

PolyGard® Nitrogen Oxide NO Transmitter ADT53 1129

DESCRIPTION

NO transmitter including digital measurement value processing and temperature compensation for the continuous monitoring of the ambient air to detect nitrogen oxide concentrations (NO). Integrated in the transmitter there is a comfortable calibration routine with selective access release. The ADT-53 possesses a standard analog output (0) 4- 20 mA or (0) 2- 10 V DC, and an RS-485 interface. 2 relays with adjustable switching thresholds are available as an option.

APPLICATION

For the detection of nitrogen oxide (NO) within a wide range of industrial and commercial applications such as underground garages, engine repair shops, tunnels, engine test benches, shelters and loading bays with diesel-engined vehicles. Due to the standard output signal and the RS-485 interface the NO transmitter is compatible to the PolyGard Gas Controller series MGC and DGC by MSR-E as well as to any other electronic control or automation system.



Standard enclosure

FEATURES

- Digital processing of the measurement values incl. temperature compensation
- Continuous monitoring
- Low zero point drift
- Good stability to poisoning
- Long-life sensor
- Modular plug-in technology
- Easy maintenance
- Comfortable calibration with selective access release
- Reverse polarity protected, overload and short-circuit proof
- (0) 4 - 20 mA / (0) 2 – 10V analog signal output, selectable
- Serial interface RS-485
- IP65 protected
- Manual calibration via potentiometer (option)
- Manual addressing for RS-485 mode (option)
- 4 – 20 mA analog input for an external AT transmitter (optional)
- Relay output (optional)
- Integrated buzzer (optional)
- LCD display (optional)
- Heating (optional)
- Duct mounting (optional)

SPECIFICATIONS

General sensor performance

Detected gas	Nitrogen oxide (NO)	
Sensor element	Electrochemical, diffusion	
Measuring range	0 - 25 ppm (factory set) adjustable from 0 - 10 to 0 - 25 ppm	
Temperature range	-10 °C to + 45 °C (14 °F to 113 °F)	
Pressure range	Atmospheric ± 15 %	
Humidity range	15 – 90 % RH non-condensing	
Storage temperature	5 °C to 30 °C (41 °F to 86 °F)	
Storage time	Max. 3 months	
Mounting height	Under the ceiling	
Accuracy	0,15 ppm	
Repeatability	< 2 % of reading	
Long-term output drift	< 2% signal loss/month	
Response time	t ₉₀ < 25 sec.	
Sensor life expectancy	> 3 years/normal operating environment	
Cross sensitivity ¹	Concentration (ppm)	Reaction (ppm)
Carbon monoxide; CO	300	0
Nitrogen dioxide, NO ₂	20	< 5
Sulphur dioxide, SO ₂	5	0
Hydrogen sulphide, H ₂ S	15	< 5
Hydrogen, H ₂	300	0

Electrical

Power supply	18 - 28 VDC/AC, reverse polarity protected (for 2- wire mode only VDC)
Power consumption (without options)	
- Analog mode	22 mA, max. (0,6 VA)
- Bus mode	12 mA, max. (0,3 VA)

Output signal

Analog output signal	(0) 4 – 20 mA, load ≤ 500 Ω,
Selectable: Current / tension	(0) 2 - 10 V; load ≥ 50 k Ω
Starting point 0 / 20 %	proportional, overload and short-circuit proof

Serial interface

Transceiver	RS 485 / 19200 Baud (9600 at Mod_Bus)
Protocol	Depending on version

Physical characteristics

Enclosure Plastic Type A ²	Polycarbonate
Flammability	UL 94 V2
Enclosure color*	RAL 7032 (light grey)
Dimensions (W x H x D)	94 x 130 x 57 mm (3.7 x 5.12 x 2.24 inch.)
Weight	Approx. 0.5 kg (1.1 lbs.)
Protection class	IP 65
Installation	Wall mounting
Cable entry	Standard 1 x M 20
Wire connection	Screw type terminal, min. 0.25 mm ² (24 AWG) max. 2.5 mm ² (14 AWG)
Wire distance	Current signal ca. 500 m (1500 ft.) Voltage signal ca. 200 m (600 ft.)

GAS ALARM SYSTEMS

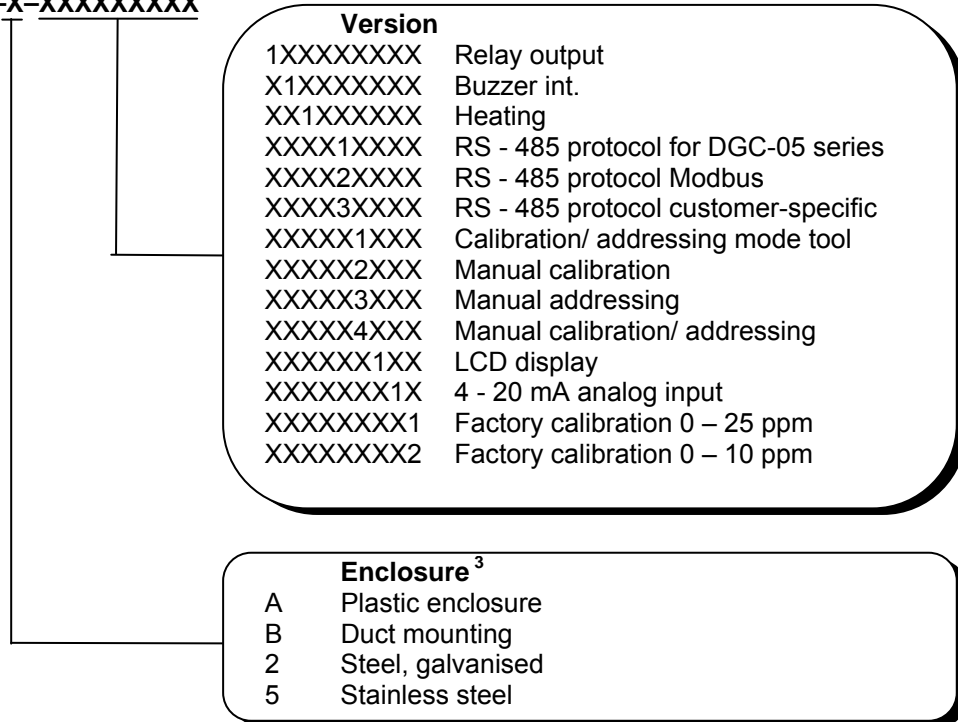
Guidelines	EMC Directive 2004 / 108 / EEC CE
Warranty	1 year on material (without sensor)
Options	
Relay output	
Alarm relay 1	30 VAC/DC 0,5 A, potential-free, SPDT
Alarm relay 2	30 VAC/DC 0,5 A, potential-free, SPNO/SPNC
Power consumption	30 mA, max. 0,8 VA
Warning buzzer	
Acoustic pressure	85 dB (distance 300 mm) (1 ft.)
Frequency	3,5 kHz
Power consumption	30 mA, max. 0,8 VA)
LCD Display	
LCD	Two lines, 16 characters each
Power consumption	10 mA, max. 0,3 VA)
Heating	
Temperature controlled	3 °C ±2°C (37,4 °F ± 3,6 °F)
Ambient temperature	- 30 °C (-22 °F)
Power supply	18 - 28 VDC/AC
Power consumption	0,3 A; 7,5 VA
Analog Input	
Only for RS-485 mode	4 – 20 mA overload and short-circuit proof, input resistance 200 Ω
Power supply for external transmitter	24 VDC max. load 50 mA

¹ The table doesn't claim to be complete. Other gases, too, can have an influence on the sensitivity. The mentioned cross sensitivity data are only reference values valid for new sensors.

² For further enclosure types see datasheet AT-DT Enclosure.

ORDERING INFORMATION

ADT-53-1129-X-XXXXXXXXXX



³ See datasheet "PolyGard AT/DT Enclosure"

Example: Nitrogen monoxide transmitter, stainless steel housing, calibration tool, measuring range 0 - 25 ppm

Ordering No.: ADT-53-1129-5-XXXXX1XX1

CONNECTING DIAGRAM

