

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.

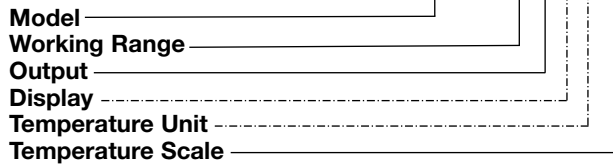
As one more option a switching output with adjustable switching point and hysteresis is available. A wide variety of models ensures an optimal adjustment for customised requirements.

Approvals



Ordering Key

CGESC02TW 2 V T04



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 | 0...90%RH (non condensing) / -5...55°C/23...131°F |
| Working temperature range | |
| Storage temperature range | |

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 τ ₆₃ | <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) |

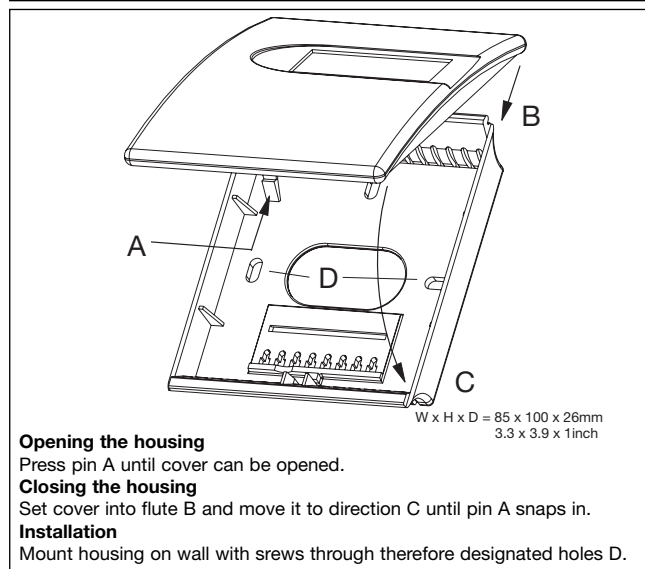
Output Data

| 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 |

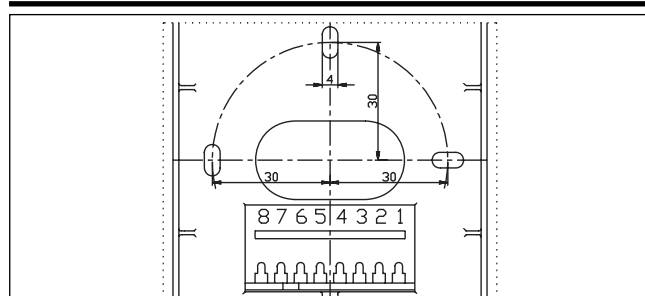
Mechanical Data

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

Dimensions



Mounting holes



Connection Diagram

