

Series Q46N Ammonia Monitor

The Dissolved Ammonia Monitor for the detection of Ammonia (NH₃) in liquid shall be provided to monitor ammonia concentration in the _____ (Specify Location) _____. Each Dissolved Ammonia Monitor shall use reaction chemistry that converts ammonia to monochloramine which in turn is read by an internal amperometric sensor. In addition to providing measurement for total dissolved ammonia the monitor shall optionally provide the ability to measure and display monochloramine ammonia and free ammonia.

Monitors shall be powered by 90-260 VAC single-phase line power. The monitor shall provide two isolated 4-20 mA outputs as standard, with an option for a third 4-20 mA output. Outputs shall be configurable for ammonia, temperature, or PID control. Analog outputs shall be both ground isolated and isolated from each other. The chemistry module shall be powered by either 115 VAC or 230 VAC.

For alarm purposes, monitors shall contain three SPDT relays. Relay functions shall be programmable for control, alarm, or fail functions, and may be designed for either normal or failsafe operation. For monitors supplied with only 2 analog outputs, monitors shall have the option of an additional 3 low-power relays to allow for additional external alarm functions.

The ammonia monitor electronic assembly shall provide a variety of functions as follows.

1. Provide user selectable display of PPM ammonia, process temperature, or PID % output on the main display. Main display variable shall be indicated with a minimum character height of 0.75" to allow easy readability up to 20 feet away.
2. Allow selection of operating ranges of 0-2 PPM or 0-20 PPM. Display ranges shall be configurable by operators, or the monitor may be configured for Auto-Ranging. The auto-ranging function shall automatically switch to the display range that provides the best resolution.
3. Provide the ability to use the 4-20 mA output for PID control. Proportional, Integral, and Derivative functions shall be user adjustable, and also provide for output hold when needed.
4. Provide two isolated 4-20 mA outputs, with output spans programmable by the user for any segment of a display range. An optional third analog output is available, providing separate outputs for ammonia and temperature.
5. Provide output hold and output simulate functions to allow for testing or remote receiving devices or to allow maintenance without disturbing control systems.
6. Provide three 6 amp SPDT relay outputs in standard unit. Software settings for relay control include setpoint, deadband, phase, delay, and failsafe. Provide an optional 3-relay card, for 0-30 V signals, to bring the total to 6 relays. Relays shall be programmable for either control or alarm function, or relays may be assigned to diagnostic functions for use in indicating trouble conditions at a remote location.
7. Provide option for digital communications. These options shall include Profibus-DP, Modbus-RTU, or Ethernet-IP.
8. Diagnostic functions shall be incorporated into the transmitter. The 4-20 mA output shall be capable of being assigned to safely rise to 20 mA, fall to 4 mA, or be left alone, during diagnostic failures. Diagnostic error messages shall be displayed in clear language; no confusing error codes shall be displayed.

The complete Ammonia Monitor shall be Series Q46N as manufactured by Analytical Technology, Inc. or approved equal.
