PolyGard® Oxygen O_2 Transmitter ADT93 1195

DESCRIPTION

O_2 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.

Standard enclosure

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 O_2 transmitter is compatible to the PolyGard series MGC and DGC by MSR-E as well as to any other electronic control or automation system.

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)

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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	$t_{90} \leq 15$ 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 Selectable: Current / tension Starting point 0 / 20 %	(0) 4 - 20 mA, load ≤ 500 Ω, Resolution 0,02mA (0) 2 - 10 V, load ≥ 50 k Ω, Resolution 0,02 V 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.

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–XXXXXXXXX

Options	
1XXXXXXXX	Relay output[2]
X1XXXXXXX	Buzzer int.
X2XXXXXXX	Flashlight (LED)
X3XXXXXXX	Warning buzzer and flashlight
XX1XXXXXX	Heating
XXXX1XXXX	RS- 485 protocol for DGC-05 series
XXXX2XXXX	RS- 485 protocol MODBus
XXXX3XXXX	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]
XXXXXXX1X	4 – 20 mA analog input
XXXXXXXX1	Factory calibration 0 – 25 vol %

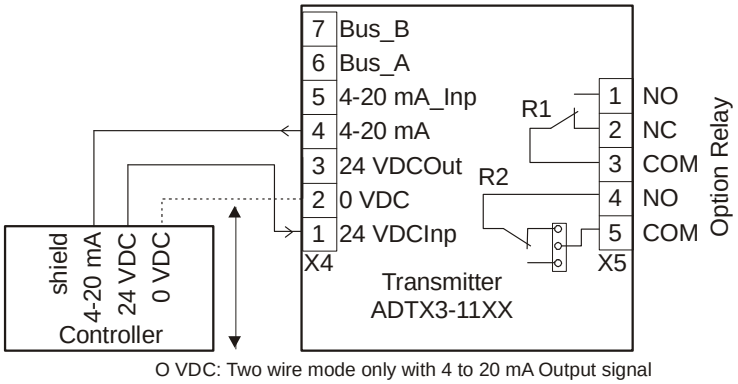
Enclosure[1]	
A	Plastic enclosure
B	Duct mounting
5	Stainless steel

[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

Example: O_2 transmitter with factory calibration 0 – 25 vol %, tool calibration, stainless steel housing

Ordering No.: ADT-93-1195-5–00001001

CONNECTING DIAGRAM



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