

Environmental Sensors CO₂, Relative Humidity / Temperature Transmitters



- CO₂ / 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 CO₂ 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 CO₂ and T can be easily extended with a RH plug-in module. The CO₂ measurement 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



Ordering Key

CGESC02TW 2 V T04

Model _____
Working Range _____
Output _____
Display _____
Temperature Unit _____
Temperature Scale _____

Type Selection

Model (only with switching output)	
CGESC02W	CO ₂
Model	
CGESC02TW	CO ₂ +T
CGESC02THW	CO ₂ +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

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 0...2000ppm and 1013mbar	< ± (50ppm +2% of measuring value)
0...5000ppm	< ± (50ppm +3% of measuring value)
Response time τ63	<90s
Temperature dependence	typ. 2ppm CO₂ / °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)

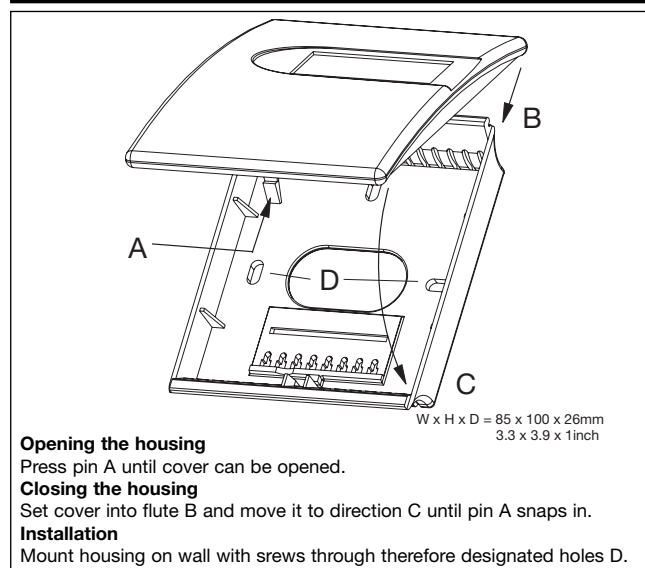
Output Data

ANALOGUE OUTPUT	
0...2000/5000ppm/ 0-10V 0...100%RH/0...50°C/ 4-20mA 32...122°F	-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

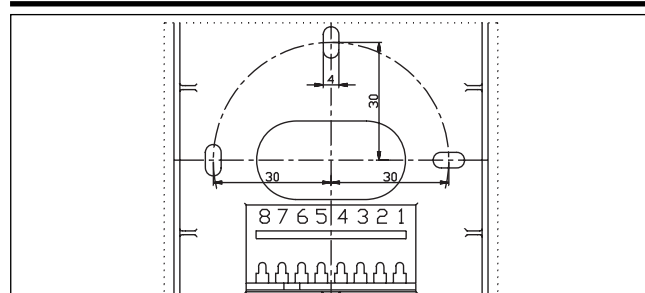
Mechanical Data

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 Back
Display	RAL 9003 (white) RAL 7035 (light grey)
	LC display: alternating CO₂ (ppm) / T (°C or °F) / RH (% RH)

Dimensions



Mounting holes

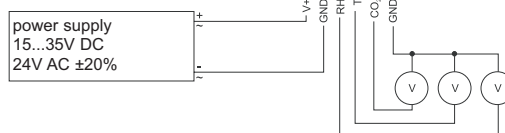


Connection Diagram

Analogue Output

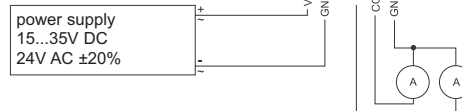
Voltage Output

model CGESC02xxxV



Current Output

model CGESC02xxxA



Switching Output

model CGES02W

