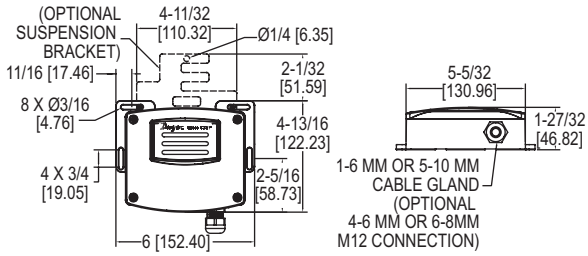
Series CDWP Carbon Dioxide Transmitter

Specifications - Installation and Operating Instructions



The **Series CDWP Carbon Dioxide Transmitter** accurately monitors the CO_2 concentration in industrial and indoor environments to help achieve energy savings. For increased sensor life and accuracy, a single-beam dual-wavelength non-dispersive infrared (NDIR) sensor is used to eliminate light source aging effects. The single-beam dual-wavelength sensor technology provides the highest level of accuracy compared to Automatic Baseline Correction methods, which can unintentionally shift the calibration based on CO_2 levels and barometric pressure conditions.

Universal outputs allow users to select the transmitter output to be 4 to 20 mA, 0 to 5 VDC, or 0 to 10 VDC to work with virtually any building management controller or programmable logic controller.

The CDWP utilizes a rugged IP54 aluminum housing with an exterior gray finish coat that was tested to withstand a 168 hour salt spray corrosion test. This ruggedized housing helps to protect the sensor from splashing liquid and airborne dust or debris making the Series CDWP a great fit for animal husbandry applications and confined feeding operations.

Single-beam dual-wavelength sensor advantages:
- Automatically corrects for aging effects in occupied and unoccupied spaces
- Measures actual unfiltered light intensity directly
  - Eliminates error from incorrect assumptions of gas concentration in theoretical logic assumption methods

SPECIFICATIONS

Sensor: Single beam, dual-wavelength NDIR.
Range: CO_2: 0 to 2000, 0 to 5000, or 0 to 10000 ppm (depending on model).
Accuracy: CO_2: ±40 ppm ±3% of reading.
Temperature Dependence: ±8 ppm/°C at 1100 ppm.
Non-Linearity: 16 ppm.
Pressure Dependence: 0.13% of reading per mm of Hg.
Response Time: 300 s (τ_{63}).
Temperature Limits: 32 to 122°F (0 to 50°C).
Humidity Limits: 10 to 95% RH (non-condensing).
Power Requirements: 16 to 35 VDC or 19 to 28 VAC.
Power Consumption: Average: 2 W; Peak: 3.75 W.
Output: Current: 4 to 20 mA (max. 500 Ω); Voltage: 0 to 5 VDC or 0 to 10 VDC (min. 500 Ω).
Enclosure Rating: IP54.
Mounting Orientation: Vertically, with electrical connection pointing downwards.
Weight: 26.24 oz (744 g).
Agency Approvals: CE.

MODEL CHART

Example	CDWP	-02	W	-M4	-FC	CDWP-02W-M4
Series	CDWP					Carbon dioxide transmitter
Range		02 05 10				2000 PPM 5000 PPM 10000 PPM
Mounting			W H			Wall mount Suspended mount
Electrical Connection				C1 C5 M4 M6		Cable gland 1 to 6 mm cable Cable gland 5 to 10 mm cable M12 connection 4 to 6 mm cable M12 connection 6 to 8 mm cable
Option					FC	Factory calibration certificate

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INSTALLATION

WARNING Disconnect power supply before installation to prevent electrical shock and equipment damage

Make sure all connections are in accordance with the job wiring diagram and in accordance with national and local electrical codes. Use copper conductors only.

CAUTION Use electrostatic discharge precautions (e.g., use of wrist straps) during installation and wiring to prevent equipment damage.

CAUTION Do not exceed ratings of this device, permanent damage not covered by warranty may result.

NOTICE Upon powering the transmitter, a warm up period of 30 minutes is required for the transmitter to adjust to the current CO_2 concentration.

NOTICE Self calibration feature of the transmitter requires exposure to normal outdoor equivalent CO_2 level once every 30 days.

SUSPENSION MOUNTING

To suspend the CDWP from the ceiling, loop the end of the power cord and feed it through the hole at the base of the bracket and hook the loop on the prong.

Figure 1: CDWP Suspension Bracket

M12 Connector Option

The M12 Connection option allows for easy removal of the CDWP before site cleaning operations.

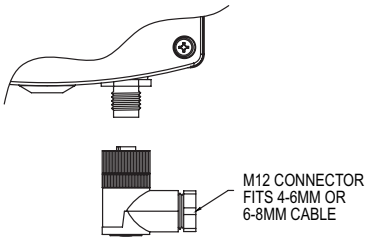

Figure 2: Diagram of M12 Connector

Power Supply

Choose a power supply with a voltage and current rating sufficient to meet the power specifications under all operating conditions. If the power supply is unregulated, make sure the output voltage remains within the required voltage range under all power line conditions.

CURRENT / VOLTAGE OUTPUTS

The transmitter may be wired for current or voltage output for CO_2.

WIRING

Use a minimum of 22 AWG to maximum 18 AWG wire for wiring to terminal blocks. Refer to Figure 3 for wiring Information.

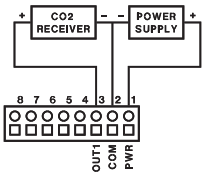

Figure 3: Active Output Wiring Diagram

DIP SWITCH SETTINGS

To access the DIP SWITCH, remove the cover of the unit as shown in Figure 4. The DIP SWITCH is located on the circuit board.

Figure 4: Diagram of Circuit Board

DIP Switch Position 1: CO_2 Output Selection
ON: Output set to voltage output
OFF: Output set to current output

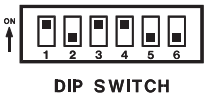

Figure 5: Diagram of DIP SWITCH

DIP SWITCH POSITION 2: Not Used in this product
DIP SWITCH POSITION 3 & 4: Current or Voltage Output Range Selection

Output Range	DIP Switch 3 Position	DIP Switch 4 Position
2 to 10 V 4 to 20 mA	ON	OFF
0 to 10 V 0 to 20 mA	OFF	OFF
0 to 5 V 0 to 10 mA	OFF	ON
1 to 5 V 2 to 10 mA	ON	ON

DIP SWITCH POSITIONS 5 & 6: Not used in this product

MAINTENANCE/REPAIR

Upon final installation of the Series CDWP, no routine maintenance is required. The Series CDWP is not field serviceable and it is not possible to repair the unit. Field repair should not be attempted and may void warranty.

This symbol indicates waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.

WARRANTY/RETURN

Refer to "Terms and Conditions of Sale" in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.

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