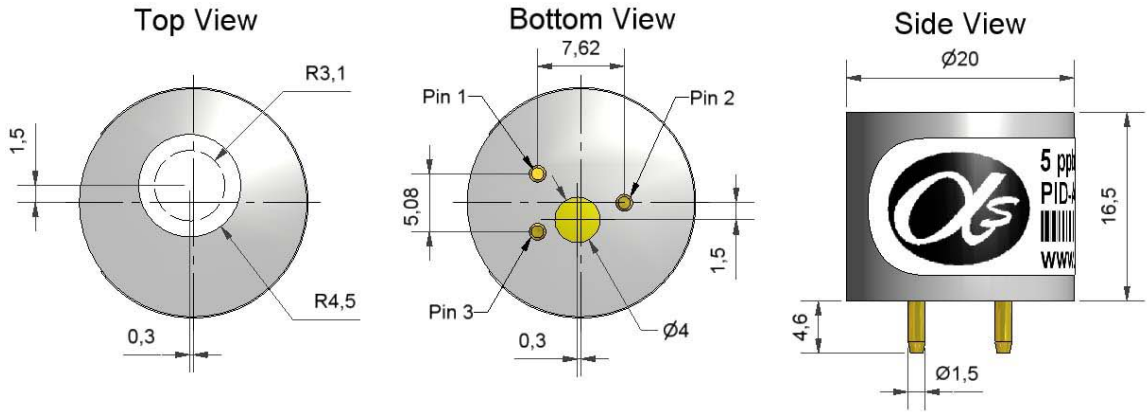
PID-A Photolonisation Detector Sensor

Technical Specification

Figure 1 PID-A Schematic Diagram



Notes:
1. Seal between R3.1 and R4.5 (if different to atmosphere)
2. Pin out details: Pin 1: 3.0 - 3.6 V regulated; Pin 2: Signal output; Pin 3: 0 V supply.
3. All dimensions ±0.1mm unless otherwise stated.

Table 1 PID-A Specification

	PID-AH	PID-A1
MINIMUM DETECTION LEVEL (ppb isobutylene)	**5**	**100**
LINEAR RANGE (ppm isobutylene) (1% deviation)	**50**	**300**
OVERRANGE (ppm isobutylene)	**1,000**	**6,000**
SENSITIVITY (linear range) (mV / ppm Isobutylene)	**> 20**	**> 1**
WARM-UP TIME MINUTES (A1: to 100ppb, AH: to 20ppb)	**15**	**5**
OFFSET VOLTAGE (mV)	**60 - 70**	**50 - 51**

TARGET GASES	VOC's with ionisation potentials < 10.6eV
POWER CONSUMPTION	110mW typical (at 3.3V)
POWER VOLTAGE	3.0 to 3.6VDC (ideally regulated ±0.01V)
OUTPUT SIGNAL	Offset Voltage to V_{max} ($V_{max} = V_{supply}$ -0.1V)
ONBOARD FILTER	To remove liquids and particulates.
TEMPERATURE RANGE	-40ºC to +40ºC (Intrinsically safe), -40ºC to +60ºC (Non IS)
TEMPERATURE DEPENDENCE	0°C to 40°C: 99% of signal at 25°C -20°C: 97% of signal at 25°C

RESPONSE TIME (t_{90})	< 3 seconds, diffusion mode
ERROR STATE SIGNAL	Output less than 35mV
RELATIVE HUMIDITY RANGE	0 to 95%rh, non-condensing
HUMIDITY RESPONSE	Near zero
EXPECTED OPERATING LIFE	>18 months
IS APPROVAL	IECEx Ex ia IIC T4; ATEX EEx ia II 1G -40ºC < T_a < +40ºC
LAMP REPLACEMENT	User replaceable (10.6 eV)
ELECTRODE STACK	User replaceable

PACKAGE TYPE	Alphasense™ CH-A3 or City Technology™ 4P
WEIGHT	< 9g
POSITION SENSITIVITY	None
WARRANTY PERIOD	24 months from date of shipment or 18 months from date of installation, whichever comes first.

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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