

# Oxygen (O<sub>2</sub>) Analog Gas Transmitters



## PolyGard AT-1195 V3



NRTL Certification to STD  
**UL 61010-1**  
"Pending"

### DESCRIPTION

Microprocessor-based analog gas transmitters for the detection of oxygen (O<sub>2</sub>) in the ambient air.

### APPLICATION

To sense oxygen (O<sub>2</sub>), depletion or escalation, in a wide variety of commercial and industrial applications such as unoccupied mechanical or chiller rooms, laboratories, food production areas and ventilation systems, etc. and transmit to any compatible electronic analog control, DDC/PLC control or automation system.

### FEATURES

- *Continuous monitoring*
- *(0)4-20 mA, (0)2-10 VDC output, selectable*
- *Polarity protected*
- *Two-stage relay output control, opt.*
- *Electrochemical gas sensor, gas specific*
- *Temperature compensated*
- *Easy plug-in sensor*
- *Modular plug-in technology*
- *High-impact polycarbonate enclosure, NEMA 12*
- *Easy maintenance*

### SPECIFICATIONS

#### Electrical

Power supply	24 VAC ± 15%, 50/60 Hz, or 17-28 VDC, polarity protected
Power consumption	22 mA (0.6 VA), max.
- w/relay package	35 mA (1.0 VA), max.
- w/heater	235 mA (6 VA), max.

#### Sensor Performance

Gas detected	Oxygen (O <sub>2</sub> )
Sensor element	Electrochemical, diffusion
Range	0-25%, air by volume
Accuracy / Resolution	0.1%
Repeatability	< 0.1% of reading
Long term output drift	< 5% of reading/year
Response time	t <sub>90</sub> < 15 sec.
Sensor life expectancy	2 years, normal operating environment
Sensor coverage	2,500 sq. ft., max. 5,000 sq. ft. (232 m <sup>2</sup> , max. 464 m <sup>2</sup> ) under "ideal conditions"

#### Installation Location

Mounting height 5 to 6 ft. (1.5 to 1.8 m) above floor

#### Type of Control

General	Continuous proportional analog sensor signal output
Analog output	(0)4-20 mA, load < 500 Ω; (0)2-10 VDC, load > 50K Ω; jumper selectable, polarity protected
Optional contact outputs	(2) relays, potential free

#### Environmental

Permissible ambient	
- working temperature	-4°F to 122°F (-20°C to 50°C)
- storage temperature	23°F to 86°F (-5°C to 30°C)
- humidity	0 to 99% RH, non-condensing
- working pressure	Atmospheric ± 10%

#### Physical

Enclosure, standard	
- material	Polycarbonate, UL 94-HB, fire-retardant
- conformity	UL 50
- color	Light gray
- protection	NEMA 12 (IP55)
- enclosure approval	UL Listed, E208470 CSA Certified, E208470
- installation	Wall (surface) mounted, or single gang electrical box
Dimensions (H x W x D)	5.12 x 3.70 x 2.25 in. (130 x 94 x 57 mm)
Cable entry	1 hole for 1/2 in. conduit for wall (surface) mounting, and 1 hole on back side of base plate for single gang electrical box mounting
Wire connection	Terminal blocks, screw type for lead wire
Wire size	Min. 24 AWG (0.25 mm <sup>2</sup> ), Max. 14 AWG (2.5 mm <sup>2</sup> )
Wire distance	Max. loop resistance 450 Ω (= wire resistance plus controller input resistance)
Weight	0.7 lbs. (0.3 kg)

**SPECIFICATIONS**

<b>Calibration</b>	Adjustment via onboard zero and gain potentiometers
<b>Approvals/Listings</b>	NRTL Certification to STD ANSI/UL 61010-1 – “Pending” CE
- unit rating	EMV-Compliance 2004/108/EWG, low voltage directives 73/23/EWG
<b>Warranty</b>	Two years material and workmanship 12 months normal exposure for sensor element

**OPTIONS**

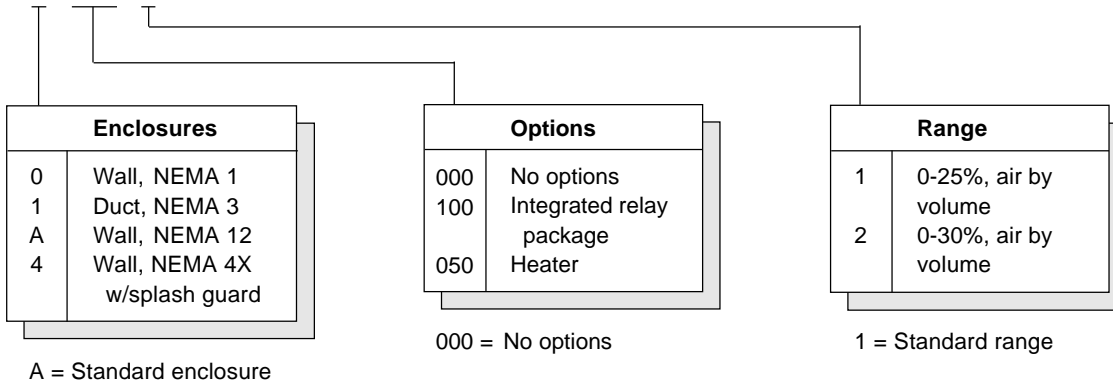
<b>Enclosures</b>	
<b>Wall mounted “0”</b>	NEMA 1 (IP42), general purpose
- material	Galvanized steel w/zinc coating, corrosion resistant
- color	Light gray
- installation	Wall (surface) mounted, or single gang electrical box
- dimensions (H x W x D)	5.59 x 5.59 x 2.48 in. (142 x 142 x 63 mm)
- cable entry	1 hole for 1/2 in. conduit for wall (surface) mounting, and 1 hole on back side of base plate for single gang electrical box mounting

**OPTIONS**

<b>Duct mounted “1”</b>	NEMA 3 (IP45)
- w/probe	7/8 in. (22 mm) diameter and 7.16 in. (182 mm) length
- cable entry	1 hole for 1/2 in. conduit
<b>Wall mounted “4”</b>	NEMA 4X (IP65), w/splash guard
- material	ABS UL94 V0
- color	Light gray
- installation	Wall (surface) mount
- dimensions (H x W x D)	4.80 x 4.72 x 3.42 in. (122 x 120 x 87 mm)
- cable entry	(1) PG 13.5 compression fitting, removeable, hole fits 1/2 in. conduit conductor
<b>Relay Package</b>	
Type	(1) SPDT (R1), and (1) SPST-NC or SPST-NO (R2), jumper selectable
Contact rating	30 VAC/VDC, 0.5 A, max.
Setpoint (factory set)	Lo/SPDT = 19%* Hi/SPST = 17%*
Switching differential (factory set)	1%* * other values on special request at time of ordering
Relay mode (factory set)	De-energized for each relay, energized (fail-safe) mode on special request
Status indicator	(2) LEDs, one for each relay
Relay approval	UL Recognized, E41515 CSA, C22.2 No. 0, No. 14 (File No. LR31928)
<b>Heater, built-in</b>	
Ambient temperature	For low temperature environment
Power consumption	-40°F (-40°C)
Thermostatic control	0.2 A (5 VA), max. 32°F (0°C) ± 5°F (3°C)

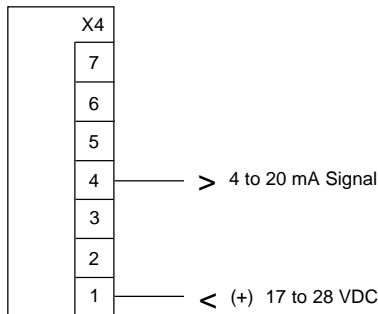
**ORDERING INFORMATION**

**AT-1195 - A - 000 - 1** (Product label "AT-1195-x-xxx-1 V3")

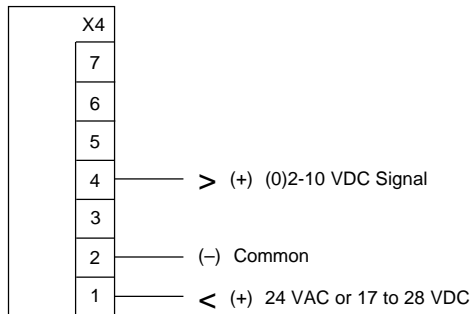


**WIRING CONFIGURATION**

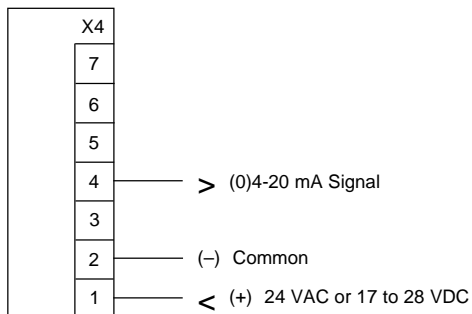
**AT-1195**  
**4-20 mA signal, 2-wire, loop-powered, 24 VDC**



**AT-1195**  
**(0)2-10 VDC signal, 3-wire, 24 VAC or 24 VDC**



**AT-1195**  
**(0)4-20 mA signal, 3-wire, 24 VAC or 24 VDC\*\***



Jumper output signal range selectors:

- V-A Over both pins = VDC  
Pins not covered = mA
- 0-20% Over both pins = 4-20 mA / 2-10 VDC  
Pins not covered = 0-20 mA / 0-10 VDC

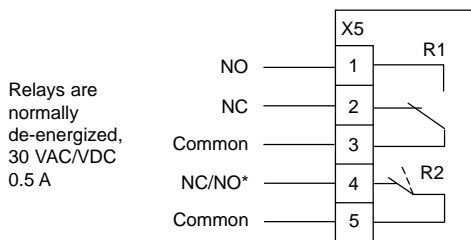
Notes:

*2-wire loop-powered wire configuration allow only 4-20 mA signal.*

Signal range jumper selection:

- V-A Pins not covered
- 0-20% Pins both covered

**Optional relay package**  
**(0)4-20 mA signal, 3-wire, 24 VAC or 24 VDC\*\***



**\*\* For (0)4-20 mA signal with optional relay package and/or heater, the 3-wire configuration must be applied.**

*Twisted, shielded wire is recommended for 2- or 3-wire configurations.*

*Shield should be grounded only at the controller. DO NOT ground shield at both ends!*

**With optional heater:**

*The wiring must be sized appropriately for a power of 0.3 A, 24 VDC.*

\*Jumper SPST relay NC/NO selector:

- NC Covers top two pins = SPST-NC
- NO Covers bottom two pins = SPST-NO

Note: *When using AT-1195 transmitter w/relay package as a stand-alone unit (no connection to a controller), pins on jumpers "V-A" and "0-20%" must be covered.*

*See Jumper output signal range selectors.*