

CD-Px0xx-00-00 Series Duct Mount CO₂ Transmitters Catalog Page

Description

The Johnson Controls® CD-Px0xx-00-00 Series duct mount transmitters are designed for the measurement of CO₂ and temperature in HVAC applications where demand control ventilation (DCV), fresh air and indoor air quality (IAQ), and rooftop air handling economizer control systems are often required.

The CD-P series sensors incorporate the dual-wavelength non-dispersive infrared (NDIR) CO₂ sensor, which compensates for aging effects, is highly insensitive to pollution, and offers outstanding long-term stability.

The CD-P1000-00-00 transmitter is available with CO₂ output only, 0 to 10 V, or 4 to 20 mA, while the CD-P2000 Series offers CO₂ and temperature measurement with active or passive outputs.

A multiple point CO₂ factory adjustment procedure leads to excellent CO₂ measurement accuracy over the entire temperature working range.

Features and Benefits

- **Adjustable duct probe depth**—Permits optimal placement of sensing tip in a duct.
- **Support for DCV**—Offers potential for 10 to 70% energy savings.
- **Single-beam dual-wavelength NDIR CO₂ sensor**—Is highly insensitive to pollution with outstanding long-term stability.
- **Models include CO₂ and CO₂ + temperature outputs**—Reduces installation time and cost.
- **0 to 10 V or passive temperature output**—Is suitable for a wider range of applications.
- **Factory calibration certificate**—Includes test report according to DIN EN10204 - 2.2.

Duct Mount CO₂ Transmitter (Shown with Mounting Flange and Cable Gland)



Repair Information

If the CD-Px0xx-00-00 Series transmitter fails to operate within its specifications, replace the unit. For a replacement transmitter, contact the nearest Johnson Controls representative.

Applications

These compact devices are designed to work:

- in stand-alone mode
- as part of any integrated building automation system (BAS)
- in HVAC applications where DCV, fresh air, or IAQ control strategies are required

Selection Charts

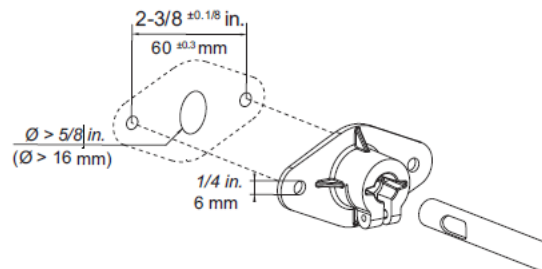
CD-Px0xx-00-00 Series Duct Mount CO₂ Transmitters

Code Number	Description
CD-P1000-00-00	Duct CO ₂ 0/2000 PPM, output 0 to 10 V or 4 to 20 mA selectable
CD-P2010-00-00	Duct CO ₂ 0/2000 PPM, output 0 to 10 V or 4 to 20 mA selectable + Temperature 0 to 10 V @ 32 to 131°F (0 to 50°C)
CD-P2016-00-00	Duct CO ₂ 0/2000 PPM, output 0 to 10 V or 4 to 20 mA selectable + passive Pt1000
CD-P2017-00-00	Duct CO ₂ 0/2000 PPM, output 0 to 10 V or 4 to 20 mA selectable + passive NTC10K

Accessory for Duct Mount CO₂ Transmitters

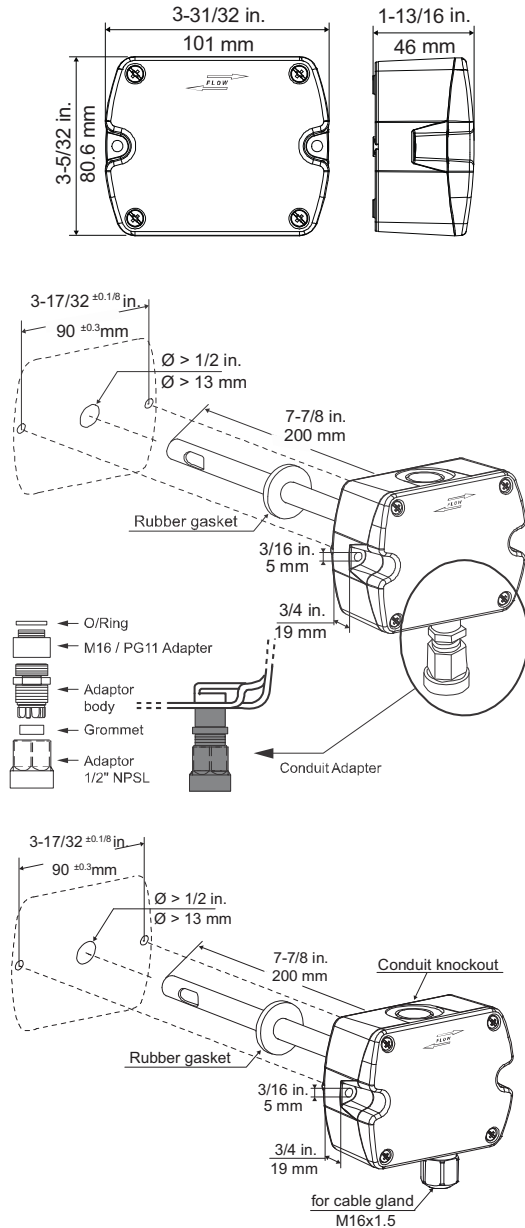
Code Number	Description
Y65T31-0	Multiple Primary Transformer, 40 VA, 120/208/240 V primary 24 V Class 2 Secondary with Screw Terminals, Foot Mounting or 4 x 4 in. (101.6 x 101.6 mm) Plate

Flange Dimensions, in. (mm)



CD-Px0xx-00-00 Series Duct Mount CO₂ Transmitters Catalog Page (Continued)

Transmitter Dimensions, in. (mm)



Technical Specifications

CD-Px0xx-00-00 Series Duct Mount CO ₂ Transmitter		
Measuring Range	0 to 2,000 ppm CO ₂	
Accuracy at 77°F (25°C)	< ± (50 ppm CO ₂ + 2.0% of reading) at 73.4°F (23°C) and 1013 mBar (14.7 psi)	
Measuring Temperature (Pt1000 Accuracy)	EN60751 Class A, ±(0.15 + 0.002 * T °C)	
Measuring Temperature (NTC10K Accuracy)	NTC 10k 1% B3950	
Temperature Dependence of CO ₂ Output	± [1 + CO ₂ Concentration (ppm)/1000 (ppm)]/°C (-10 to 45°C), or ± (5/9) x [1 + CO ₂ Concentration (ppm)/1000 (ppm)]/°F (-4 to 113 °F)	
Response Time (0 to 63%)	< 100 s at 590 ft/min (3 m/s) air speed in duct	
Operating and Storage Temperature Range	-4 to 140°F (-20 to 60°C)	
Humidity Range	0 to 95% RH non-condensing	
CO ₂ Sensing Technology	Single-beam dual-wavelength NDIR	
Transmitter Output Signal CO ₂	Switch Selectable: 4 to 20 mA or 0 to 10 VDC (Default)	
Transmitter Output Temperature Signal	CD-P2010-00-00: 0 to 10 VDC, 32 to 122°F (0 to 50°C) CD-P2016-00-00: PT1000, Class A CD-P2017-00-00: NTC 10k, BETA=3950	
Recommended External Load	Current Output: Maximum 500 ohms Load Resistance Voltage Output: Minimum 1,000 ohms Load Resistance	
Power Supply Requirements	Refer to <i>CD-Px000 CO₂ Duct Sensor Installation Instructions</i> (Part No. 14-88421-0)	
Airflow Range	195 ft/min (1 m/s) recommended	
Duct Probe Material	Duct probe meets plenum rating requirements of UL 1995, Heating and Cooling Equipment	
Housing Material	ABS Plastic	
Protection Class	Enclosure IP65/NEMA 4; Probe IP20	
Dimensions (H x W x D)	Refer to <i>CD-Px000 CO₂ Duct Sensor Installation Instructions</i> (Part No. 14-88421-0)	
Shipping Weight	0.3 lb (140 g)	
Compliance	United States	UL Listed; UL File E226431 CCN:PAZX, Under UL 916, Energy Management Equipment FCC compliant to CFR47, Part 15, Subpart B, Class A
	Canada	cULus Listed; UL File E226431 CCN:PAZX7, Under CAN/CSA C22.2 No. 205, Signal Equipment Industry Canada Compliant, ICES-003
	Europe	CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive.