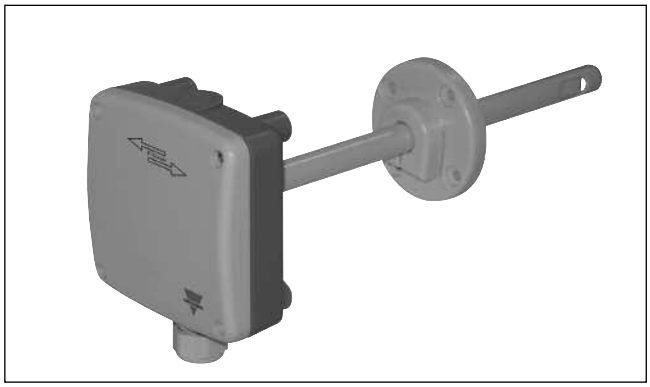
Environmental Sensors
CO_2 Transmitters

CARLO GAVAZZI



- **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_2 transmitters of the CGES series are designed for HVAC applications. The CO_2 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 housing the air will diffuse through a membrane into the CO_2 sensing element.
The operation in closed loop air stream avoids pollution of the CO_2 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 flange.

Approvals

CE RoHS COMPLIANT

Ordering Key

CGESC02D 2 V L

Model
Measuring range
Output
Probe length

Type Selection

Model	
CGESC02D	CO_2 Transmitter

Measuring Range	
2	0...2000ppm
5	0...5000ppm

Output	
V	0-10V
A	4-20mA
S	Switching Output

Probe Lenght	
L	200mm

General Data

Voltage supply SELV	**24VAC ±20%** **15-35VDC** **SELV= Safety Extra Low Voltage**
Power Requirement	**<3W**
Warm up time	**<5min**
Humidity	**0...95% (not condensing)**

Temperature ranges	
working temperature range	**-5...55°C/23...131°F**
storage temperature range	**-20...60°C/-4...140°F**
Electromagnetic compatibility	**EN 61000-6-3** **ÖVE EN61326-1+A1+A2:05.2002** **EN 61000-6-1** **FCC Part 15 ICES-003 ClassB**

Measuring Values

CO_2		
Measurement principle		**Non-Dispersive Infrared Technology (NDIR)**
Sensing element		**Dual Source Infrared System**
Measuring range		**0...2000ppm / 0...5000ppm**
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...

Response time τ_{63}	**< 120s**
Temperature dependence	**typ. 2ppm CO2/°C**
Long term stability	**typ. 20ppm / year**
Sample rate	**~30s**

Specifications are subject to change without notice. Pictures are just an example. For special features and/or customization, please ask to our sales network. 140708

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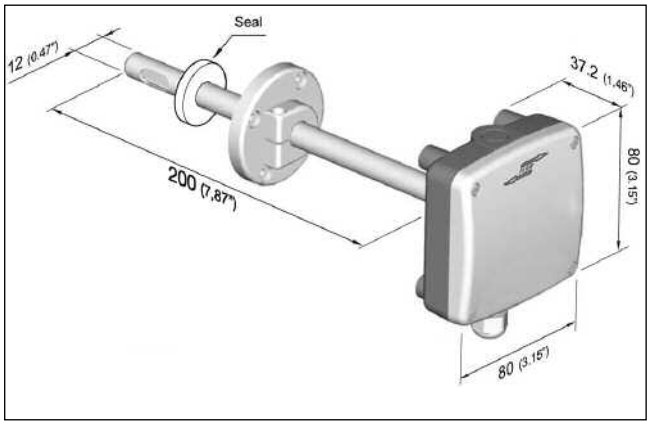
Output Data

Analogue Outputs		
0...2000ppm/0...5000ppm	0-10V	**-1mA<I_L<1mA**
	4-20mA	**R_L <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**

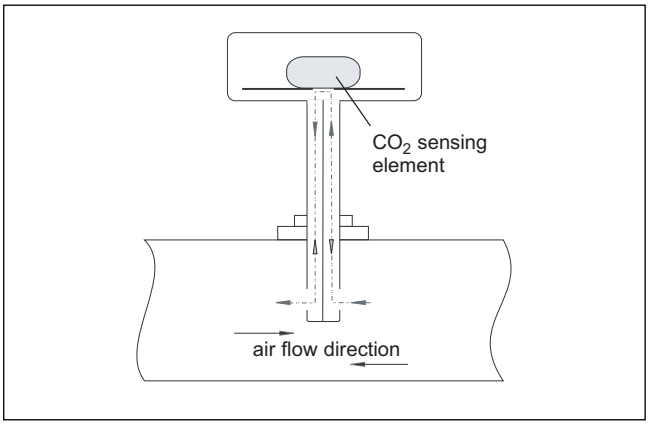
Mechanical Data

Housing		**PC Polycarbonate**
Electrical connection		**Screw terminals max. 1.5mm² (AWG 16)**
Protection Degree	Housing	**IP65**
	Probe	**IP20**
Housing colour	Cover	**RAL 7035**
	Back	**RAL 7037**

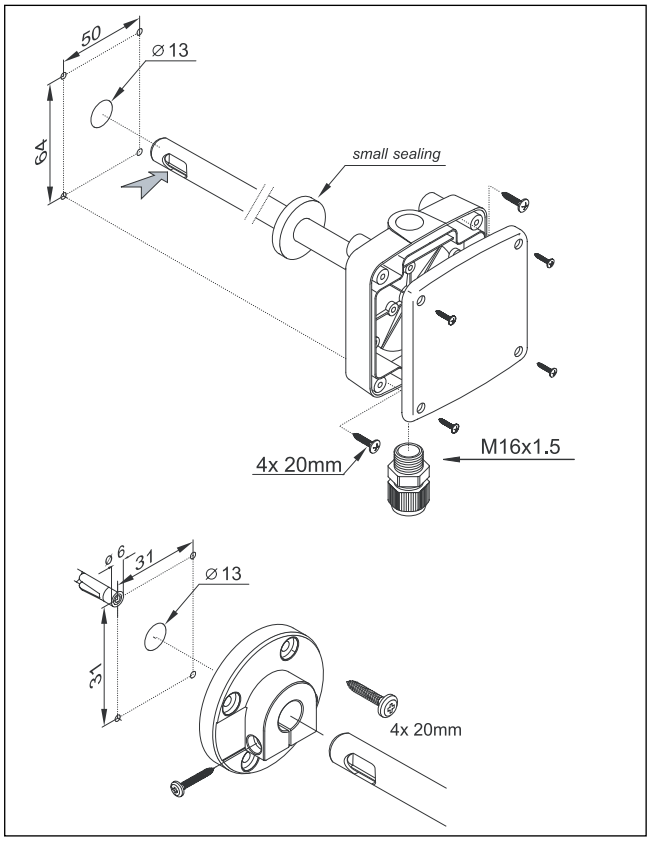
Dimensions



Operating Principle



Mounting



Connection Diagram