RSH
Room humidity sensor

The RSH series are room sensors which measure the relative humidity in the air. Four pre-defined ranges provide ideal measurement windows with one user-definable range. The implemented digital sensor is self-calibrating and maintenance-free. These sensors are equipped with Modbus RTU (RS485) communication and have an analog output.

Key features

- Microcontroller based design
- 1 analog output
- Multiple ranges as measurement windows available
- Modbus RTU (RS485) communication
- Innovative self-calibrating algorithm
- Long-term stability and accuracy
- Blue LED operating indication

Technical specifications

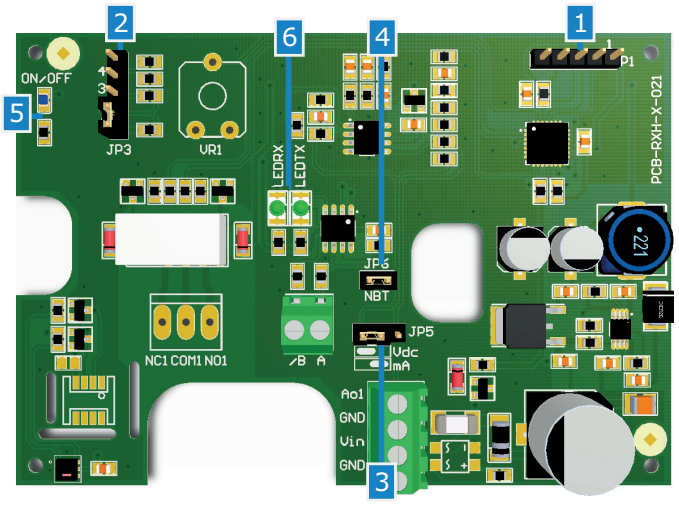
Outputs		1 analog output (0—10 VDC / 0—20 mA)
Power consumption		No load: maximum 55 mA Full load: maximum 75 mA
Load resistance		0—10 VDC mode > 500 Ω 0—20 mA mode < 500 Ω
Sensor ranges		20—90 % rH 0—60 % rH 0—80 % rH 0—95 % rH
Sensor range (Modbus selection)		0—95 % rH, free selectable
Accuracy		±3 % rH (0—95 % rH)
Protection standard		IP30 (according to EN 60529)
Ambient conditions	Temperature	0—50 °C
	Rel. humidity	< 95% rH (non-condensing)

Article codes

	Supply	Connection
RSH-G	15—24 VAC ±10 % 18—34 VDC	3-wire
RSH-F	18—34 VDC	4-wire

Area of use

- Monitoring and maintaining constant relative humidity level in buildings and private houses
- 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 VAC / 0—20 mA)
GND	Ground
Connections	Cable cross section: max. 1,5 mm²

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 on 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!

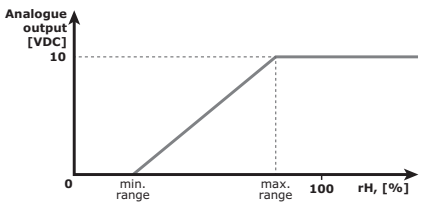
Modbus registers

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.

Operational diagram(s)



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Settings

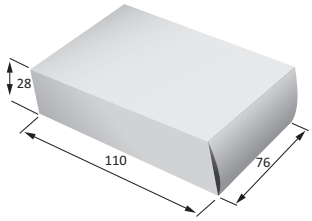
1 – Modbus settings reset jumper (P1)	5 4 3 2 1	Put and hold for 20 seconds
2 – Sensor range selection JP3	1 2 3 4 5	20—90 % rH
	1 2 3 4 5	0—60 % rH
	1 2 3 4 5	0—80 % rH
	1 2 3 4 5	0—95 % rH
3 – Analog output selection JP5		0—10 VDC
		0—20 mA
4 – Network bus termination resistor JP6 (NBT)		The RSH is the first or the last unit
5 – Operating indication	Blinking blue	Initialization (30 s) / error
	Cont. blue	Normal operation
6 – Modbus communication indication	Blinking green	Transmitting
	Blinking green	Receiving

(indicates the position of the jumper.)

Standards

- Low Voltage Directive 2006/95/EC CE
- EMC Directive 2004/108/EC: EN 61326
- WEEE Directive 2012/19/EC
- RoHs Directive 2011/65/EC

Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
RSH-F	Unit (1 pc.)	110	76	28	0,09 kg	0,10 kg
	Carton (24 pcs.)	492	182	84	2,14 kg	2,55 kg
	Box (144 pcs.)	514	414	274	12,82 kg	16,16 kg
RSH-G	Unit (1 pc.)	110	76	28	0,09 kg	0,10 kg
	Carton (24 pcs.)	492	182	84	2,14 kg	2,55 kg
	Box (144 pcs.)	514	414	274	12,82 kg	16,16 kg

Fixing and dimensions