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## Oxygen O<sub>2</sub> Transmitter ADT-G3-1195

O<sub>2</sub> 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-G3 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 O<sub>2</sub> 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)



Standard Housing



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## SPECIFICATIONS

### General sensor performance

Detected gas	Oxygen (O <sub>2</sub> )
Sensor element	Electrochemical, diffusion
Measuring range	0 – 25 vol. %
Accuracy	± 0.1 vol. %
Long term output drift	< 4% signal loss/year
Response time	t <sub>90</sub> ≤ 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)
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### 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 <sup>2</sup> (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
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### Warranty

One year on material (without sensor)

\*For further enclosure types see datasheet ADT Enclosure.





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## Options

<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)
<b>LCD Display</b>	
LCD	Two lines, each 16 characters
Power consumption	10 mA, (max 0.3 VA)
<b>LED display</b>	
Green-yellow-red	Power supply, low alarm, high alarm
Power consumption	10 mA, (max. 0.3 VA)
<b>Heating</b>	
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
<b>Analog Input</b>	
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



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## ORDER INFORMATION

ADT-G3-1195- X- XXXXXXXXX

### Options

- 1XXXXXXXX Relay output<sup>2</sup>
- X1XXXXXXXX Buzzer int.
- X2XXXXXXXX Flashlight (LED)
- X3XXXXXXXX Warning buzzer and flashlight
- XX1XXXXXX Heating
- XXX1XXXXX RS- 485 protocol for DGC-05 series
- XXX2XXXXX RS- 485 protocol ModBUS
- XXX3XXXXX RS- 485 protocol customers' specification
- XXXX1XXXX Calibration / addressing mode tool
- XXXX2XXXX Manual calibration
- XXXX3XXXX Manual addressing
- XXXX4XXXX Manual calibration / addressing
- XXXXX1XX LCD display<sup>3</sup>
- XXXXX2XX LED status display<sup>2,3</sup>
- XXXXXX1X 4 – 20 mA analog input
- XXXXXXX1 Factory calibration 0 – 25 vol.%

### Housing<sup>1</sup>

- A Plastic housing
- B Duct mounting
- 5 Stainless steel

<sup>1</sup> See Data sheet "PolyGard ADT Enclosure"

<sup>2</sup> Please indicate thresholds for low and high alarm when ordering.

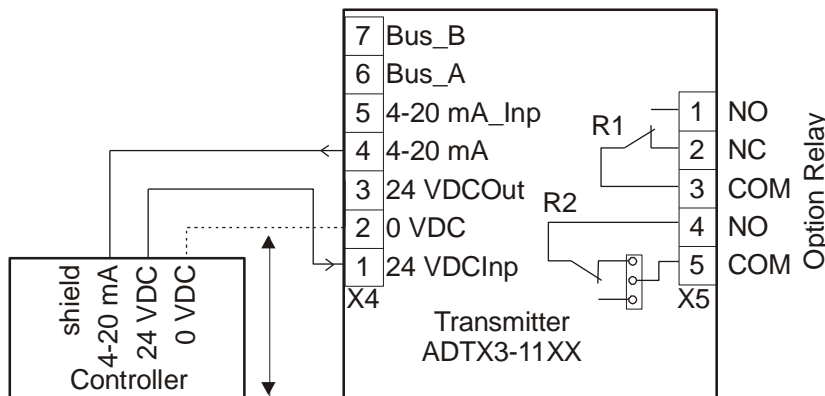
<sup>3</sup> Not in connection with stainless steel housing, not in connection with option Relay or RS-485 interface

## EXAMPLE

O<sub>2</sub> transmitter with factory calibration 0 – 25 vol %, tool calibration, stainless steel housing

**Order Number: ADT-G3-1195-5-000001001**

## CONNECTION DIAGRAM



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

