

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



**PolyGard NO<sub>2</sub>  
AT-1130**

## DESCRIPTION

Analog gas transmitter for the detection of nitrogen dioxide (NO<sub>2</sub>)/diesel fumes in the ambient air.

## APPLICATION

To sense nitrogen dioxide (NO<sub>2</sub>) in a wide variety of commercial and industrial applications such as vehicle diesel exhaust in parking structures, engine repair shops, tunnels, equipment rooms and ventilation systems, etc. and transmit to any compatible electronic analog control, DDC/PLC control or automation system.

## FEATURES

- *Continuous monitoring*
- *4-20 mA analog signal output*
- *Two-stage relay output control, optional*
- *Easy plug-in sensor*
- *Electrochemical gas sensor, gas specific*
- *Polarity protected*
- *RFI/EMI protected*
- *Modular plug-in technology*
- *Easy maintenance*



City of Los Angeles Approved

## SPECIFICATIONS

### Electrical

Power supply 17-28 VDC, polarity protected  
 Power consumption 22 mA (0.6 VA), max.  
 - w/relay package 35 mA (1.0 VA), max.  
 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 Span field selectable from 0-10 to 0-20 ppm via calibration, 0-10 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 analog sensor signal output  
 Analog output 4-20 mA @ 450 Ω, max., polarity protected  
 Optional contact outputs (2) relays, potential free

### Environmental

Permissible ambient - working temperature 14°F to 104°F (-10°C to 40°C)

- storage temperature -4°F to 104°F (-20°C to 40°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, general purpose  
 - installation Wall (surface) mounted, or single gang electrical box

Dimensions 5.59 x 5.59 x 2.48 in. (142 x 142 x 63 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

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>)  
 Wire distance Max. loop resistance 450 Ω (= wire resistance plus controller input resistance)

Weight 0.7 lbs. (0.3 kg)  
**Approvals/Listings** City of Los Angeles  
 CE

EMV-Compliance 89/336/EWG, low voltage directives 73/23/EWG  
**Warranty** Two years material and workmanship, 12 months normal exposure for sensor element

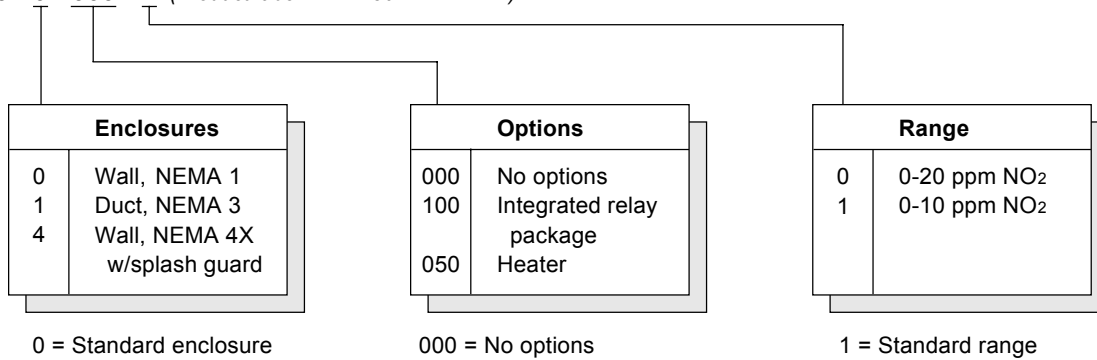
**OPTIONS**

<b>Enclosures</b>	
<b>Duct mounted</b>	NEMA 3
- w/probe	7/8 in. (22 mm) diameter and 7.16 in. (182 mm) length 1 hole for 1/2 in. conduit
- cable entry	
<b>Wall mounted</b>	NEMA 4X, w/splash guard
- material	ABS UL94V0
- color	Light gray
- dimensions	4.80 x 4.72 x 3.42 in. (122 x 120 x 87mm)
<b>Relay Package</b>	
Type	(1) SPDT (R9), (1) SPST (R10)

Contact rating	30 VAC/VDC, 0.5 A, max.
Setpoint	Adjustable setting for each relay within 10 to 90% of full range
- factory set	Lo = 2 ppm, Hi = 5 ppm
Switching differential	5% or 10% of full range, jumper selectable
Relay mode	Jumper selectable, de-energized or energized (fail-safe) for each relay
Status indicator	(2) LEDs, one for each relay
<b>Heater, built-in</b>	For low temperature environment
Ambient temperature	-40°F (-40°C)
Power supply	24 VAC/VDC ± 5%, 50/60Hz
Power consumption	1.0 A (24 VA), max.
Thermostatic control	32°F (0°C) ± 5°F (3°C)

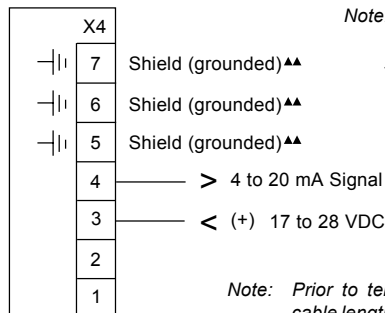
**ORDERING INFORMATION**

**AT-1130 - 0 - 000 - 1** (Product label "AT-1130-x-xxx-x V2")



**WIRING CONFIGURATION**

**AT-1130**  
**24 VDC, 2-wire configuration**

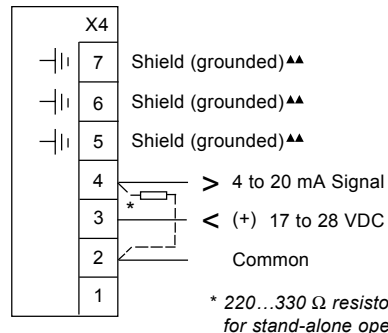


Note: Twisted, shielded wire is recommended for 2- or 3-wire configurations.

▲▲ Connect Shield to either terminal 5, 6 or 7. Shield should be grounded at either the sensor or controller. DO NOT ground Shield at both ends.

Note: Prior to terminating the wire, secure enough cable length within the enclosure to snap-on the supplied ferrite core. The ferrite core must be within the enclosure and located such that the PCB can be installed.

**AT-1130**  
**24 VDC, 3-wire configuration (required w/relay)**



**AT-1130 w/relay package, relay connection applies to standard 24 VDC, 3-wire configuration only**

**AT-1130 w/heater**

