



# RXC

## Room CO<sub>2</sub> sensor / switch

The RXC series are room sensors / switches which measure the concentration of CO<sub>2</sub> 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 <sub>2</sub> ±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
- RoHS Directive 2011/65/EC



### 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
<b>RXC-G</b>	15–24 VAC ±10 % 18–34 VDC	3-wire
<b>RXC-F</b>	18–34 VDC	4-wire

### Area of use

- Monitoring and maintaining CO<sub>2</sub> level in residential and office buildings
- For indoor use only

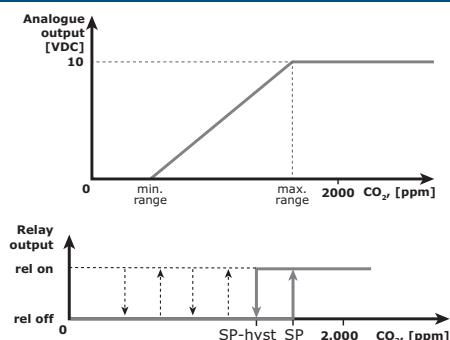
### Wiring and connections

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 mm <sup>2</sup>

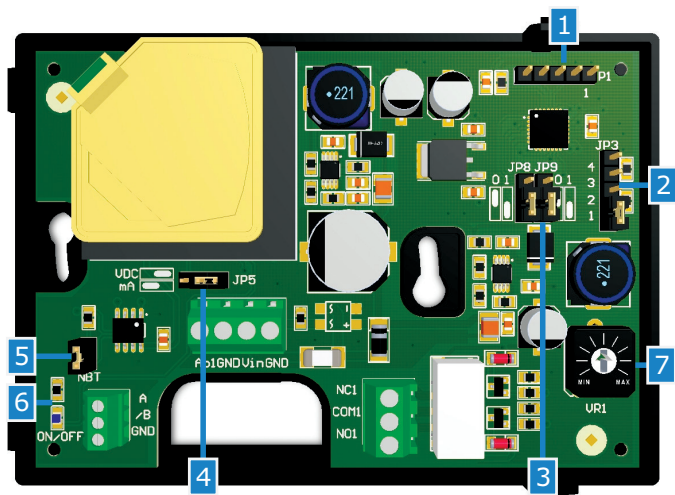
**Caution:** If an external AC/DC powered unit (G-series) is using the same safety transformer as a DC powered unit (F-series), a **SHORT CIRCUIT** in the source may result when connecting 3-wire applications (common ground)!

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!

### Operational diagram(s)



## RXC Room CO<sub>2</sub> sensor / switch

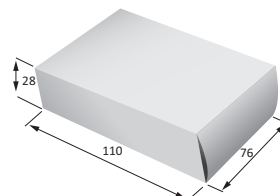


### Settings

1 – Modbus settings reset jumper (P1)		Put and hold for 20 seconds
2 – Sensor range selection JP3		450–1.850 ppm
		0–1.000 ppm
		0–1.500 ppm
		0–2.000 ppm
3 – Hysteresis selection JP8 & JP9		50 ppm
		100 ppm
		150 ppm
		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 - switching point for the relay

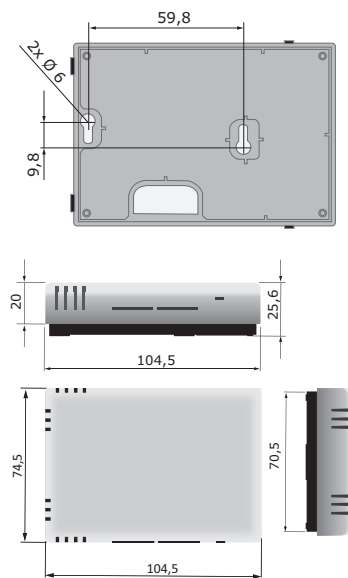
indicates the position of the jumper.)

### 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.)	485	175	77	2,62 kg	3,03 kg
	Box (144 pcs.)	500	400	260	15,70 kg	19,04 kg
RXC-G	Unit (1 pc.)	110	76	28	0,10 kg	0,12 kg
	Carton (24 pcs.)	485	175	77	2,52 kg	2,98 kg
	Box (144 pcs.)	500	400	260	15,12 kg	18,88 kg

### Fixing and dimensions



### Global trade item numbers (GTIN)

Packaging	RXC-G
Unit	05401003011591
Carton	05401003301920
Box	05401003502747