

## Digital Transmitter with Non-dispersive Infrared Carbon Dioxide (CO<sub>2</sub>) Sensor

|                                        |                                                                                                                                                                                                                             |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dimensions: Size</b>                | 5.0 x 5.0 x 3.0 in / 127 x 127 x 76 mm (without optional splash guard)                                                                                                                                                      |
| <b>Weight</b>                          | 14 oz / 400 g                                                                                                                                                                                                               |
| <b>Construction:</b>                   | Black ABS / Polycarbonate blend, water/dust tight, corrosion resistant                                                                                                                                                      |
| <b>Sensor: Type</b>                    | Non-dispersive Infrared (NDIR)                                                                                                                                                                                              |
| <b>Life Span</b>                       | Approximately 8 years (application dependent)                                                                                                                                                                               |
| <b>Gases Detected:</b>                 | Carbon Dioxide (CO <sub>2</sub> )                                                                                                                                                                                           |
| <b>Sensor Range:</b>                   | 0 - 5% vol                                                                                                                                                                                                                  |
| <b>System Power:</b>                   | 4-wire: 16-30 VDC, 3W, Class 2<br>4-wire: 12-27 VAC, 50-60 Hz, 3 VA, Class 2                                                                                                                                                |
| <b>Operating Temperature:</b>          | 0°C to +40°C (32°F to 104°F), -40°C (-40°F) with low temperature Option -LT                                                                                                                                                 |
| <b>Operating Humidity:</b>             | 15 to 85% non-condensing                                                                                                                                                                                                    |
| <b>Indicators:</b>                     | LCD digital display, 2 line x 16 character, backlit, user configurable alarm blink                                                                                                                                          |
| <b>Communication</b>                   | BACnet® MS/TP (version 1 rev 14) RS-485, or Modbus® RTU (version 1.1b3) RS-485                                                                                                                                              |
| <b>Relay and Audible (Option RBZ)</b>  | Internal 1 SPDT relay rated 30 volts, 2 amp max<br>Internal buzzer rated 90 dB @ 10 cm / 4 in, enable/disable                                                                                                               |
| <b>Minimum Detection:</b>              | 0.03% vol                                                                                                                                                                                                                   |
| <b>Accuracy:</b>                       | ±0.02%vol ± 10% of reading                                                                                                                                                                                                  |
| <b>Repeatability:</b>                  | no data available                                                                                                                                                                                                           |
| <b>Sensitivity Drift:</b>              | <10% per year                                                                                                                                                                                                               |
| <b>Response Time (T<sub>90</sub>):</b> | 2 min. (diffusion)                                                                                                                                                                                                          |
| <b>Resolution:</b>                     | Display resolution: 0.01% vol      Sensor resolution: ±0.01% vol                                                                                                                                                            |
| <b>Warm Up Time:</b>                   | 3 minutes after power-up                                                                                                                                                                                                    |
| <b>Cross Sensitivity:</b>              | none                                                                                                                                                                                                                        |
| <b>Safety:</b>                         | Automatic resetting thermal overload fuse (reset capabilities to 500 times)                                                                                                                                                 |
| <b>Wiring:</b>                         | VDC or VAC (ground referenced) 4-conductor shielded, 16 AWG stranded within conduit, network wiring (daisy-chain)                                                                                                           |
| <b>Sensor Mounting:</b>                | Heavier than air, 3 to 5 ft / 91 to 152 cm from the floor (application dependent)                                                                                                                                           |
| <b>Monitoring Area:</b>                | 3000 ft <sup>2</sup> / 279 m <sup>2</sup>                                                                                                                                                                                   |
| <b>Suggested Alarm Points</b>          | Low Alarm: 0.5% vol / Mid Alarm: 1.5% vol / High Alarm: 3.0% vol                                                                                                                                                            |
| <b>Certifications: (tested to)</b>     | CSA: C22.2 NO.205-12    UL: UL508 (Edition 18): 2018<br>CE: EMC Directive 2014/30/EU, EN50270:2015, Type 1, EN61010<br>Listed by BTL<br>RoHS compliant circuit boards<br>This device complies with part 15 of the FCC Rules |
| <b>Notes:</b>                          | Never install gas detectors in the direct path of moving air.                                                                                                                                                               |

**Conditions Affecting Infrared Sensors:**

- Do not use in locations where corrosive chemicals such as chlorine, ammonia and other oxidizers are present, especially if there is a higher humidity level.
- High humidity can affect response and promote corrosion.
- Water or vapour condensation can impair sensor performance.
- Dust and dirt can compromise sensor performance.
- Excessive vibration or impact can damage the sensor.
- Continuous exposure to gas will not poison the sensor but it may require a long time to clear before accurate readings can be taken again.
- Carbon dioxide sensors require 99.9% nitrogen (N<sub>2</sub>) for a true zero.