PolyGard® Nitrous Oxide (N₂O)/ Laughing Gas Analog Transmitter AT-A2 1192

DESCRIPTION
Analog N₂O gas transmitter with infrared sensor for the detection of nitrous oxide/ laughing gas concentrations in the ambient air.

APPLICATION
The N₂O transmitter is used for the detection of nitrous oxide (N₂O)/ laughing gas within a wide range of commercial applications. Due to the 4 – 20 mA analog signal the N₂O 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$_2$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**: $t_{90} \leq 30$ 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$_2$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
- **Wire connection**: Screw type terminal, min. 0.25 mm$^2$ (24 AWG) max. 1.5 mm$^2$ (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

Options
1XX  Duct mounting version
XXE  Factory calibration 0 - 1000 ppm
XXF  Factory calibration 0 - 2000 ppm

Enclosure
C  Plastic housing

¹ See data sheet „PolyGard ADT Enclosure“

Example:  N₂O – transmitter with calibration 0 – 2000 ppm, plastic enclosure
Ordering Number:  AT-A2-1192-C–00F

CONNECTING DIAGRAM

Zentralgerät
Central Controller

Transmitter
AT A2 - 1192

4 0 VDC
3 4 - 20 mA
2 0 VDC
1 24 VDC

4-20 mA
0 VDC
24 VDC