

Analog Transmitter with Electrochemical Ammonia (NH₃) Sensor

Dimensions: Size	5.0" X 5.0" X 2.1" (127 mm x 127 mm x 53 mm)
Weight	7 ounces (200 g)
Construction:	ABS / Polycarbonate blend, water/dust tight, corrosion resistant (IP54 standard with splash guard installed)
Sensor: Type	Electrochemical
Life Span	Approximately 3 years (application and exposure dependent)
Gases Detected:	Ammonia (NH ₃)
Sensor Range:	0 – 500 ppm
System Power:	2-wire: VDC: 16-30 VDC, 1 W, Class 2 3-wire: VDC: 16-30 VDC, 1 Watt, Class 2 4-wire: VAC: 12-27 VAC, 50-60 Hz, 1 VA, Class 2
Temperature:	-20°C to +50°C (-4°F to 122°F), -40°C (-40°F) with internal heater option
Humidity:	15 to 90% non-condensing
Indicators:	Solid Green: Power ON Flashing Green: (50% duty cycle): Warm up Flashing Green (short OFF, long ON): Fault mode LED OFF: No power or 4-20 mA "Open Loop" (unit won't operate)
Signal:	Current: Linear 4-20 mA (Maximum 216 ohm load, wiring plus termination resistor @ 16 VDC) (Maximum 316 ohm load, wiring plus termination resistor @ 12 VAC)
Current Draw:	Maximum 25 mA
Relay:	None
Repeatability	< +/- 2% (with regular calibration maintenance of sensor)
Accuracy	+/- 10 ppm @ STP, +/- 60 ppm across measurement range at time of calibration and at calibration concentration + calibration gas concentration error
Sensitivity drift	<20% change/year in lab air (with regular calibration maintenance of sensor)
Response time	<25 seconds T ₉₀ from 0 to 400 ppm
Resolution	Display resolution 1 ppm, sensor resolution <12 ppm
Warm Up Time	5-minutes after power up (to full operation)
Cross Sensitivity	Cl ₂ 30ppm = 5, NO ₂ 10 ppm = 6.5, SO ₂ 200 ppm = -20, H ₂ S 200 ppm = 120
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
Sensor Mounting	Lighter than air, on or near the ceiling
Monitoring Area	3000 ft ² / 279 m ²
Suggested Alarm Setpoints:	Low Alarm: 25 ppm / Mid Alarm: 35 ppm / High Alarm: 200 ppm
Certifications	CSA: C22.2 NO.205-M1983 (R2009) UL: UL508 (Edition 17): 2007 CE: EMC-EN50270:2006, Type-1 & EN61000-4-2 to 11
Note	Never install gas detectors in the direct path of moving air.

Conditions Affecting Electrochemical Sensors:

- Background concentrations of Ammonia can shorten the lifetime of the sensor.
- Exposure to a high concentration of Ammonia all at once will poison the sensor and render it useless.
- Typically designed to operate between -10°C and +50°C, do not exposed to extreme temperatures for prolonged periods of time. Repeated or prolonged exposure to temperatures like 60-65°C / 140-149 can lead to evaporation of the electrolyte and shifts in baselines readings.
- Continuous operation in low relative humidity environments can dry out the electrolyte and extended periods of exposure to high moisture environments can cause the electrolyte to absorb the moisture, causing dilution and inaccurate measurements.
- Prolonged exposure to extremely high gas concentrations can compromise sensor performance.
- Paint fumes, cleaning products, dust, sand, water, insects can reduce lifespan and compromise performance. Avoid exposure to high concentrations of solvent vapours both during storage and operation. Organic solvents may block the sensing electrodes, create false baselines and in some cases damage the electrodes and physically damage the body of the sensor.
- Negative cross-sensitivities may cause the sensor to produce lower readings than the true concentration of gas in ambient air.
- Before initial use after production may be stored at room temperature ideally at 20°C / 68°F and 60%RH or preferably in the fridge for up to 6 months. Beyond this period, the sensor performance is likely to deteriorate, such as with longer response time and lower sensitivity regardless of whether sensor has been used or not.
- 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.