

# Nitrogen Dioxide (NO<sub>2</sub>) Digital LON Gas Transmitters



**PolyGard  
DT-1130 V2**

## DESCRIPTION

Digital LON gas transmitters for the detection of nitrogen dioxide (NO<sub>2</sub>) in the ambient air for direct link to LONWORKS® network.

## APPLICATION

To sense nitrogen dioxide (NO<sub>2</sub>) in a wide variety of commercial and industrial applications such as vehicle exhaust in parking structures, engine repair shops, tunnels, equipment rooms and ventilation systems, etc. and transmit to any compatible interoperable LON-bus system.

## FEATURES

- LONWORKS® *interfacing*
- LONWORKS® *functional profile*
- *Continuous monitoring*
- *Easy plug-in sensor*
- *Electrochemical gas sensor, gas specific*
- *Temperature compensated*
- *4-20 mA input from remote analog transmitter*
- *Polarity protected*
- *Overload & short circuit protected*
- *RFI/EMI protected*
- *Modular plug-in technology*
- *Easy maintenance*



## SPECIFICATIONS

### Electrical

Power supply 10-28 VDC, polarity protected  
 Power consumption 28 mA (0.7 VA)  
 RFI/EMI protection 5.0 W @ 1 ft. (0.31 m) radiated

### Sensor Performance

Gas detected Nitrogen dioxide (NO<sub>2</sub>)  
 Sensor element Electrochemical, diffusion  
 Range 0-20 ppm, factory set  
 Stability & resolution ± 0.1 ppm of reading  
 Repeatability ± 2% of reading  
 Long term output drift < 2% signal loss/month  
 Response time t<sub>90</sub> < 60 sec.  
 Sensor life expectancy 2 years, normal operating environment  
 Sensor coverage 4,000 sq.ft., max. 6,000 sq.ft. (372 m<sup>2</sup>, max. 558 m<sup>2</sup>), under "ideal conditions"

### Installation Location

Mounting height 1 to 3 ft (0.3 to 1.0 m) above floor for standard garage applications, consult with factory for other applications

### Type of Control

General Continuous proportional sensor signal

### LONWORKS®

Standard network variables SNVTs according LONMARK® application layer, Interoperability directives, version 3.2 FTT-10A

- transceiver AT series remote gas transmitter input capability
- analog input

### Environmental

- power output (1) 4-20 mA, overload and short circuit protected 24 VDC, max. load 100 mA
- Permissible ambient
- working temperature 14°F to 104°F (-10°C to 40°C)
- storage temperature 41°F to 86°F (5°C to 30°C)
- humidity 15 to 95% RH, non-condensing
- working pressure Atmospheric ± 10%

### Physical

- Enclosure, standard
- material Galvanized steel w/zinc coating, corrosion resistant
- color Light gray
- protection NEMA 1 (IP42), general purpose
- installation Wall (surface) mounted, or single gang electrical box
- Dimensions (H x W x D) 5.59 x 5.59 x 2.48 in. (142 x 142 x 63 mm)

LONWORKS®, LONMARK® and ECHELON are registered Trademarks of Echelon Corporation

**SPECIFICATIONS**

**Physical (cont...)**

Cable entry 1 hole for 1/2 in. conduit for wall (surface) mounting and 1 hole on back side of base plate for single gang electrical box mounting

Wire connection Terminal blocks, screw type for lead wire

Wire size Min. 24 AWG (0.25 mm<sup>2</sup>), Max. 14 AWG (2.5 mm<sup>2</sup>)

Weight 0.7 lbs. (0.3 kg)

**Approvals/Listings** CE  
Conformity according LONMARK® Interoperability Association EMV-Compliance 89/336/EWG, low voltage directives 73/23/EWG

**Warranty** Two years material and workmanship, 12 months normal exposure for sensor element

**OPTIONS**

**Wall mounted "A"**

- material NEMA 12 (IP55) Polycarbonate, UL 94-HB, fire-retardant
- conformity UL 50
- color Light gray
- installation Wall (surface) mounted, or single gang electrical box
- dimensions (H x W x D) 5.12 x 3.70 x 2.25 in. (130 x 94 x 57 mm)
- cable entry 1 hole for 1/2 in. conduit for wall (surface) mounting and 1 hole on back side of base plate for single gang electrical box mounting
- enclosure approval UL Listed, E208470 CSA Certified, E208470

**Wall mounted "C"**

- material NEMA 4X (IP65) Polycarbonate, UL 94-HB, fire-retardant
- conformity UL 50
- color Light gray
- gas inlet Special moisture filter protection
- installation Wall (surface) mount
- dimensions (H x W x D) 5.12 x 5.12 x 2.95 in. (130 x 130 x 75 mm)
- cable entry (1) PG 13.5 compression fitting, removeable, hole fits 1/2 in. conduit conductor
- enclosure approval UL Listed, E208470 CSA Certified, E208470

**Wall mounted "4"**

- material NEMA 4X, w/splash guard (IP65) ABS UL94 V0
- color Light gray
- installation Wall (surface) mount
- dimensions (H x W x D) 4.80 x 4.72 x 3.42 in. (122 x 120 x 87 mm)
- cable entry (1) PG 13.5 compression fitting, removeable, hole fits 1/2 in. conduit conductor

**Heater, built-in**

- Ambient temperature -40°F (-40°C)
- Power supply 24 VAC/VDC ± 5%, 50/60 Hz
- Power consumption 1.0 A (24 VA), max.
- Thermostatic control 32°F (0°C) ± 5°F (3°C)

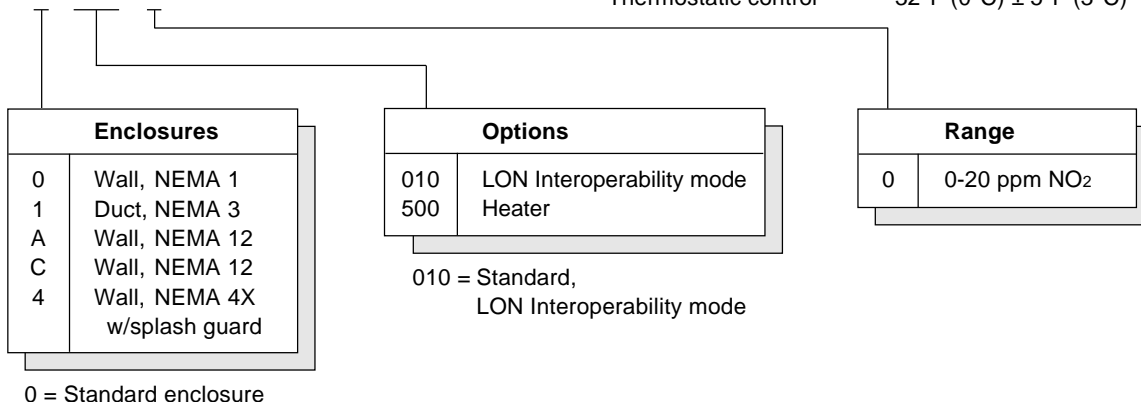
**OPTIONS**

**Enclosures**

- Duct mounted "1"** NEMA 3 (IP45)  
7/8 in. (22 mm) diameter and 7.16 in. (182 mm) length
- w/probe
- cable entry 1 hole for 1/2 in. conduit

**ORDERING INFORMATION**

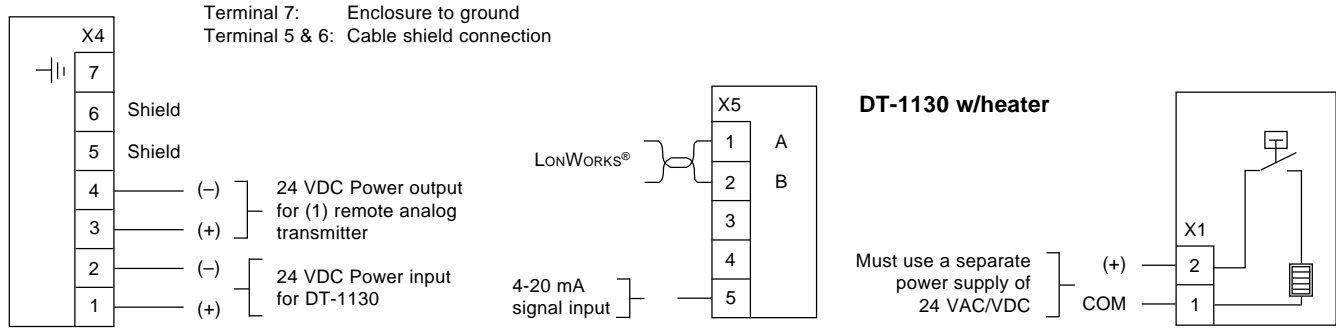
DT-1130 - 0 - 010 - 0 (Product label "DT-1130-x-x10-0 V2")



LONWORKS®, LONMARK® and ECHELON are registered Trademarks of Echelon Corporation

**WIRING CONFIGURATION**

**DT-1130**



**LONMARK®, PRODUCT DETAILS**

Product data sheet	PolyGard digital transmitter DT
Device category	Gas Concentration
Communication	TP/FT-10
LONMARK® version	3.2

LONMARK® object	0000 - Node object 0001 - Open loop sensor object 0002 - Open loop sensor object
Download files	8000230A50060402.zip XIF (external interface file)
Standard program ID	8000230A50060402

**Standard Network and Configuration Variables**

The DT-1130 LON gas transmitters are for direct link to LONWORKS® network. The transmitter functions are made available to the LONWORKS® network as standard network variables according to LONMARK®.

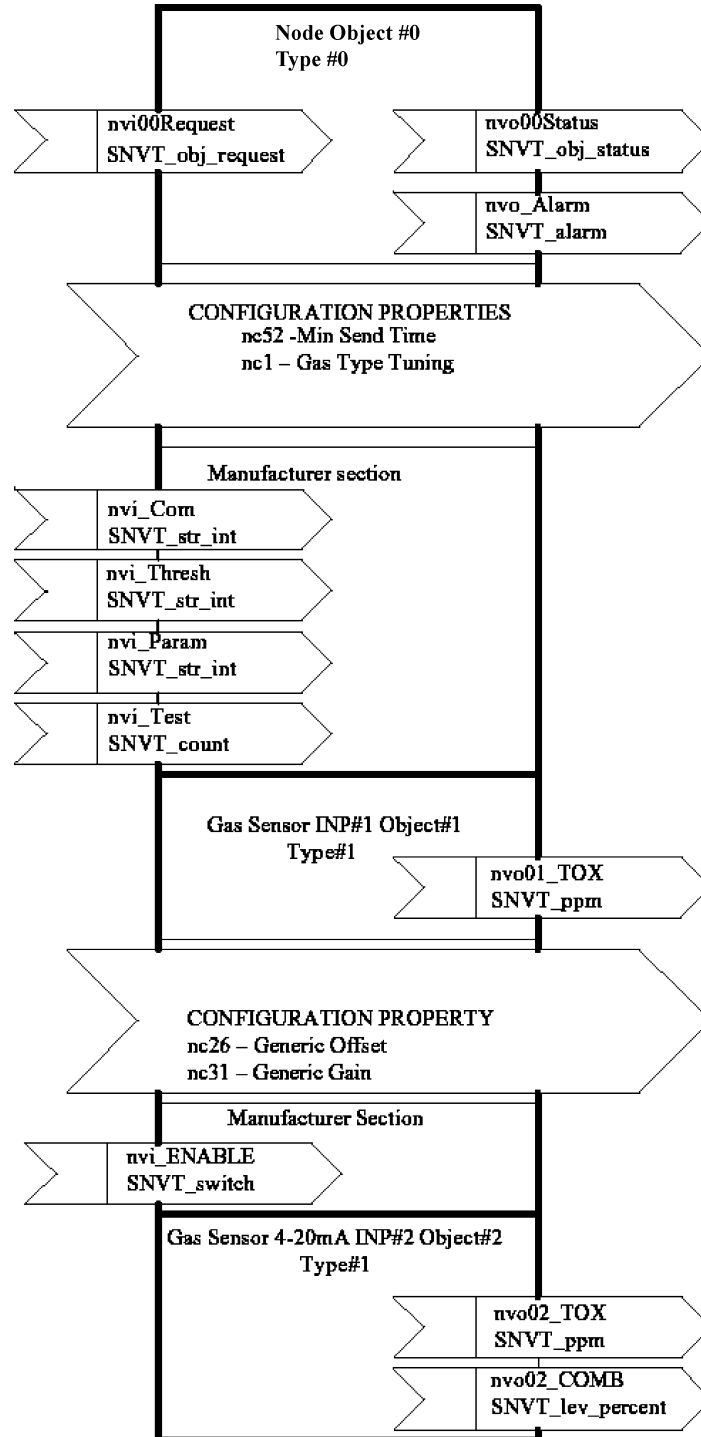


Figure 1.  
Measuring Head