



### Features

- CO<sub>2</sub> measuring range 0-2.000 ppm
- CO<sub>2</sub> output 0-10 Vdc
- Temperature measuring range 0 to +50°C
- Temperature output 0-10 Vdc
- Enclosure material ABS Plastic  
On request: Stainless steel

### Description

The Carbon Dioxide (CO<sub>2</sub>) + Temperature transmitter CDR 010T is a self-calibrating microprocessor-controlled unit.

The Carbon Dioxide (CO<sub>2</sub>) + Temperature transmitter CDR 010T using an Optical sensor - Non-Dispersive Infrared Detector (NDIR).

Carbon Dioxide (CO<sub>2</sub>) measuring range for the Carbon Dioxide (CO<sub>2</sub>) + Temperature transmitter CDR 010T is 0-2000 ppm converted into signal 0-10 Vdc.

Temperature measuring range for the Carbon Dioxide (CO<sub>2</sub>) + Temperature transmitter CDR 010T is 0 to +50°C converted into signal 0-10 Vdc.

The Carbon Dioxide (CO<sub>2</sub>) + Temperature transmitter CDR 010T have an 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.

As option the Carbon Dioxide (CO<sub>2</sub>) + Temperature transmitter can be supplied in enclosures made of stainless steel (CDR 010T SS), 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 detection range of the Carbon Dioxide (CO<sub>2</sub>) + Temperature transmitter CDR 010T 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 Carbon Dioxide (CO<sub>2</sub>) + Temperature transmitter CDR 010T transmitters.

### Ordering

Type no.	CO <sub>2</sub> measurement	CO <sub>2</sub> output	Temp. measurement	Temp. output
CDR 010T	0-2000 ppm	0-10 Vdc	0 to +50°C	0-10 Vdc

## Technical data

<b>Power supply</b>	24 Vac/dc (+/-10%)
<b>Power consumption</b>	< 1.5 W / 24 Vdc typical < 2.9 VA/ 24 Vac, peak current 200 mA
<b>Pressure dependence</b>	+/- 0.13% / mmHg
<b>Long-term stability</b>	< 2% in 15 years
<b>Gas exchange</b>	by diffusion
<b>Warm up-time</b>	approx. 1 hour
<b>Response time</b>	< 2 minutes
<b>Enclosure material</b>	ABS Plastic (on request Stainless steel)
<b>Protection type</b>	IP30
<b>Protection class</b>	III (according to EN 60 730)
<b>Standards</b>	CE-conformity, electro compatibility according to EN- 61 326 EMC directive 2014 / 30 / EU. low-voltage directive 2015 / 35 / EU

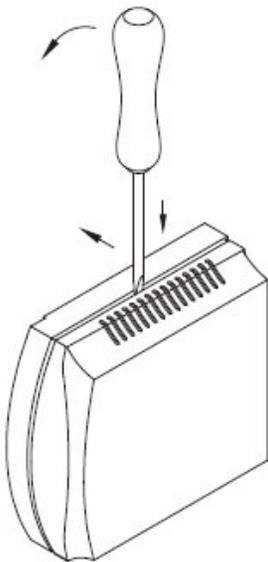
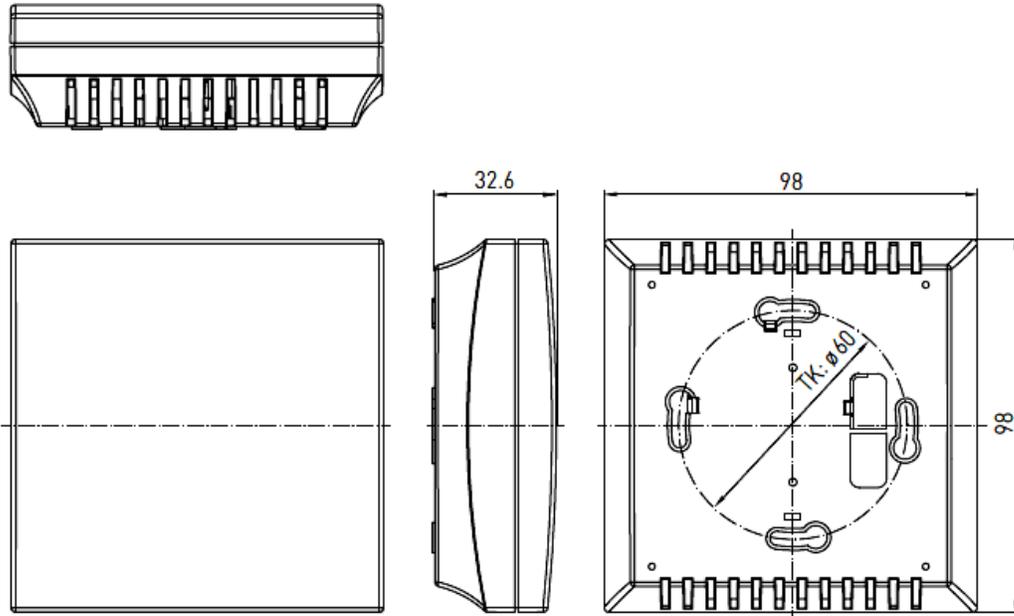
## Carbon Dioxide (CO<sub>2</sub>)

<b>CO<sub>2</sub> sensor</b>	Optical NDIR sensor (non-dispersive infra-red technology) with manual calibration (via zero button)
<b>CO<sub>2</sub> measuring range</b>	0-2000 ppm
<b>CO<sub>2</sub> output</b>	0-10 Vdc
<b>CO<sub>2</sub> accuracy</b>	+/-30 ppm plus 3% of measured value
<b>Temperature dependence CO<sub>2</sub></b>	+/-5 ppm / °C or +/- 0.5% of measured value /°C (whichever is higher)
<b>Service life</b>	> 12 years

## Temperature

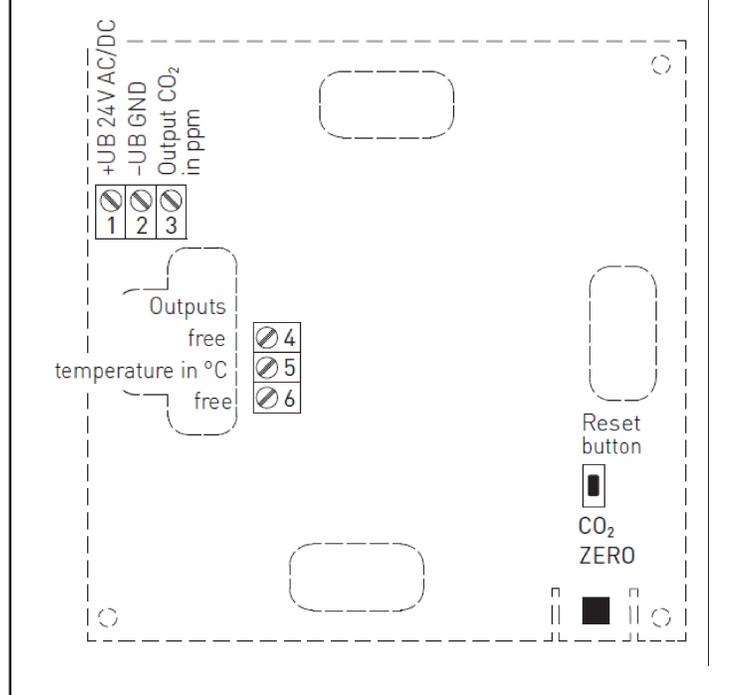
<b>Temperature measuring range</b>	0 to +50°C
<b>Operation measuring range</b>	0 to +50°C
<b>Temperature output</b>	0-10 Vdc
<b>Deviation, temperature</b>	+/- 0.2 K at 25°C

Dimensions in mm for ABS plastic housing



To open the enclosure, set a screwdriver (2.0) in the groove at centre, press down, and lift up the bottom frame slightly. Pull top cover forward and hold it.

Schematic diagram



### Supply Voltage

For operating voltage reverse polarity protection, a one-way rectifier or reverse polarity protection diode is integrated in this device variant. This internal one-way rectifier also allows operating 0-10 Vdc devices on AC supply voltage.

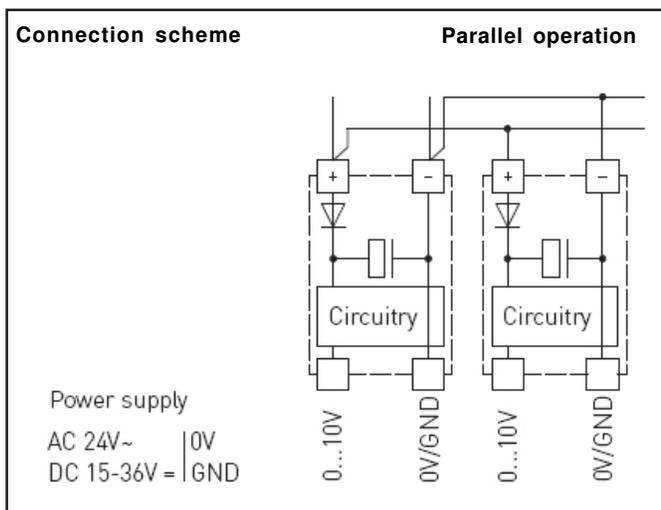
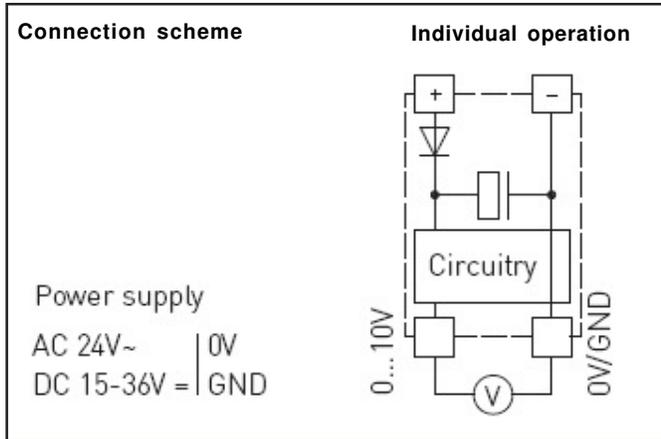
The output signal is to be tapped by a measuring instrument. Output voltage is measured here against zero potential (0 V) of the input voltage!

When this device is operated on **DC supply voltage**, the operating voltage input UB+ is to be used for 15 to 36 V DC supply and UB- or GND for ground wire!

When several devices are supplied by one 24 V **AC voltage supply**, it is to be ensured that all "positive" operating voltage input terminals (+) of the field devices are connected with each other and all "negative" operating voltage input terminals (-) (= reference potential) are connected together (in-phase connection of field devices). All outputs of field devices must be referenced to the same potential!

In case of reversed polarity at one field device, a supply voltage short-circuit would be caused by that device. The consequential short-circuit current flowing through this field device may cause damage to it.

**Therefore, pay attention to correct wiring!**



We reserve the right to make changes in our products without any notice which may effect the accuracy of the information contained in this leaflet.