

CD-Wxx-00-0 Series

# Wall Mount CO<sub>2</sub> Transmitter

## Description

Johnson Controls offers a complete line of carbon dioxide (CO<sub>2</sub>) modules that measure and transmit CO<sub>2</sub> levels ranging from 0 to 2,000 parts per million [ppm]. This compact device offers a choice of 0 to 10 V or 0 to 20 mA output signals and features an optional relay output with or without a digital display. Johnson Controls® CO<sub>2</sub> 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 five-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 permits shifting the optical pass band electronically. This innovative design provides precise reference readings that eliminate the typically broad deviation expected from a traditional CO<sub>2</sub> sensor. Refer to the *CD-Wxx-00-0 Series Wall Mount CO<sub>2</sub> Transmitter Product Bulletin (LIT-216527)* for important product application information.

## Features

- stable infrared reference compensates for light-source drift
- CO<sub>2</sub> transmitters with Demand Control Ventilation (DCV) strategies offer a potential for 10 to 70% energy savings
- single-beam, dual-wavelength design provides superior performance compared to other technologies
- silicon, micro-machined construction provides reliable CO<sub>2</sub> measurement in duct environments
- high thermal stability with negligible airflow dependence

## Applications

The new CO<sub>2</sub> transmitters are easy to install, offer a full three-year warranty, and require no maintenance or field calibration. Use them:

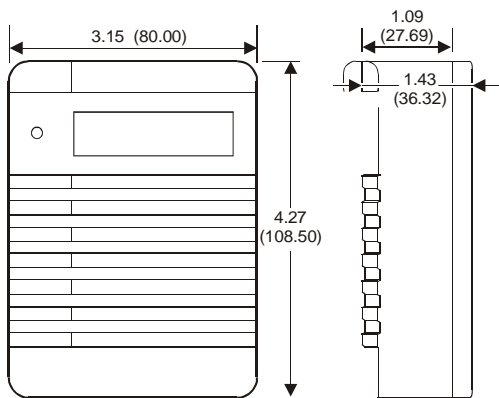
- in standalone mode
- in support of DCV
- with fresh air and Indoor Air Quality (IAQ) systems
- as part of any integrated Building Automation System (BAS)
- with rooftop air handling Economizer controls systems
- connected to Metasys® system



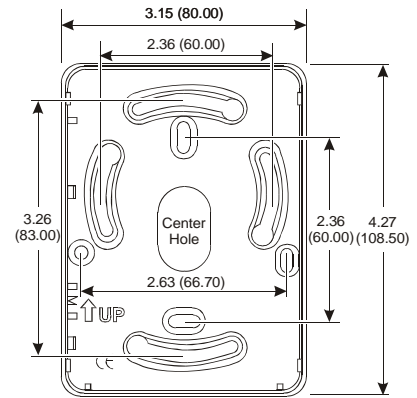
Wall Mount CO<sub>2</sub> Transmitter

## Repair Information

If the CD-Wxx-00-0 Series Transmitter fails to operate within its specifications, replace the unit. For a replacement CO<sub>2</sub> transmitter, contact the nearest Johnson Controls® representative.



Cover Dimensions, in. (mm)



Wall Mount Base Dimensions, in. (mm)

### Selection Chart

Code Number	Description
CD-WA0-00-0	Transmitter with Analog Temperature Output
CD-WR0-00-0	Transmitter with Relay
CD-WRD-00-0	Transmitter with Relay and Display

### Accessories

Code Number	Description
ACC-CD-S	Relay Setpoint Software Kit; includes 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


### Repair Parts

Code Number	Description
ACC-DWCLIP-0	Drywall Spring-Clip Mounting Kit
ACC-CD-R	Relay Output Module for use in CD-WR0-00-0

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. © 2011 Johnson Controls, Inc. [www.johnsoncontrols.com](http://www.johnsoncontrols.com)

## Wall Mount CO<sub>2</sub> Transmitter (Continued)

### Technical Specifications

<b>Measuring Range</b>		0 to 2,000 ppm CO <sub>2</sub>
<b>CO<sub>2</sub> Accuracy at 77°F (25°C)</b>		±(40 ppm CO <sub>2</sub> + 2.0% of reading) (includes manufacturing deviation and drift). All accuracy specifications reflect the testing of transmitters using high-grade, certified gases. Transmitters are intended for an altitude range of 0 to 2,000 ft (0 to 600 m) above sea level without compensation.
<b>CO<sub>2</sub> Non-Linearity</b>		<1.0% of Full Scale (FS)
<b>Temperature Dependence of CO<sub>2</sub> Output</b>		<0.083% of Full Scale/F° (<0.15% of Full Scale/C°)
<b>Long-Term CO<sub>2</sub> Stability</b>		±5% of Full Scale/5 Years
<b>CO<sub>2</sub> Response Time (0 to 63%)</b>		1 Minute
<b>Operating Temperature Range</b>		23 to 113°F (-5 to 45°C)
<b>Storage Temperature Range</b>		-4 to 158°F (-20 to 70°C)
<b>Humidity Range</b>		0 to 85% RH, Noncondensing
<b>Transmitter Output Signals CO<sub>2</sub></b>		Jumper Selectable: 0 to 20 mA and 4 to 20 mA or 0 to 10 VDC (Default) Maximum Output Current: 25 mA; Maximum Output Voltage: 12.5 V
<b>Relay Contact Ratings (Optional)</b>		30 V, 0.5 A Class 2
<b>Analog Temperature Module (Optional)</b>		Linear 0 to 10 VDC for 32 to 122°F (0 to 50°C)
<b>Resolution of CO<sub>2</sub> Display</b>		10 ppm
<b>Recommended External Load (CO<sub>2</sub>)</b>		Current Output: Maximum 500 ohm Load Resistance Voltage Output: Minimum 1,000 ohm Load Resistance
<b>Power Supply Range</b>		20 to 30 VAC (18 to 30 VDC), Class 2
<b>Power Consumption</b>		<2.5 W Average, 4.1 VA
<b>Warm-Up Time</b>		1 Minute, 15 Minutes for Full for CO <sub>2</sub> Specification, 30 Minutes for Temperature Measurement
<b>Dimensions (H x W x D)</b>		3-5/32 x 4-9/32 x 1-3/8 in. (80 x 108.5 x 35 mm)
<b>Shipping Weight</b>		3.5 oz. (100 g)
	<b>United States</b>	UL Listed, File E27734, CCN XAPX
		FCC Compliant to CFR47, Part 15, Subpart B, Class A
	<b>Canada</b>	UL Listed, File E27734, CCN XAPX7
		Industry Canada Compliant, ICES-003
<b>Europe</b>	CE Mark – Johnson Controls, Inc., declares that these products are in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.	