



# RXTH

## Dual room sensor / switch for temperature and humidity

The RXTH series are dual room sensors / switches which measure temperature and relative humidity. For each, there are 4 pre-defined ranges acting as measurement windows plus 1 user-definable range. These units are equipped with Modbus RTU (RS485) communication and have for each measuring unit an analog and a relay output.

### Key features

- Microcontroller based design
- Integrated temperature sensor & digital humidity sensor
- 2 analog outputs and 2 relay outputs
- Modbus RTU (RS485)
- Multiple temperature and humidity ranges as measurement windows available
- Selectable switching points
- Fixed hystereses
- Innovative self-calibrating algorithm
- Long-term stability and accuracy
- Blue LED operating indication

### Technical specifications

Outputs	2 analog outputs (0–10 VDC / 0–20 mA) 2 C/O relay outputs (230 VAC / 2 A)	
Power consumption	No load: maximum 40 mA Full load: maximum 80 mA	
Load resistance	0–10 VDC mode > 500 Ω 0–20 mA mode < 500 Ω	
Sensor temperature ranges	0–30 °C 10–40 °C 20–50 °C 0–50 °C	
Sensor temperature range (Modbus selection)	0–50 °C, free selectable	
Relative humidity ranges	20–90 % rH 0–60 % rH 0–80 % rH 0–100 % rH	
Relative humidity range (Modbus selection)	0–100 % rH, free selectable	
Relay switching points	selectable by trimmers	
Fixed hystereses	2 °C and 5 % rH	
Protection standard	IP30 (according to EN 60529)	
Ambient conditions	Temperature	0–50 °C
	Rel. humidity	< 100 % rH (non-condensing)

### Modbus registers



The Sensistant Modbus configurator allows you to easily monitor and/or configure Modbus parameters.

The parameters of the unit can be monitored / configured through the 3SModbus software platform. You can download it from the following link:  
<https://www.sentera.eu/en/3SMCenter>



For more information about the Modbus registers, please refer to the product Modbus Register Map.

### Standards

- Low Voltage Directive 2014/35/EC
- EMC Directive 2014/30/EC
- WEEE Directive 2012/19/EU
- RoHS Directive 2011/65/EU



### Article codes

	Supply	Connection
<b>RXTHG</b>	15–24 VAC ±10 % 18–34 VDC	3 - wire
<b>RXTHF</b>	18–34 VDC	4 - wire

### Area of use

- Monitoring and maintaining temperature and relative humidity in HVAC applications
- For indoor use only

### Wiring and connections

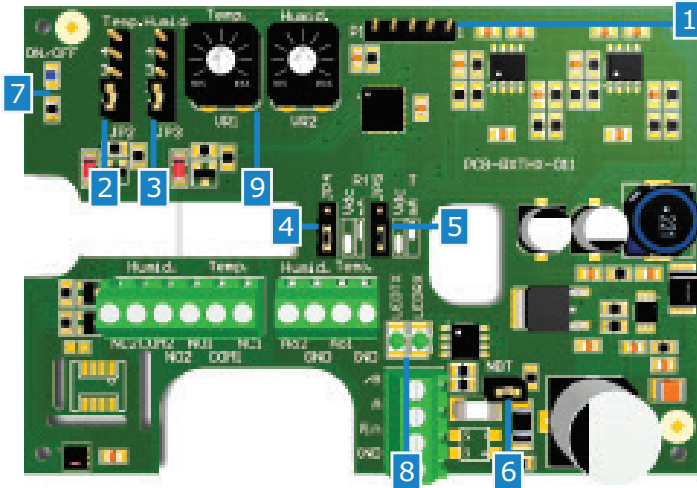
Vin	Positive DC voltage / AC ~
GND	Ground / AC ~
A	Modbus RTU (RS485) signal A
/B	Modbus RTU (RS485) signal /B
Ao1	Analog output (0–10 VDC / 0–20 mA)
GND	Ground
Ao2	Analog output (0–10 VDC / 0–20 mA)
GND	Ground
NO1	Normally open contact 1
COM1	Common contact 1
NC1	Normally closed contact 1
NO2	Normally open contact 2
COM2	Common contact 2
NC2	Normally closed contact 2
Connections	Cable cross section: max. 1,5 mm <sup>2</sup>

**Caution:** If an external AC / DC powered unit (G - series) is using the same safety transformer as a DC powered unit (F - series), a SHORT CIRCUIT in the source may result when connecting 3 - wire applications (common ground)!

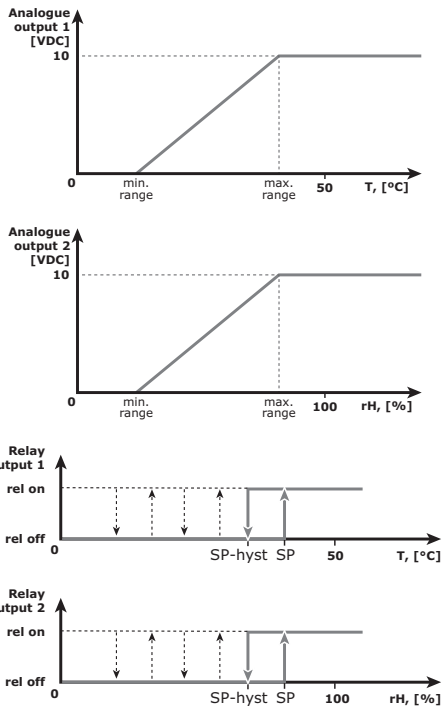
If an AC power supply is used with any of the units in a Modbus network, the GND terminal should NOT BE CONNECTED to other units on the network or via the CNVT-USB-RS485 converter. This may cause permanent damage to the communication semiconductors and / or the computer!

# RXTH

Dual room sensor / switch for temperature and humidity



## Operational diagram(s)



## Global trade item numbers (GTIN)

Article	Unit	Carton	Box
RXTHG	05401003011669	05401003301999	05401003502815
RXTHF	05401003011652	05401003301982	05401003502808

## Settings

1 - Modbus settings reset jumper JP1		Put and hold for 20 seconds
2 - Temperature range setting JP2		0–30 °C
		10–40 °C
		20–50 °C
		0–50 °C
3 - Relative humidity range setting JP3		20–90 % rH
		0–60 % rH
		0–80 % rH
4 - Output Ao1 mode selection JP4		0–10 VDC
		0–20 mA
5 - Output Ao2 mode selection JP5		0–10 VDC
		0–20 mA
6 - Network bus resistor jumper (NBT)		The RXTH is the first or the last unit
7 - Operating indication	Blinking blue	Initialization (30 s) / error
	Cont. blue	Normal operation
8 - Modbus communication indication	Blinking green	Transmitting
		Receiving
9 - Setpoint trimmers		VR1 - switching point for relay 1
		VR2 - switching point for relay 2

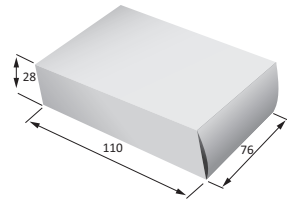
indicates the position of the jumper.



# RXTH

Dual room sensor / switch for temperature and humidity

### Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
RXTHF	Unit (1 pc.)	110	76	28	0,12 kg	0,13 kg
	Carton (24 pcs.)	492	182	84	2,86 kg	3,27 kg
	Box (144 pcs.)	514	414	274	17,14 kg	20,48 kg
RXTHG	Unit (1 pc.)	110	76	28	0,12 kg	0,13 kg
	Carton (24 pcs.)	492	182	84	2,86 kg	3,27 kg
	Box (144 pcs.)	514	414	274	17,14 kg	20,48 kg

### Fixing and dimensions

