

# PolyGard® Nitrous Oxide (N<sub>2</sub>O)/ Laughing Gas Analog Transmitter AT-A2 1192

## DESCRIPTION

Analog N<sub>2</sub>O gas transmitter with infrared sensor for the detection of nitrous oxide/ laughing gas concentrations in the ambient air.

## APPLICATION

The N<sub>2</sub>O transmitter is used for the detection of nitrous oxide (N<sub>2</sub>O)/ laughing gas within a wide range of commercial applications. Due to the 4 – 20 mA analog signal the N<sub>2</sub>O transmitter is compatible to the PolyGard Gas Controller Series MGC by MSR-E as well as to any electronic analog control, automation system.



## FEATURES

- Infrared sensor
- Continuous monitoring
- High sensitivity to nitrous oxide/ laughing gas
- Good poisoning stability
- Long life sensor
- Temperature compensation
- Easy maintenance/ calibration
- Reverse polarity protected
- Overload protected
- 4 – 20 mA analog signal output

## SPECIFICATIONS

### Electrical

Power supply	8 - 30 VDC (reverse polarity protected)
Power consumption	70 mA (max. 2.0 VA)

### Sensor Performance

Detected gas	Nitrous oxide (N <sub>2</sub> O)/ laughing gas
Sensor element	Infrared, NDIR principle
Measuring range	0 – 1000 or 0-2000 ppm (factory set)
Stability & resolution	1 % of measuring range
Zero repeatability	± 40 ppm at 20°C
Span repeatability	± 40 ppm at 20°C
Long-term zero drift	± 20 ppm per month
Response time	t <sub>90</sub> ≤ 30 sec.
Warm-up time - to final zero ± 40 ppm	< 20 sec.
- to full specification	< 1800 sec.
Sensitivity at 20° C, 2 Hz, 50 % duty cycle	10 % typical at 2000 ppm N <sub>2</sub> O
Sensor life expectancy	> 5 years, normal operating environment

### Output signal

Analog output signal	4 – 20 mA, load ≤ 500 Ω, proportional, overload and short-circuit proofed
----------------------	---

### Operating Environment

Humidity Range	0 to 95 % RH non-condensing
Working temperature	-20 °C to + 50 °C (-4 °F to 122 °F)
Storage temperature	-20 °C to + 50 °C (-4 °F to 122 °F)

### Physical Characteristics

Enclosure material	Polycarbonate
Combustion	UL 94 V2
Enclosure color	Light gray RAL 7032
Dimensions (W x H x D)	130 x 130 x 75 mm (5.11 x 5.11 x 2.95 in.)
Weight	0.5 kg (1.1 lbs.)
Protection class	IP 65
Mounting	Wall mounted
Cable entry	1 x M 20
Wire connection	Screw type terminal, min. 0.25 mm <sup>2</sup> (24 AWG) max. 1.5 mm <sup>2</sup> (16 AWG)
Wire distance	Max. loop resist. 500 Ω (= wire resistor + controller input resistor)

### Approvals/Listings

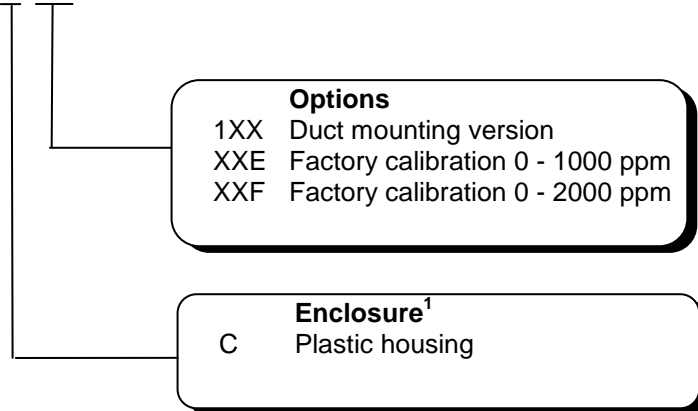
EMC Directive 2004/108/EC  
CE

### Warranty

1 year on material (without sensor)

## ORDERING INFORMATION

AT-A2-1192-C-XXX



<sup>1</sup> See data sheet „PolyGard ADT Enclosure”

**Example:** N<sub>2</sub>O – transmitter with calibration 0 – 2000 ppm, plastic enclosure  
**Ordering Number:** AT-A2-1192-C-00F

## CONNECTING DIAGRAM

