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Description of the | WRF07 (x) Modbus
WRF06 RS485 Modbus (without display)

RS485 MODBUS interface

Revision

Revision	Date	Description	Author
A	13.07.2010	First Release	
B	28.03.2011	▪ Changes in manual output mode: valid since firmware version 1.01, configuration software since version 1.1 ▪ Type DI4 added	
C	25.04.2012	▪ Corrections	
D	23.09.2015	▪ Description for Belimo® 6-way valve added (from firmware 1.02 and configuration software 1.5 or higher)	
E	06.09.2016	▪ Supplement the protocol description (WRF06 RS485 Modbus without display) ▪ new Thermokon Logo ▪ Corrections	
F	13.12.2016	▪ Defined output states in case of communication failure. ▪ Added register 45 and 46. (from firmware 1.05)	
G	10.02.2017	▪ SAUTER 6-way valve DN15/DN20 and Belimo 6-way valve inverted description (from firmware 1.06 and configuration software 1.6) ▪ Direct control of manual value of outputs (no configuration bit needed anymore) ▪ Optional address extension	
H	21.09.2017	▪ Description auto / manual mode of the analogue outputs	
I	01.11.2018	▪ Update for firmware 2.00 For older firmware version, please use register description Rev. A-H.	
J	10.12.2018	▪ Update for firmware 2.01 Description for absolute Humidity, Dewpoint and Enthalpy added.	
K	03.02.2020	▪ Description for coil 5 added (firmware 2.05 or higher).	
L	07.05.2021	▪ various corrections	
M	30.03.2022	▪ various corrections	JD
N	18.04.2023	▪ Register 16 "0 = no potentiometer	

Inhaltsverzeichnis

1   General

The present document describes the Modbus registers of the room operating panel WRF06-RS485-Modbus without display and WRF07-RS485-MODBUS. The MODBUS-Protocol developed by the company Modicon is a disclosed protocol for communication of several intelligent Master-Slave based devices.
For further information and definitions on the topic MODBUS, please see www.modbus.org.

1.1   Hardware Installation

The room operating panel can be connected by means of a twisted-pair cable (line resistance 120 Ohm). For detailed information on installation and mounting, please see the product datasheet and the data sheet wiring_rs485_network.pdf.

1.2   RS485 Transceiver

The maximum number of bus participants without use of a repeater is defined by the RS485-transceiver. The transceiver used enables 32 devices per bus segment at maximum.

1.3   Protocol

The room operating panel WRF06- & WRF07-RS485-Modbus is a slave-bus participant only allowed to send to the bus on demand of the master. The protocol corresponds to the defaults of:

- MODBUS Application Protocol Specification V1.1

- MODBUS via Serial Line Specification & Implementation guide V1.0

1.4   Configuration Options

1.4.1   Device addressing

In addition to address setting via dip switch an option for address extension (1-247) is implemented. To use extended addressing write a valid address (1-247) to register 16385 and set dip switch to address 0. As long as a dip switch address > 0 is set, the device uses the dip switch address as network address.
To modify register 16385 following sequence must be strictly adhered:
Set valid dip switch address. Use Modbus command 'Write multiple registers' (FC16) and write value 0x4793 to register 16384 and the selected address to register 16385 in one sequence. Subsequently set dip switch address to 0. Device uses the extended address setting as network address.
As long as the dip switch address is set to 0 it´s not possible to modify the extended address!

1.5 Dip Switches and LEDs

LEDs

Via the integrated LEDs the current operating status of the Modbus interface is indicated.

LED	Description
STA	Lights up permanently during normal operation
RXD	Blinks when RS485 Modbus telegrams are received
TXD	Blinks when RS485 Modbus telegrams are sent
ERR	Lights up in case of a corrupt bus configuration and internal errors

Note: During startup, all 4 LEDs blink for a few seconds.

Dip Switch
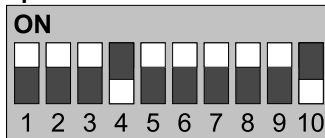
Example: Address 55, 57600 Baud, Parity EVEN

Address

Dip Switch	1	2	3	4	5	6
Priority	2^0 (1)	2^1 (2)	2^2 (4)	2^3 (8)	2^4 (16)	2^5 (32)

Baudrate

7	8	Baudrate
off	off	9600
on	off	19200
off	on	38400
on	on	57600

Parity / Stopbits

9	10	Parity
off	off	None - 2-Stopbits
on	off	Even - 1 Stopbit
off	on	Odd - 1 Stopbit
on	on	None - 1-Stopbit

1.6 Controller

1.6.1 Device Types

The controller is integrated in the following devices: AO2V, OVR, OVT, DO2R, DO2T, 6WV.

1.6.2 Function Mode of PI-Controller

The integrated PI-controller controls the temperature (register 258) of set point 1 (register 260). The control variable resulting is directly output to the outputs. The PI-controller can be set by properties. The control variable of the controller is re-calculated approx. every second. Thus, changes, such as e.g. adjustment of set point or triggering of window contact are only considered after expiration of the control time.

1.6.3 Change-Over Operation

The device can be used for a 2-pipe and a 4-pipe wire system. The corresponding selection is made via the configuration coil "Change-Over Operation".
If the change-over operation is activated, the corresponding mode (heating or cooling of controller) must be defined (e.g. by digital input or register 515, Controller mode).
The Change-Over Operation runs via output 1.

1.6.4 Energy Stop / Dew Point Detector

If a window contact or a dew point detector are connected to the digital inputs and the digital inputs are parameterized the same, both are directly affecting the control.

### 1.6.5 Override of Outputs

During operation an overriding of the outputs is possible via the input registers 516 and 517. The automatic mode of an output is activated if the corresponding register is -1 (= 0xFFFF). In automatic mode, the output is directly linked to the manipulated variable of the controller. Values between 0 and 1000 represent the manual value.

1.6.6   Minimal Control Variable

By means of the property "Use minimal control variable with control variable = 0"(Coil-Bit 8 = 0) the minimal control variable is only used, if the control variable is > 0. If Coil-Bit 8 is =1, the minimal control variable is also used if the control variable is = 0.
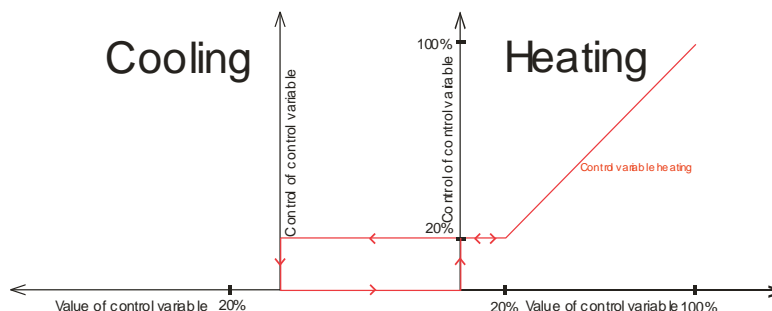
Mode Selection Control Variable (Coil Register 0x0000)

(1)   Mode selection Control Variable = 1
        Ymin = 20%
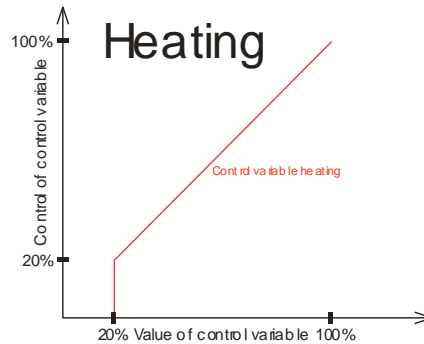
The control variable is only sent to the output if the calculated value of the control variable is bigger than the minimal control variable.

(2)   Mode selection Control Variable = 0
        Ymin = 20%

The minimal control variable at the output remains unchanged until the controller changes the operating mode

1.6.7   Calculating Set Points:

(1) OCCUPIED

- *Heating set point* =basic set point + offset (register 512) + poti offset*

- *Cooling set point* = basic set point + dead zone (register 20) + offset (register 512) + Poti-Offset*

(2) UNOCCUPIED

- *Heating set point* = basic set point + offset (register 512) + poti offset* -night lowering

- *Cooling set point* = basic set point + dead zone (register 20) + offset (register 512) + poti offset* + night lowering (register 19)

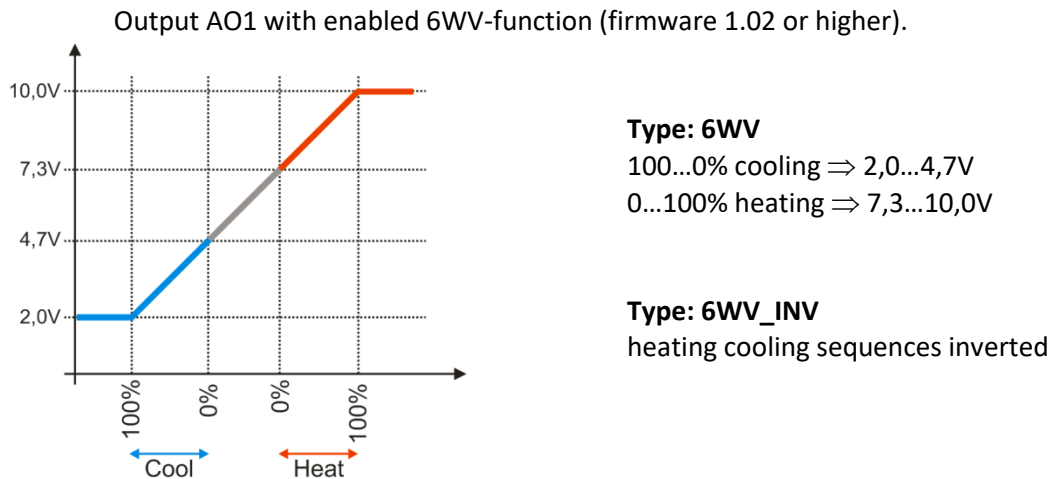*if used

1.6.8   Function 6WV for BELIMO® 6-way valves

If device type "6WV" (for BELIMO® 6-way valves) is enabled, output AO1 is used as control variable output for 6-way valve. Control variable is calculated by integrated PI controller and the output voltage is adapted according to characteristic curve of used device type. Choosing type _INV inverts sequences for heating and cooling.

100…0% cooling ⇒ 2,0…4,7V
0…100% heating ⇒ 7,3…10,0V

Output AO1 with enabled 6WV-function (firmware 1.02 or higher).

Type: 6WV
100…0% cooling ⇒ 2,0…4,7V
0…100% heating ⇒ 7,3…10,0V

Type: 6WV_INV
heating cooling sequences inverted

1.6.9   Function 6WV for SAUTER 6-way valves DN15 und DN20

If device type „6WV_DN15", or „6WV_DN20" (for SAUTER 6-way valves) is enabled, output AO1 is used as control variable output for 6-way valve. Control variable is calculated by integrated PI controller and the output voltage is adapted according to characteristic curve of used device type. Please see SAUTER datasheet 58.001, B2KL: 6-way-ball valve with male thread, PN16).
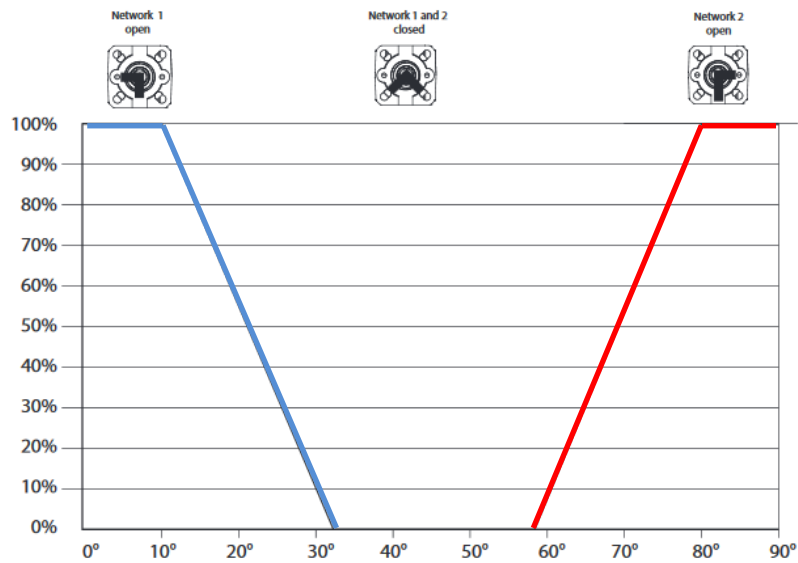
Picture 1 Charactersitic curve of DN15 valve (extract from SAUTER datasheet 58.001e)
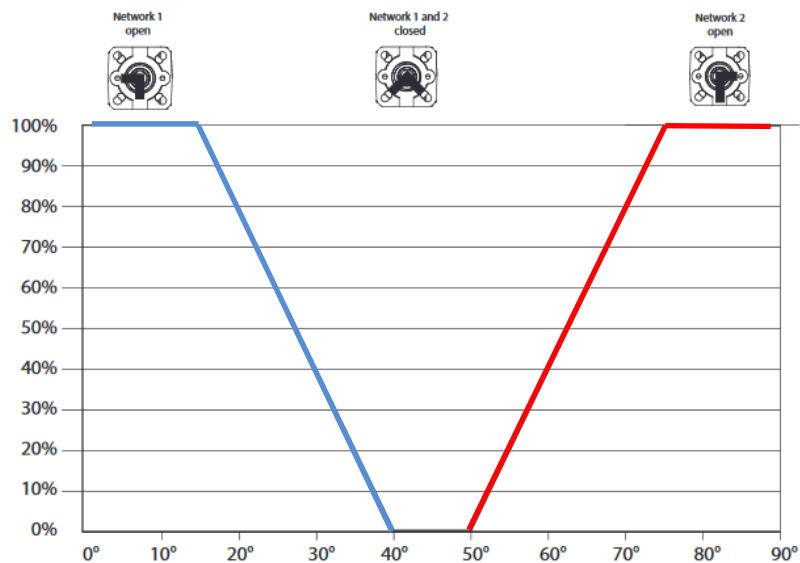
Picture 2 Charactersitic curve of DN20 valve (extract from SAUTER datasheet 58.001e)

1.7   Communication failure monitoring

The device monitors Modbus communication. In case of a 90s communication failure the outputs are set to default values, which can be configured in registers 45 and 46.

Setting -1 (=0xFFFF) as default value, the outputs keep their last values (manual mode) respectively the controller triggers them (automatic mode).

1.8   LED- and Button-Mapping

Mapping	Description
0	Recommended for new projects.
1	Recommended for existing projects, compatible with older devices.
2	Recommended for existing projects, compatible with older devices in BJ-enclousures.

LED-Mapping „0" (Register 52)
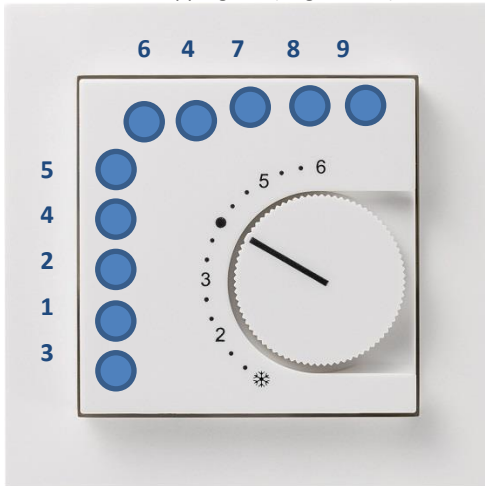
Button-Mapping „0" (Register 47)
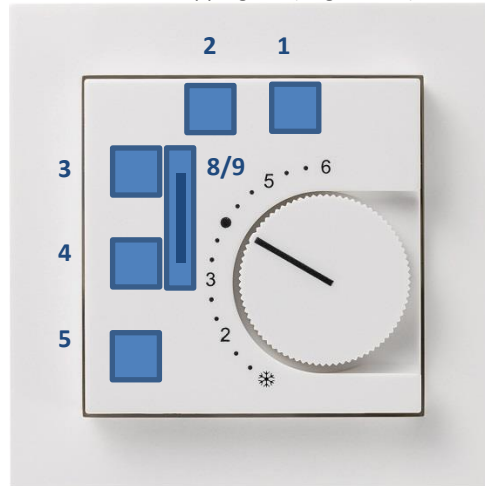
LED-Mapping „1" (Register 52)

Button-Mapping „1" (Register 47)

LED-Mapping „2" (Register 52)

Button-Mapping „2" (Register 47)

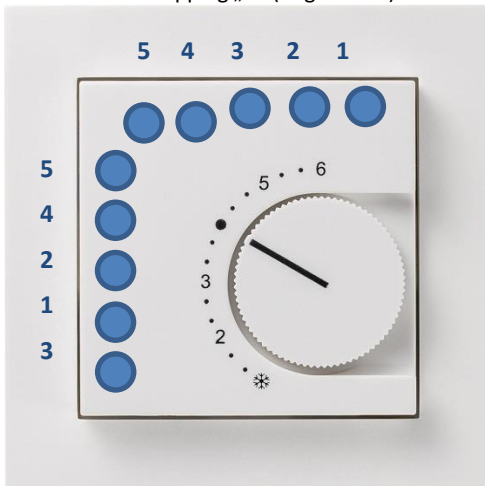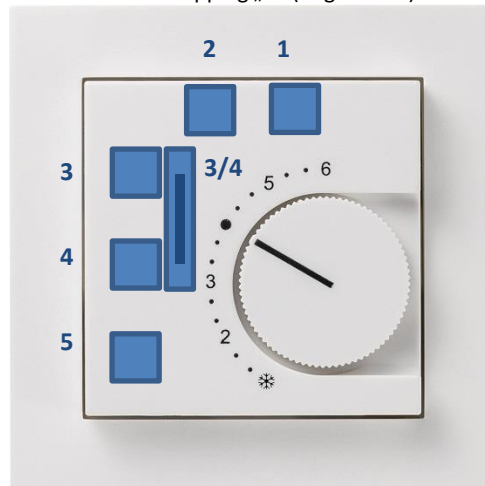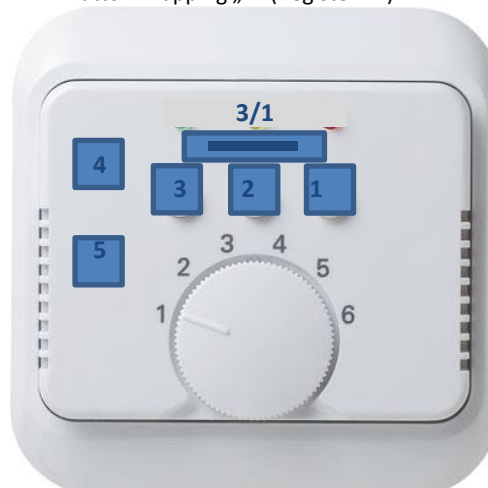## 2   WRF06- & WRF07-RS485-Modbus Protocol

2.1   Control Commands Supported

The following MODBUS – control commands are supported:

Description	Function code	
Read bits	01 (hex)	1 (dez)
	02 (hex)	2 (dez)
Read register	03 (hex)	3 (dez)
	04 (hex)	4 (dez)
Write individual bit	05 (hex)	5 (dez)
Write individual register	06 (hex)	6 (dez)
Write several bits	0F (hex)	15 (dez)
Write several registers	10 (hex)	16 (dez)

2.2   Register Definition

2.2.1   Registers for the Device Configuration

Register Address	Description		Default values
0 R	Device Coding, read only		0x0003
1 R	Firmware Version, read only		-
2 R/W	Device Type	0x0000, Type AO2V (AO1: Heating, AO2: Cooling)	0
		0x0001, Type DO2R (DO1: Heating, DO2: Cooling)	
		0x0002, Type DO2T (DO1: Heating, DO2: Cooling)	
		0x0003, Type OVR (DO1: Heating, AO2: Cooling)	
		0x0004, Type OVT (DO1: Heating, AO2: Cooling)	
		0x0005, Type 4DI (4 digital inputs)	
		0x0006, Type 6WV For BELIMO® 6-way valves, (AO1: 2…4,7V cooling, 7,3...10V heating)	
		0x0007, Type 6WV_INV For BELIMO® 6-way valves, (AO1: 2…4,7V heating, 7,3...10V cooling)	
		0x0008, Type 6WV_DN15, For SAUTER 6-way valve DN15	
		0x0009, Type 6WV_DN20, For SAUTER 6-way valve DN20	
3 R/W	Device location		0
4 R/W	Not used		
5 R/W	Function button 1	0x00 = without special function 0x20 = Room unoccupied 0x21 = Room occupied 0x22 = Room occupancy toggle 0x23 = Room occupancy 0x24 = Occupancy bypass mode (Party time) 0x25 = Fan stage „up" 0x26 = Fan stage „down" 0x27 = Fan stage „Loop" (0, 1, 2, 3, Auto, 0, 1, …)	0
6 R/W	Function button 2		
7 R/W	Function button 3		
8 R/W	Function button 4		
9 R/W	Function button 5		
10 R/W	Function LED 1	0x00 = external trigger 0x01 = room occupied (ON) / unoccupied(OFF) 0x02 = controller active(ON)/ inactive(OFF) 0x03 = controller cooling active(ON)/inactive(OFF) 0x04 = controller heating active(ON)/inactive(OFF) 0x05 = Fan stage „0" 0x06 = Fan stage „1" 0x07 = Fan stage „2" 0x08 = Fan stage „3" 0x09 = Fan stage „Auto"	1
11 R/W	Function LED 2		
12 R/W	Function LED 3		
13 R/W	Function LED 4		
14 R/W	Function LED 5		

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Register Address	Description		Default values
15 R/W	Temperature-Offset for calibration of temperature sensor signed int, e.g. 10_{dec} = +1.0 K, -5 $_{dez}$ = -0.5 K		0
16 R/W	Adjustable range set point +-3K signed int, e.g. 30_{dec} = + 3.0 K	No potentiometer = 0	30
17 R/W	Set temperature − Basic set point after reset signed int, e.g. 220_{dez} = 22.0 °C		220
18 R/W	Set temperature display	0 = Basic set point 1 = Change over display of heating/cooling set point depending on activated operating	0
19 R/W	Night setback (unoccupied) Heating = set point − night lowering Cooling = set point + night lowering signed int, e.g. 40_{dec} = 4.0 K		50
20 R/W	Dead band between heating and cooling Signed int, e.g. 20_{dec} = 2.0K		20
21 R/W	Proportional range Xp (K) Heating signed int, e.g. 40_{dec} = 4.0 K Xp = 0 deactivates controller		20
22 R/W	Reset time Tn (min) Heating signed int, e.g. 100_{dec} = 100 min		100
23 R/W	Maximal control variable limit Heating signed int, e.g. 100_{dec} = 100 %		100
24 R/W	Minimal control variable limit Heating signed int, e.g. 10_{dec} = 10 %		0
25 R/W	PWM-Cycle time Heating signed int, e.g. 15_{dec} = 15 min		15
26 R/W	Proportional range Xp (K) Cooling signed int, e.g. 40_{dec} = 4.0 K Xp = 0 deactivates controller		20
27 R/W	Reset Time Tn (min) Cooling signed int, e.g. 100_{dec} = 100 min		100
28 R/W	Maximal control variable limit Cooling signed int, e.g. 100_{dec} = 100 %		100
29 R/W	Minimal control variable limit Cooling signed int, e.g. 10_{dec} = 10%		0
30 R/W	PWM-Cycle time Cooling signed int, e.g.15_{dec} = 15 min		15
31 R/W	Frost protection 0x00 deactivates antifreeze signed int, e.g. 50_{dez} = 5.0 K		50
32 R/W	Controller mode after reset and Off	0 = Controller off 1 = Controller heating 2 = Controller cooling 3 = Controller automatic	3
33 R	Not used		
34 R	Not used		
35 R/W	Function of Digital Input 1	0x00 = Break contact 0x01 = Breaker dew point 0x02 = Breaker energy hold off 0x03 = Breaker occupied 0x04 = Breaker controller (0 – auto/ 1 – off) 0x05 = Breaker controller (0 - heating/ 1 – cooling)	0x10
36 R/W	Function of Digital Input 2	0x10 = Make contact 0x11 = Maker dew point 0x12 = Maker energy hold off 0x13 = Maker occupied 0x14 = Maker controller (0 - auto/ 1- off) 0x15 = Maker controller (0 - heating/ 1 – cooling)	

Register Address	Description		Default values
37 R/W	Counter mode digit.input1	0x00 = edge 0x01 = pulse	0
38 R/W	Counter mode digit.input 2		
39 R/W	Bypass time occupancy (min) signed int, e.g. 0x0078 = 120_{dec} = 120 min		120
40 R/W *	Function of Digital Input 3	0x00 = Break contact 0x01 = Breaker dew point 0x02 = Breaker energy hold off 0x03 = Breaker occupied 0x04 = Breaker controller (0 – auto/ 1 – off) 0x05 = Breaker controller (0 - heating/ 1 – cooling) 0x10 = Make contact 0x11 = Maker dew point 0x12 = Maker energy hold off 0x13 = Maker occupied 0x14 = Maker controller (0 - auto/ 1- off) 0x15 = Maker controller (0 - heating/ 1 – cooling)	0x10
41 R/W *	Function of Digital Input 4		
42 R/W *	Counter Mode of Digital Input 3	0x00 = edge 0x01 = pulse	0
43 R/W *	Counter Mode of Digital Input 4		
44 R/W	Type: AO2V, OVR, OVT, 6WV Analogue value 0-10V after communi-cation failure **Output1 Heating**	Signed int, e.g. 1000_{dec} = 100% 0xFFFF = -1 = keep last value	-1
	Type: DO2R, DO2T Digital value after communication failure **Output1 Heating**	0 = Open >=1 = Closed 0xFFFF = -1 = keep last value	-1
45 R/W	Type: AO2V, OVR, OVT, 6WV Analogue value 0-10V after communi-cation failure **Output2 Cooling**	Signed int, e.g. 1000_{dec} = 100% 0xFFFF = -1 = keep last value	-1
	Type: DO2R, DO2T Digital value after communication failure **Output2 Cooling**	0 = Open >=1 = Closed 0xFFFF = -1 = keep last value	-1
46 R	Not used		
47 R/W	<u>Button Mapping</u> 0: Button 1-9 1: Button 1-5 (Std.) 2: Button 1-5 (BJ)	Selection for the button layout or number of buttons. See chapter 1.8 for more information.	1
48 R/W	Function Button 6	0x00 = without special function 0x20 = Room unoccupied 0x21 = Room occupied 0x22 = Room occupancy toggle 0x23 = Room occupancy 0x24 = Occupancy bypass mode (Party time) 0x25 = Fan stage „up" 0x26 = Fan stage „down" 0x27 = Fan stage „Loop" (0, 1, 2, 3, Auto, 0, 1, …) Buttons 6 ... 9 can only be used if button mapping "0" has been selected (register 47) - see chapter 1.8 for more information.	0
49 R/W	Function Button 7		
50 R/W	Function Button 8		
51 R/W	Function Button 9		

Register Address	Description		Default values
52 R/W	LED Mapping 0: LED 1-9 1: LED 1-5 (Std.) 2: LED 1-5 (BJ)	Selection for the LED layout or number of LEDs. See chapter 1.8 for more information.	1
53 R/W	Function LED 6	0x00 = external trigger 0x01 = room occupied (ON) / unoccupied(OFF) 0x02 = controller active(ON)/ inactive(OFF) 0x03 = controller cooling active(ON)/inactive(OFF) 0x04 = controller heating active(ON)/inactive(OFF) 0x05 = Fan stage „0" 0x06 = Fan stage „1" 0x07 = Fan stage „2" 0x08 = Fan stage „3" 0x09 = Fan stage „Auto" LEDs 6 ... 9 can only be used if LED mapping "0" has been selected (register 47) - see chapter 1.8 for more information.	1
54 R/W	Function LED 7		
55 R/W	Function LED 8		
56 R/W	Function LED 9		
57 R/W	Offset relative Humidity (only available on devices with an integrated humidity sensor)	-100...+100 = -10,0%rF...+10,0%rF	0
58 R/W	Number of Fan Stages	0 = No Fan 1 = 1 Stage 2 = 2 Stages 3 = 3 Stages 4 = No Fan 5 = 1 Stage with automatic function 6 = 2 Stages with automatic function 7 = 3 Stages with automatic function	7
59 R/W	Fan Stage after Reset	0 = Off 1 = Stage 1 2 = Stage 2 3 = Stage 3 4 = Automatic	4
60 R/W	Lowest Fan Stage	0...3	0
61 R/W	Threshold Fan Stage 1 Y-Heat		1
62 R/W	Threshold Fan Stage 2 Y-Heat		33
63 R/W	Threshold Fan Stage 3 Y-Heat	0...100% Depending on the y-heat / y-cool of the PI controller, the fan stages are activated according to the threshold values.	66
64 R/W	Threshold Fan Stage 1 Y-Cool		1
65 R/W	Threshold Fan Stage 2 Y-Cool		33
66 R/W	Threshold Fan Stage 3 Y-Cool		66
67 R/W	Output Voltage Fan Stage 1		300
68 R/W	Output Voltage Fan Stage 2	0...1000 = 0...10,00V	600
69 R/W	Output Voltage Fan Stage 3		1000

The contents of the configuration registers are retained even after a device restart.
These registers must not be described cyclically.

2.2.2 Registers to read out the operation states

Register Address	Description	
256 R	Bit 0 Button 1 1=pressed, 0=not pressed Bit 1 Button 2 1=pressed, 0=not pressed … Bit 7 Button 8 1=pressed, 0=not pressed Bit 8 Button 9 1=pressed, 0=not pressed	
257 R	It is buffered if a button was actuated since the last read out of the register. After the read out, all bits are reset to the actual value. Bit 0 Button 1 1=pressed, 0=not pressed Bit 1 Button 2 1=pressed, 0=not pressed … Bit 7 Button 8 1=pressed, 0=not pressed Bit 8 Button 9 1=pressed, 0=not pressed	
258 R	Temperature	signed int, e.g. 184_{dec} = 18.4 °C
259 R	Set temperature offset	signed int, Temperature: e.g. -25_{dez} = -2.5K
260 R	Set temperature effective	signed int, e.g. 220_{dec} = 22.0 °C
261 R	Occupancy mode	0 = unoccupied 1 = occupied
262 R	Regulating variable heating	signed int, e.g. 1023_{dec}=100.0% range 0-1023 corresponds to. 0-100%
263 R	Regulating variable cooling	signed int, e.g. 1023_{dec}=100.0% range 0-1023 corresponds to 0-100%
264 R	Controller mode	0 = stop of controller 1 = heating 2 = cooling 3 = automatic heating control 4 = automatic cooling control

Register Address	Description	
265 R	Type: AO2V Analogue output value 0-10V **Output1 Heating**	Unsigned int, e.g. 500_dec = 5V
	Type: DO2R, DO2T, OVR, OVT Digital output state **Output1 Heating**	0 = open 1 = closed
266 R	Type:AO2V, OVR, OVT Analogue output value 0-10V **Output2 cooling**	signed int, e.g. 500_dez = 5V
	Type: DO2R, DO2T Digital output state **Output2 cooling**	0 = open 1 = closed
267 R	Digital input1	0 = open 1 = closed
268 R	Digital input2	0 = open 1 = closed
269 R	Counter value digital Input 1	0...65535
270 R	Counter value digital Input 2	0...65535
271 R	Digital Input 3 (only available on device type 4DI)	0 = open 1 = closed
272 R	Digital Input 4 (only available on device type 4DI)	0 = open 1 = closed
274 R	Counter value digital Input 3 (only available on device type 4DI)	0...65535
275 R	Counter value digital Input 4 (only available on device type 4DI)	0...65535
275 R	Sensor value relative humidity (only available on devices with a built in humidity sensor)	0...1000 = 0...100,0%rH
276 R	Current Fan Stage	The current fan stage can be read out via this register. 0x00 = Fan Stage „0" 0x01 = Fan Stage „1" 0x02 = Fan Stage „2" 0x03 = Fan Stage „3" 0x04 = Fan Stage „Auto 0" 0x05 = Fan Stage „Auto 1" 0x06 = Fan Stage „Auto 2" 0x07 = Fan Stage „Auto 3"
277 R	Sensor value absolute Humidty (only available on devices with a built in humidity sensor)	Example: 64 = 6,4g/m³ (SI Unit System) 28 = 2,8grain/ft³ (Imperial Unit System)
278 R	Sensor value Dewpoint (only available on devices with a built in humidity sensor)	Example: 49 = 4,9°C (SI Unit System) 408 = 40,8°F (Imperial Unit System)
279 R	Sensor value Enthalpy (only available on devices with a built in humidity sensor)	Example: 349 = 34,9kJ/kg (SI Unit System) 150 = 15,0 BTU/lb ³ (Imperial Unit System)

2.2.3 Registers to set the operation states

Register Address	Description	
512 R/W	Set point offset	signed int, e.g. -25$_{dez}$ = -2.5K einblenden mit Coilregister 0x0005
513 R/W	Base set point	signed int, e.g. 220$_{dez}$ = 22 °C
514 R/W	Occupancy mode	0 = unoccupied 1 = occupied 2 = bypass mode
515 R/W	Controller mode	0 = controller off 1 = heating (cooling deactivated) 2 = cooling (heating deactivated) 3 = automatic
516 R/W	Type: AO2V Manual value Analogue output value 0-10V **Output1 Heating**	Unsigned int, e.g. 500$_{dec}$ = 5V 0-1000 = manual mode 0xFFFF = -1 = automatic mode
	Type: DO2R, DO2T, OVR, OVT Manual value Digital output state **Output1 Heating**	0 = open >=1 = closed
517 R/W	Type:AO2V, OVR, OVT Manual value Analogue output value 0-10V **Output2 cooling**	signed int, e.g. 500$_{dez}$ = 5V 0-1000 = manual mode 0xFFFF = -1 = automatic mode
	Type: DO2R, DO2T Manual value Digital output state **Output2 cooling**	0 = open >=1 = closed
518 R/W	Current Fan Stage	This register can be used to overwrite the current fan stage. 0x00 = Fan Stage „0" 0x01 = Fan Stage „1" 0x02 = Fan Stage „2" 0x03 = Fan Stage „3" 0x04 = Fan Stage „Auto"

2.2.4 Extended address range

Register Address	Description
16385 R/W	Access protection
16386 R/W	Extended address

To modify extended address strictly adhere to sequence as described in chapter 2.12.1.

2.3 Coils

2.3.1 Coils for Device Configuration

Coil Address	Description		Default values
0 R/W	Use Minimal Control Variable with control variable > 0: = 1 Use Minimal Control Variable with control variable = 0: = 0 (default)		0
1 R/W	Change over mode	0 = 4-wire-system 1 = 2-wire-system	0x00 4-wire system
2 R/W	Unit System	1 = SI (Temp. °C) 0 = Imperial (Temp. °F)	SI
3 R/W	Room occupancy after reset	1 = occupied 0 = unoccupied	0x01, occupied
4 R	Humidity sensor available yes/no	0 = sensor not available 1 = sensor available	-
5 R/W	Disable State LEDs (STA, RXD, TXD, ERR)	0 = State LEDs not disabled 1 = State LEDs disabled	0

The contents of the configuration coils are retained even after a device restart.
These coils must not be described cyclically.

2.3.2 Coils to set the operation states

Coil Address	Description	
256 R/W	Status signal dew point	0 = Dew point inactive 1 = Dew point active
257 R/W	Status signal energy hold off	0 = Energy hold off inactive 1 = Energy hold off active
258 R/W	Release of local presence button[1]	0 = Locked 1 = Released
259 R/W	Release of controller	0 = Locked 1 = Released
260 R/W	Trigger LED1	
261 R/W	Trigger LED2	
262 R/W	Trigger LED3	
263 R/W	Trigger LED4	
264 R/W	Trigger LED5	0 = OFF 1 = ON
265 R/W	Trigger LED6	
266 R/W	Trigger LED7	
267 R/W	Trigger LED8	
268 R/W	Trigger LED9	