

Analog Vent Line Transmitter with Catalytic Ammonia (NH₃) Sensor

This device is not designed to monitor Ammonia in applications requiring human life safety levels detection.

Dimensions:	Size Weight	Detector with splash guard: 5.0 x 5.0 x 3.3 in (127 x 127 x 84 mm) Complete assembled product: 5.0 x 5.0 x 7.18 in (127 x 127 x 182.5 mm) 29 oz / 825 g
Construction:		Black ABS / Polycarbonate blend, water/dust tight, corrosion resistant with 3/4" cast steel coupler and sensor holder
Sensor:	Type Life Span	Catalytic Approx. 2 years (can be significantly reduced by exposure to high concentrations of silicon based products, paints and high levels of particulate material)
Gases Detected:		Ammonia (NH ₃)
Sensor Range:		0 – 3.00% vol
System Power:		3-wire: VDC: 16-30 VDC, 3-Watts, Class 2 4-wire: VAC: 12-27 VAC, 3-VA, Class 2
Operating Temperature:		0°C to +40°C (32°F to 104°F), -40°C (40°F) with low temperature Option -LT
Operating Humidity:		15 to 80% non-condensing
Indicators:		LCD digital display, 2 line x 16 character, backlit
Signal:		Current: Linear 4-20 mA (maximum 216 ohm load, wiring plus termination resistor @ 12VDC) Maximum 316 ohm load, wiring plus termination resistor @ 12VAC
Relay:		Optional SPDT relay rated 30 volts, 2 amp max (Option -RLY)
Audible:		None
Minimum Detection:		0.05 % vol (500 ppm)
Accuracy:		0.10 %
Repeatability:		0.10 %
Sensitivity Drift		<5 % / year (with regular calibration maintenance of sensor)
Response Time (T₉₀):		<30 seconds
Resolution:		Display resolution: 2 decimals
Warm Up Time:		Ammonia sensors should be left to warm up for 48 hours to allow the sensor to stabilize
Cross Sensitivity:		Numerous combustible gases
Safety:		Automatic resetting thermal overload fuse (reset capabilities to 500 times)
Wiring:		VDC or ground referenced VAC, 3-conductor shielded 18 awg stranded VAC 4-conductor shielded 18 awg stranded
Suggested Alarm Setpoint		0.5% vol (5,000 ppm) This is not intended for use as a life safety device.
Certifications: (tested to)		CSA-C22.2 No. 205-12, UL508 (Edition 18):2018 EMC Directive 2014/30/EU, EN 50270:2015, Type 1, EN61010 RoHS compliant circuit boards This device complies with part 15 of the FCC Rules
Notes:		Never install gas detectors in the direct path of moving air.

Conditions Affecting Catalytic Sensors:

- Typically designed to operate within specific temperature ranges. High temperatures can accelerate wear and reduce lifespan.
- Excessive humidity can affect sensor components, leading to corrosion or malfunction. Maintaining optimal humidity levels is crucial.
- Paint fumes, cleaning products, sand, water, insects can reduce lifespan and compromise performance.
- Dust and dirt can compromise sensor performance lifespan, both during storage and operation.
- Silicone, lead and chlorinated hydrocarbon vapours can poison catalytic sensors. Other compounds, especially hydrogen sulphide and halogenated hydrocarbons can be absorbed or form compounds that are absorbed by sensor which can result in the temporary loss of sensitivity and in most cases a sensor will recover after a period of operation in clean air. Even when the sensor is not powered, exposure to compounds that poison or inhibit the sensor can impact its lifespan.
- Excessive vibration or impact can damage the sensor.
- When storing, package securely in a sealed container.
- Requires calibration gas with air balance.
- Background concentrations of Ammonia can shorten the lifetime of the sensor.
- Ammonia is flammable between 15% (LEL) and 28% (UEL) volume in air.
- If exposed to more than 17% vol Ammonia the sensor will require replacement.

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.