OUTSIDE CARBON DIOXIDE DETECTOR

CDD4B Series

The CDD4 series uses a highly accurate and reliable Non-dispersive Infrared (NDIR) sensor combined with state-of-the-art digital linearization and temperature compensated circuitry in a vented, weatherproof enclosure to monitor outside CO2, levels. A linear analog signal output of 4-20 mA, 0-5 or 0-10 Vdc is provided for connection to a building automation system. Optional features such as temperature sensor and adjustable relay output are available.

PRODUCT HIGHLIGHTS

* Menu driven set-up
* 0-2000 or 20,000 (Dual-channel) PPM CO2 ranges
* Patented self-calibration algorithm
* Guaranteed 5 year calibration interval
* Optional temperature sensor outputs
* Easily field calibrated
* Optional heated enclosure

SPECIFICATIONS

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| DESCRIPTION | ENGINEERING SPEC |
| GAS TYPE DETECTED | Carbon Dioxide (CO2) |
| SENSOR ACCURACY | ± 75ppm or 10% of reading (whichever is greater) |
| SENSOR TYPE | Dual Channel Non-Dispersive Infrared (NDIR), diffusion sampling |
| MEASUREMENT RANGE | 0-2000ppm (default), adjustable 2000 – 20,000ppm |
| SENSOR COVERAGE AREA | 100 m2 (1000 ft2) typical |
| TEMPERATURE DEPENDENCE | 0.2% FS per °C |
| STABILITY | <5% FS over life of sensor |
| SENSOR LIFE SPAN | 15 years typical |
| PRESSURE DEPENDENCE | 0.13% of reading per mm Hg |
| ALTITUDE CORRECTION | Programmable from 0-5000 ft via keypad |
| RESPONSE TIME | <2 minutes for 90% step change typical |
| WARM-UP TIME | <2 minutes |
| POWER SUPPLY | 20-28 Vac/dc (non-isolated half-wave rectified) |
| OUTPUT SIGNAL TYPE | 4-20 mA active (sourcing), 0-5 or 0-10 Vdc (field selectable) |
| CONSUMPTION | **Heated:** 1.0 A max @ 24 Vdc 1.1 A max @ 24 Vac  **Unheated:** 100 mA max @ 24 Vdc 185 mA max @ 24 Vac |
| OUTPUT DRIVE CAPABILITY | **Current:** 550 Ω max  **Voltage:** 10,000 Ω min |
| OUTPUT RESOLUTION | 10 bit PWM |
| PROTECTION CIRCUITRY | Reverse voltage protected and transient protected |
| OPERATING CONDITIONS | **Heated:** -40 to 50°C (-40 to 122°F)  **Unheated:** 0 to 50°C (32 to 122°F)  0-95 %RH non-condensing |
| WIRING | Screw terminal block (14 to 22 AWG) |
| EXTERNAL DIMENSIONS | 110mm W x 180mm H x 89mm D (4.3” x 7.125” x 3.5”) |
| ENCLOSURE RATINGS | IP65 (NEMA 4X) |
| OPTIONAL TEMPERTURE SENSOR | See chart below |
| OPTIONAL RELAY OUTPUT | **Contact Ratings:** Form A contact (N.O.), 2 Amps @ 140 Vac, 2 Amps @ 30 Vdc  **Trip Point:** Programmable 500-15,000 ppm  **Hysteresis:** Programmable 25-500 ppm |
| CONCEALED LCD | **Resolution:** 1ppm CO2  **Size:** 35mm W x 15mm H (1.4” x 0.6”) alpha-numeric, 2 line x 8 character  **Backlight:** Enable or disable via keypad |
| APPROVALS | CE |
| COUNTRY OF ORIGIN | Canada |

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| **Sensor Code** | **Temperature Sensor Description** | **Accuracy** |
| 02 | 100Ω Platinum, IEC 751, 385 alpha, 2 wire, Class B | ± 0.3 °C (± 0.54 °F) @ 0 °C (32 °F) |
| 05 | 1,801 Ω NTC thermistor | ± 0.5 °C (± 0.9 °F) @ -20 - 50 °C (-4 - 122 °F) |
| 06 | 3,000 Ω NTC thermistor | ± 0.2 °C (± 0.36 °F) @ 0 - 70 °C (32 - 158 °F) |
| 07 | 10,000 Ω (type 3) NTC thermistor | ± 0.2 °C (± 0.36 °F) @ 0 - 70 °C (32 - 158 °F) |
| 08 | 2.252 KΩ NTC thermistor | ± 0.2 °C (± 0.36 °F) @ 0 - 70 °C (32 - 158 °F) |
| 12 | 1000Ω Platinum, IEC 751, 385 alpha, 2-wire, Class B | ± 0.3 °C (± 0.54 °F) @ 0 °C (32 °F) |
| 13 | 1000Ω Nickel, DIN 43760, 2-wire, Class B | ± 0.4 °C (± 0.72 °F) @ 0 °C (32 °F) |
| 14 | 10,000 Ω (Type 3) NTC thermistor c/w 11 KΩ shunt | ± 0.2 °C (± 0.36 °F) @ 0 - 70 °C (32 - 158 °F) |
| 20 | 20,000 Ω NTC thermistor | ± 0.2 °C (± 0.36 °F) @ 0 - 70 °C (32 - 158 °F) |
| 24 | 10,000 Ω (Type 2) NTC thermistor | ± 0.2 °C (± 0.36 °F) @ 0 - 70 °C (32 - 158 °F) |
| 59 | 10,000 Ω NTC thermistor | ± 1% @ 25°C (77°F), β25/85 = 3435 ± 1% |