CTRT2(-D)

CO_2 and temperature transmitters

A range of room transmitters for measuring carbon dioxide concentration in indoor environments. The transmitter has a built-in CO_2 sensor with working range 0...2000 ppm and output signal 0...10 V, as well as a built-in PT1000 temperature sensor with separate terminals.

Transmitters with automatic calibration combining measurement of CO_2 level and temperature in the same casing. The sensors are mounted in the cover-part of the casing. The cover is easy to detach from the back by means of snap-in grips and detachable terminals. This makes mounting easier. Furthermore, no cables have to be disconnected, simplifying service and replacement.

The transmitters are intended for wall mounting in HVAC systems.

CO_2 sensor

The CO_2 concentration is measured using infrared light, a technique that measures the absorption in gases. It has a reference measuring system that compensates values in relation to changes in light intensity. This technique has many advantages:

- Very high accuracy
- Exact identification of the detected gas
- Low risk of contamination
- Short response time
- Excellent long-term stability

Automatic calibration

The transmitters have automatic calibration, which means that manual recalibration is not required during the lifetime of the transmitter.

Temperature sensor

The unit has a built-in PT1000 temperature sensor, working range 0...50°C.

Supply voltage

The transmitter uses a supply voltage of 24 V AC ±10 %, 50...60 Hz or 15...35 V DC. It automatically detects and adapts to the supply voltage connected.

Short facts about CTRT2(-D)

- Output signal CO_2, 0...10 V DC referring to 0...2000 ppm
- Temperature sensor, PT1000 class DIN B
- CO_2 concentration, 0...2000 ppm
- Temperature, 0...50°C
- Good long-term stability

Display (-D models)

Display models have an LCD display showing carbon dioxide concentration and temperature in an alternating series.

Applications

The carbon dioxide level gives a direct indication of the indoor air quality. This information can be used to control ventilation with high precision and improve the air quality. By increasing the supply air only when necessary, it is possible to minimise energy costs.

The transmitter is especially suited for environments such as cinemas, schools, hospitals, conference rooms, assembly halls, etc.

Models

Model	Description
CTRT2	CO_2 and temperature transmitter
CTRT2-D	CO_2 and temperature transmitter with display

Technical data

Supply voltage	24 V AC ±10 %, 50...60 Hz or 15...35 V DC
Power consumption	< 2.5 W
Energy consumption	< 0.5 Wh
Transformer power	5 VA
Electrical connection	Screw terminals max. 1.5 mm^2 (AWG 16)
Ambient temperature	0...50°C
Ambient humidity	10...90 % RH non-condensing
Storage temperature	-25...+60°C
Protection class	IP30
Dimensions (WxHxD)	85 x 100 x 30.5 mm

CO_2

Output signal CO_2	0...10 V DC referring to 0...2000 ppm
Working range	0...2000 ppm
Accuracy at 20°C	< ± (50 ppm + 2 % of the measured value)
Temperature dependance	Typically 5 ppm / K
Long-term stability	Typically 20 ppm / year
Time constant	< 90 s
Warmup time	< 5 min

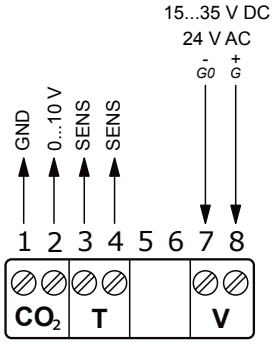
Temperature

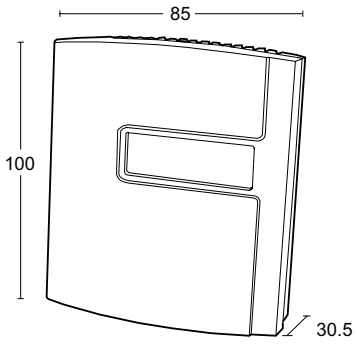
Temperature sensor	PT1000 class DIN B
Working range	0...50°C
Accuracy	±0.3°C

CE

EMC emissions & immunity standards: This product conforms to the requirements of the EMC Directive 2004/108/EC through product standards EN 61000-6-1 and EN 61000-6-3.
RoHS: This product conforms to the Directive 2011/65/EU of the European Parliament and of the Council.

Wiring and dimensions





(Measurements in mm.)

GND and G0 are internally connected. The PT1000 sensor can either be connected via a separate signal neutral or to GND or G0 using a jumper.

Product documentation

Document	Type
CTRT2(-D)_inst	Instruction for the transmitter range

The document can be downloaded from www.regincontrols.com.

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