# Carbon Monoxide (CO) Analog Gas Transmitters

**PolyGard**
**LC-1112 V3**

## DESCRIPTION

Analog gas transmitters for the detection of carbon monoxide (CO) in the ambient air.

## APPLICATION

To sense carbon monoxide (CO) in a wide variety of commercial and industrial applications such as vehicle exhaust in parking structures, engine repair shops, tunnels, equipment rooms 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*
- *Easy plug-in sensor*
- *Electrochemical gas sensor, gas specific*
- *Polarity protected*
- *Overload & short circuit protected*
- *NEMA 4X enclosure*
- *Modular plug-in technology*
- *Easy maintenance*

City of Los Angeles Approved

NRTL Performance Tested & Certified
Conforms to STD
**UL 2075**

## SPECIFICATIONS

| | |
|---|---|
| **Electrical** | |
| Power supply | 18-28 VDC, polarity protected |
| Power consumption | 22 mA (0.6 VA), max. |
| **Sensor Performance** | |
| Gas detected | Carbon monoxide (CO) |
| Sensor element | Electrochemical, diffusion |
| Range | Span field adjustable from 0-200 to 0-300 ppm via calibration, 0-250 ppm factory set |
| Stability & Resolution | ± 3.0 ppm of reading |
| Repeatability | ± 3.0% of reading |
| Long term output drift | < 0.4% signal loss/month |
| Response time | $t_{90}$ < 50 sec. |
| Sensor life expectancy | 3-5 years, normal operating environment |
| Sensor coverage | 5,000 sq.ft., max. 10,000 sq.ft. (465 m², max. 930 m²), 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 < 450 Ω; (0)2-10 VDC, load > 50K Ω; jumper selectable, polarity protected |
| **Environmental** | |
| Permissible ambient | |
| - working temperature | 14°F to 122°F (-10°C to 50°C) |
| - intermitted temperature | -4°F to 122°F (-20°C to 50°C) |
| - storage temperature | 41°F to 86°F (5°C to 30°C) |
| - humidity, continuous | 15 to 95% RH, non-condensing |
| - humidity, intermitted | 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 4X (IP65) |
| - 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 mm²), Max. 14 AWG (2.5 mm²) |
| Wire distance | Max. loop resistance 500 Ω (= wire resistance plus controller input resistance) |
| Weight | 0.6 lbs. (0.25 kg) |

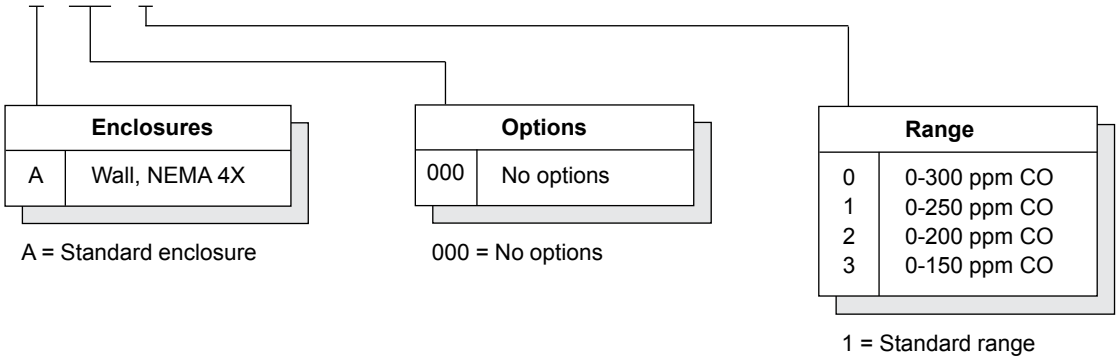
## SPECIFICATIONS

**Approvals/Listings**

| | |
|---|---|
| - unit rating | NRTL Perf Tested & Certified<br>Conforms to STD ANSI/UL 2075<br>City of Los Angeles<br>CE<br>VDI 2053, air treatment systems for garages and tunnels<br>EMV-Compliance 89/336/EWG, low voltage directives 73/23/EWG |
| - enclosure | UL Listed, E208470<br>CSA Certified, E208470 |
| **Warranty** | Two years material and workmanship, 12 months normal exposure for sensor element |

## ORDERING INFORMATION

**LC-1112 - A - 000 - 1** *(Product label "LC-1112-A-000-x V3")*



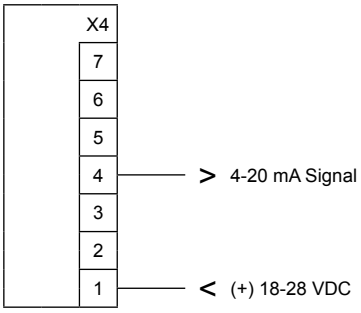

A = Standard enclosure

000 = No options

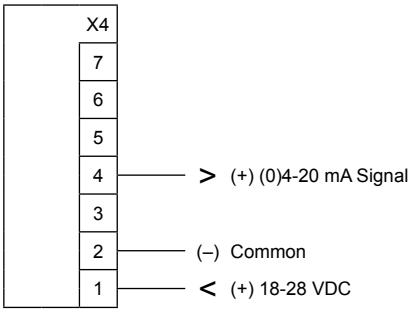
1 = Standard range

## WIRING CONFIGURATION

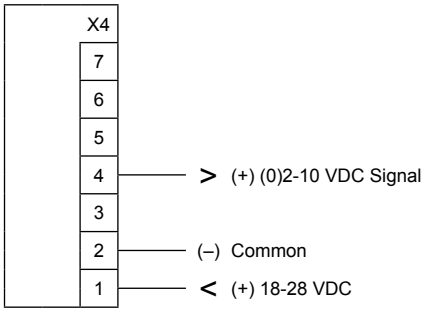
**LC-1112**
**4-20 mA signal, 2-wire, loop-powered, 24 VDC**




**LC-1112**
**(0)4-20 mA signal, 3-wire, 24 VDC**




**LC-1112**
**(0)2-10 VDC signal, 3-wire, 24 VDC**




Jumper output signal range selectors:


Over both pins = VDC
Pins not covered = mA


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:*


Pins not covered


Pins both covered

*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!*