

4 to 20 mA Analogue Transmitter Board

Alphasense "B" Type Toxic & O2-A2 Oxygen Sensors



Alphasense 4-20mA analogue transmitters offer the following features:

- Factory calibration, custom-set for immediate use
- Wide operating voltage range
- Low RFI susceptibility

Alphasense 4-20 mA analogue transmitter boards provide a cost-effective way for Original Equipment Manufacturers to engineer transmitter heads for fixed installation systems. The range of sensors is shown below. Transmitters are supplied with pre-calibrated sensors.

The 4-20 mA output signal performance is as shown on individual sensor data sheets.

To allow OEMs to distinguish their product from other offerings, the sensor to gas aperture design is left to the OEM to execute.

Optional fitting kit and connector/leads are available on request. See Figure 2.

Figure 1 Transmitter Board and Sensors

Gas	Sensor Type B	Max concentration (ppm)
Carbon Monoxide	CO-BF	5,000
	CO-B1	5,000
	CO-BX	2,000
Hydrogen Sulfide	H2S-B1	200
	H2S-BH	50
	H2S-BE	2,000
Sulfur Dioxide	SO2-BF	100
	SO2-BE	2,000
Nitrogen Dioxide	NO2-B1	20
Chlorine	CL2-B1	20
Hydrogen Cyanide	HCN-B1	100
Hydrogen Chloride	HCL-B1	20
Oxygen	O2-A2	15-25% O ₂ (standard) For other ranges, please contact Alphasense

Specify required full scale gas concentration. Do not exceed maximum gas concentration shown in table.

INPUT

Type	3-electrode gas sensor: O ₂ or B-series toxic
Range:	See table (over)
Power-off state:	Shorting FET connects working to reference electrode
Bias:	Zero bias only
Temperature compensation:	None

OUTPUT

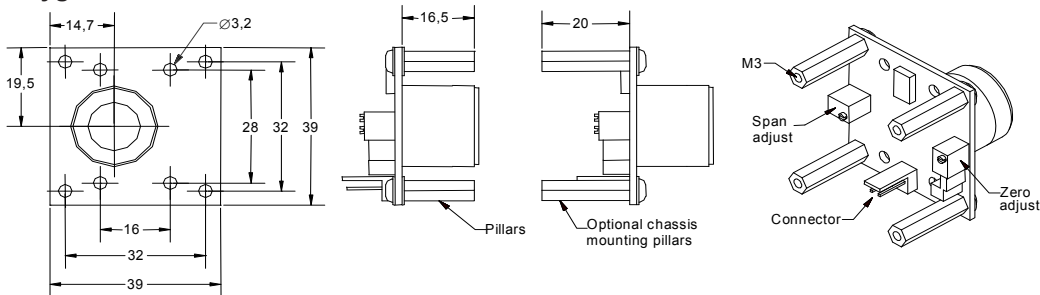
Type:	4 mA to 20 mA 2-wire loop powered
Output range:	3.8 to 42 mA
Supply voltage:	+7.5 to 35VDC
Accuracy:	See sensor specification
Resolution:	±0.25% Full Scale
Sensor over-range:	> 20mA
Supply voltage stability:	±0.2% Vsupply
Maximum loop resistance:	825Ω @24VDC
Protection:	Reverse polarity diode
Power and 4-20 mA connection:	2-Pin MOLEX plug (Ref. 22-27-2021)

ENVIRONMENT

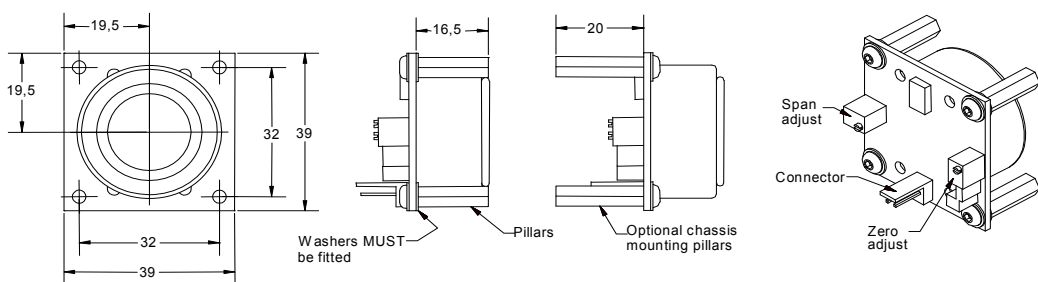
Ambient temperature:	-30 to 55°C
Ambient storage:	-30 to 60°C
Ambient humidity:	0 to 95% (non-condensing)
Coating:	Conformal spray coated

Figure 2 Transmitter Board Dimension Details

Oxygen Transmitter



Toxic Transmitter



All dimensions in mm ±0.15

Optional fitting kit # 000-0420-KIT

4 x pillars	16.0 mm length, M3 tapped
8 x washers	M3 flat washers
4 x screws	M3 x 8 button head screws
1 x transmitter lead	Molex socket housing with 150 mm leads