

Carbon Dioxide (CO₂) Duct Mount Transmitter



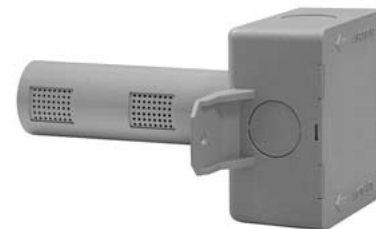
I-8041

DESCRIPTION

Carbon dioxide (CO₂) transmitter for measuring CO₂ levels in air ducts.

APPLICATION

To sense Carbon Dioxide (CO₂) in air ducts in a wide variety of commercial applications such as demand controlled ventilation in buildings, schools, theaters, etc., and transmit to any compatible electronic analog control, DDC/PLC control or automation system in accordance with ASHRAE standards.



CA Energy Commission
Certified

FEATURES

- Continuous monitoring
- 0-2,000 ppm CO₂
- 0-10 VDC Signal
- 24 VAC or 24 VDC power
- Simple installation
- No maintenance required***
- Lifetime calibration guarantee***

SPECIFICATIONS

Electrical		Type of Control	
Power supply	18-30 VAC RMS, 50/60 Hz, half-wave rectified, or 18-42 VDC, polarity protected	General	Continuous proportional analog sensor
Power consumption	1.8 VA, max. average, 3.3 VA peak	Analog outputs	(1) 0-10 VDC, 100 Ω output impedance
Carbon Dioxide Sensor Performance		Warm-up time	2 minutes
Gas detected	Carbon Dioxide (CO ₂)	- operational	10 minutes
Sensor element	Single beam absorption infrared (NDIR), gold plated optics	- max accuracy	
Gas sampling method	Diffusion sampling	Environmental	
Range	0-2,000 ppm CO ₂ , factory calibrated	Air duct velocity	0 to 1,500 ft/min (0 to 450 m/min)
Accuracy	± 40 ppm plus 3% of reading, @ 72°F (22°C) when compared against a certified reference	Permissible ambient	
Temperature dependence	0.2% FS/°C	- humidity	0 to 95% RH, non-condensing related to altitude dependence
Stability	< 2% of FS over sensor life	- working pressure	32°F to 122°F (0°C to 50°C)
Non-linearity	< 1% of FS	- working temperature	-4°F to 158°F (-20°C to 70°C)
Altitude dependence	Calibrated for 1000 ft above sea level, add 0.13% of reading per mmHg decrease from 760 mmHg	- storage temperature	
Response time	< 3 minutes for 90% step change	Physical	
Calibration interval	Not required, built-in automatic self-calibration software, ABC Logic™ ***	Enclosure	
Sensor life expectancy	15 years, normal service	- material	Plastic, UL 94 V-5
		- color	Gray
		- junction box cover	Snap-on
		- installation	Duct mounted w/probe
		Dimensions	
		- probe diam	1.24 in (31.4 mm)
		- probe length	4.12 in (105 mm)
		- junction box	3.0 x 3.0 x 1.6 in (76 x 76 x 40 mm)

*** ABC Logic™ Automatic Background Calibration, is a patented self-calibration technique designed to be utilized in applications where concentrations will drop to outside ambient conditions, about 400 ppm CO₂, at least 3 times in a 14-day period, typically during unoccupied periods. Full accuracy is achieved after two weeks of operation.

SPECIFICATIONS

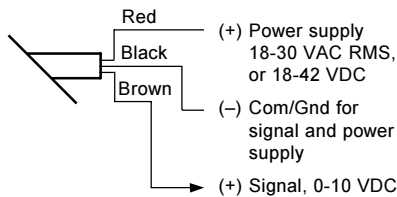
Type of Control (cont...)	
Wire connection	Pig tail wires, 3 conductors, color coded
Wire size	Min. 28 AWG (0.08 mm ²); Max. 18 AWG (0.75 mm ²)
Wire distance	Loop resistance 500 Ohms max. (= wire resistance plus controller input resistance)
Weight	0.6 lb. (0.27 kg)
Installation Location	Duct mount
Manufacturing	ISO 9001 Certified
Approvals/Listings	CE FCC Part 15, Class B California Energy Commission
Warranty	18 months material and workmanship

ORDERING INFORMATION

I-8041	CO ₂ transmitter, duct mount, 0-10 VDC output
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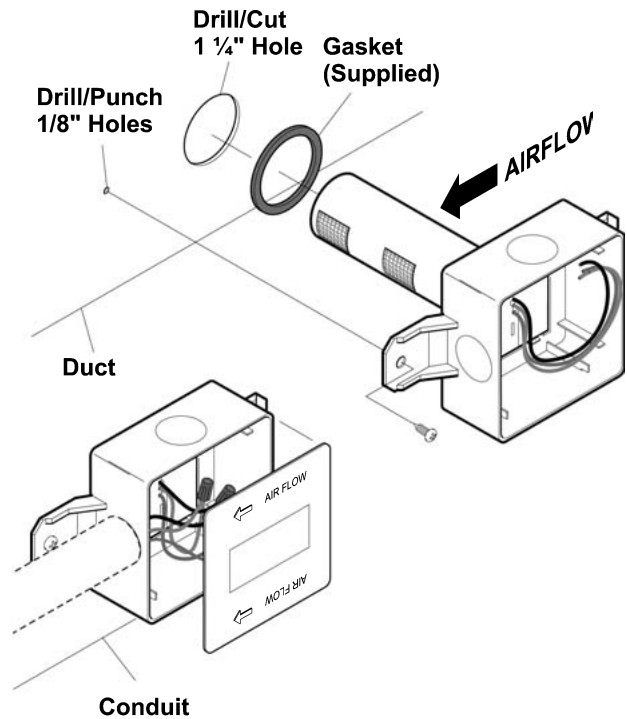
WIRING CONFIGURATION

I-8041



Recommended
• Twisted, shielded wire

INSTALLATION



1. Before installing sensor, note the direction of the airflow. Ensure all mounting holes are sealed tightly.
2. Drill/Cut one 1 1/2" hole / Punch/Drill one 1/8" hole.
3. Slide sensor into 1 1/2" hole and secure with screws.
4. Connect conduit and make necessary wire connection
5. Install lid, ensure it snaps into place.