ROOM CARBON DIOXIDE DETECTOR

CDD4A1 Series

The room CO2 transmitter device uses a highly accurate and reliable nondispersive infrared (NDIR) sensor in an attractive, low profile enclosure for room applications to monitor CO2 levels. The sensor uses dual wavelength optics and LTA (long term adjustment) signal processing technology to deliver industry leading long-term accuracy and reliability. These technology features ensure optimum measurement stability for both periodic and constant occupancy applications, so the device is equally suitable for a classroom or a hospital room. Standard features include a field selectable output signal of either 4-20 mA, 0-5 Vdc or 0-10 Vdc for the highest versatility, programmable CO2 measurement span, a backlit alpha-numeric LC and easy menu operation for configuration. Optional features include a resistive temperature sensor output (with LCD display of temperature in either °C or °F), a control relay, hysteresis and time delay, and a dry-contact override switch.

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
* Attractive low-profile enclosure

SPECIFICATIONS

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| DESCRIPTION | ENGINEERING SPEC |
| GAS TYPE DETECTED | Carbon Dioxide (CO2) |
| SENSOR TYPE | Dual wavelength non-dispersive infrared (NDIR) |
| SENSOR ACCURACY | ± 50ppm + 3% of reading |
| MEASUREMENT RANGE | 0-2000ppm (default), adjustable 1000 - 5000ppm |
| PRESSURE DEPENDENCY | <1% of reading / kPa |
| RESPONSE TIME | 90 seconds (T90) |
| WARM-UP TIME | 1 minute |
| SENSOR COVERAGE AREA | 100 m2 (1000 ft2) typical |
| SNESOR LIFE SPAN | >10 years |
| TRANSMITTER ACCURACY | ±0.25% of span (including linearity, hysteresis and repeatability) |
| POWER SUPPLY | 24 Vdc ±20% or 24 Vac ±10% (non-isolated half-wave rectified) |
| PROTECTION CIRCUITRY | Reverse voltage protected and transient protected |
| INPUT VOTLAGE EFFECT | Negligible over specified operating range |
| OUTPUT SIGNAL TYPE | 4-20 mA (3-wire), 0-5 or 0-10 Vdc (field selectable) |
| CURRENT CONSUMPTION | **Current:** 75 mA @ 24 Vdc max, 150 mA @ 24 Vac max  **Voltage:** 50 mA @ 24 Vdc max, 100 mA @ 24 Vac max |
| OUTPUT DRIVE @ 24 VDC | **Current:** 550 Ω max  **Voltage:** 10,000 Ω min |
| AMBIENT OPERATING RANGE | -10 to 50°C (14 to 122°F), 5-90 %RH non-condensing |
| STORAGE RANGE | -30 to 70°C (-22 to 158°F), 5-90 %RH non-condensing |
| LCD DISPLAY | **Units:** ppm (CO2), °C/°F for optional temperature sensor  **Range:** 0 to 5000ppm, 0 to 50°C (32 to 122°F) for optional temperature sensor  **Resolution:** 1ppm CO2, 0.1°C/°F for optional temperature sensor  **Size:** 35mm W x 15mm H (1.4” x 0.6”), 2 line x 8 character, alpha-numeric |
| OPTIONAL TEMPERATURE SENSOR | See chart below |
| OPTIONAL RELAY (2-WIRE OUTPUT) | Front panel push-button  **Rating:** 50 mA @ 12 Vdc max |
| ENCLSOURE | **Material:** ABS, White  **Dimensions:** 84mm W x 119mm H x 29mm D (3.3” x 4.7” x 1.15”)  **Protection:** IP30 (NEMA 1) |
| WIRING | Screw terminal block (14 to 22 AWG) |
| 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% |