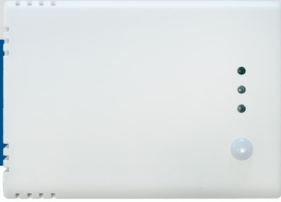


RSVCX-R

Air quality room transmitter



RSVCX-R are multifunctional room transmitters which measure temperature, relative humidity and a broad range of total volatile organic compounds (TVOCs). The TVOC concentration is an accurate indicator for indoor air quality and the occupancy of a room. Based on the temperature and relative humidity measurements, the dew-point temperature is calculated. RSVCX-R feature 3 analogue / modulating outputs - one for temperature, one for relative humidity and one for TVOC. All the parameters and measurements are accessible via Modbus RTU.

Key features

- Selectable temperature, relative humidity and TVOC ranges
- Silicon based sensor elements for TVOC measurements
- Bootloader for updating the firmware via Modbus RTU communication
- Day / Night detection via ambient light sensor
- Ambient light sensor with adjustable 'active' and 'standby' level
- Modbus RTU (RS485)
- Replaceable TVOC sensor module
- 3 LEDs with adjustable light intensity for status indication
- Long-term stability and accuracy

Area of use

- Measurement of indoor temperature, relative humidity and TVOC
- Monitoring of indoor air quality
- Suitable for residential and commercial buildings
- For indoor use only

Technical specifications

Analogue / modulating outputs	0—10 VDC mode: $R_L \geq 50 \text{ k}\Omega$	
	0—20 mA mode: $R_L \leq 500 \Omega$	
	PWM (open-collector type) mode: 1 kHz, $R_L \geq 50 \text{ k}\Omega$, PWM voltage level: 3,3 VDC or 12 VDC	
Warm-up time	15 minutes	
Typical field of use	Temperature range	0—50 °C
	Relative humidity range	0—95% rH (non-condensing)
	TVOC range	0—60.000 ppb
Accuracy	$\pm 0,4 \text{ }^\circ\text{C}$ (range 0—50 °C)	
	$\pm 3\%$ rH (range 0—95 %)	
	$\pm 15\%$ TVOC (range 0—60.000 ppb)	
Protection standard	IP30 (according to EN 60529)	

Wiring and connections

Article type	RSVCF-R	RSVCG-R	
VIN	18—34 VDC	18—34 VDC	15—24 VAC $\pm 10\%$
GND	Ground	Common ground*	AC \sim *
A	Modbus RTU (RS485), signal A		
/B	Modbus RTU (RS485), signal /B		
AO1	Analogue / modulating output 1 for temperature measurement (0—10 VDC / 0—20 mA / PWM)		
GND	Ground AO1	Common ground*	
AO2	Analogue / modulating output 2 for relative humidity measurement (0—10 VDC / 0—20 mA / PWM)		
GND	Ground AO2	Common ground*	
AO3	Analogue / modulating output 3 for TVOC measurement (0—10 VDC / 0—20 mA / PWM)		
GND	Ground AO3	Common ground*	
Connections	Spring contact terminal blocks, cable cross section: 1,5 mm ²		

***Attention!** The -F version of the product is not suited for 3-wire connection. It has separate grounds for power supply and analogue output. Connecting both grounds together might result in incorrect measurements. Minimum 4 wires are required to connect -F type sensors.

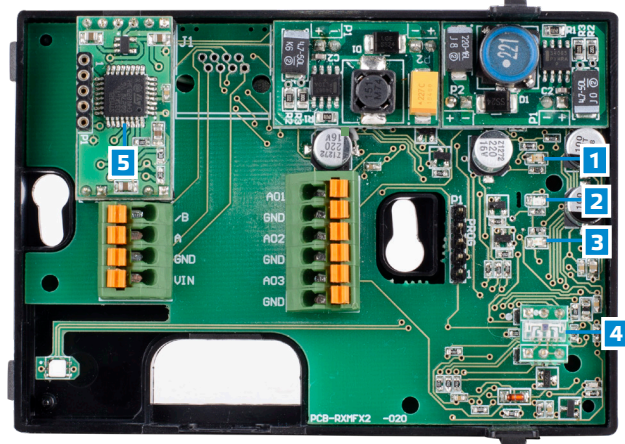
The -G version is intended for 3-wire connection and features a 'common ground'. This means that the ground of the analogue output is internally connected with the ground of the power supply. For this reason, -G and -F types cannot be used together on the same network. Never connect the common ground of -G type articles to other devices powered by a DC voltage. Doing so might cause permanent damage to the connected devices!




Article codes

Article code	Supply	Imax
RSVCG-R	18—34 VDC	115 mA
	15—24 VAC $\pm 10\%$	115 mA
RSVCF-R	18—34 VDC	115 mA

Indications



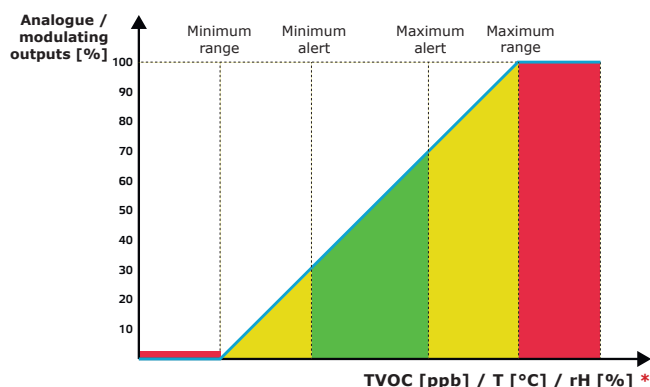
1 - Red LED	Continuous	Measured temperature, relative humidity or TVOC are out of range
	Blinking	Communication with one of the sensors fails
2 - Yellow LED	On	Measured temperature, relative humidity or TVOC are in the alert range
3 - Green LED	On	Measured temperature, relative humidity or TVOC are within range
	Blinking	Sensor warming up
4 - Ambient light sensor		Low light intensity / Active / Standby
5 - TVOC sensor element		Replaceable in case of faulty operation

RSVCX-R

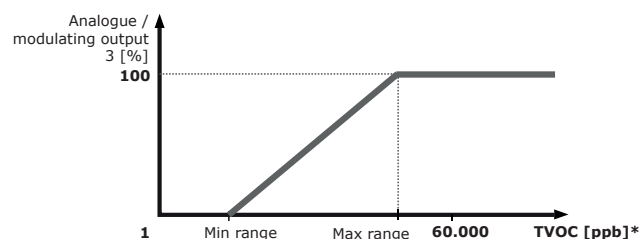
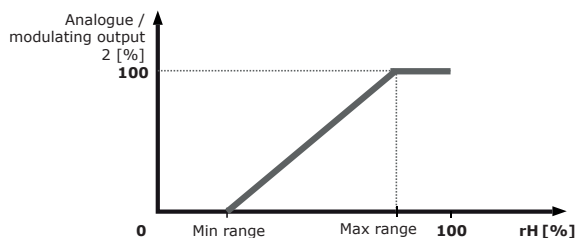
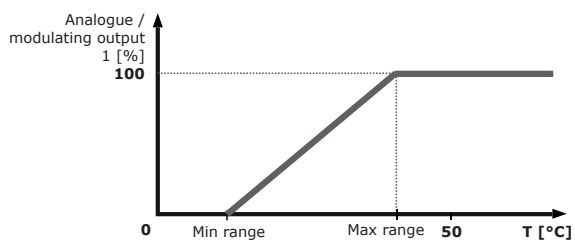
Air quality room transmitter



Operational diagrams

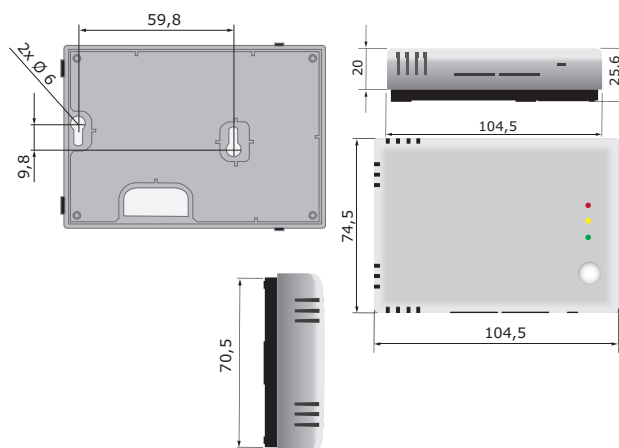


* LED indications - TVOC (default), T or rH



*TVOC measurement will return 0 ppb during warm-up time.

Fixing and dimensions



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>

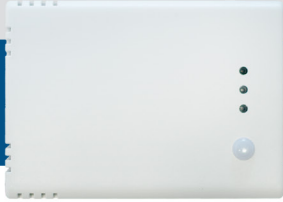
For more information about the Modbus registers, please refer to the product Modbus Register Map.

Standards

- Low Voltage Directive 2014/35/EC
 - EN 60529:1991 Degrees of protection provided by enclosures (IP Code) Amendment AC:1993 to EN 60529
 - EN 60730-1:2011 Automatic electrical controls for household and similar use - Part 1: General requirements
- EMC directive 2014/30/EU:
 - EN 60730-1:2011 Automatic electrical controls for household and similar use - Part 1: General requirements
 - EN 61000-6-1:2007 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments
 - EN 61000-6-3:2007 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments. Amendments A1:2011 and AC:2012 to EN 61000-6-3
 - EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
 - EN 61326-2-3:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements. Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

• WEEE 2012/19/EC

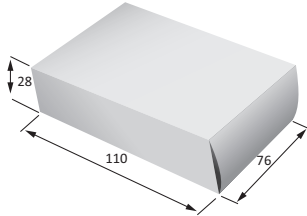
• RoHS Directive 2011/65/EC



RSVCX-R

Air quality room transmitter

Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
RSVCF-R RSVCG-R	Unit (1 pc.)	110	76	28	0,089 kg	0,111 kg
	Carton (24 pcs.)	492	182	84	2,14 kg	2,804 kg
	Box (144 pcs.)	510	410	270	12,81 kg	18,066 kg

Global trade item numbers (GTIN)

Packaging	RSVCF-R	RSVCG-R
Unit	05401003011447	05401003011454
Carton	05401003301883	05401003301890
Box	05401003502709	05401003502716