

Room temperature and CO₂ measuring transducers, self-calibrating, with active output, series Frija II

The self-calibrating microprocessor-controlled AERASGARD® RTM-CO₂ is used to detect the CO₂ content in air within a range of 0 ppm to 2000 ppm CO₂. The measurement signals from the CO₂ transmitter are converted into standard signals of 0-10V. Optionally, this CO₂ measuring transducer can be supplied with display or switching output.

Elegant enclosure made of plastic, with snap-on lid, base with 4-hole attachment for installation on vertically or horizontally installed in-wall flush boxes, with predetermined breaking point for on-wall cable entry, or in enclosures made of stainless steel (top and bottom part are of stainless steel, the lid is screwed on), vandalism-secure version e.g. for schools, military barracks, and public buildings.

The CO₂ content in air is determined by a NDIR sensor (non-dispersive infrared technology). The detection range of this CO₂ sensor is calibrated for standard applications such as monitoring of residential rooms or conference rooms. Room ventilation on an as-needed basis, improvement of well-being and customer benefit, increased comfort as well as a reduction of operating costs by energy conservation are only some of the beneficial results of employing AERASGARD® CO₂ sensors.

TECHNICAL DATA:

Power supply:..... 24 V AC/DC

CARBON DIOXIDE (CO₂)

CO₂ sensor:..... optical sensor (NDIR), non-dispersive infrared technology

Measuring range, CO₂:..... 0...2000 ppm
 At the RTM-CO₂-2S the measuring range is selected via two switching thresholds, which are set at two potentiometers:
 Lower limit via S1 (0 V), upper limit via S2
 The operating mode can be switched per pushbutton: Automatic, Manual (steps 1 and 2) and OFF

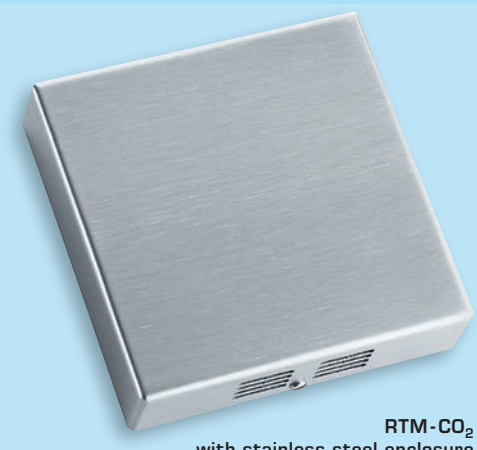
Output CO₂:..... 0-10V
 Measuring accuracy CO₂:..... ± 100ppm
 Pressure dependence:..... ± 1.6% / kPa (referred to standard pressure)
 Long-term stability:..... ± 1% of final value per year
 Service life:..... > 12 years
 Gas exchange:..... by diffusion

TEMPERATURE

Measuring range,
 temperature:..... 0... +50 °C (RTM-CO₂ / RTM-CO₂-A)
 +5...40 °C (RTM-CO₂-2S)
 Output, temperature:..... 0-10V

Warm-up time:..... ca. 1 hour
 Ambient temperature:..... 0...+50 °C
 Electrical connection:..... 0.14 - 1.5 mm², via terminals on circuit board
 Enclosure:..... plastic, material ABS, colour pure white (similar RAL9010), stainless steel enclosure optional
 Dimensions:..... 98 x 106 x 32 mm (FrijaII)
 100 x 100 x 25 mm (stainless steel enclosure)
 Installation:..... wall mounting or on in-wall flush box, Ø55mm, base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top / bottom in case of plain on-wall installation
 Protection class:..... III (according to EN 60730)
 Protection type:..... IP 30 (according to EN 60529)
 Standards:..... CE-conformity, electromagnetic compatibility according to EN 61326 + A1 + A2, EMC directive 2004/108/EC, low-voltage directive 73/23/EEC

RTM-CO₂



RTM-CO₂ with stainless steel enclosure

Measuring range CO ₂ (adjustable)	RTM-CO ₂ -2S	
Switching thresholds	S1	S2
	Lower limit	Upper limit
1	0 ppm	1200 ppm
2	200 ppm	1400 ppm
3	400 ppm	1600 ppm
4	600 ppm	1800 ppm
5	800 ppm	2000 ppm

Connecting diagram

RTM-CO₂ RTM-CO₂-A

- 1 UB+ 24V AC/DC
- 2 UB- 24V AC/DC
- 3 Free
- 4 Free
- 5 GND
- 6 Free
- 7 Free
- 8 Output CO₂ content in ppm 0-10V
- 9 Output temperature in °C 0-10V

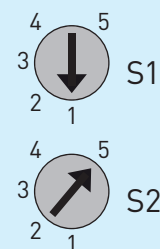
Connecting diagram

RTM-CO₂-2S

- 1 UB+ 24V AC/DC
- 2 UB- GND
- 3 GND
- 4 Output 0-10V humidity in % r.H.
- 5 GND
- 6 Output 0-10V temperature in °C
- 7 GND
- 8 Output 0-10V CO₂ content in ppm
- 9 Step 1 (normally open contact) 24V
- 10 Step 2 (normally open contact) 24V

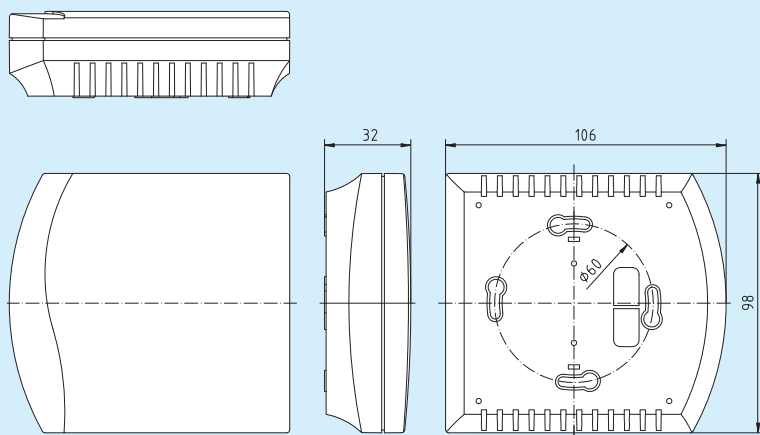
Switching thresholds Potentiometers

RTM-CO₂-2S



Dimensional drawing

Enclosure Frijal II
RTM-CO₂

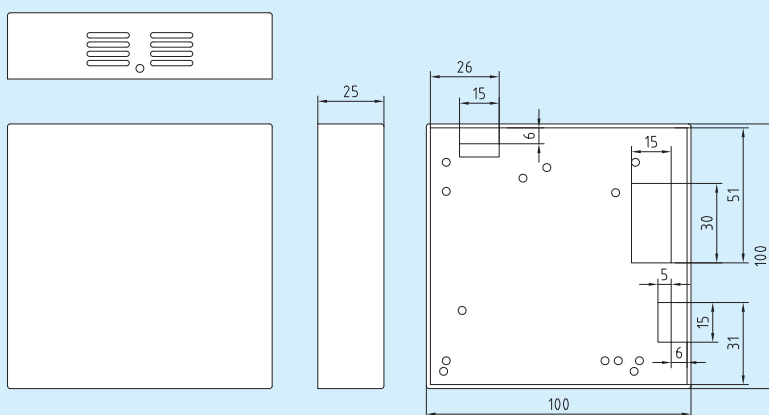


RTM-CO₂-A
with LED



Dimensional drawing

Enclosure stainless steel
RTM-CO₂



RTM-CO₂-2S
with LED



Traffic light indication	RTM-CO ₂ -A
LED	CO₂-content
Green 1	0 - 500 ppm
Green 2	500 - 800 ppm
Yellow	800 - 1200 ppm
Red 1	1200 - 1600 ppm
Red 2	> 1600 ... > 2000 ppm

Traffic light indication	RTM-CO ₂ -2S
LED	CO₂-content
Green	< 800 ppm
Yellow	800 - 1200 ppm
Red	> 2000 ppm

AERASGARD® RTM-CO₂

Type/WG1	Measuring Range		Output	Features
	CO ₂	Temperature		
RTM-CO ₂	0 ... 2000 ppm	0 ... +50 °C	2 x 0-10V	-
RTM-CO ₂ - Stainless steel enclosure				Stainless steel enclosure
RTM-CO ₂ -A	0 ... 2000 ppm	0 ... +50 °C	2 x 0-10V	5-LED-indicator (traffic light)
RTM-CO ₂ -2S	0 ... 2000 ppm	+5 ... +40 °C	2 x 0-10V	3-LED-indicator (traffic light), 2 x NO contact
"Traffic light" (coloured LEDs) indicating air quality (CO ₂).				

Note: This unit **must not** be used as safety-relevant device!