

CD-Wxx-00-0 Series

Wall Mount CO₂ Transmitter



Description

Johnson Controls offers a complete line of carbon dioxide (CO₂) modules that measure and transmit CO₂ 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 CO₂ 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 CO₂ sensor.

Features

- stable infrared reference compensates for light-source drift.
- CO₂ transmitters with 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 CO₂ measurement in duct environments
- high thermal stability with negligible airflow dependence

Applications

The new CO₂ 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 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

To Order

Specify the code number in the following selection chart.

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-WR0-00-0 or CD-WRD-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 x4 in. (101.6 x 101.6 mm) Plate

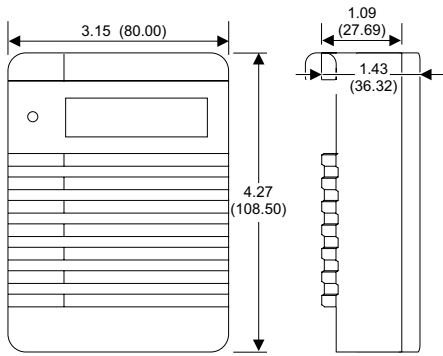
Repair Parts

Code Number	Description
ACC-CD-A	Analog Temperature Module for CD-WA0-00-0 Only
ACC-DWCLIP-0	Drywall Spring-clip Mounting Kit
ACC-CD-DR	Replacement Relay and Display Module for CD-WRD-00-0 Only
ACC-CD-R	Relay Output Module for CD-WR0-00-0

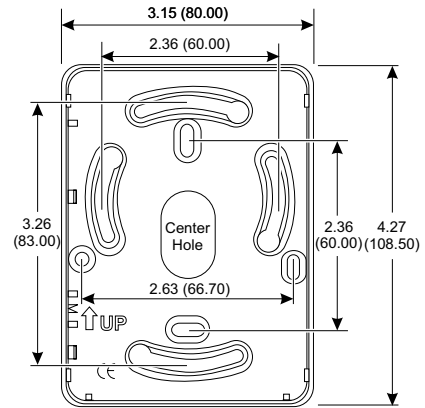
Specifications

CD-Wxx-00-0 Wall Mount CO ₂ Transmitter	
Measuring Range	0 to 2,000 ppm CO ₂
Accuracy at 77°F (25°C)	$\pm (30 \text{ ppm CO}_2 + 2.0\% \text{ of reading})$ (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 600m) above sea level without compensation. To compensate for higher altitudes, see the Johnson Controls installation instructions for this device.
Non-Linearity	<1.0% of Full Scale
Temperature Dependence of Output	<0.056% of Full Scale/°F (<0.1% of Full Scale/°C)
Long-Term Stability	< $\pm 5.0\%$ 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% RH (non-condensing)
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
Output Signal	Analog Temperature Module (Optional) Linear 0 to 10 VDC for 32 to 122°F (0 to 50°C) Relay Output (Optional) Maximum 30 V, 0.5 A, Class 2
Resolution of CO ₂ Output	10 ppm (CD-WRD-00-0 only)
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
Warmup Time	< 5 Minutes for CO ₂ Measurement < 30 Minutes for Temperature Measurement
Housing Material	ABS Plastic
Dimensions (H x W x D)	3-5/32 x 4-9/32 1-3/8 in. (80 x 108.5 x 35 mm)
Agency Listings	UL Listed, CCN XAPX (US) and XAPX7 (Canada); EMC Directive (CE Mark), 89/336/EEC; FCC and DOC Compliant

CD-Wxx-00-0 Series Wall Mount CO2 Transmitter (Continued)



Cover Dimensions, in. (mm)



Wall Mount Base Dimensions, in. (mm)