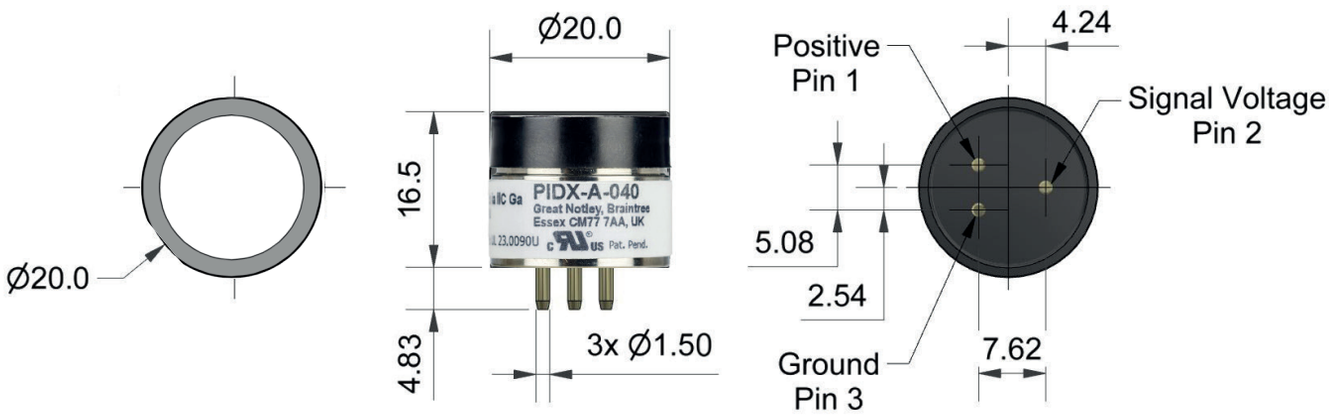
PIDX-A-040 Photo Ionisation Detector



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	VOCs with ionisation potentials < 10.6 eV
	Minimum Detection Level (ppb)	1
	Linear Range (ppm)	0-40
	Operating Range (ppm)	0-40
	Typical Sensitivity	55 mv/ppm ±10% (tested at 10 ppm)
	Full Stabilisation Time	5 minutes
	Warm Up Time	5 seconds
	Offset Voltage (mV)	40-100
	Response Time (t_{90} sec)	6.5
Electrical	Power Consumption	92 mW
	Supply Voltage	3.2 to 5.5 VDC
	Output Signal	0.040 to 2.85 V
Environmental	Temperature Range	-20°C to 60°C Intrinsically safe (-40 to 65°C operating temperature)
	Temperature Dependence	See chart
	Relative Humidity Range	0 to 95% non-condensing
	Humidity Sensitivity	Near zero (to 95%RH)
Key Specifications	Operating Life	5 years (excluding replaceable lamp and electrode stack)
	IS Approval	2813 0518 Ⓔx II 1 G Ex ia IIC Ga UL 24 ATEX 3204U UL24UKEX2979U Ex ia IIC Ga IECEx UL 24.0028U (No additional circuitry or external fusing required for intrinsic safety)
	Onboard Filter	To remove liquids and particulates
	Lamp	User Replaceable. Expected life = 10,000 hours
	Electrode Stack	User Replaceable
	Weight	<12 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	Patents pending

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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".

Fig. 1 PIDX-A-040 Linearity (0-40 ppm)

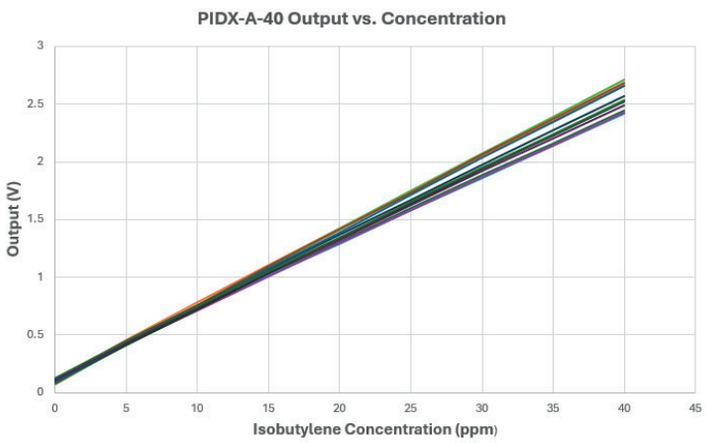

Figure 1 shows the response curve of 20 sensors throughout the entire operating range. Sensors are linear throughout the entire range.

Fig. 2 Sensitivity Temperature Dependence

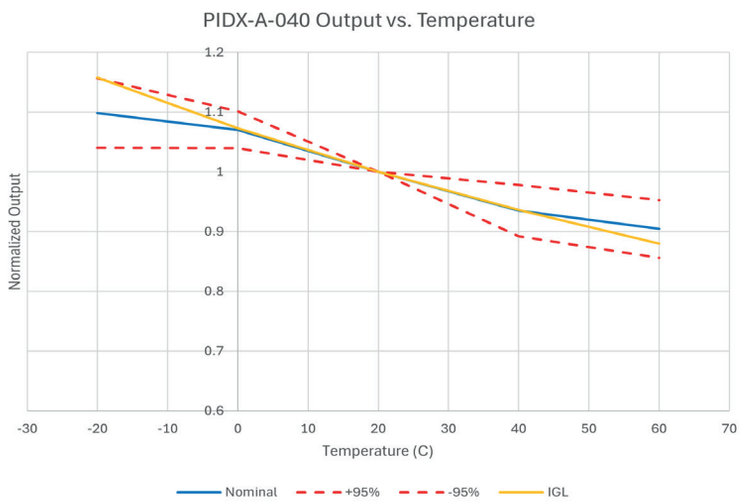

Figure 2 shows the mean and ±95% confidence intervals of the response of the sensors to 10 ppm isobutylene over the entire temperature range. The temperature response follows the ideal gas law.

PIDX-A-040 Replacement Parts/Consumables List

Part Number	Description
001-0036-00	Gas Hood
001-0050-00	Cap with Filter
001-0041-00	Detector Ionisation Cell Assembly
001-0042-00	10.6 eV Lamp
001-0046-00	10.6 eV Lamp Individual Package

Part Number	Description
001-0048-00	Maintenance Kit, which includes: 2 ea Polishing Disc Cap with Filter 1 ea Padded Swab
001-0049-00	Sensor Rebuild Kit, which includes: 2 ea 10.6 eV Lamp 1 ea Detector Ionisation Cell Assembly Cap with Filter

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