

DE-OX[®] BIO CARBON DIOXIDE DATA SHEET

INSTRUMENT MAIN FEATURES:

DE-OX[®] BIO is a digital measurement instrument based on an innovative non-dispersive infra red (NDIR) Carbon Dioxide sensor. The sensor detects Carbon Dioxide content in both ambient and in any tank.

DE-OX[®] BIO can be successfully used in hyperbaric facility or for diving

Large range of detection is available from 0-500 to ppm to 0-100%.

- Carbon dioxide analysis into the gas mix.
- 20 ppm (parts per million) resolution.
- Available in ppm or percentage display.
- Sensor and analyzer autsetting.
- Adjustable calibration span value (optional).
- Calibration with certified span gas (optional).
- Calibration of zero with 0,0% Nitrogen sample gas (optional)
- NDIR compact sensor.
- Two custom audible and visible alarms.
- 4-20 mA analog output for external devices.
- Open Collector output for external relays.
- Numeric display of 50x35mm.
- Battery low indicator.
- Standard 9 Volt transistor battery.
- External power supply from 8 to 18 VDC. Power consumption 100mA ca.
- Simple battery and sensor replacement.
- Direct connection to every kind of tank valve with TEMC[®] rubber cup or other available accessories.
- It is possible to remove and remote the sensor from the instrument case.
- Large range of detection gas concentration.
- Soft protection and transport bag.
- Dimensions: max 8,5x7,5 cm weight 250 grams.



Carbon Dioxide Sensor Specifications

High performance, general purpose CO₂ sensor that provides a temperature compensated and linear CO₂ measurement over sensing range. The instrument uses proven non-dispersive infra red (NDIR) sensor technology to detect and monitor the presence of carbon dioxide gas. The sensor contains a long life tungsten filament infrared light source, an optical cavity into which gas diffuses, a dual temperature compensated pyroelectric infrared detector, an integral semiconductor temperature sensor and electronics to process the signals from the pyroelectric detector.

- The sensor outputs actual CO₂ readings, compensated for temperature in the range -20C and +50C.

- Typical resolution for 0 – 5000 ppm sensor is 50 ppm from 0 to 2500 ppm, then 100 ppm up to full scale
- Temperature & Humidity working range
 - -20 °C to 50 °C (-4°F to 122°F)
 - Temperature performance:
 - ± 10% of reading up to 50% FSD and ± 15% of reading from 50% to 100% FSD over the range -20°C to +50°C (-4°F to 122°F)
 - Storage temperature range: -20°C to +50°C (-4°F to 122°F)
 - 0 to 95% RH, non-condensing
- Warm-up Time
 - To final zero ± 0.2% of range : 1 minute @ 20°C (68°F) ambient (operational)
 - 10 minutes (for maximum accuracy)
- Accuracy at ambient pressure (typical 1013 mbar)
 - sensor linearity at ambient temperature is ± 2% FSD or ± 10% of the reading which ever is greater.
 - Response Time T90: <30s @ 20°C (68°F) ambient
 - gas flow rates kept below 600 cc/minute
 - Zero Repeatability: ± 2% of full scale @ 20°C (68°F) ambient
 - Span Repeatability: ± 2% of full scale @ 20°C (68°F) ambient
 - Long term zero drift: ± 1% of full scale / month @ 20°C (68°F) ambient



Electromagnetic compatibility test for CE marking

- CEI EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements
- CEI EN 55022 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
- CEI EN 61000-4-2 Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test

Warranty

In the interest of product improvement, TEMC® reserves the right to alter design features and specifications without notice. Check TEMC® for the latest sensor and analyser specifications. Unless otherwise stated, all product specifications are quoted at standard temperature and pressure.

TEMC® warrants that its DE-OX® BIO computer will be free from defects on material and workmanship for a period of twelve (12) months from the date of delivery, with the exception of sensor not manufactured in-house and that is warranted for six (6) months.

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