Dissolved 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.

The electronic monitor shall be housed in a NEMA 4X enclosure suitable for wall mounting and contain a large format LCD display with secondary display for other operating parameters. The monitor shall also provide 2 SPDT 5 Amp alarms relays and 2 isolated 4-20 mA analog outputs.

The Dissolved Ammonia Monitor electronic assembly shall be: **(select one version below)**

A. An AC powered instrument for operation on (specify either 115 VAC or 230 VAC) single-phase line power. The monitor shall include electronics, sensor and pumps within a common NEMA 4X enclosure and provide two isolated 4-20 mA outputs configurable for Total Dissolved Ammonia and Chloramine Ammonia or Free Ammonia. Analog outputs shall be both ground isolated and isolated from each other. Monitors shall also contain two alarm SPDT relays.

B. An AC powered instrument for operation on (specify either 115 VAC or 230 VAC) single-phase line power. **The monitor shall be provided in a separate NEMA 4X enclosure** from the chemistry module containing the sensor and pumps being in its own NEMA 4X enclosure.

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

1. Provide user display of PPM ammonia on the main display. Main display parameter 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 0-2.000 PPM or 0-20.00 PPM.

3. Provides two isolated 4-20 mA outputs, with output spans programmable by the user for any segment of a display range.

4. Provide output hold and output simulate functions to allow for testing or remote receiving devices or to allow maintenance without disturbing control systems.

5. Provides two SPDT 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.

6. 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 Dissolved Ammonia Monitor shall be Series Q45N as manufactured by Analytical Technology, Inc. or approved equal.