

## Toxic Gas Sensor/Transmitter

A Gas Transmitter for the detection of \_\_\_\_\_ (Specify Gas) \_\_\_\_\_ shall be provided to monitor the ambient gas concentration in \_\_\_\_\_ (Specify Location) \_\_\_\_\_. Each gas transmitter shall consist of a NEMA 4X transmitter enclosure with a close coupled gas sensor. (**Alternate:** Each gas transmitter shall consist of a NEMA 4X transmitter with a remotely mounted gas sensor). The Gas Sensor/Transmitter shall be ATI Series F-12 loop powered 2-wire transmitter with a 4-20 mA analog output signal proportional to the gas concentration. (**Alternate:** The gas sensor/transmitter shall be ATI series F12 with integral power supply and relays). In addition, the transmitter shall be supplied with standard RS-485 MODBUS communication capability or a digital output using HART™ protocol.

Each Series F12 transmitter shall utilize plug-in “smart sensor” modules that allow sensors to be swapped quickly without interruption of instrument function. Sensors plugged into the transmitter shall automatically upload zero offset and calibration information so that no transmitter adjustment is needed when sensors are exchanged. Transmitters shall provide a large graphic display indicating both gas concentration and the status of any alarm settings. In addition, the transmitter shall be capable of storing 1 minute average gas concentrations, with stored data displayed in either graphical or tabular format.

Four sealed buttons on the front of the transmitter shall allow the operator to access all program functions. Controls shall allow analog output simulation for convenience in testing remotely connected devices. Switches may also be used for manually resetting alarm relays (if installed) and for activating sensor Auto-Test generator if used.

### Optional

1. Each gas transmitter shall be provided with an integral AC power supply suitable for operation from 85-265 VAC or VDC, 50/60 Hz. The power supply assembly shall also provide three SPST relays for external alarm functions. Each relay shall be assignable as to function using front panel program keys. The power supply assembly shall also provide power for

2. Each gas transmitter shall be supplied with a sensor “Auto-Test” gas generator to provide automatic sensor response verification. The generator shall automatically generate a small amount of gas on command from the transmitter, and a fault alarm shall be generated if the sensor does not respond to the gas test. The system shall provide this automatic response test every 24 hours or as programmed by the user. The results of all sensor tests shall be maintained in on-board memory for review by the user.

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