

PolyGard® Oxygen O₂ Transmitter ADT93 1195

DESCRIPTION

O₂ transmitter including digital measurement value processing and temperature compensation for the continuous monitoring of the oxygen concentration in the ambient air. Comfortable calibration routine with selective access release is integrated in the transmitter. The ADT-93 possesses a standard analog (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 oxygen in rooms where changes of the oxygen concentration are possible, such as laboratories and food production etc. Due to the standard analog signal and the RS-485 interface the O₂ transmitter is compatible to the PolyGard 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.
- Continuous monitoring
- Low output drift
- Poisoning stable
- 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 – 20mA analog input for external AT 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 | Oxygen (O ₂) |
| Sensor element | Electrochemical, diffusion |
| Measuring range | 0 – 25 vol. % |
| Accuracy | ± 0.1 vol. % |
| Long term output drift | < 4% signal loss/year |
| Response time | t ₉₀ ≤ 15 s |
| Sensor life expectancy | 2 year, normal operating environment |
| Temperature range | - 10 °C to + 50 °C (14 °F to 122°F) w/o heating |
| Pressure range | Atmospheric ± 10 % |
| Humidity range: Continuous | 5 – 95 % RH non-condensing |
| Short-time | 0 – 99 % RH non-condensing |
| Storage temperature | 5 °C to 30 °C (41 °F to 86 °F) |
| Storage time | 6 months |
| Mounting height | 1.5 to 1.8 m (5 – 6 ft.) |
| Electrical | |
| Power supply | 18 - 28 VDC/AC, (reverse polarity protected) |
| Power consumption (without options) | 22 mA, max. (0.6 VA) |
| Output signal | |
| Analog output signal | (0) 4 - 20 mA, load ≤ 500 Ω, Resolution 0,02mA |
| Selectable: Current / tension | (0) 2 - 10 V, load ≥ 50 k Ω, Resolution 0,02 V |
| Starting point 0 / 20 % | proportional, overload and short-circuit proof |
| Serial Interface | |
| Transceiver | RS 485 / 19200 Baud (9600 at Mod_Bus) |
| Physical characteristics | |
| Enclosure Plastic Type A* | 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, 0.25 - 2.5 mm ² (24 - 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 Indicator | |
| Green- Yellow- Red | Power supply, Low-Alarm, High Alarm |
| Power Consumption | 10 mA, (max. 0.3 VA) |
| Heating | |
| Temperature controlled | 3 °C ±2°C (37.4 °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. 50 mA |

ORDERING INFORMATION

ADT-93-1195-X-XXXXXXXX

| Options | |
|------------|---|
| 1XXXXXXXXX | Relay output ² |
| X1XXXXXXXX | Buzzer int. |
| X2XXXXXXXX | Flashlight (LED) |
| X3XXXXXXXX | Warning buzzer and flashlight |
| XX1XXXXXXX | Heating |
| XXXX1XXXXX | RS- 485 protocol for DGC-05 series |
| XXXX2XXXXX | RS- 485 protocol MODBus |
| XXXX3XXXXX | RS- 485 protocol customers' specification |
| XXXXX1XXX | Calibration / addressing mode tool |
| XXXXX2XXX | Manual calibration |
| XXXXX3XXX | Manual addressing |
| XXXXX4XXX | Manual calibration / addressing |
| XXXXXX1XX | LCD display ³ |
| XXXXXX2XX | LED status display ^{2,3} |
| XXXXXX1X | 4 – 20 mA analog input |
| XXXXXXX1 | Factory calibration 0 – 25 vol % |

| Enclosure ¹ | |
|------------------------|-------------------|
| A | Plastic enclosure |
| B | Duct mounting |
| 5 | Stainless steel |

¹ See Data sheet "PolyGard ADT Enclosure"

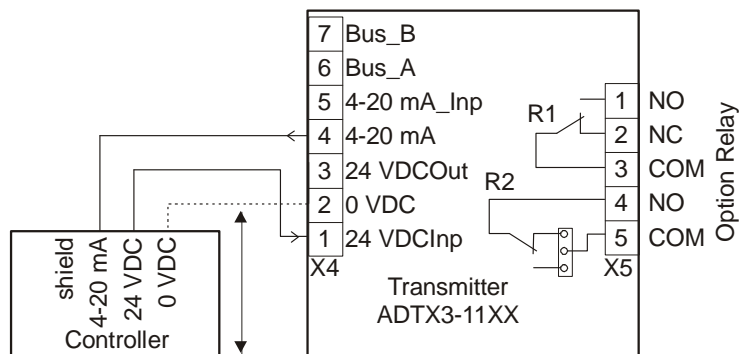
² Please indicate thresholds for low and high alarm when ordering.

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

Example: O₂ transmitter with factory calibration 0 – 25 vol %, tool calibration, stainless steel housing

Ordering No.: ADT-93-1195-5-00001001

CONNECTING DIAGRAM



0 VDC: Two wire mode only with 4 to 20 mA Output signal