

**Duct CO<sub>2</sub> 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)**

Maintenance-free duct sensor **AERASGARD® KCO2-SD** with active output, automatic calibration (fixed), in a compact plastic housing with quick-locking screws, for determining the CO<sub>2</sub> content of the air (0...2000 ppm/0...5000 ppm). The measuring transducer converts the measured values into a standard signal of 0-10V.

Maintenance-free duct sensor **AERASGARD® KCO2-W** with active/switching output, automatic calibration (can be deactivated), in a compact plastic housing with quick-locking screws, optionally with/without display, for determining the CO<sub>2</sub> content of the air (0...2000 ppm/0...5000 ppm). The measuring transducer converts the measured values into a standard signal of 0-10V or 4...20 mA (switchable).

The CO<sub>2</sub> sensor is used in offices, hotels, convention centres, apartments, shops, etc. for the purpose of evaluating the indoor climate. This enables energy-saving room ventilation on an as-needed basis, thereby reducing operating costs and improving well-being. One sensor for every 30 m<sup>2</sup> of room area is recommended.

The CO<sub>2</sub> measurement is performed using an optical **NDIR sensor** (non-dispersive infra-red technology). The detection range is calibrated for standard applications such as monitoring residential rooms and conference rooms.

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), <b>KCO2-SD</b> with automatic calibration (fixed) <b>KCO2-W</b> with automatic calibration (can be deactivated via DIP switches)
Measuring range:	<b>Multi-range switching</b> (selectable via DIP switches) 0...2000 ppm; 0...5000 ppm
Output:	<b>KCO2-SD</b> 0-10 V (fixed) <b>KCO2-W</b> 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:	<b>KCO2-SD</b> without changeover contact <b>KCO2-W</b> with potential-free <b>changeover contact</b> (24 V / 1 A), switchpoint adjustable
Measuring accuracy:	typically ± 30 ppm ± 3% of measured value
Temperature dependence:	± 5 ppm per °C or ± 0.5% of measured value per °C (whichever is higher)
Pressure dependence:	± 0.13% per 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, minimum flow rate 0.3 m/s (air)
Electrical connection:	0.14 - 1.5 mm <sup>2</sup> , via screw terminals
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent!
Housing dimensions:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable connection:	<b>cable gland</b> , plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) or <b>M12 connector</b> according to DIN EN 61076-2-101 (optional on request)
Protective tube:	<b>PLEUROFORM™</b> , material polyamide (PA6), with torsion protection, Ø 20 mm, NL = 202.5 mm, (optionally 100 mm), v <sub>max</sub> = 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:	<b>IP65</b> (according to EN 60 529)* Housing tested, TÜV SÜD, Report No. 713139052 (Tyr 1) * Housing in the built-in state (permeable PLEUROFORM: IP 30)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU
Optional:	<b>display with illumination</b> , two line, cutout approx. 36 x 15 mm (W x H), for displaying the <b>Actual CO<sub>2</sub> content</b> and for setting the <b>switchpoint</b>
<b>ACCESSORIES</b>	see last chapter

**MFT-20-K**  
Mounting flange,  
plastic





S+S REGELTECHNIK

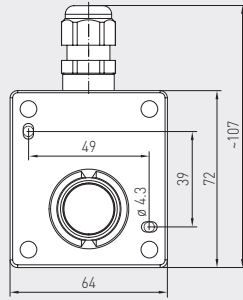
AERASGARD® **KCO2-W**  
AERASGARD® **KCO2-SD**

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



Dimensional drawing  
(mm)

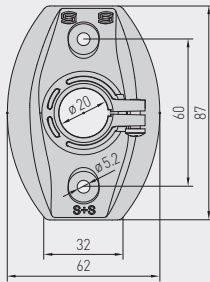
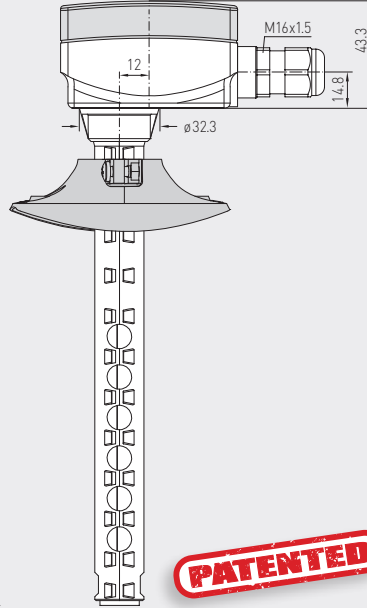
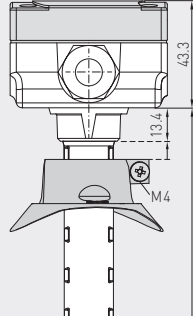
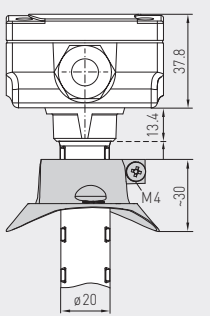
KCO2 - W  
KCO2 - SD



M12 connector  
(optional on request)

without display

with display



**PATENTED**

KCO2 - W  
KCO2 - SD  
with quick-locking  
screws (IP65)

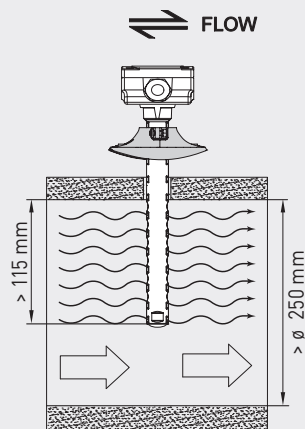


KCO2 - W  
with quick-locking  
screws and  
display (IP65)

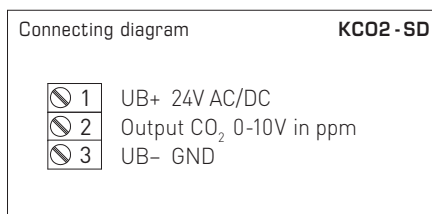
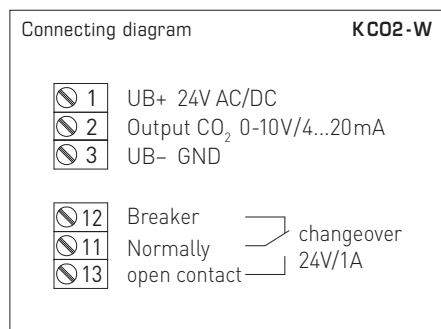
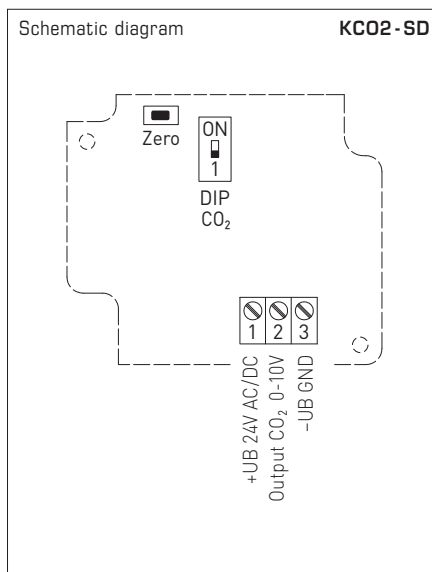
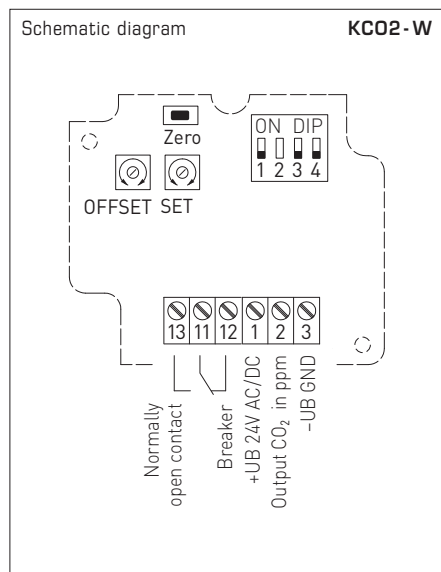


Mounting diagram

KCO2 - W  
KCO2 - SD



Duct CO<sub>2</sub> sensors and measuring transducers,  
incl. mounting flange, self-calibrating, with multi-range switching  
and active / switching output



DIP switch		KCO2-W
<b>CO<sub>2</sub> content</b>		<b>DIP 1</b>
0...2000 ppm (default)		OFF
0...5000 ppm		<b>ON</b>
<b>CO<sub>2</sub> automatic zero point</b>		<b>DIP 3</b>
deactivated		OFF
activated (default)		<b>ON</b>
<b>Output</b>		<b>DIP 4</b>
Voltage 0-10V (default)		OFF
Current 4...20 mA		<b>ON</b>

Note: **DIP 2** is not assigned!

DIP switch		KCO2-SD
<b>CO<sub>2</sub> content</b>		<b>DIP 1</b>
0...2000 ppm (default)		OFF
0...5000 ppm		<b>ON</b>

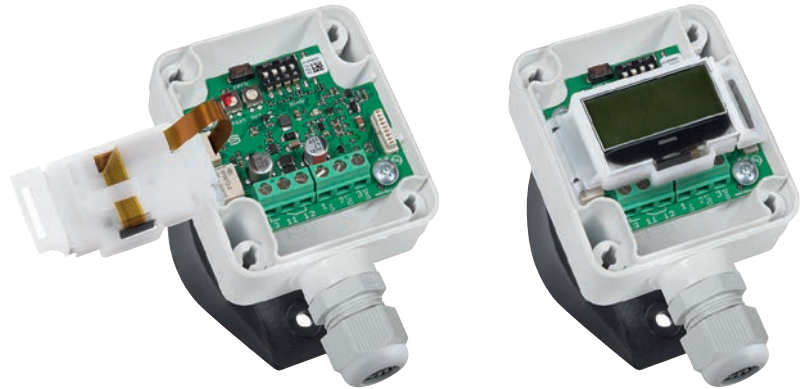


S+S REGELTECHNIK

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 CO2	Output CO2	Equipment	Display	Item No.	Price
<b>KCO2-SD</b>	(switchable)	(fixed)			<b>IP 65</b>	
KCO2-SD-U	0...2000 ppm / 0...5000 ppm	0-10 V	–		1501-3160-1001-200	<b>239,31 €</b>
<b>KCO2-W</b>	(switchable)	(switchable)			<b>IP 65</b>	
KCO2-W	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	changeover contact		1501-3140-7301-200	<b>290,77 €</b>
KCO2-W <b>LCD</b>	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	changeover contact, display	■	1501-3140-7321-200	<b>340,95 €</b>
Optional:	Cable connection with <b>M12 connector</b> according to DIN EN 61076-2-101 shortened protective tube <b>PLEUROFORM™</b> , NL = 100 mm					on request on request
Note:	This unit <b>must not</b> be used as safety-relevant device!					

