

Ammonia (NH₃) Digital LON Gas Transmitters



**PolyGard
DT-1120 V1**

DESCRIPTION

Digital LON gas transmitters for the detection of ammonia (NH₃) in the ambient air for direct link to LONWORKS® network.

APPLICATION

To sense ammonia (NH₃) in a wide variety of commercial and industrial applications such as chiller equipment rooms, food storages, freezers, arenas, brewers 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 Ammonia (NH₃)
 Sensor element Electrochemical, diffusion
 Range 0-1000 ppm, factory set
 Resolution < 4 ppm
 Long term sensitivity drift < 5% / 6 months
 Response time t₅₀ < 20 sec., t₉₀ < 35 sec.
 Sensor life expectancy 2 years, normal operating environment
 Sensor coverage 2,000 sq.ft., max. 3,000 sq.ft. (180 m², max. 280 m²), under "ideal conditions"

Installation Location

Mounting height 1 foot (0.3 m) below ceiling

Type of Control

General Continuous proportional sensor signal
 LONWORKS® Standard network variables SNVTs according LONMARK® application layer, Interoperability directives, version 3.2
 - transceiver FTT-10A

AT series remote gas transmitter input capability

- analog input (1) 4-20 mA, overload and short circuit protected
 - power output 24 VDC, max. load 100 mA

Environmental

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, continuous 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)
 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

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

SPECIFICATIONS

Physical (cont...)	
Wire size	Min. 24 AWG (0.25 mm ²), Max. 14 AWG (2.5 mm ²)
Weight	0.7 lbs. (0.3 kg)
Approvals/Listings	C E 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

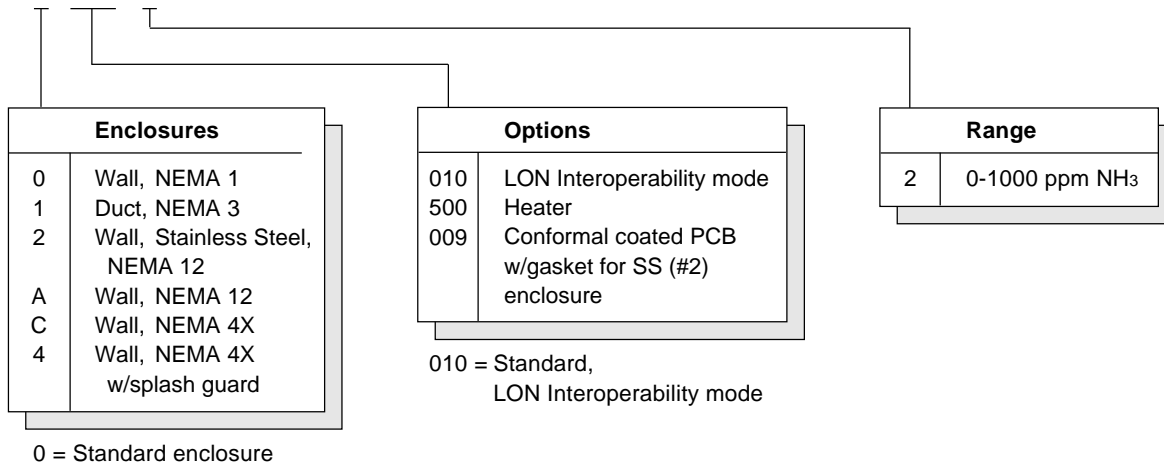
Enclosures	
Duct mounted "1"	NEMA 3 (IP45)
- w/probe	7/8 in. (22 mm) diameter and 7.16 in. (182 mm) length
- cable entry	1 hole for 1/2 in. conduit
Stainless Steel "2" (Wall mounted)	NEMA 12 (IP55)
- material	Stainless steel V2A
- color	Natural, brushed
- dimensions (H x W x D)	4.5 x 5.35 x 1.8 in. (113 x 135 x 45 mm)
Wall mounted "A"	NEMA 12 (IP55)
- material	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)

OPTIONS

Enclosures (cont...)	
Wall mounted "A" (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
- enclosure approval	UL Listed, E208470 CSA Certified, E208470
Wall mounted "C"	NEMA 4X (IP65)
- material	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"	NEMA 4X (IP65), w/splash guard
- material	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	For low temperature environment
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)

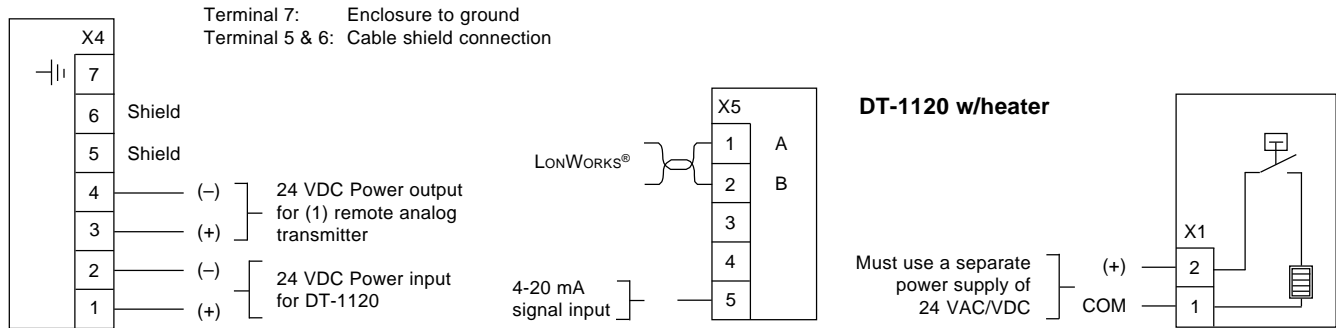
ORDERING INFORMATION

DT-1120 - 0 - 010 - 2 (Product label "DT-1120-x-x10-2 V1")



WIRING CONFIGURATION

DT-1120



LONMARK®, PRODUCT DETAILS

Product data sheet	PolyGard digital transmitter DT
Device category	Gas Concentration
Communicaton	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-1120 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®.

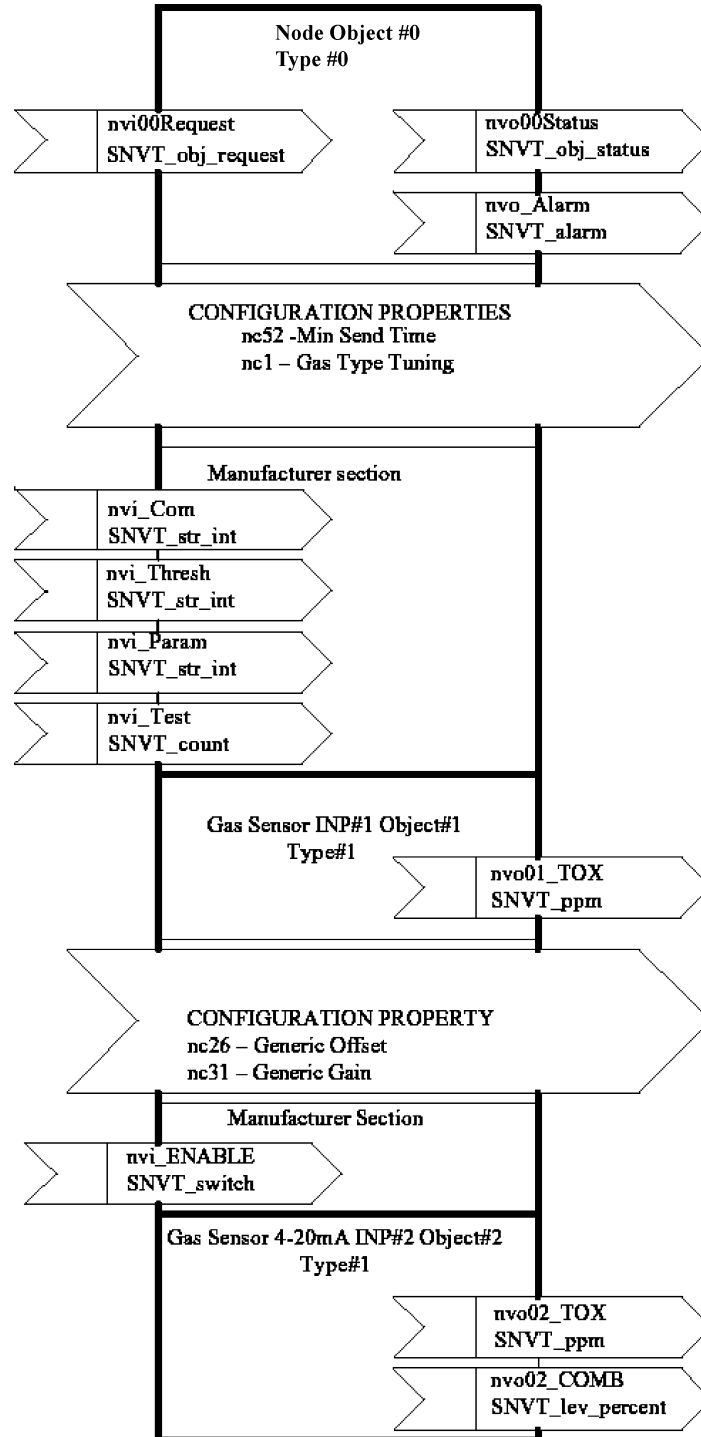


Figure 1.
Measuring Head