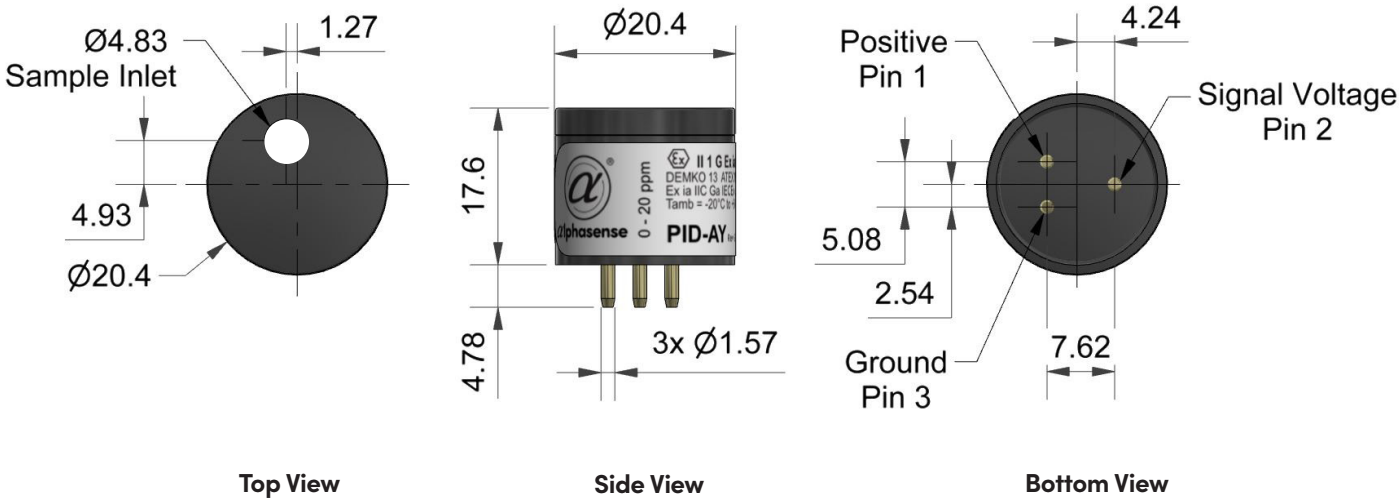


PID-AY5 Photo Ionisation Detector



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)	1
	Linear Range (ppm)	20
	Overrange (ppm)	20
	Sensitivity minimum range*	60 mV/ppm
	Sensitivity typical range*	110 mV/ppm
	Full stabilisation time	5 minutes
	Warm up time	5 seconds
	Offset Voltage (mV)	40-100
	Response Time (t90 sec)	4
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	<div>Ex II 1 G Ex ia IIC Ga</div> <div>UL 22 ATEX 2740U</div> <div>Ex ia IIC Ga IECEx UL 22.0030U</div> <div>Tamb = -20°C to +60°C</div> <div>CE 2813</div> <div></div> <div>(No additional circuitry or external fusing required for intrinsic safety)</div>
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 12 months. Electrode and lamp are user replaceable. 10.6 eV lamp typical life 10,000 hours.
Patent information		US Pat 6,646,444. Japan Pat 3,793,757

Fig. 2 PID-AY5 Linearity (0-20ppm)

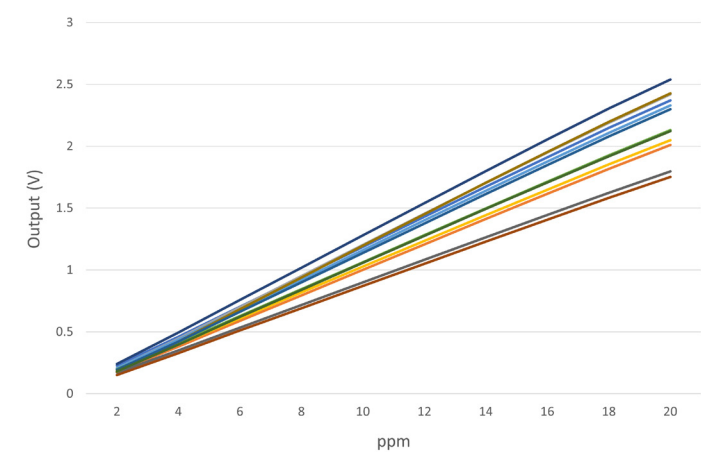


Figure 2 shows the response curve of 20 sensors throughout the entire operating range. Sensors are linear throughout the entire range.

Fig. 3 Sensitivity Temperature Dependence

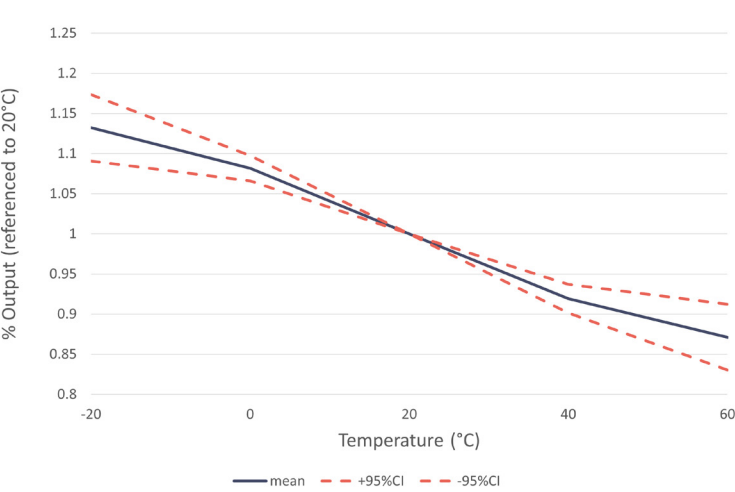


Figure 3 shows the mean and $\pm 95\%$ confidence intervals of the response of the sensors to 10 ppm isobutylene over the entire temperature range. The temperature response follows the ideal gas law

PID-AY5 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 2 ea 10 μ m, Cloth, Bottom Filter 2 ea 1 μ m, Teflon, Top Filter, Large 1 ea Padded Swab
001-0037-00	Cap with Key		
001-0038-00	Spacer	001-0044-00	Sensor Rebuild Kit, which includes: 2 ea 10.6 eV Lamp 1 ea Detector Ionisation Cell Assembly 1 ea 1 μ m, Teflon, Top Filter, Large 1 ea 10 μ m, Cloth, Bottom Filter
001-0039-00	1 μ m, Teflon, Top Filter, Large		
001-0040-00	10 μ m, Cloth, Bottom Filter	001-0045-00	Lamp Cleaning Kit
001-0041-00	Detector Ionisation Cell Assembly		
001-0042-00	10.6 eV Lamp	001-0047-00	Fast Response 0 to 2,000 ppm sensor
001-0046-00	10.6 eV Lamp Individual Package		

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.

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. PIDAY5/OCT22