SENTERA
C O N T R O L S

RXC
Room CO2 sensor / switch

The RXC series are room sensors / switches which measure the concentration of CO_2 in the air. Four pre-defined ranges provide ideal measurement windows with one user-definable range. The implemented sensor is self-calibrating and maintenance-free. These units are equipped with Modbus RTU (RS485) communication and have an analog output and a relay output.

Key features

- Microcontroller based design
- 1 analog and 1 relay output
- Modbus RTU (RS485) communication
- Multiple ranges as measurement windows available
- Innovative self-calibrating algorithm
- Selectable switching point
- Selectable hysteresis (by jumpers or via Modbus)
- Long-term stability and accuracy
- Blue LED operating indication

Technical specifications

Outputs		1 analog output (0—10 VDC / 0—20 mA) 1 C/O relay output (230 VAC / 2 A)
Power consumption		No load: maximum 50 mA Full load: maximum 70 mA
Load resistance		0—10 VDC mode > 500 Ω 0—20 mA mode < 500 Ω
Sensor ranges		450—1.850 ppm 0—1.000 ppm 0—1.500 ppm 0—2.000 ppm
Sensor range (Modbus selection)		0—2.000 ppm, free selectable
Hysteresis		50 / 100 / 150 / 200 ppm
Switching point		Selectable by trimmer or via Modbus RTU
Accuracy		30 ppm CO_2 ±5% (0—2.000 ppm)
Protection standard		IP30 (according to EN 60529)
Ambient conditions	Temperature	0—50 °C
	Rel. humidity	< 95 % rH (non-condensing)

Standards

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

CE

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.

Article codes

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

Area of use

- Monitoring and maintaining CO_2 level in residential and office buildings
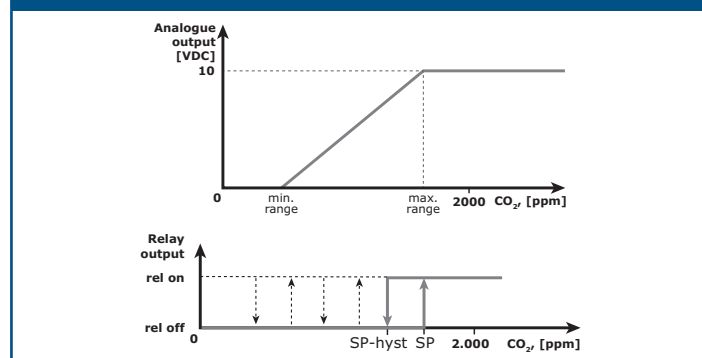- For indoor use only

Wiring and connections

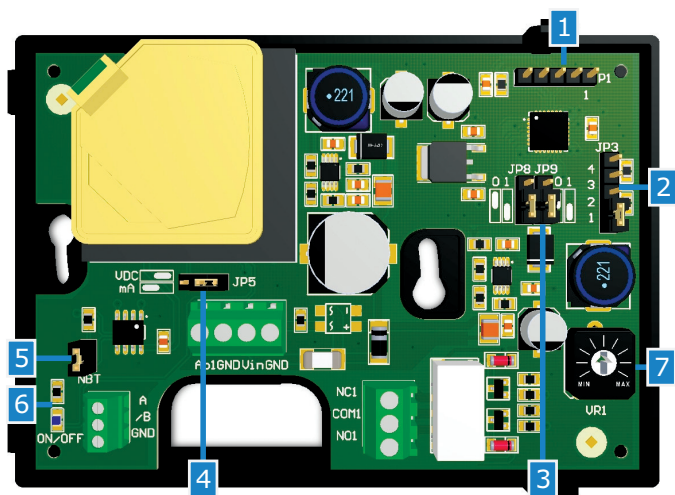|	
Vin	Positive DC voltage / AC ~
GND	Ground / AC ~
A	Modbus RTU (RS485) signal A
/B	Modbus RTU (RS485) signal /B
Ao1	Analog output (0—10 VAC / 0—20 mA)
GND	Ground
NO1	Normally open contact
COM1	Common contact
NC1	Normally closed contact
Connections	Cable cross section: max. 0,5 / 1,5 mm²

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 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!
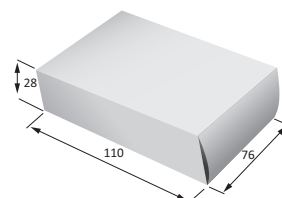
Operational diagram(s)

Packaging

Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
RXC-F	Unit (1 pc.)	110	76	28	0,11 kg	0,12 kg
	Carton (24 pcs.)	492	182	84	2,62 kg	3,03 kg
	Box (144 pcs.)	514	414	274	15,70 kg	19,04 kg
RXC-G	Unit (1 pc.)	110	76	28	0,11 kg	0,12 kg
	Carton (24 pcs.)	492	182	84	2,62 kg	3,03 kg
	Box (144 pcs.)	514	414	274	15,70 kg	19,04 kg

Fixing and dimensions

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	450—1.850 ppm
	1 2 3 4 5	0—1.000 ppm
	1 2 3 4 5	0—1.500 ppm
	1 2 3 4 5	0—2.000 ppm
3 – Hysteresis selection JP8 & JP9	JP8 JP9	50 ppm
	JP8 JP9	100 ppm
	JP8 JP9	150 ppm
	JP8 JP9	200 ppm
4 – Analog output selection JP5		0—10 VDC
		0—20 mA
5 – Network bus termination resistor jumper (NBT)		The RXC is the first or the last unit
6 – Operating indication	Blinking blue	Initialization (30 s) / error
	Cont. blue	Normal operation
7 – Setpoint trimmer	VR1	VR1 - switching point for the relay

(indicates the position of the jumper.)