



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 are 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 (Fig 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	2000
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) <i>For other ranges, please contact Alphasense</i>

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



At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions.

ApolloSense Ltd



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Technical Specification

INPUT

Type: 3-electrode gas sensor: O₂ 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

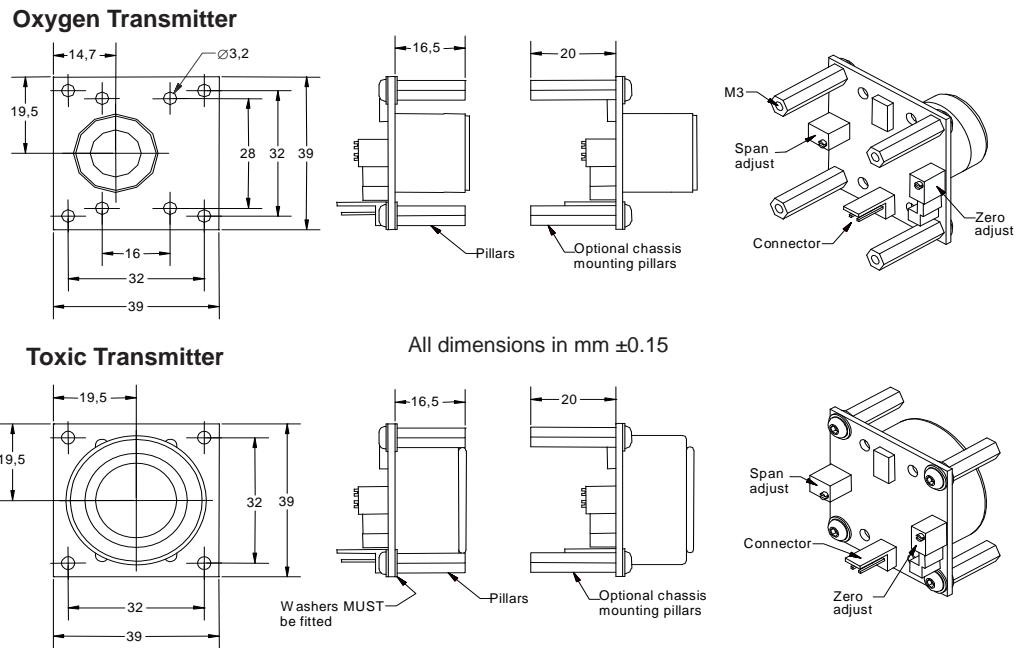
OUTPUT

Type: 4 mA to 20 mA 2-wire loop powered
 Output range: 3.8 to 42mA
 Supply voltage: +7.5 to 35VDC
 Accuracy: See sensor specification
 Resolution: ±0.25% Full Scale
 Sensor over-range: > 20mA
 Supply voltage stability: ±0.2% V_{supply}
 Maximum loop resistance: 825 Ω @ 24VDC
 Protection: Reverse polarity diode
 Power and 4-20mA 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



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