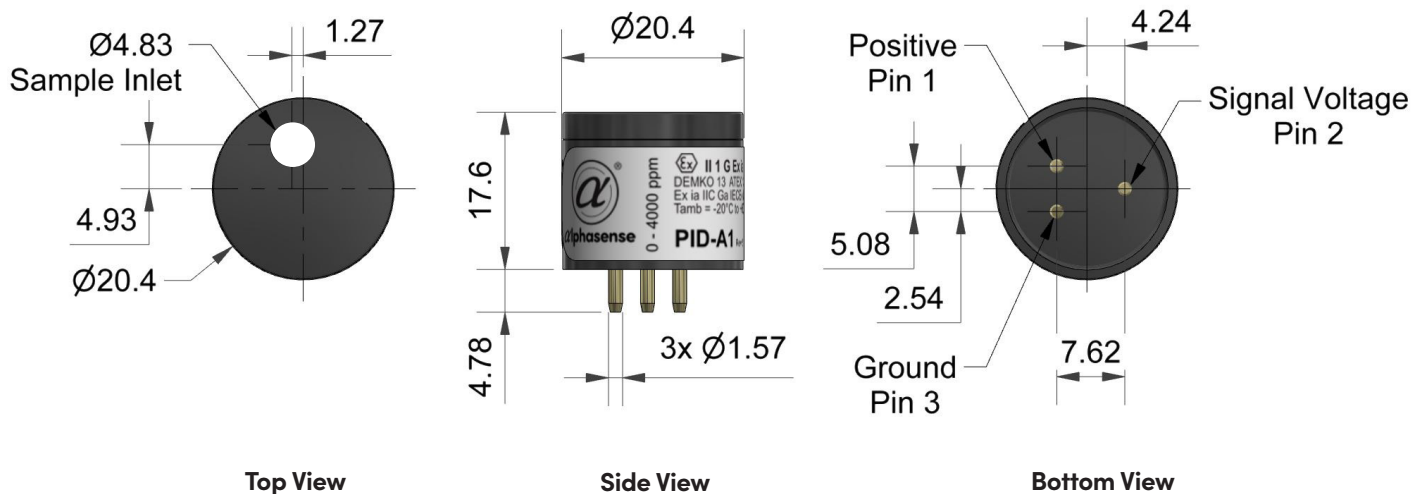


PID-A15 Photo Ionisation Detector






Dimensions are in millimetres (+/- 0.1 mm). Use of socketed connection is required. Soldering or cutting the connection pins may permanently damage the sensor and void the warranty.

Performance		
Target gases		VOCs with ionisation potentials < 10.6 eV
Minimum Detection Level (ppb)		100
Linear Range (ppm)		200
Overrange (ppm)		4000
Sensitivity minimum range*		0.69 mV/ppm
Sensitivity typical range*		1.1 mV/ppm
Full stabilisation time		5 minutes
Warm up time		5 seconds
Offset Voltage (mV)		40-75
Response Time (t ₉₀ sec)		2

Electrical		
Power Consumption		80 mW - 200 mW depending on supply voltage
Supply Voltage		3.2 to 5.5 VDC
Output Signal		0.040 to 2.85 V

Environmental		
Temperature Range		-20°C to 60°C
Temperature Dependence		see chart
Relative Humidity Range		0 to 95% non-condensing
Humidity Sensitivity		Near zero (to 75%RH)

Key Specifications		
Operating Life		5 years (excluding replaceable lamp and electrode stack)
IS Approval		<p>  II 1 G Ex ia IIC Ga UK CA UL 22 ATEX 2740U Ex ia IIC Ga IECEx UL 22.0030U Tamb = -20°C to +60°C  0539  </p>
Onboard Filter		To remove liquids and particulates
Lamp		User Replaceable. Expected life = 10,000 hours
Electrode Stack		User Replaceable
Weight		<8 grams
Position Sensitivity		None
Warranty Period		Electronics and Housing: 24 Months, Lamp and electrode stack user replaceable. 10.6 eV lamp: 6,000 lit hours
Patent information		US Pat 6,646,444. Japan Pat 3,793,757

(No additional circuitry or external fusing required for intrinsic safety)

Fig. 2 PID-A15 Linearity (0-4000ppm)

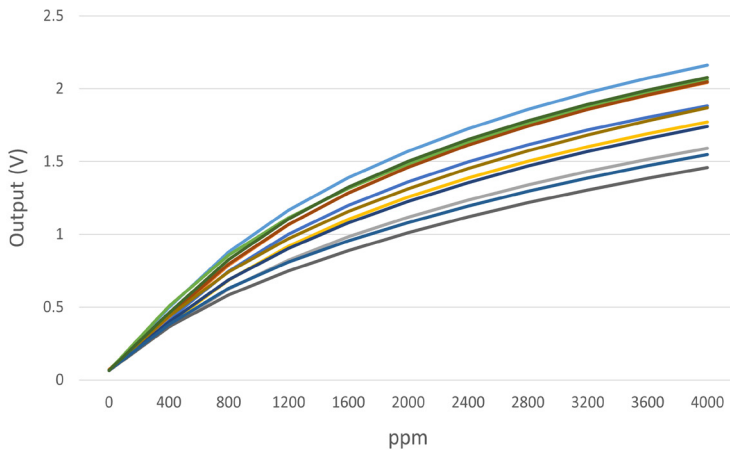


Figure 2 shows the response curve of 20 sensors throughout the entire operating range. PID output is nonlinear at higher concentrations but is repeatable and can be corrected in software.

Fig. 3 Sensitivity Temperature Dependence

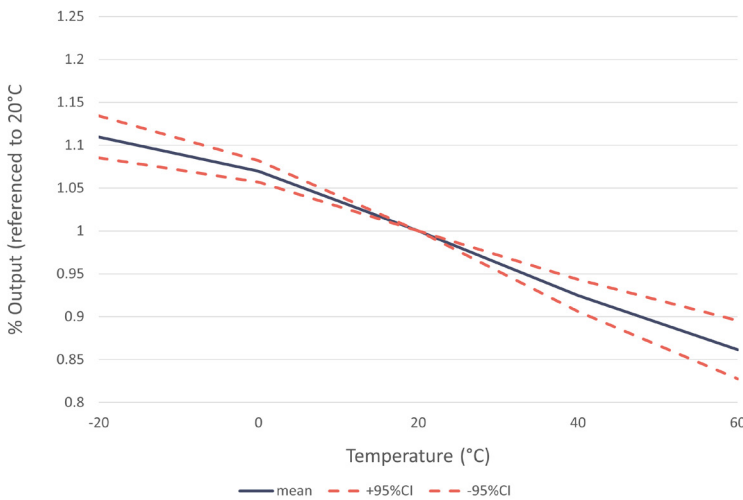


Figure 3 shows the mean and $\pm 95\%$ confidence intervals of the response of the sensors to 100 ppm isobutylene over the entire temperature range. The temperature response follows the ideal gas law.

PID-A15 Replacement Parts/Consumables List

Part Number	Description	Part Number	Description
001-0036-00	Gas Hood	001-0043-00	Maintenance Kit, which includes: 2 ea Polishing Disc
001-0037-00	Cap with Key		2 ea 10 μm , Cloth, Bottom Filter
001-0038-00	Spacer		2 ea 1 μm , Teflon, Top Filter, Large
001-0039-00	1 μm , Teflon, Top Filter, Large	001-0044-00	Sensor Rebuild Kit, which includes: 2 ea 10.6 eV Lamp
001-0040-00	10 μm , Cloth, Bottom Filter		1 ea Detector Ionisation Cell Assembly
001-0041-00	Detector Ionisation Cell Assembly		1 ea 1 μm , Teflon, Top Filter, Large
001-0042-00	10.6 eV Lamp		1 ea 10 μm , Cloth, Bottom Filter
001-0046-00	10.6 eV Lamp Individual Package	001-0045-00	Lamp Cleaning Kit
		001-0047-00	Fast Response 0 to 2000 ppm sensor

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: all sensors are tested at ambient environmental conditions unless otherwise stated. As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.

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