

CE

GCO 300

XCO xxx

Replaceable sensor

Features

- Digital measurement value processing incl. temperature compensation
- Internal function control with integrated hardware watchdog
- Data / measured values sensor controller, therefore simple exchange uncalibrated <> calibrated High accuracy, selectivity and reliability
- Low zero point drift
- Long sensor life time
- Hardware & software according to SIL2 compliant development process
- Easy maintenance and calibration by exchange of the sensor unit or by comfortable on-site calibration
- 4 – 20 mA analog output with selectable signal output for special mode, fault etc.
- Reverse polarity protected, overload and short-circuit proof
- Housing for integration of the sensor unit

Technical Data

Gas type	Carbon Monoxide
Detector element	Electrochemical
Power supply	16 – 29Vdc, reverse-polarity protected
Power consumption	50 mA, max. (1.7 VA for 24 V)
Analog output signal	Proportional, overload and short-circuit proof, load ≤ 500 Ohm 4- 20 mA = measuring range 3.2 < 4 mA = underrange >20- 21.6 mA = overrange 2.5 mA = special mode 2 mA = fault Low >21.8 mA = fault High < 1 mA = watchdog
Sensor coverage	400 m ² garage application
Measuring range	0 - 300 ppm
Accuracy	±3 ppm
Resolution	< ± 0.5% sig.
Repeatability	5
t90 Time	≤ 50 sec.
Zero-point variation	±4 ppm
Drift (zero)	<4 % signal/month
Drift (Gain)	<4 % signal/month
Temperature range	-15°C to +50°C
Humidity range, non-condensing	10-95% r.H.
Sensor life time	> 72 months
Relative gas density	0.97 (Air = 1)
Mounting height	1.5 - 1.8 m

Cont'd on page 2

Design Features

Exchangeable sensor unit including digital value processing, temperature compensation and self control for the continuous monitoring of the ambient air.

The sensor unit GCO houses a module with µController, analog output and power supply in addition to the electrochemical sensor element including amplifier.

The µController calculates a linear 4 – 20 mA signal out of the measurement signal and also stores all relevant measured values and data of the sensor element.

Calibration is done either by simply replacing the sensor unit or by using the comfortable, integrated calibration routine directly at the system.

Application

For detection of carbon monoxide (CO) within a wide range of commercial applications such as vehicle exhaust in parking structures (e.g. underground garages) engine repair shops, tunnels, loading bays, engine test benches, shelters, go-kart race courses etc.

Due to the standard analogue signal the CO transmitter is compatible with any electronic analogue control, DDC/PLC control or automation system.

Ordering Codes

GCO 050	Gas Detector	0 - 50 ppm
GCO 300	Gas Detector	0 - 300 ppm
XCO xxx	Replacement Sensor	0 - xxx ppm
Pduct	Duct Mounting Kit	
PZ1	Protective Cap IP65	
PStain	Stainless Steel Housing	

cont'd p. 2



Carbon Monoxide (CO) Gas Detector, 4 - 20mA

GCO

Oct. 15

Calibration interval¹	12 months
Sensor type	0
Pressure range	Atmospheric ± 20 %
Storage temperature	5 °C to 30 °C (41 °F to 86 °F)
Storage time	6 months
Housing type for integration of the sensor unit	Polycarbonate UL 94 V2
Enclosure colour	RAL 7032 (light grey)
Dimensions (W x H x D)	94 x 130 x 57 mm (3.7 x 5.1 x 2.2 in.)
Weight	Ca. 0.2 kg
Packaging volume	Ca. 4.5 l
Protection class	IP 65
Mounting	Wall mounting
Pre-embossed entries for cable / sensor unit	6 x M20/M25
Enclosure M25	Polycarbonate UL 94 V2
Enclosure colour	RAL 7032 (light grey)

¹ Manufacturer recommended calibration interval for normal environmental conditions.

Alarm levels - garage

Early alarm level set at 25 ppm
Critical alarm level set at 35 ppm

Ordering Codes (cont'd from p. 1)

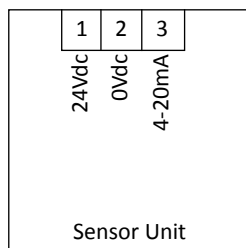
GCO 100	Gas Detector	0 - 100 ppm
GCO 150	Gas Detector	0 - 150 ppm
GCO 200	Gas Detector	0 - 200 ppm
GCO 250	Gas Detector	0 - 250 ppm
GCO 400	Gas Detector	0 - 400 ppm
GCO 500	Gas Detector	0 - 500 ppm
GCO 1000	Gas Detector	0 - 1000 ppm
GCO 2000	Gas Detector	0 - 2000 ppm

Cross Sensitivity

Gas	Concentration ppm	Reaction ppm
Chlorine, Cl ₂	2	0
Ethanol, C ₂ H ₅ OH	2000	5
Carbon dioxide, CO ₂	5000	0
Sulphur dioxide, SO ₂	50	> 0.5
Hydrogen sulphide, H ₂ S	25	0
Nitrogen dioxide NO ₂	50	-1
Nitrogen monoxide NO	50	8
Hydrogen, H ₂	100	20

The table doesn't claim to be complete. Other gases, too, can have an influence on the sensitivity. The mentioned cross sensitivity data are only reference values valid for new sensors.

Wiring Configuration



Protective Cap



Stainless Housing

Set-up

4mA scale on analogue output signal for end of sensor life to a relay output or similar.

3.2 mA scale and 21.6mA as sensor failure.

It is nevertheless a fault and these values can be used for diagnostics as an internal control function.



Duct Mounted Version

We cannot be held responsible errors in the manual/datasheet and reserve the right to correct any errors and to make product improvements, which may affect the accuracy of the manual/datasheet, without prior notice.