version	unsigned integer	Software Version. Read only	XXXX	0x0120 = SW version 1.20	
7	Operating mode	unsigned integer	Enables the modbus control and disables the jumpers and trimmers	0, 1	0 = Standalone mode 1 = Modbus mode.	
8	Output override	unsigned integer	Enables the direct control over the outputs. Always settable. Active only if holding register 7 is set to 1	0,1	0 = Disabled, 1 = Enabled.	0
9—10			Reserved, return 0			
11	Day setpoint selection	unsigned int	Day set point	50—300	300 = 30.0°C, 5—30°C	250
12	Night setpoint selection	unsigned int	Day set point	50—300	300 = 30.0°C, 5—30°C	180
13	Working mode	unsigned int	Slave or Master in Modbus mode	0,1	0 = Slave 1 = Master	1
14	Setpoint source selection	unsigned int	External or internal (Modbus) setpoint	0,1	0 = External setpoint 1 = Internal setpoint	1
15	Triac control PWM output period	unsigned int	PWM period time	1—60	60 = 60 sec.	30
16	Calibration at 10°C	unsigned int	Register containing the calibration value for 10°C. Write 1 to perform calibration.	0—1.023		210
17	Calibration at 30°C	unsigned int	Register containing the calibration value for 30°C. Write 1 to perform calibration.	0—1.023		490
18	Disable Remote Off		Disables/enables the remote Off contact (CC)	0,1	0 = Disabled, 1 = Enabled.	1
19—20			Reserved, return 0			
21	Override output value	signed int	Override output value in % (only active if registers 7 and 8 are set)	0—100	100 = 100 %	0
22—30			Reserved, return 0			

Note: The holding registers can be managed via the following Modbus commands: "Read Holding Registers", "Write Single Register" or "Write Multiple Registers".

The free Sentera configuration and monitoring software 3SModbus can be downloaded via: *https://www.sentera.eu/en/3SMCenter*