

PolyGard® Methane and Propane Transmitter ADT-43 3HXX with Semi-conductor Sensor

DESCRIPTION

ADT transmitter with semi-conductor sensor, digital processing of the measured values and temperature compensation for the continuous monitoring of the ambient air and detection of the combustible gases methane CH_4 and propane C_3H_8 . The semi-conductor typical, non-linear signal is translated into a linear, temperature-compensated output signal. A comfortable calibration routine is integrated in the transmitter. The ADT-43 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

The transmitter is used within a wide commercial range for detecting methane and propane. Due to the standard output signal and the RS-485 interface, the ADT-43 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 measurement value processing incl. temperature compensation.
- Linear output signal
- Continuous monitoring
- Low zero point drift
- Good stability to poisoning
- Semi-conductor sensor with long life-time
- Comfortable calibration
- 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
- Housing flame-resistant according to UL 94 V2
- Modular plug-in technology
- Manual calibration via potentiometer (option)
- Manual addressing for RS-485 mode (option)
- 4 – 20 mA analog input for external transmitter (optional)
- Approved according to EN 61010-1; ANSI/UL 61010 1; CAN/CSA-C22.2 No. 61010-1
- Relay output (optional)
- Integrated buzzer (optional)
- LED flashlight (optional)
- LCD display (optional)
- LED status display (optional)
- Heating (optional)
- Duct mounting (optional)



SPECIFICATIONS

General sensor performance

Detected gas	Methane CH ₄ and propane (C ₃ H ₈)
Sensor element	Semi-conductor sensor
Measuring range: Methane	0 – 50 %LEL
Propane	0 – 100 %LEL
Response time	t ₉₀ < 50 sec.
Temperature range	-15 °C to + 50 °C (5 °F to 122 °F) w/o heating
Pressure range	Atmospheric ± 10 %
Humidity	15 – 95 % RH non-condensing
Life expectancy	> 5 years
Storage temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage time	Max. 12 months

Electrical

Power supply	18 - 28 VDC/AC, (reverse polarity protected)
Power consumption (without options)	60 mA, max. (1.45 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 ModBus)
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Physical characteristics

Enclosure Plastic Type A*	Polycarbonate
Flammability	UL 94 V2
Enclosure colour*	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.)

Guidelines

EMC Directives 2004/108/EC
EN 61010-1:2010
ANSI/UL 61010-1
CAN/CSA-C22.2 No. 61010-1
CE

Warranty

One year on material (without sensor)

*For further enclosure types see datasheet ADT Enclosure.

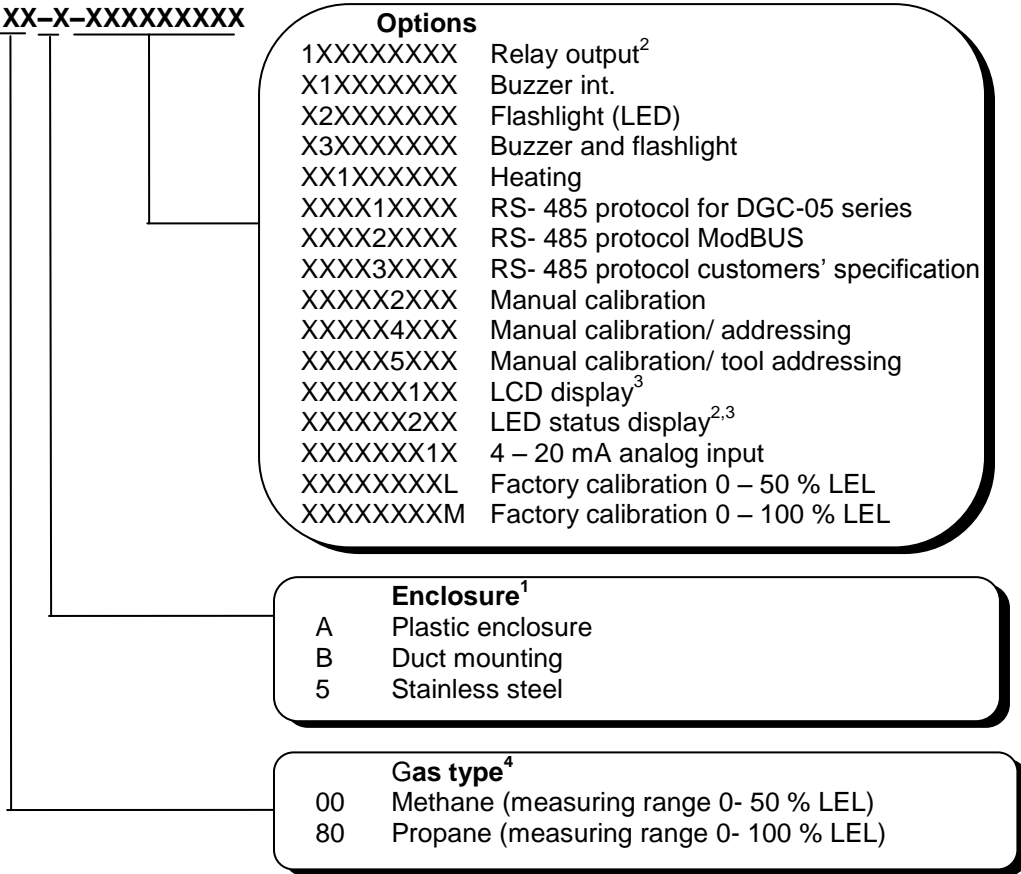
GAS ALARM SYSTEMS

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, each 16 characters
Power consumption	10 mA, (max 0.3 VA)
LED display	
Green-yellow-red	Supply, low alarm, high alarm
Power consumption	10 mA, (max. 0.3 VA)
Heating	
Temperature controlled	3 °C ±2°C (37.5 °F ± 3.6 °F)
Ambient temperature	- 40 °C (- 40 °F)
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. charge 50 mA

ORDERING INFORMATION

ADT-43-3HXX-X-XXXXXXXXXX



¹ See Data sheet "PolyGard ADT Enclosure"

² Please indicate thresholds for low and high alarm when ordering.

³ Not in connection with stainless steel housing, not in connection with option Relay or RS-485 interface

⁴ The sensor also has a cross-sensitivity to other combustible gases.

Example: Semi-conductor transmitter for methane, stainless steel housing, manual calibration/ tool addressing, measuring range 0- 50 % LEL

Ordering No.: ADT-43-3H00-5-XXXXX5XXL

CONNECTING DIAGRAM

