ROOM CARBON DIOXIDE DETECTOR

CDD5X1 Series

The CDD5\*10 series uses a highly accurate and reliable Non-dispersive Infrared (NDIR) sensor to monitor CO2, a precision thermistor to monitor temperature and a thermoset polymer based capacitance sensor to measure humidity levels combined with state-of-the-art digital linearization and temperature compensated circuitry in an attractive, low profile enclosure for room applications and provides 3 analog outputs. Optional setpoint slidepot, momentary override and adjustable relay output are also available.

PRODUCT HIGHLIGHTS

* Outputs CO2, Temperature, & RH levels
* Menu drive set-up
* 0-2000 or 20,000 (dual-channel) ppm CO2 ranges
* Patented self-calibration algorithm
* Guaranteed 5 year calibration interval
* Easily field calibrated

SPECIFICATIONS

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| DESCRIPTION | ENGINEERING SPEC |
| GAS TYPE DETECTED | Carbon Dioxide (CO2) |
| CO2 SIGNAL | **Measurement Type:** CDD5A & B – Non-Dispersive Infrared (NDIR)  CDD5C & D – Dual Channel Non-Dispersive Infrared (NDIR), diffusion sampling  **Range:** CDD5A & B – 0-2000ppm  CDD5C & D – 0-20,000ppm standard, programmable span from 2000 to 20,000ppm  **Standard Accuracy:** CDD5A & B - ±30ppm + 3% of reading with Auto Cal on  CDD5C & D - ±75ppm or 10% of reading (whichever is greater)  **Temperature Dependence:** 0.2% FS per °C  **Stability:** CDD5A & B - <2% FS over life of sensor (15 years typical)  CDD5C & D - <5% FS over life of sensor (15 years typical)  **Pressure Dependence:** <0.13% of reading per mm Hg  **Altitude Correction:** Programmable from 0-5000 ft via keypad  **Response Time:** <2 minute for 90% step change typical  **Warm-up Time:** <2 minutes |
| OPTIONAL TEMPERTATURE SIGNAL | **Sensing Element:** See chart below  **Range:** 0 to 35°C (32 to 95°F) or 0 to 50°C (32 to 122°F) selectable via keypad |
| OPTIONAL RH SIGNAL | **Sensing Element:** Thermoset polymer based capacitive  **Accuracy:** ±2 %RH  **Range:** 0 to 100 %RH, non-condensing  **Hysteresis:** ±3 %RH  **Response Time:** 15 seconds typical  **Stability:** ±1.2 %RH typical @ 50 %RH in 5 years |
| OPTIONAL RELAY OUTPUT | **Contact Ratings:** From A contact (N.O.), 2 Amps @ 140 Vac/30 Vdc  **Trip Point:** CDD5 & B – Programmable 500 – 2000 ppm via keypad  CDD5C & D – Programmable 500 – 15,000 ppm via keypad  **Relay Hysteresis:** CDD5A & B – Programmable 25 – 200 ppm via keypad  CDD5C & D – Programmable 25 – 5—ppm via keypad |
| OPTIONAL LCD DISPLAY | **Resolution:** 1ppm CO2 1 %RH, 1°C (1°F)  **Size:** 35mm W x 15mm H (1.4” x 0.6”) alpha-numeric, 2 line x 8 character  **Backlight:** Enable or disable via keypad |
| OPTIONAL OVERRIDE SWITCH | Front panel push-button available as two-wire dry-contact output |
| OPTIONAL SETPOINT CONTROL | Front panel push-buttons available as two-wire resistive output, 0-10 KΩ standard |
| POWER SUPPLY | 20-28 Vdc/ac (non-isolated half-wave rectified) |
| OUTPUT SIGNALS | **Current:** 4-20 mA (model CDD5A & C)  **Voltage:** 0-5 Vdc or 0-10 Vdc (model CDD5B & D) |
| CONSUMPTIONS | **Current:** 145 mA max @ 24 Vdc, 260 mA max @ 24 Vac (with all options)  **Voltage:** 85 mA max @ 24 Vdc, 150 mA max @ 24 Vac (with all options) |
| OUTPUT DRIVE CAPABILITY | **Current:** 550Ω max  **Voltage:** 10 KΩ min |
| OUTPUT RESOLUTION | 10 bit PWM |
| PROTECTION CIRCUITRY | Reverse voltage protected and output limited |
| OPERATING CONDITIONS | 0 to 50°C (32 to 122°F), 5 to 95 %RH, non-condensing |
| SENSOR COVERAGE AREA | 100m2 (1000ft2) typical |
| 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) |
| 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% |