EuroSeries

Duct Carbon Dioxide Transmitter Sensors

PRODUCT INSTALLATION DATA

GENERAL

High quality duct mounted CO2 sensor with options for Relative Humidity (RH) and Temperature (T) outputs in the NEMA 4X Euro enclosure, equipped with hinged cover and tool-free Quick Connect wire terminals.

These sensors are designed as a CO2 & temperature or as a combination sensor with available CO2/RH/Temp measurements. Available with 0-10V standard output(s), with additional option for passive temperature NTC or RTD elements.

Dual channel technology and a solid state infrared source ensures long lifetime, excellent accuracy and repeatability with low drift and quick start up.

NOTE: Rough handling and shipping reduces the accuracy of the sensor. Full accuracy is restored after the device is powered up for 250 hours non-stop.

Avoid strong mechanical stress and improper handling. The cable gland and housing cover must be screwed tightly against gas penetration, to avoid incorrect measurements.

FEATURES

- CO2 measurement or combination CO2/RH/Temp options
- Analog 0-10V output signals for CO2/RH/T
- Dual beam infrared CO2 sensing technology (NDIR)
- Durable NEMA 4X/IP65 injection-molded watertight enclosure
- Quick Connect tool-free wire terminals
- Optional passive NTC/RTD temperature elements available
- CE & RoHS compliant
- 5 year limited warranty
- Made in the USA

SPECIFICATIONS

Measured Values

CO2 Sensor

Output signal	0…10 V (0…2000ppm)
Output current	-1 mA < IL < 1 mA
Accuracy	± (30ppm +3% of m.v.) at 400…2000ppm (25 °C) [77°F], 1013 mbar
Temperature stability (typ.)	± 2.5ppm/°C (0…+50 °C) [32…122°F]
Response time	τ90 < 250 sec at 3 m/s
Warm-up time	< 5 min

Temperature

Output signal	0…10 V (0…50°C) [32…122°F]
Output current	-1 mA < IL < 1 mA
Accuracy	± 0.3 °C (25 °C [77 °F])
Response time (typ.)	τ63 < 120 sec. at 3 m/s

Passive Temp. Sensors

Output	two-wire
Wire resistance (typ.)	0.4 Ω (terminal-sensor)
Response time (typ.)	τ63 < 120 s at 3 m/s air velocity
Characteristic	see EN0B-0476GE51

NTC10kΩ

Nominal value	10kΩ ±0.5% at 25 °C [77°F]
Accuracy	±0.2 °C at 25 °C [77°F]
Sensitivity (typ.)	-440 Ω / K at 25 °C (non-linear)

NTC20kΩ

Nominal value	20kΩ ±0.5% at 25 °C [77°F]
Accuracy	±0.2 °C at 25 °C [77°F]
Sensitivity (typ.)	-934.5 Ω / K at 25 °C (non-linear)

Pt1000

Nominal value	1000 Ω at 0 °C [32°F]
Accuracy (IEC751 Cl. B)	0.3 + 0.005*|t| at 0 °C [32°F]
Sensitivity (typ.)	3.85 Ω / K

Relative humidity

Output signal	0…10 V (0…100% RH)
Output current	-1 mA < IL < 1 mA
Accuracy (typ.)	±3% RH (30…70% RH), at 25°C [77°F] Otherwise ±5% RH
Response time (typ.)	τ63 < 180 sec. at 3 m/s

NOTE: Temperature / relative humidity / CO2 accuracy may differ, depending on various environmental conditions (e.g., air velocity or temperature difference between the air temperature and the ambient temperature).

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SPECIFICATIONS cont.

General

Power supply	24 Vac, ±20% (SELV) 15…35 Vdc
Power consumption	0.6 W
Max. current consumption	0.35 A (0.3 sec / 15 sec)

Ambient Limits

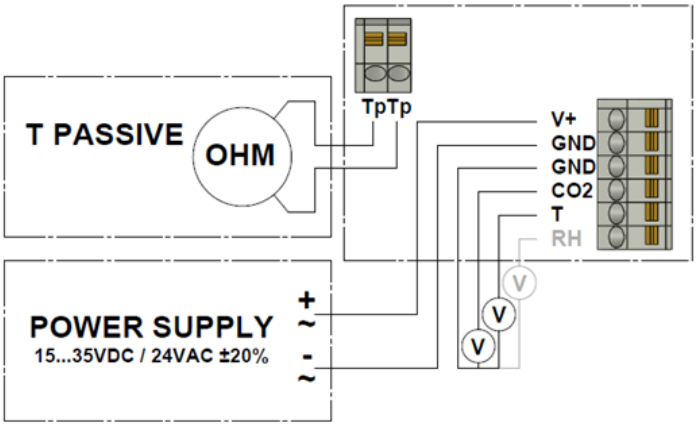
Operating temperature	-20...+60 °C (-4...+140 °F)
Transport and storage	-20...+60 °C (-4...+140 °F)
Humidity	0...95% rh, non-condensing

Safety

Protection class	III as per EN 60730-1 standard
Housing	IP65 as per EN60529
Probe	IP20
Housing material	Flame retardant V-0 as per UL94
Housing	plastic (PC/ABS)
Dimensions	see Fig. 1 on page 3
Mounting	duct, M16 x 1,5 cable inlet 1/2" NPT conduit

wiring run	maximum length
sensor to controller	200 m (660 ft)

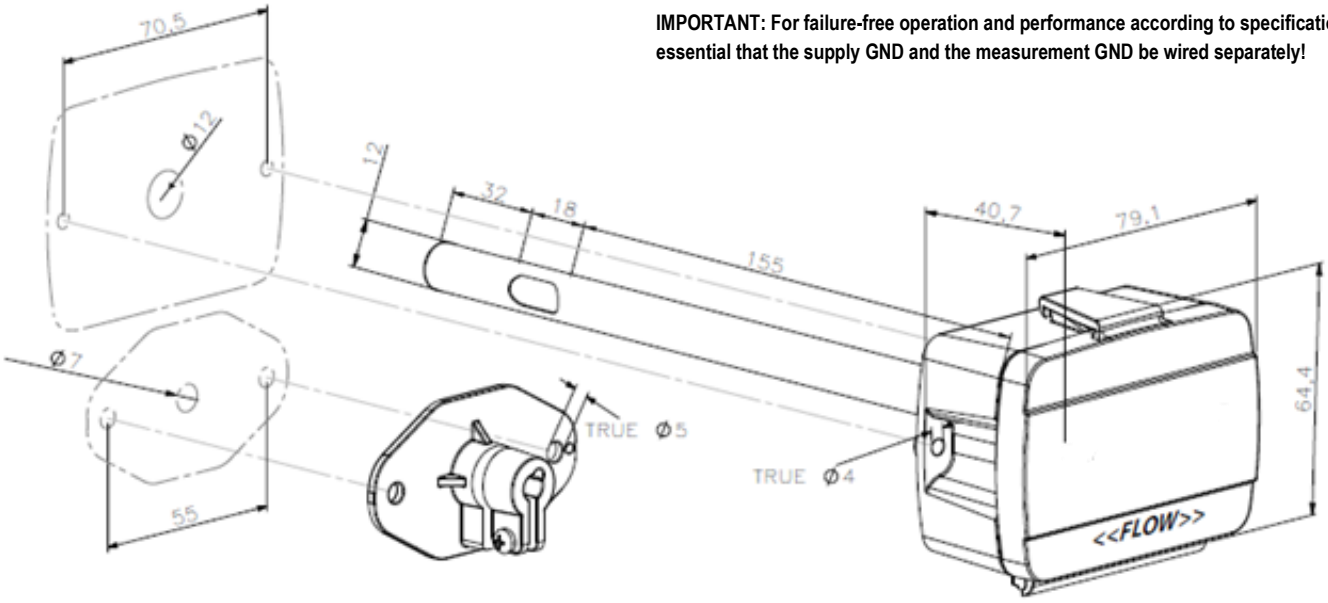
NOTE: Installation of the sensor near high EMI-emitting devices may lead to faulty measurements.
Use shielded wiring in areas with high EMI.
Keep 15 cm (5.9") min. distance between sensor lines and 230 Vac power lines.
Use two transformers: one for sensors and actuators and one for the controller.



DISPOSAL

At the end of their useful life the packaging and product should be disposed of according to local waste guidelines.

IMPORTANT: For failure-free operation and performance according to specifications, it is essential that the supply GND and the measurement GND be wired separately!



Shown with optional mounting flange and without 1/2" NPT conduit adapter

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