

## PolyGard® Ethylene C<sub>2</sub>H<sub>4</sub> Transmitter ADT-43 1189 with Semi-conductor Sensor

### DESCRIPTION

C<sub>2</sub>H<sub>4</sub> transmitter with semi-conductor sensor for the continuous monitoring of the ambient air to detect ethylene concentrations. The semi-conductor typical, non-linear signal is translated into a linear, temperature-compensated output signal. A comfortable calibration routine with selective access release 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 as well as an integrated display are available as options.

### APPLICATION

For monitoring ethylene concentrations caused by the maturation of fruits during transportation or storage. Due to the standard analog signal and the RS-485 serial interface the C<sub>2</sub>H<sub>4</sub> transmitter is compatible to the PolyGard gas controller series by MSR-E as well as to any other controllers or automation systems.



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 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
- Housing fire-resistant according to UL 94V2
- Modular plug-in technology
- Manual calibration via potentiometer (optional)
- Manual addressing for RS-485 mode (optional)
- 4 – 20 mA analog input for external analog transmitter (optional)
- Relay output (optional)
- Integrated buzzer (optional)
- LED flashlight (optional)
- LCD display (optional)
- LED display (optional)
- Heating (optional)
- Duct mounting (optional)

## SPECIFICATIONS

<b>General sensor performance</b>	
Detected gas	Ethylene (C <sub>2</sub> H <sub>4</sub> )
Sensor element	Semi-conductor sensor
Measuring range	20 - 2.000 ppm
Response time	t <sub>90</sub> < 50 sec
Temperature range	-15 °C to + 50 °C (5 °F to 122 °F)
Pressure range	Atmosphere ± 10 %
Humidity range	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
<b>Electrical</b>	
Power supply	18 - 28 VDC/AC (reverse polarity protected)
Power consumption (without options)	60 mA, max. (1,45 VA)
<b>Output signal</b>	
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
<b>Serial interface</b>	
Transceiver	RS 485 / 19200 Baud (9600 at Mod_Bus)
<b>Physical characteristics</b>	
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 <sup>2</sup> (24 AWG) max. 2.5 mm <sup>2</sup> (14 AWG)
Wire distance	Current signal: ca. 500 m (1500 ft) Voltage signal: ca. 200 m (600 ft.)
<b>Guidelines</b>	
	EMC Directive 2004 / 108 / EEC
	CE
<b>Warranty</b>	
	One year on material (without sensor)
<b>Options</b>	
<b>Relay output</b>	
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)
<b>Warning buzzer</b>	
Acoustic pressure	85 dB (distance 300 mm) (1 ft)
Frequency	3,5 kHz
Power consumption	30 mA, (max 0,8 VA)

# GAS ALARM SYSTEMS

## LCD Display

LCD	Two lines, each 16 characters
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

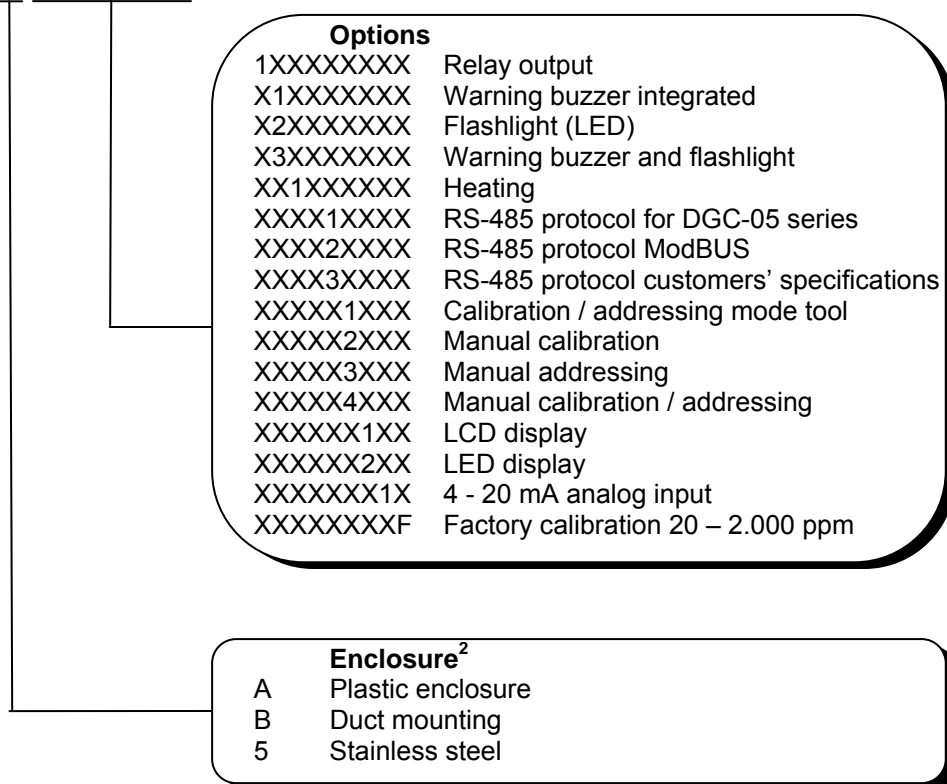
## Analog Input

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

\*For further enclosure types see datasheet AT-DT Enclosure.

## ORDERING INFORMATION

**ADT-43-1189-X-XXXXXXXX**



<sup>2</sup> See datasheet „PolyGard AT/DT Enclosures“

**Example:** Ethylene semi-conductor transmitter, stainless steel housing, calibration tool, factory calibration 20 – 2.000 ppm

**Ordering number: ADT-43-1189-5-XXXXX1XXF**



## CONNECTION DIAGRAM

