



## Features

- CO<sub>2</sub> range 0-2000 ppm
- Output
  - 0-10 Vdc for CDK 010
  - 4-20 mA for CDK 420
- Optical NDIR sensor  
(non-dispersive Infra-red technology)
- Self Calibrating
- Including duct mounting flange
- IP65 enclosure with quick locking screws

## Description

The duct CO<sub>2</sub> sensor CDK is a maintenance-free, micro-processor-controlled unit designed for duct installation and is used to detect the CO<sub>2</sub> content of the air.

The CO<sub>2</sub> measuring range is 0-2000 ppm converted to standard signals 0 -10 Vdc for CDK 010 or 4-20 mA for CDK 420.

The CO<sub>2</sub> content of the air is measured using an optical NDIR sensor (non-dispersive infra-red technology).

The detection range of the duct CO<sub>2</sub> sensor is calibrated for standard applications such as monitoring residential rooms and conference rooms.

Room ventilation on and as-needed basis, improved well-being and customer benefit, increased comfort as well as reduced operating costs through energy conservation are just some of the benefits of employing duct CO<sub>2</sub> sensors.

A measuring system based on NDIR (non-dispersive infra-red technology) for CO<sub>2</sub> measurement consists of a light source and a receptor.

A certain range of wavelengths of light radiated by the source is damped and absorbed by CO<sub>2</sub> molecules in the measured section.

This damping is detected by the receptor.

## Ordering

Type no.	Description
CDK 010	Duct CO <sub>2</sub> sensor 0-10 Vdc, 0-2000 ppm
CDK 420	Duct CO <sub>2</sub> sensor 4-20 mA, 0-2000 ppm

## Technical data

Voltage supply	24 Vac/dc
Average power consumption	< 3 VA at 24 Vdc
Sensor	optical NDIR sensor (non-dispersive infra-red technology) with automatic calibration
Measuring range	0-2000 ppm
Output:	0-10 Vdc for CDK 010 and 4-20 mA for CDK 420
Measuring Accuracy	± 50 ppm + 2% of measured at 25°C ± 70 ppm plus 5 % of measured value full area
Pressure dependence	± 1,6 % of measured value /kPa (referred to standard pressure)
Temperature dependence	< 5 ppm /K (referred to +20 °C)
Long-term stability	± 1 % of final value/year
Gas exchange	by diffusion
Warm up time	approx. 1 hour
Ambient Temperature	0 to +50 °C
Response time	approx. 1 minute
Electrical connection	0.14 - 1.5 mm <sup>2</sup> , via screw terminals
Enclosure	plastic, material polyamide, 30 % glass-globe-reinforced, with quick-locking screws (slotted/Phillips head combination), colour traffic white (similar to RAL 9016)
Dimensions	72 x 64 x 37.8 mm
Cable gland	M 16 x 1.5; including strain relief, exchangeable
Protective tube material	polyamide (PA6), Ø 20 mm, NL = 202.5 mm, with torsion protection
Process Connection	via flange made of plastic (included in scope of delivery)
Protection class	III (according to EN 60 730)
Protection type	IP 65 (according to EN 60 529) enclosure only!
Standards	CE conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2004/108/EC

## Wiring

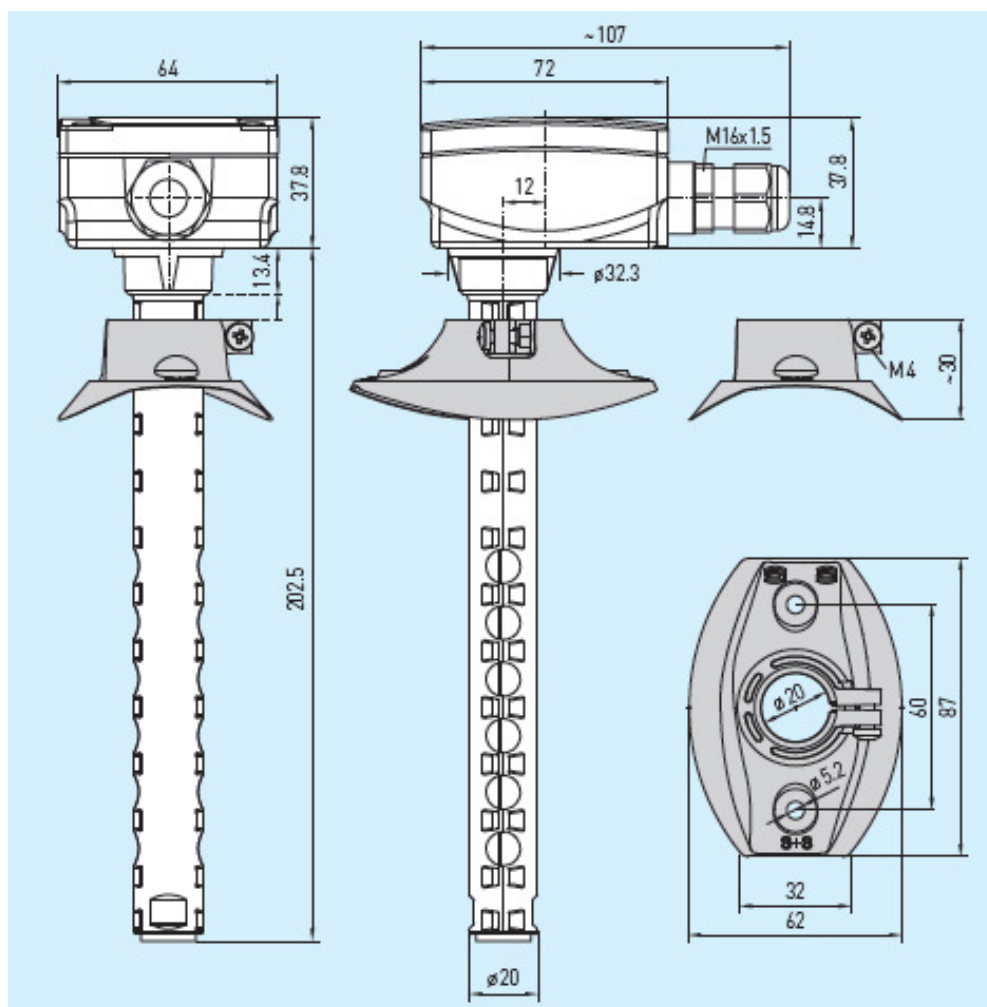
### CDK 010

3	Output 0-10V CO <sub>2</sub> -content in ppm
2	UB- GND
1	UB+ supply voltage 24V AC/DC

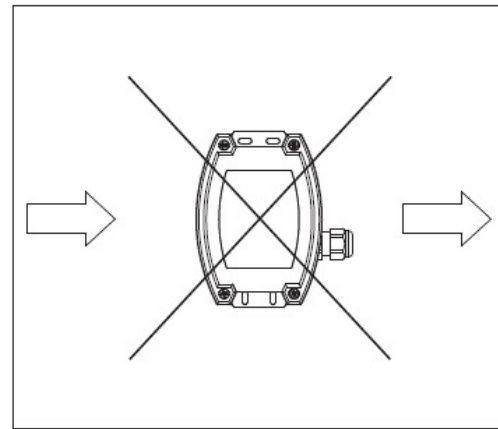
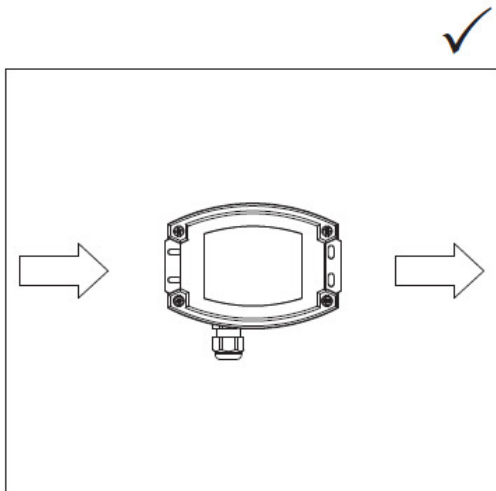
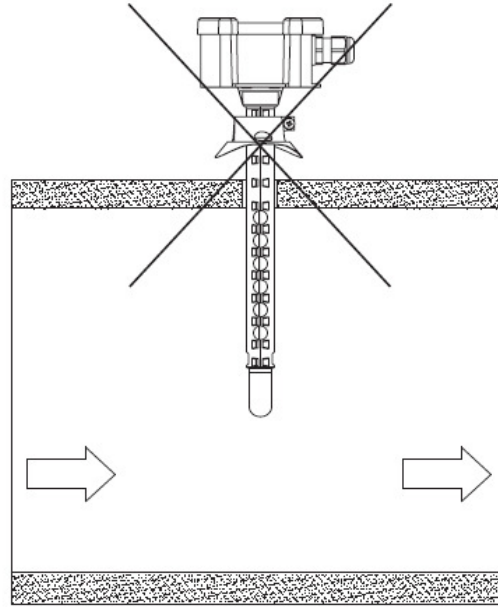
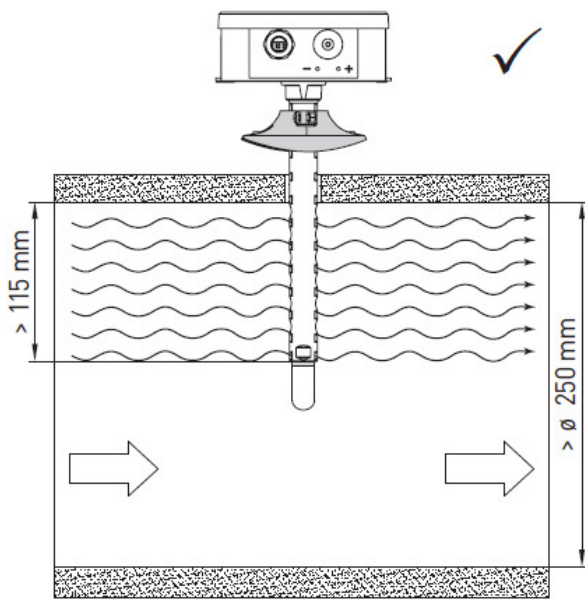
### CDK 420

3	Output 4...20mA CO <sub>2</sub> -content in ppm
2	UB- GND
1	UB+ supply voltage 24V AC/DC

## Dimensions



## Mounting



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