

# Combustible Gas Digital LON Gas Transmitters



## DESCRIPTION

Digital LON gas transmitters for the detection of combustible gases and vapors in the ambient air for direct link to LONWORKS® network.

## APPLICATION

To sense combustible gases and vapors in a wide variety of commercial and industrial applications such as boiler rooms (i.e. Methane), dry cell battery rooms (i.e. Hydrogen), gas/fuel spill locations (i.e. Gasoline, Hexane), laboratories and industries (i.e. Butane, Propane) and transmit to any compatible interoperable LON-bus system.

## FEATURES

- LONWORKS® *interfacing*
- LONWORKS® *functional profile*
- *Continuous monitoring*
- *Easy plug-in sensor*
- *Catalytic bead (pellistor) long-life sensor*
- *Temperature compensated*
- *Polarity protected*
- *Overload & short circuit protected*
- *RFI/EMI protected*
- *Modular plug-in technology*
- *Easy maintenance*

**PolyGard  
DT-3300 V2**



## SPECIFICATIONS

### Electrical

Power supply 10-28 VAC or VDC, polarity protected

Power consumption 55 mA (1.6 VA)  
RFI/EMI protection 5.0 W @ 1 ft. (0.31 m) radiated

### Sensor Performance

Gas detected Combustible gases and vapors (refer to table)  
Sensor element Catalytic bead (pellistor), diffusion  
Range 0-100% LEL; linear 0-60% LEL  
Detection limit 0.5% LEL  
Accuracy ± 1% of reading  
Repeatability ± 2% of reading  
Long term zero point drift < 2.5% LEL<sub>methane</sub>/year  
Long term sensitivity drift < 2% LEL<sub>methane</sub>/month  
Response time t<sub>90</sub> < 10 sec.<sub>methane</sub>  
Sensor life expectancy 3 yrs., normal operating environ.  
Sensor coverage Dependent on the target gas

### Installation Location

Mounting height Dependent on the target gas

### 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

Combustible Gases/Vapors		% v/v*
Acetone	(CH <sub>3</sub> ) <sub>2</sub> CO	2.6
Ammonia	NH <sub>3</sub>	15.0
Benzene	C <sub>6</sub> H <sub>6</sub>	1.2
Carbon Monoxide	CO	12.5
Ethylene	C <sub>2</sub> H <sub>4</sub>	2.3
Ethyl Acetate	CH <sub>3</sub> COOC <sub>2</sub> H <sub>5</sub>	2.2
Ethyl Alcohol	C <sub>2</sub> H <sub>5</sub> OH	3.3
Hydrogen	H <sub>2</sub>	4.0
Isopropyl Alcohol	(CH <sub>3</sub> ) <sub>2</sub> CHOH	2.2
JP8	-	0.9
Methane	CH <sub>4</sub>	5.0
Methanol	CH <sub>3</sub> OH	6.7
Methyl Ethyl Ketone	C <sub>4</sub> H <sub>8</sub> O	1.9
n-Butane	C <sub>4</sub> H <sub>10</sub>	1.8
n-Heptane	C <sub>7</sub> H <sub>16</sub>	1.05
n-Hexane	C <sub>6</sub> H <sub>14</sub>	1.1
n-Octane	C <sub>8</sub> H <sub>18</sub>	0.95
n-Pentane	C <sub>5</sub> H <sub>12</sub>	1.4
Propane	C <sub>3</sub> H <sub>8</sub>	2.1
Toluene	C <sub>7</sub> H <sub>8</sub>	1.2

\* x% v/v = 100% LEL  
LEL = Lower Explosive Limit  
v/v = Volume by Volume

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## SPECIFICATIONS

### Environmental

Permissible ambient	
- working temperature	14°F to 122°F (-10°C to 50°C)
- storage temperature	41°F to 86°F (5°C to 30°C)
- humidity, continuous	15 to 90% RH, non-condensing
- humidity, intermittent	0 to 99% 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
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)
<b>Approvals/Listings</b>	UL Recognized and CSA Certified combustible sensor CE Conformity according LONMARK® Interoperability Association EMV-Compliance 2004/108/EWG, low voltage directives 73/23/EWG
<b>Warranty</b>	Two years material and workmanship

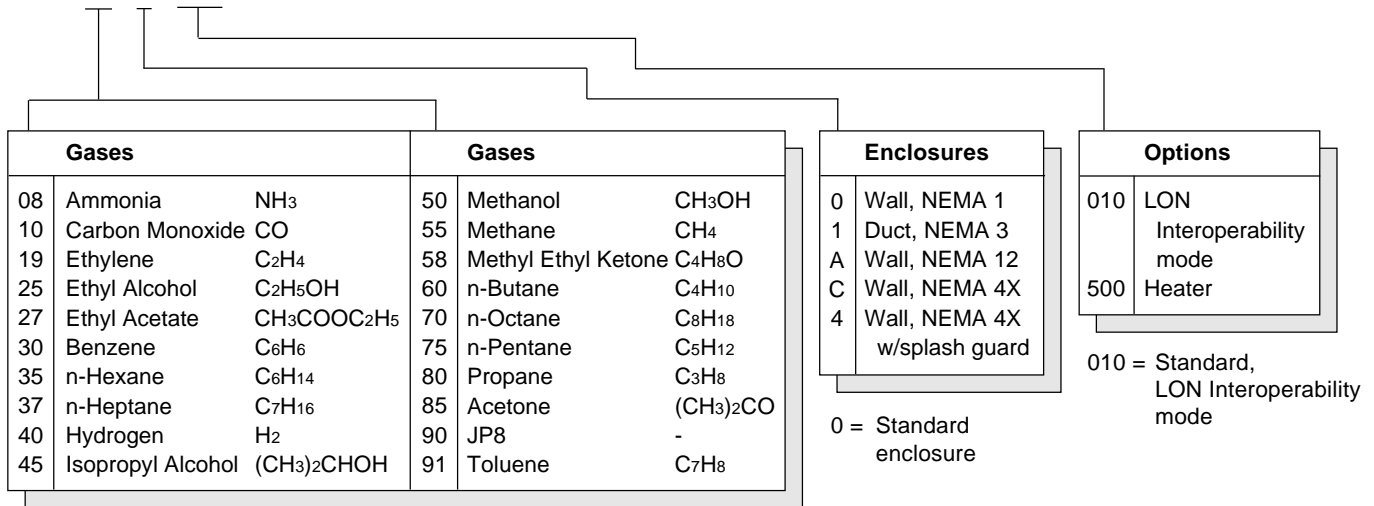
## OPTIONS

### Enclosures

<b>Duct mounted "1"</b>	NEMA 3 (IP45)
- w/probe	7/8 in. (22 mm) diameter and 7.16 in. (182 mm) length 1 hole for 1/2 in. conduit
- cable entry	1 hole for 1/2 in. conduit
<b>Wall mounted "A"</b>	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)
- 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
<b>Wall mounted "C"</b>	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
<b>Wall mounted "4"</b>	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
<b>Heater, built-in</b>	For low temperature environment
Ambient temperature	-40°F (-40°C)
Power supply	24 VAC/VDC ± 5%, 50/60 Hz
Power consumption	0.2 A (5 VA), max.
Thermostatic control	32°F (0°C) ± 5°F (3°C)

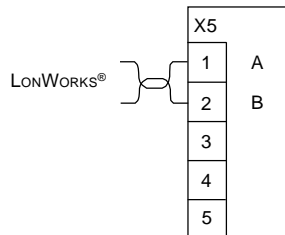
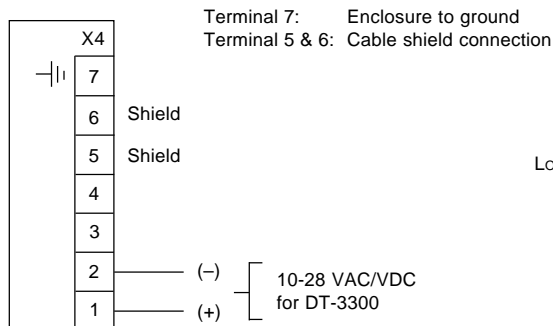
**ORDERING INFORMATION**

**DT-3300 - 0 - 010 - 0** (Product label "DT-33xx-x-x10-0 V2")

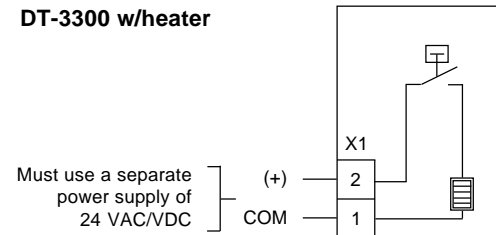


**WIRING CONFIGURATION**

**DT-3300**



**DT-3300 w/heater**



**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-3300 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®.

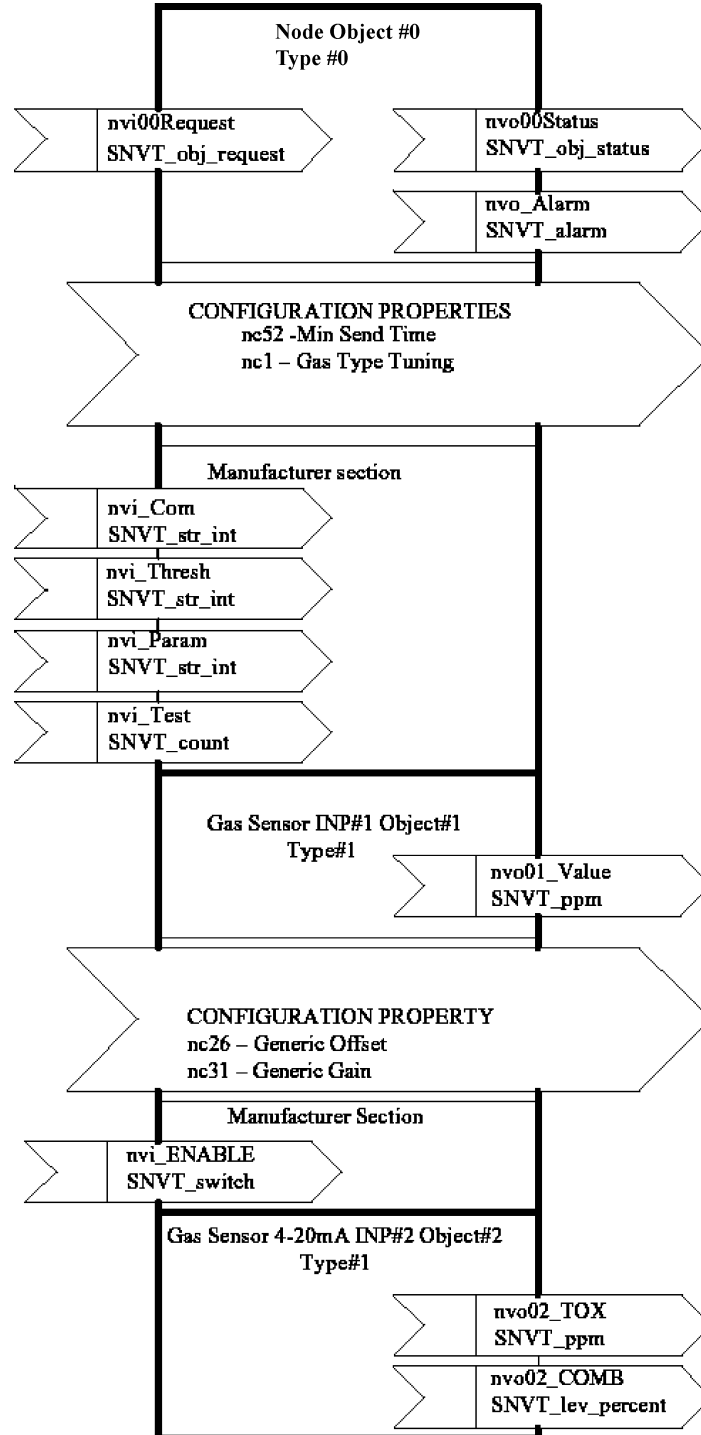


Figure 1.  
Measuring Head