

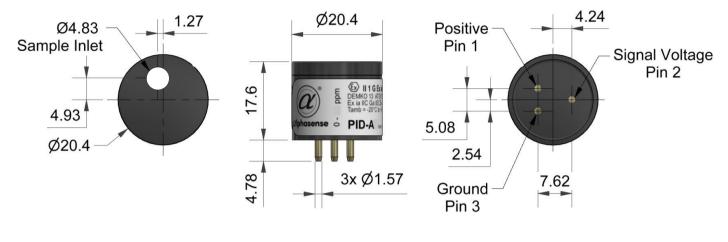


# DRAFT

### *Colphasense*

Technical specifications Version 2.0

### **PID-AG5** Photo Ionisation Detector



Top View

Side View

**Bottom View** 

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 Minimum Detection Level (ppb) Linear Range (ppm) Overrange (ppm) Sensitivity minimum range* Sensitivity typical range* Full stabilisation time Warm up time Offset Voltage (mV) Response Time (t <sub>90</sub> sec)	VOCs with ionisation potentials < 10.6 eV 500 200 10,000 0.120 mV/ppm 0.300 mV/ppm 5 minutes 5 seconds 40-75 5	
Electrical	Power Consumption Supply Voltage Output Signal	80 mW – 200 mW depending on supply voltage 3.2 to 5.5 VDC 0.040 to 2.85 V	
Environmental	Temperature Range Temperature Dependence Relative Humidity Range Humidity Sensitivity	-20°C to 60°C see chart 0 to 95% non-condensing Near zero (to 75%RH)	
Key Specifications	Operating Life IS Approval	5 years (excluding replaceable lamp and electrode stack) <b>IL 1 G Ex ia IIC Ga</b> UL 22 ATEX 2740U Ex ia IIC Ga IECEX UL 22.0030U Tamb = -20°C to +60°C (€2813) <b>EXECUTE:</b> (No additional circuitry or external fusing required for intrinsic safety)	
	Onboard Filter Lamp Electrode Stack Weight Position Sensitivity Warranty Period Patent information	To remove liquids and particulates User Replaceable. Expected life = 10,000 hours User Replaceable <8 grams None Electronics and Housing: 24 Months, Lamp 12 months. Electrode and lamp are user replaceable. 10.6 eV lamp expected life 10,000 lit hours. US Pat 6,646,444. Japan Pat 3,793,757	

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\*Gain numbers measured with isobutylene at room temperature and sea level.

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





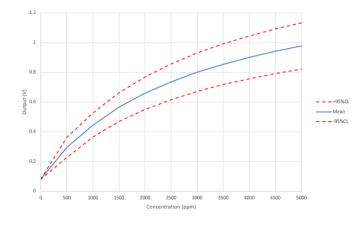
Instrument Expert Original factory packaging www.dorgean.com

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### Fig. 2 PID-AG5 Response (0-10,000ppm)



#### Fig. 3 Sensitivity Temperature Dependence

Normalized output vs. Temperature with 2000ppm Span Gas

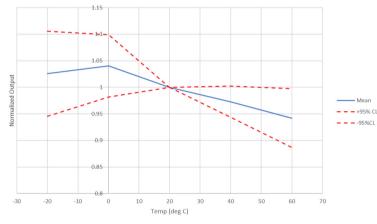


Figure 2 shows the response curve of 20 sensors throughout the entire operating range.

Figure 3 shows the mean and ±95% confidence intervals of the response of the sensors to 2,000 ppm isobutylene over the entire temperature range. The temperature response follows the ideal gas law.

#### PID-AG5 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 2 ea 1 μm, Teflon, Top Filter, Large
001-0038-00	Spacer		1 ea Padded Swab
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 1 ea 1 μm, Teflon, Top Filter, Large
001-0041-00	Detector Ionisation Cell Assembly		1 ea 10 μm, Cloth, Bottom Filter
001-0042-00	10.6 eV Lamp		
001-0042-00	10.6 eV Lamp		

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. PIDAG5/MAR23

\*Gain numbers measured with isobutylene at room temperature and sea level.

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