



4 to 20 mA Analogue Transmitter Board

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

Technical Specification



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.

NOTE: as applications of use are beyond our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors and transmitters are suitable for their own requirements.



4 to 20 mA Analogue Transmitter Board

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

Technical Specification

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

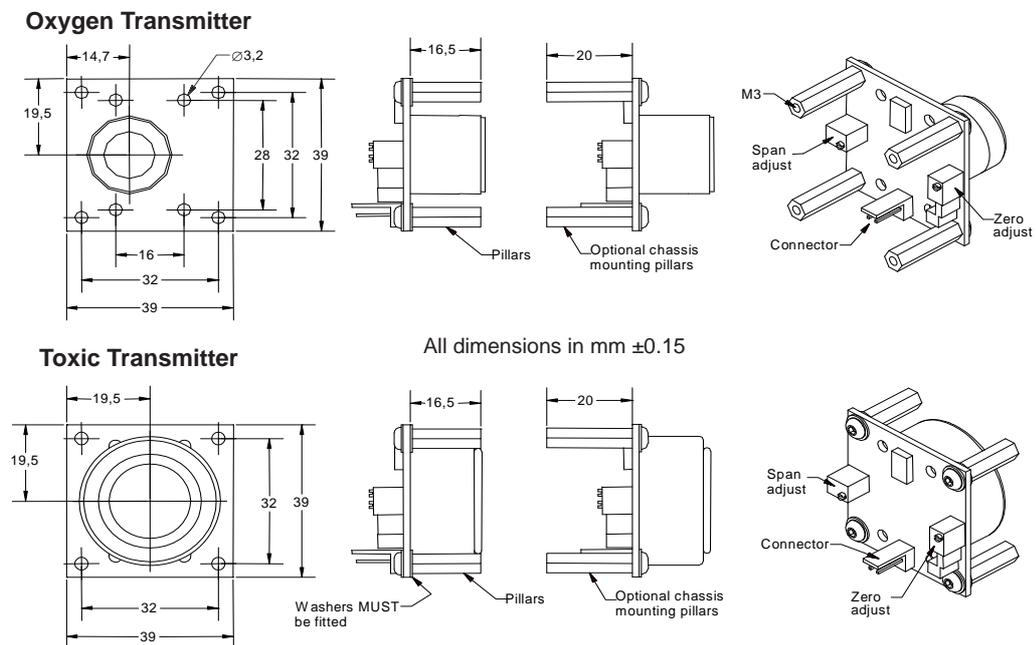
OUTPUT

Type:	4 mA to 20 mA 2-wire loop powered
Output range:	3.8 to 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

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd. For Application Notes visit "www.alphasense.com".

In the interest of continued product improvement, we reserve the right to change design features and specifications without prior notification. The data contained in this document is for guidance only. Alphasense Ltd accepts no liability for any consequential losses, injury or damage resulting from the use of this document or the information contained within. (©ALPHASENSE LTD) Doc. Ref. 4-20mA Analogue/JUL13