

Analog Remote Sensor with High Range PID TVOC Sensor

Dimensions: Size	5.0 x 5.0 x 2.1 in (127 x 127 x 53 mm) without optional splash guard (Option -S)
Weight	0.04 lbs / 181 g
Construction	ABS / Polycarbonate blend, water/dust tight, corrosion resistant (designed to meet IP54 standard with splash guard installed, Option -S)
Sensors: Type	PID – Photoionization detector (10.6eV lamp energy)
Life Span	Approximately 5-years (excluding replaceable lamp and electrode stack)
Calibration	Two times per year or more often (application dependent)
Gases Detected	TVOCs (Total Volatile Organic Compounds), includes extensive range of gases and chemicals
Sensor Range	0 – 300 ppm (calibrated with Isobutylene span gas)
System Power	4-wire: 12 - 24 VDC, 1 W Class 2
Temperature	-20°C to +40°C (-4°F to 104°F)
Humidity	15 to 90% non-condensing
Indicators	None on device, analog signal sent back to transmitter
Signal	Current loop into a 100 ohm load or Voltage signal of 0.40 to 2 volts
Minimum Detection	100 ppb Isobutylene (with regular calibration maintenance of sensor)
Response time	t ₉₀ <3 seconds
Resolution	0.1 ppm (100 ppb)
Sensitivity	>0.6 linear range mV/ppm Isobutylene
Warm Up Time	2-minutes after power up. Warm up time dependent upon how long sensor has been without power. Long periods may require a 24+ hour warm up to meet published specification
Stabilization Time	20-minutes to 100 ppb
Cross Sensitivity	Many other gases, vapours, chemicals
Wiring	VDC 4-conductor shielded 18 awg stranded
Sensor Mounting:	Heavier than air, 6 in / 15 cm from the floor (application dependent)
Monitoring Area:	3000 ft² / 279 m²
Suggested Alarm Points	Low Alarm: 50 ppm / Mid Alarm: 100 ppm / High Alarm: 200 ppm
Certifications (tested to)	CSA-C22.2 No. 205-12 / UL508 (Edition 17):2007 EMC Directive 2004/108/EC, EN 50270:2006, Type 1, EN61010 FCC Part 15
Notes	Never install gas detectors in the direct path of moving air. ESH-A is not a standalone device, it must be connected to a transmitter or CGAS-SC.

Conditions Affecting Photoionization Detector (PID) Sensors:

- Dust and dirt can compromise sensor performance lifespan, both during storage and operation.

- When storing, package securely in a sealed container.
- Protect from extreme temperatures and being physically damaged.
- High humidity environments may affect sensor performance.
- Paint fumes, cleaning products, dust, sand, water, insects can compromise performance.
- The presence of interfering compounds may affect sensor accuracy.
- Install gas detector vertically so the display is over top of the sensor vent and device is flat against a wall or column. Never install gas detectors in the direct path of moving air.

In addition to the factors listed above, most sensors will suffer general wear and tear and it may not always be easy to detect the damage caused, making regular maintenance important to help keep the sensors in good working order. Regular maintenance includes inspecting, cleaning if necessary, bump testing and calibration.