

Ammonia (NH₃) Analog Gas Transmitters



**PolyGuard NH₃
AT-1120/25**

DESCRIPTION

Analog gas transmitters for the detection of ammonia (NH₃) in the ambient air.

APPLICATION

To sense ammonia (NH₃) in a wide variety of commercial and industrial applications such as chiller equipment rooms, food storages, freezers, arenas, brewers and ventilation systems, etc. and transmit to any compatible electronic analog control, DDC/PLC control or automation system.

FEATURES

- For low temperature applications, -40°F (-40°C)
- Two-stage relay output control, optional
- Continuous monitoring
- 4-20 mA analog signal output
- Polarity protected
- Electrochemical gas sensor, gas specific
- Easy plug-in sensor
- RFI/EMI protected
- Modular plug-in technology
- Easy maintenance



City of Los Angeles Approved

SPECIFICATIONS

Electrical

Power supply 19-28 VDC, polarity protected
 Power consumption 22 mA (0.6 VA), max.
 - w/relay package 35 mA (1.0 VA), max.
 RFI/EMI protection 5.0 W @ 1 ft. (0.31 m) radiated

Sensor Performance

Gas detected Ammonia (NH₃)
 Sensor element Electrochemical, diffusion
 Range Span field adjustable from 0-300 to 0-1000 ppm via calibration, 0-300 ppm factory set
 Resolution < 15 ppm
 Long term sensitivity drift < 10% / 6 months
 Response time t₅₀ < 20 sec., t₉₀ < 90 sec.
 Sensor life expectancy 2 years, normal operating environment
 Sensor coverage 2,000 sq.ft., max. 3,000 sq.ft. (180 m², max. 280 m²), under "ideal conditions"

Installation Location

Mounting height 1 foot (0.3 m) below ceiling

Type of Control

General Continuous proportional analog sensor signal output
 Analog output 4-20 mA < 500 Ω, polarity protected
 Optional contact outputs (2) relays, potential free

Environmental

Permissible ambient
 - working temperature
 AT-1120 32°F to 104°F (0°C to 40°C)
 AT-1125 -40°F to 104°F (-40°C to 40°C)
 - storage temperature
 AT-1120 -4°F to 104°F (-20°C to 40°C)
 AT-1125 -40°F to 104°F (-40°C to 40°C)

- humidity 0 to 99% RH, non condensing
 - working pressure Atmospheric ± 10%

Physical

Enclosure, standard
 - material Galvanized steel w/zinc coating, corrosion resistant
 - color Light gray
 - protection NEMA 1, general purpose
 - installation Wall (surface) mounted, or single gang electrical box
 Dimensions 5.59 x 5.59 x 2.48 in. (142 x 142 x 63 mm)
 Cable entry 1 hole for 1/2 in. conduit for wall (surface) mounting and 1 hole on back side of base plate for single gang electrical box mounting
 Wire connection Terminal blocks, screw type for lead wire
 Wire size Min. 24 AWG (0.25 mm²), Max. 14 AWG (2.5 mm²)
 Wire distance Max. loop resistance 500 Ω (= wire resistance plus controller input resistance)
 Weight 0.8 lbs. (0.36 kg)
Approvals/Listings City of Los Angeles
 CE
 EMV-Compliance 89/336/EWG, low voltage directives 73/23/EWG
Warranty Two years material and workmanship, 12 months normal exposure for sensor element

OPTIONS

Enclosures

Duct mounted	NEMA 3
- w/probe	7/8 in. (22 mm) diameter and 7.16 in. (182 mm) length
- cable entry	1 hole for 1/2 in. conduit
Wall mounted	NEMA 4X, w/splash guard
- material	ABS UL94 V0
- color	Light gray
- dimensions	4.80 x 4.72 x 3.42 in. (122 x 120 x 87 mm)

Relay Package

"Only for AT-1120 version"

Type	(1) SPDT (R9), (1) SPST (R10)
Contact rating	30 VAC/VDC, 0.5 A, max.
Setpoint	Adjustable setting for each relay within 10 to 90% of full range
- factory set	Lo = 35 ppm, Hi = 75 ppm
Switching differential	5% or 10% of full range, jumper selectable
Relay mode	Jumper selectable, de-energized or energized (fail-safe) for each relay
Status indicator	(2) LEDs, one for each relay

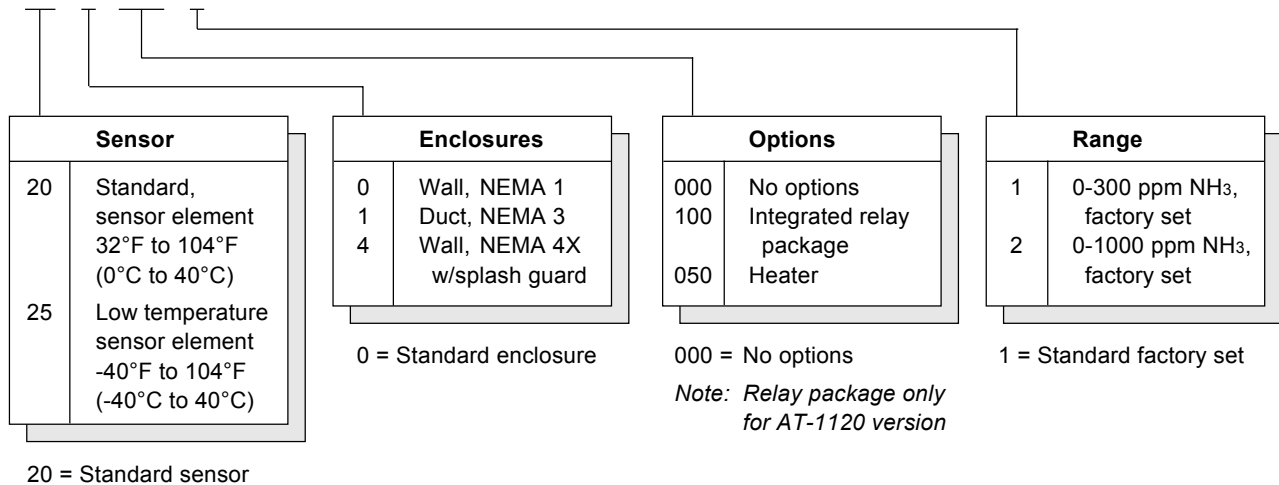
Heater, built-in

For low temperature environment,
and using the standard sensor
element

Ambient temperature	-40°F (-40°C)
Power supply	24 VAC/VDC ± 5%, 50/60 Hz
Power consumption	1.0 A (24 VA), max.
Thermostatic control	32°F (0°C) ± 5°F (3°C)

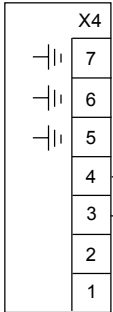
ORDERING INFORMATION

AT-1120 - 0 - 000 - 1



WIRING CONFIGURATION

**AT-1120/25
24 VDC, 2-wire configuration**

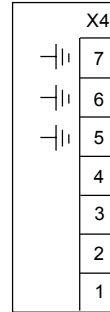


Note: Twisted, shielded wire is recommended for 2- or 3-wire configurations.

▲▲ Connect Shield to either terminal 5, 6 or 7. Shield should be grounded at either the sensor or controller. DO NOT ground Shield at both ends.

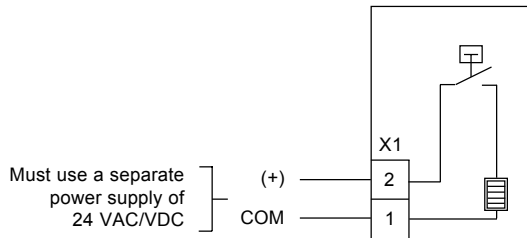
Note: Prior to terminating the wire, secure enough cable length within the enclosure to snap-on the supplied ferrite core. The ferrite core must be within the enclosure and located such that the PCB can be installed.

**AT-1120
24 VDC, 3-wire configuration (required w/relay)**



* 220...330 Ω resistor required for stand-alone operation w/relay

AT-1120/25 w/heater



AT-1120 w/relay package, relay connection applies to standard 24 VDC, 3-wire configuration only

