

**Duct CO₂ sensors and measuring transducers,
 incl. mounting flange, self-calibrating, with multi-range switching
 and active / switching output**

Patented quality product (patent no. DE 10 2014 010 719.1)

The maintenance-free microprocessor-controlled duct sensor **AERASGARD® KCO₂-SD** with automatic calibration (fixed), enclosure with snap-on lid, without display, is used for detecting the CO₂ content of the air within a range of 0...2000 ppm or 0...5000 ppm. The measurement value is converted into standard signal of 0-10V.

The maintenance-free microprocessor-controlled duct sensor **AERASGARD® KCO₂-W** with automatic calibration (can be deactivated via DIP switches), enclosure with quick-locking screws, optionally with / without display, is used for detecting the CO₂ content of the air within a range of 0...2000 ppm or 0...5000 ppm. The measurement value is converted into standard signal of 0-10V or 4...20mA.

The CO₂ content of the air is measured using an optical NDIR sensor (non-dispersive infra-red technology). The detection range of the CO₂ sensor is calibrated for standard applications such as monitoring residential rooms and conference rooms. Room ventilation on an 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 AERASGARD® CO₂ sensors.

A measuring system based on NDIR (non-dispersive infra-red technology) for CO₂ 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 CO₂ molecules in the measured section. This damping is detected by the receptor. For more information, see the start of the chapter.

TECHNICAL DATA

Power supply:	24 V AC / DC (± 10 %)
Power consumption:	< 1.5 W / 24 V DC typical; < 2.9 VA / 24 V AC typical; Peak current 200 mA
Sensor:	optical NDIR sensor (non-dispersive infra-red technology), with manual calibration (via zero button), KCO₂-SD with automatic calibration (fixed) KCO₂-W with automatic calibration (can be deactivated via DIP switches)
Measuring range:	Multi-range switching (selectable via DIP switches) 0...2000 ppm; 0...5000 ppm
Output:	KCO₂-SD 0-10 V (fixed) KCO₂-W 0-10 V or 4...20 mA, working resistance < 800 Ω (selectable via DIP switches), with offset potentiometer (± 10 % of the measuring range)
Relay output:	KCO₂-SD without changeover contact KCO₂-W with potential-free changeover contact (24 V / 1 A), switchpoint adjustable
Measuring accuracy:	± 30 ppm ± 3 % of measured value
Temperature dependence:	± 5 ppm / °C or ± 0.5 % of measured value / °C (whichever is higher)
Pressure dependence:	± 0.13 % / mm Hg
Long-term stability:	< 2 % in 15 years
Gas exchange:	by diffusion
Warm up time:	approx. 1 hour
Ambient temperature:	-10...+60 °C
Response time:	approx. 1 minute
Electrical connection:	0.14 - 1.5 mm ² , via screw terminals
Enclosure:	plastic, UV-stabilised, material polyamide, 30 % glass-globe reinforced, colour traffic white (similar to RAL 9016), enclosure cover for display is transparent! KCO₂-SD with snap-on lid, KCO₂-W with quick-locking screws (slotted / Phillips head combination)
Enclosure dimensions:	72 x 64 x 37.8 mm (Tyr 1/Tyr 01 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable gland:	M 16 x 1.5; including strain relief, exchangeable, max. inner diameter 10.4 mm
Protective tube:	PLEUROFORM™ , material polyamide (PA6), with torsion protection, Ø 20 mm, NL = 202.5 mm, v _{max} = 30 m/s (air)
Process connection:	via flange made of plastic (included in scope of delivery)
Protection class:	III (according to EN 60 730)
Protection type:	KCO₂-SD IP 43 (as per EN 60 529) enclosure only! KCO₂-W IP 65 (as per EN 60 529) enclosure only!
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU
Optional:	Display with illumination , two line, cutout approx. 36 x 15 mm (W x H), for displaying the Actual CO₂ content and for setting the switchpoint
ACCESSORIES	See last chapter

MFT-20-K
 Mounting flange,
 plastic





NEW

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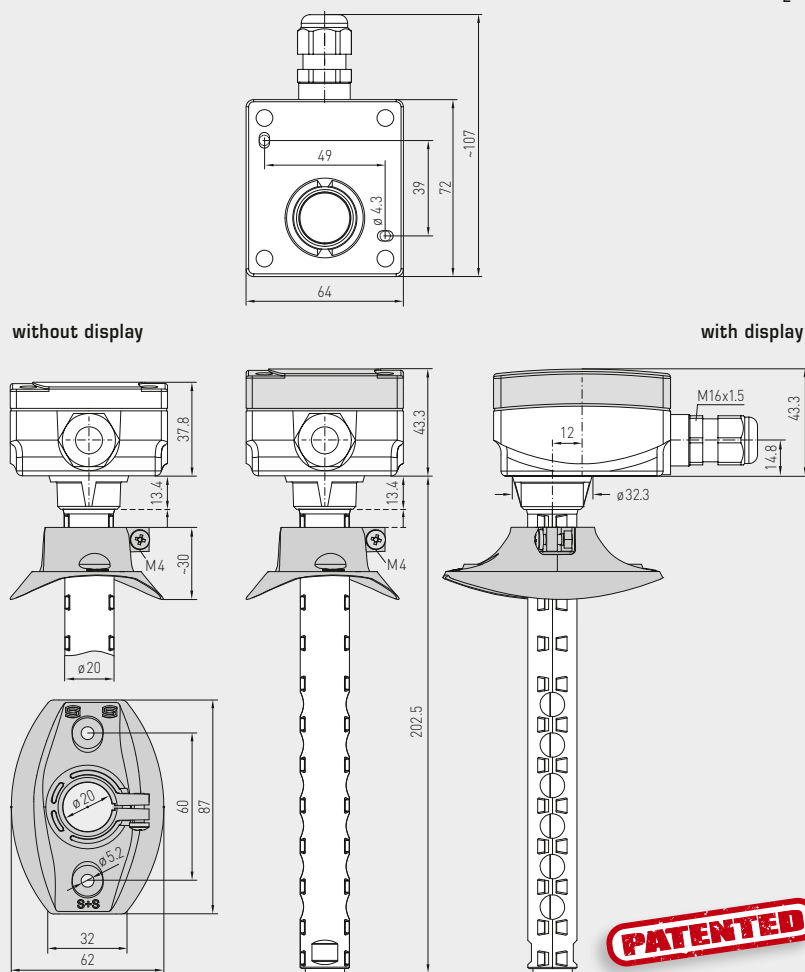
AERASGARD® KCO₂-W
AERASGARD® KCO₂-SD

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Dimensional drawing

KCO₂-W
KCO₂-SD



KCO₂-SD
with snap-on lid
(IP 43)



KCO₂-W
with quick-locking
screws (IP 65)

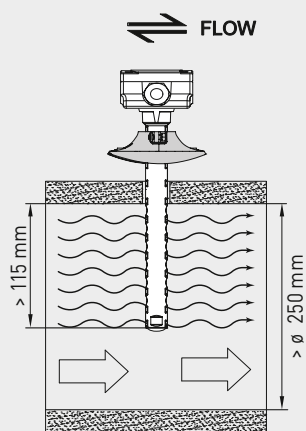


KCO₂-W
with quick-locking
screws and
display (IP 65)



Mounting diagram

KCO₂-W
KCO₂-SD





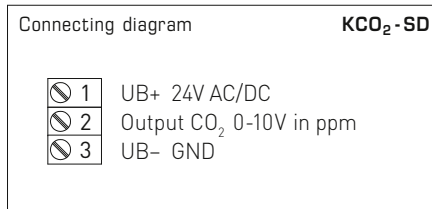
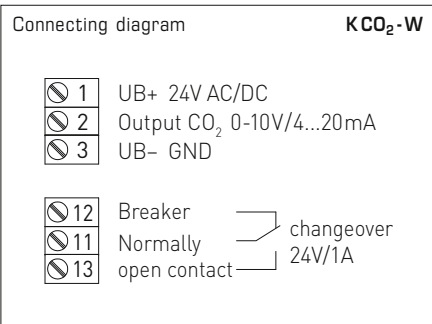
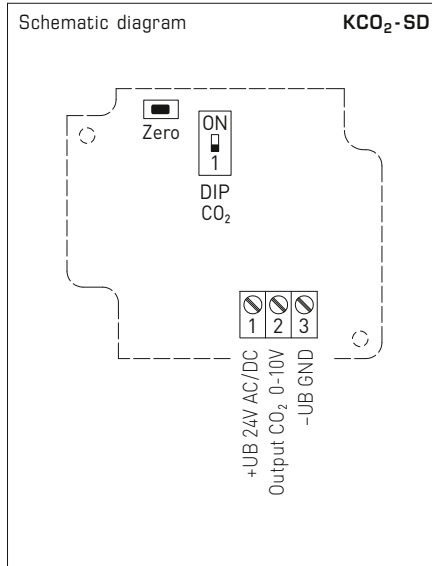
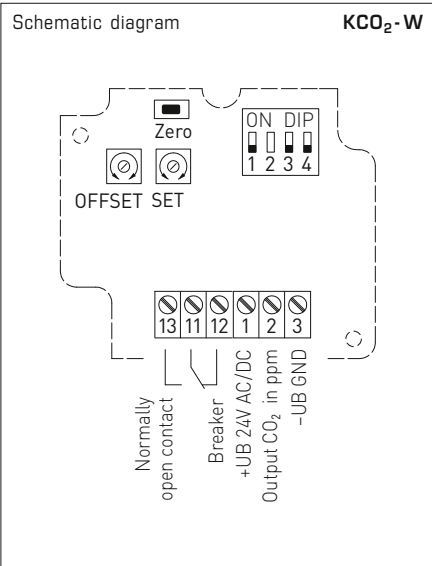
AERASGARD® KCO₂-W AERASGARD® KCO₂-SD

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DIP switch	KCO ₂ -W
CO ₂ content	DIP 1
0...2000 ppm (default)	OFF
0...5000 ppm	ON
CO ₂ automatic zero point	DIP 3
deactivated	OFF
activated (default)	ON
Output	DIP 4
Voltage 0-10 V (default)	OFF
Current 4...20 mA	ON
Note: DIP 2 is not assigned!	

DIP switch	KCO ₂ -SD
CO ₂ content	DIP 1
0...2000 ppm (default)	OFF
0...5000 ppm	ON



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NEW

AERASGARD® KCO₂-W
AERASGARD® KCO₂-SD

Duct CO₂ sensors and measuring transducers,
incl. mounting flange, self-calibrating, with multi-range switching
and active / switching output

KCO₂-W
with Display



AERASGARD® KCO₂-SD – Duct CO₂ sensors and measuring transducers, *Standard*
AERASGARD® KCO₂-W – Duct CO₂ sensors and measuring transducers, *Premium*

Type / WG02	Measuring Range CO ₂	Output CO ₂	Equipment	Display	Item No.	Price
KCO₂-SD	(switchable)	(fixed)			IP 43	
KCO2-SD-U	0...2000 ppm / 0...5000 ppm	0-10 V	–		1501-3160-1001-200	211,60 €
KCO₂-W	(switchable)	(switchable)			IP 65	
KCO2-W	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	changeover contact		1501-3140-7301-200	255,00 €
KCO2-W DISPLAY	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	changeover contact, display	■	1501-3140-7321-200	297,33 €
Note: This unit must not be used as safety-relevant device!						