

LonWorks® Communicating TR2000-LON – Electrochemical CO Transmitter



LonWorks® Communicating - Low Cost – Long Life

The TR-2000 delivers all the advantages of electrochemical sensing in a durable, long life (5 year) package that is priced to compete against less accurate MOS/Solid State sensors. The LonWorks® version of this popular product uses the FTT-10 Free Topology Transceiver and provides a percent of range output (0-200 ppm).

Why The TR-2000?

- ✓ Electrochemical performance at a MOS (solid state) price. One-half to two-thirds the cost of comparable electrochemical sensors.
- ✓ LonWorks® FTT-10 free topology transceiver.
- ✓ Five year life vs 18 months for most other electrochemical sensors.
- ✓ High accuracy sensor, +/- 5% of measurement.
- ✓ 0-200 ppm range. Custom ranges available.
- ✓ Low cost replacements sensor elements minimizes long term operating costs.

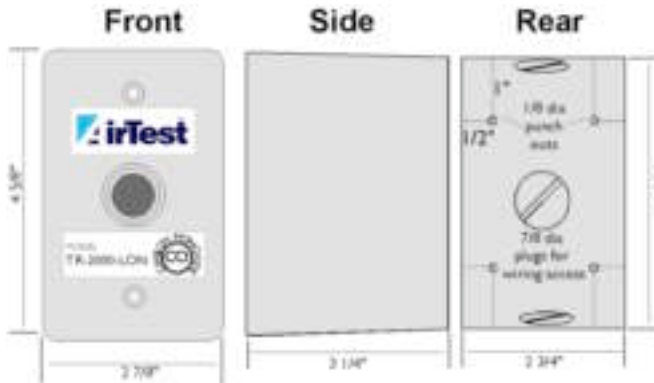
AirTest Electrochemical Vs MOS/Solid State

- ✓ Higher accuracy in the 0-50 ppm range means more energy savings for ventilation control in vehicle operation and parking areas.
- ✓ No temperature or humidity interference eliminates seasonal drift of sensors.
- ✓ Much less sensitive to other gases and less likely to be poisoned.
- ✓ Significantly less long-term drift means less maintenance.
- ✓ Consistent linear output between sensors means specialized operational curves and control points are not necessary.

CO And Parking Garages

Most local codes require a very high rate of ventilation (1.5 to 2 cfm.sq ft) in enclosed parking and areas involving vehicle repair and operation. This must be provided during all hours of use. A Carbon Monoxide sensor can reduce fan energy costs by acting as an occupancy sensor for automobiles. Most codes allow fans to be intermittently operated as long as levels do not exceed 30 or 50 ppm CO (check your local code).

TR2000-LON Dimensions



Specifications

General

Sensing Method: Electrochemical

Approval: CSA/NREL (UL Equivalent)

Sensor Rated Life: 5 years

Temp Operating Conditions: -4 to 122° F (-20 to 50°C),

Humidity Operating Conditions: 0 to 90% RH

Storage Conditions: -40 to 158°F (-40 to 70°C)

Performance

CO Measurement Range: 0-200 ppm (factory adjustable to 500 ppm)

Repeatability: +/- 5% of measured value

Linearity: +/- 5% of measured value

Recommended Calibration: 12 months

Response Time: T90 = <1 minutes (diffusion)

Warm Up Time: < 2 minutes

Power

Input: 24 VDC

Power Consumption: 150 mA max

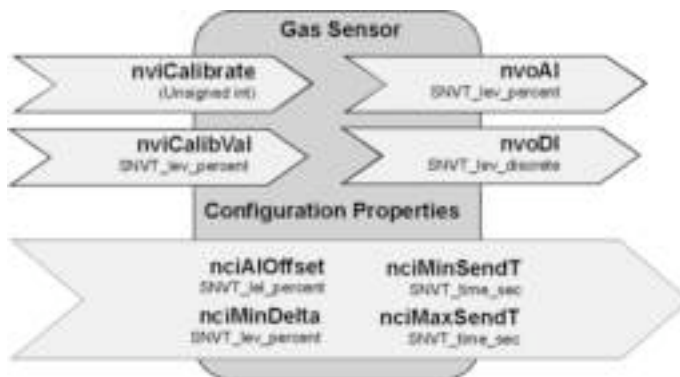
Analog Outputs

Adjustment: Span & Zero

Output Signal: 4 - 20 mA & LonWorks®

Terminal Wire Size: 16 - 22 AGW

LonWorks® Network Variables



LonWorks® Output Network Variables

nvoAI Sensor output. 0%=0 ppm, 100%=200 ppm. Values can be rescaled using **nviCalibVal** input network variables. Returns +163.83% on input fault condition.

nvoDI Sensor output interpreted as a discrete. Return ST_OFF if input is below **nciDIHigh** and ST_ON if input is above **nciDIHigh**. ST_Nul is input fault condition.

LonWorks® Input Network Variables

nviCalibrate 00 - Zero Cmd. Current sensor output = 0%.
01 - Span Cmd. Current sensor output = 100%.
02 - Calibrate Value #1. Current sensor output corresponds to lower value which is **nviCalibVal**.
03 - Calibrate Value #2. Current sensor output corresponds to upper value which is **nviCalibVal**.
15 - Reset calibration to factory defaults.

nviCalibVal See **nviCalibrate** for description. Use with command 02 and 03.

Lonworks® Configuration Network Variables

nciAIOffset Offset to be added to **nvoAI** before sent onto the network.

nciMinDelta Minimum change required before a network update.

nciMinSendT Minimum elapsed time before a network update is sent.

nciMaxSendT Maximum elapsed time before a network update is sent.

Other LonWorks® Gas Sensors

TR-1000
MOS/Solid
State
CO

TR-3200
Electro-
chemical
NO₂
(Diesel)

TR-9500
Infrared
CO₂
(Combustion
Odors)

TR-5200
Catalytic Bead
Combustibles
(Propane,
Natural Gas)



AirTest™ Technologies Inc. specializes in the application of cost effective, state-of-the-art air monitoring technology to ensure the comfort, security, health and energy efficiency of buildings.



Specifications Subject to Change Without Notice

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