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Environmental Sensors CO_2, Relative Humidity / Temperature Transmitters

CARLO GAVAZZI

- **CO_2 / RH / T measurement in one device**
- **RH output with plug-in module**
- **Analogue or switching output**
- **Modern design**
- **Optional display**
- **Easiest installation**
- **Long term stability**
- **Room transmitter**
- **Wall mounting**
- **CE, RoHS**

Product Description

CGESC02xxW type set new standards in CO_2 measurements for HVAC.
The transmitters resp. switches combine CO2, relative humidity (RH) and temperature (T) measurement in one modern and userfriendly housing.

The basic CGESC02TW version for CO_2 and T can be easily extended with a RH plug-in module.
The CO_2 measerument is based on the infrared principle. A patented auto-calibration procedure compensates for the aging of the infrared source and ensures outstanding long term stability.
This sensor provides analogue outputs (in V or mA). The optional display indicates sequentially the actual measuring data.

As one more option a switching output with adjustable switching point and hysteresis is available.
A wide variety of models ensures an optimal adjustment for customised requirements.

Approvals

CE RoHS COMPLIANT

Ordering Key

CGESC02TW 2 V T04

- **Model**
- **Working Range**
- **Output**
- **Display**
- **Temperature Unit**
- **Temperature Scale**

Type Selection

Model (only with switching output)	
CGESC02W	C02
Model	
CGESC02TW	C02+T
CGESC02THW	C02+T+RH

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

Output	
not for model CGESC02W	
V	0-10V
A	4-20mA (only for CGESC02TW)
only for model CGESC02W	
S	Switching output

Display (not for model CGESC02W)	
Nil	Without Display
D	With Display

Temp. Unit (not for model CGESC02W)	
Nil	°C
F	°F

Temp. Scale (not for model CGESC02W)	
T04	0...50

General Data

Supply voltage SELV	**24VAC ±20% 15-35VDC SELV = Safety Extra Low Voltage**
Power requirement	**<3W**
Warm up time	**<5min**
Electromagnetic compatibility	**EN 61000-6-3 EN61326-1+A1+A2:05.2002 EN 61000-6-1**

Temperature range	
Working temperature range	**0...90%RH (non condensing) / -5...55°C/23...131°F**
Storage temperature range	**0...90% RH (non condensing) / -20...60°C/-4...140°F**

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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Technical Data

CO_2		
Measurement principle		**Non-Dispersive Infrared Technology (NDIR)**
Sensor		**Dual Source Infrared System**
Working range		**0...2000ppm 0...5000ppm**
Accuracy @ 20°C/68°F and 1013mbar	0...2000ppm	**< ± (50ppm +2% of measuring value)**
	0...5000ppm	**< ± (50ppm +3% of measuring value)**
Response time τ63		**<90s**
Temperature dependence		**typ. 2ppm CO_2 / °C**
Long term stability		**typ. 20ppm / year**
Sample rate		**ca. 0.5min**

RELATIVE HUMIDITY	
Measurement principle	**Capacitive**
Sensor element	**HC103**
Working range	**10...90% RH**
Accuracy @ 20°C/68°F	**±3% RH (30...70%RH) ±5% (10...90%RH)**
TEMPERATURE	
Accuracy @ 20°C/68°F	**±0.3°C (±0.54°F) version with current output 4-20mA: ±0.7°C (±1.26°F)**

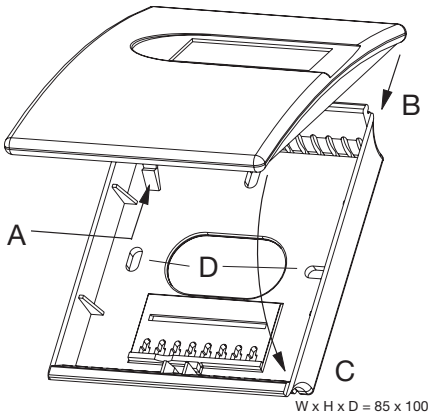
Output Data

ANALOGUE OUTPUT		
0...2000/5000ppm/ 0...100%RH/0...50°C/ 32...122°F	0-10V 4-20mA	**-1mA <I_L <1mA R_L <500Ω**
SWITCHING OUTPUT		
Max. switching voltage		**50VAC / 60VDC**
Max. switching load		**1A @ 50VAC 1A @ 30VDC**
Min. switching load		**1mA @ 5VDC**

Mechanical Data

Housing		**PC Polycarbonate**
Electrical connection		**screw terminals max. 1.5mm² (AWG 16)**
Switching output Contact material		**Ag+Au clad**
Protection Degree		**IP20**
Housing colour	Cover	**RAL 9003 (white)**
	Back	**RAL 7035 (light grey)**
Display		**LC display: alternating CO_2 (ppm) / T (°C or °F) / RH (% RH)**

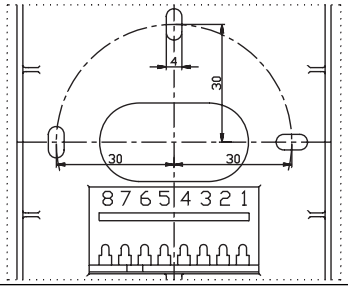
Dimensions



W x H x D = 85 x 100 x 26mm
3.3 x 3.9 x 1inch

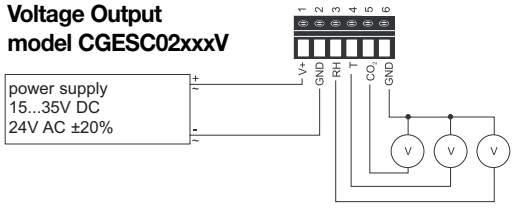
Opening the housing
Press pin A until cover can be opened.
Closing the housing
Set cover into flute B and move it to direction C until pin A snaps in.
Installation
Mount housing on wall with srews through therefore designated holes D.

Mounting holes

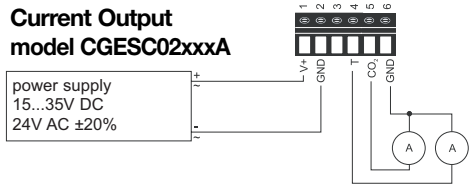


Connection Diagram

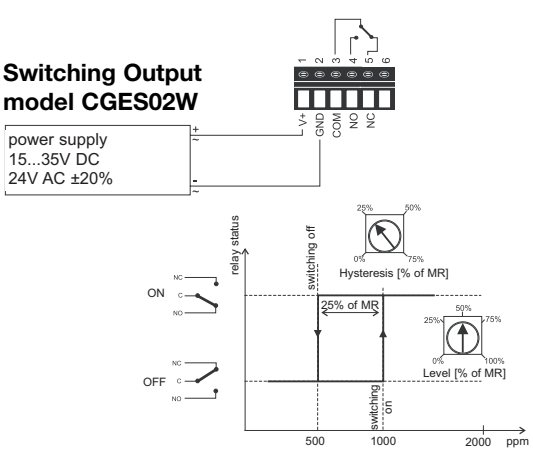
Analogue Output
Voltage Output
model CGESC02xxxV



Current Output
model CGESC02xxxA



Switching Output
model CGES02W



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