

CD-Px0-00-0 Series Duct Mount CO₂ Transmitters

Description

Johnson Controls offers a complete line of carbon dioxide (CO_2) transmitters for measuring and transmitting CO_2 levels, ranging from 0 to 2,000 parts per million (ppm), within HVAC applications. These compact, duct mounted devices offer a choice of 0 to 10 V or 0 to 20 mA output signals and feature an optional relay output with or without a digital display. Johnson Controls® CO_2 transmitters are easy to install and to operate.

The silicon-based CARBOCAP® sensor delivers high accuracy and long-term measurement stability (±100 ppm) over a 5-year period without calibration. The diffusion-aspirated, single-beam, dual-wavelength sensor structure is remarkably simple. It consists of an infrared (IR) source, a sample cell, an IR detector, and a tunable interference filter that enables measurements at two wavelengths. Reference measurements made using a tunable interference filter eliminate the typical weakness of dual-beam sensors and permit shifting the optical pass band electronically. This innovative design provides precise reference readings that eliminate the typically broad deviation expected from a traditional CO₂ sensor.

Refer to the CD-Px0-00-0 Series Duct Mount CO_2 Transmitters Product Bulletin (LIT-216525) for important product application and single point of contact information.

Features

- DCV strategies offer a potential for 10 to 70% energy savings
- CARBOCAP single-beam, dual-wavelength design provides superior performance compared to other technologies
- CARBOCAP silicon, micro-machined construction provides reliable CO₂ measurement in duct environments
- calibration reliability offers 5 years of reliable calibration
- adjustable duct probe depth permits optimal placement of sensing tip in a duct
- optional features offer relay output for fan control

Applications

The new CO_2 transmitters are easy to install, offer a full 3-year warranty, and require no maintenance or field calibration. They are designed to work:

- in stand-alone mode
- in support of demand control ventilation (DCV)
- with fresh air and indoor air quality (IAQ) systems
- as part of any integrated Building Automation System (BAS)
- with rooftop air handling Economizer controls systems
- connected to *Metasys*® system or the AD-DME Series

Duct Mount CO₂ Transmitter with Conduit Adaptor and Mounting Flange



Repair Information

If the CD-Px0-00-0 Series Transmitter fails to operate within its specifications, replace the unit. For a replacement transmitter, contact the nearest Johnson Controls representative.

Selection Charts

CD-PX0-00-0 Series Duct mount CO ₂ Transmitters			
Code Number	Description		
CD-P00-00-0	Duct mount CO ₂ transmitter		
CD-PR0-00-0	Duct mount CO ₂ transmitter with relay		

Accessories for Duct Mount CO ₂ Transmitters			
Code Number	Description		
ACC-CD-S	Relay setpoint software kit; inludes software and interface cable to reset the On and Off relay setpoints for CD-PR0-00-0		
Y65T31-0	Multiple primary transformer, 40 VA, 120/208/230 V primary, 24 V Class 2 secondary with screw terminals: foot mounting or 4 x 4 in. (101.6 x 101.6 mm) plate		

Replacement Parts for Duct Mount CO ₂ Transmitters			
Code Number	Description		
ACC-CD-R	Relay output module for use in CD-P00-00-0 or CD-PR0-00-0		
ACC-CD-CFK1	Conduit adaptor kit		



CD-Px0-00-0 Series Duct Mount CO₂ Transmitters (Continued)



Transmitter Dimensions, in. (mm)



Technical Specifications

CD-Px0-00-0 Series Duct Mount CO ₂ Transmitters				
Measuring Range		0 to 2,000 ppm CO ₂		
Accuracy at 77°F (25°C)		< ±[30 ppm CO ₂ + 2.0% of reading] (includes manufacturing deviation and drift). All accuracy specifications reflect testing the transmitters using high-grade, certified gases. Transmitters are intended for an altitude range of 0 to 1,969 ft (0 to 600 m) above sea level without compensation.		
Non-Linearity		< 0.5% of Full Scale		
Temperature of Dependence of Output		< 0.56% of Full Scale/F° (<0.1% of Full Scale/C°)		
Long-Term Stability		< ±5.0% of Full Scale/5 Years		
Response Time (0 to 63%)		1 Minute		
Operating Temperature Range		23 to 113°F (-5 to 45°C)		
Storage Temperature Range		-4 to 158°F (-20 to 70°C)		
Humidity Range		0 to 85% noncondensing		
Transmitter Output Signal CO ₂		Jumper Selectable: 0 to 20 mA or 4 to 20 mA or 0 to 10 VDC (Default) Maximum Output Current: 25 mA; Maximum Output Voltage: 12.5 V Maximum 30 V, 0.5A, Class 2		
Recommended External Load		Current Output: Maximum 500 ohms Load Resistance Voltage Output: Minimum 1,000 ohms Load Resistance		
Power Supply Range		20 to 30 VAC (18 to 30 VDC), Class 2		
Power Consumption		< 2.5 W Average, 4.1 VA		
Relay Output Module (CD-PR0-00-0 Model)		Plugs into the printed circuit board; offers a 30 V, 0.5 A Class 2 output with configurable on and off trip points		
Warm-Up Time		< 5 minutes		
Air Flow Range		0 to 7,500 ft/Minute (o to 2,286 m/Minute)		
Duct Probe Material		Duct Probe Meets Plenum Rating Requirements of UL 1995, Heating and Cooling Equipment		
Housing Material		ABS Plastic		
Dimensions (H x W x D)		3-5/32 x 3-3/16 x 8 in. (80 x 81 x 204 mm)		
Shipping Weight		0.3 lb (140 g)		
Compliance	United States	UL Listed, CCN XAPX		
	Canada	UL Listed, XAPX7		
CE	Europe	CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive.		

The performance specifications are nominal and conform to acceptable industry standards. For applications at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products. © 2016 Johnson Controls, Inc. www.johnsoncontrols.com