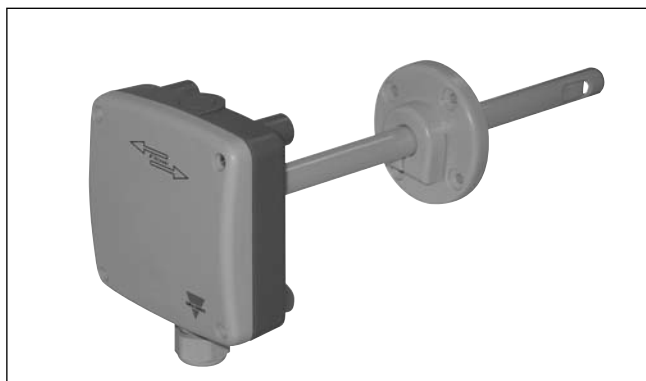


# Environmental Sensors CO<sub>2</sub> Transmitters



- Very simple installation
- Compact housing
- Auto-calibration
- Traceable calibration
- Measuring ranges: 0...2000ppm or 0...5000ppm
- Analogue or switching output
- Duct mounting
- CE, RoHS

## Product Description

Duct mounted CO<sub>2</sub> transmitters of the CGES series are designed for HVAC applications. The CO<sub>2</sub> sensing element uses the Non-Dispersive Infrared Technology (NDIR). A patented auto-calibration procedure compensates for drift caused

by the aging of the sensing element and guarantees outstanding long term stability. Installed into a duct a small flow of air will be established by convection through the probe into the transmitter housing and back into the duct. Inside the transmitter

the air will diffuse through a membrane into the CO<sub>2</sub> sensing element. The operation in closed loop air stream avoids pollution of the CO<sub>2</sub> sensor. Measuring ranges of 0...2000ppm and 0...5000ppm correspond to an analogue interface of

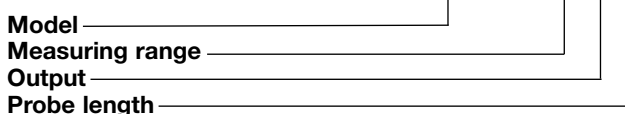
0-10V or 4-20mA. Selectively a switching output with adjustable switching point and hysteresis is available. The instruments can be easily positioned in the duct with the standard mounting logic.

## Approvals



## Ordering Key

**CGESC02D 2 V L**



## Type Selection

Model	Measuring Range	Output	Probe Length
CGESC02D   CO <sub>2</sub> Transmitter	2   0...2000ppm 5   0...5000ppm	V   0-10V A   4-20mA S   Switching Output	L   200mm

## General Data

Voltage supply SELV	24VAC ±20% 15-35VDC SELV= Safety Extra Low Voltage	Temperature ranges working temperature range storage temperature range	-5...55°C/23...131°F -20...60°C/-4...140°F
Power Requirement	<3W	Electromagnetic compatibility	EN 61000-6-3 ÖVE EN61326-1+A1+A2:05.2002 EN 61000-6-1 FCC Part 15 ICES-003 ClassB
Warm up time	<5min		
Humidity	0...95% (not condensing)		

## Measuring Values

CO <sub>2</sub>		Response time $\tau_{63}$	< 120s
Measurement principle	Non-Dispersive Infrared Technology (NDIR)	Temperature dependence	typ. 2ppm CO <sub>2</sub> /°C
Sensing element	Dual Source Infrared System	Long term stability	typ. 20ppm / year
Measuring range	0...2000ppm / 0...5000ppm	Sample rate	~30s
Accuracy @ 20°C/68°F and 1013mbar	0...2000ppm <±(50ppm +2% of meas. value) 0...5000ppm <±(50ppm +3% of meas. value) Traceable to international standards, administrated by NIST, PTB, BEV...		

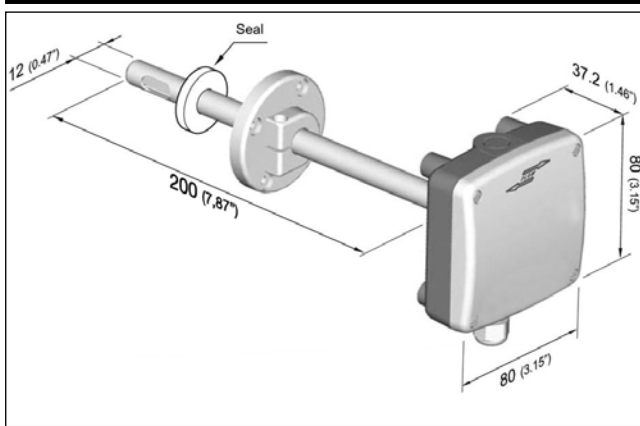
## Output Data

Analogue Outputs		
0...2000ppm/0...5000ppm	0-10V 4-20mA	-1mA<I<1mA R <sub>L</sub> <500Ω
Switching Output		
Max. switching voltage	50VAC / 60VDC	
Max. switching load	1A @ 50VAC 1A @ 24VDC	
Min. switching load	1mA @ 5VDC	
Contact material	Ag+Au clad	

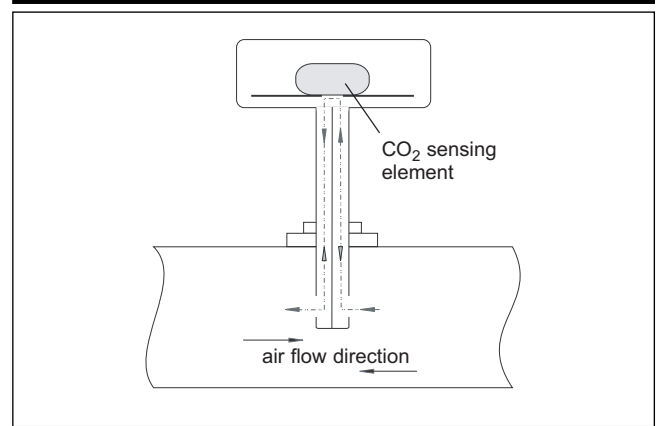
## Mechanical Data

Housing	PC Polycarbonate	
Electrical connection	Screw terminals max. 1.5mm <sup>2</sup> (AWG 16)	
Protection Degree	Housing Probe	IP65 IP20
Housing colour	Cover Back	RAL 7035 RAL 7037

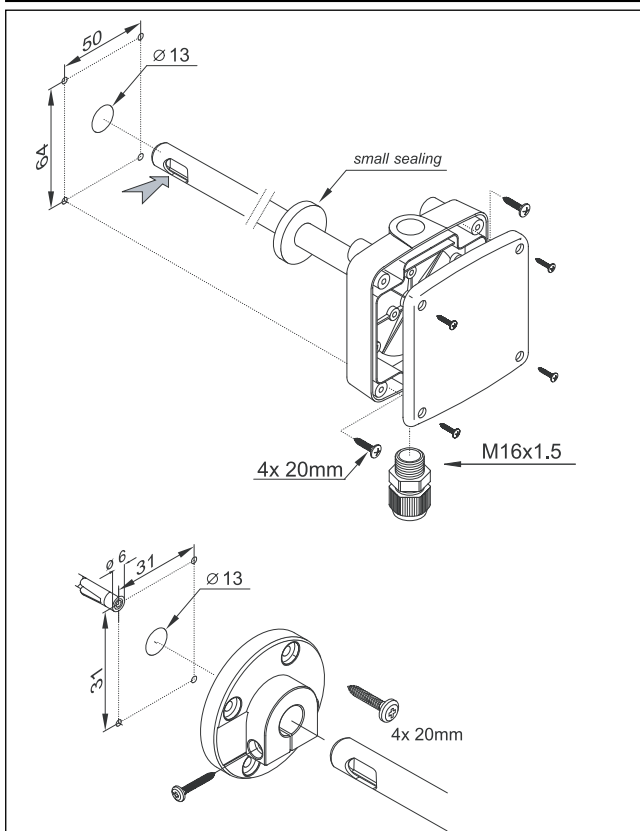
## Dimensions



## Operating Principle



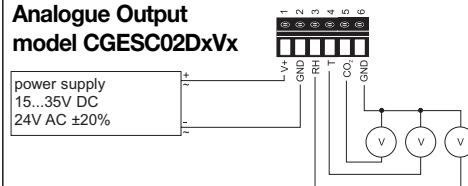
## Mounting



## Connection Diagram

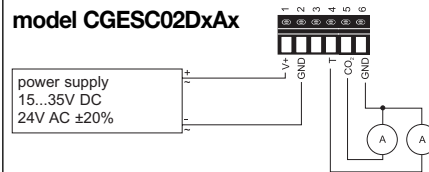
### Analogue Output model CGESC02DxVx

power supply  
15...35V DC  
24V AC ±20%



### model CGESC02DxAx

power supply  
15...35V DC  
24V AC ±20%



### Switching Output model CGESC02DxSx

power supply  
15...35V DC  
24V AC ±20%

