



CAPITAL CONTROLS

Capital Controls ADVANCE™ Single Point Gas Detector, Series 1610B provides continuous detection of chlorine or sulfur dioxide gas in a normally clean air environment.

ADVANCE™ gas detectors are ideal for protection of personnel and property wherever chlorine or sulfur dioxide is unloaded, stored or used.

Highly sensitive, the detector monitors gas levels below OSHA requirements for either chlorine or sulfur dioxide gas.

The sensor responds immediately to the presence of gas, and quickly recovers after the gas has cleared. The sensor is also designed to eliminate false alarms caused by interference gases and environmental conditions.

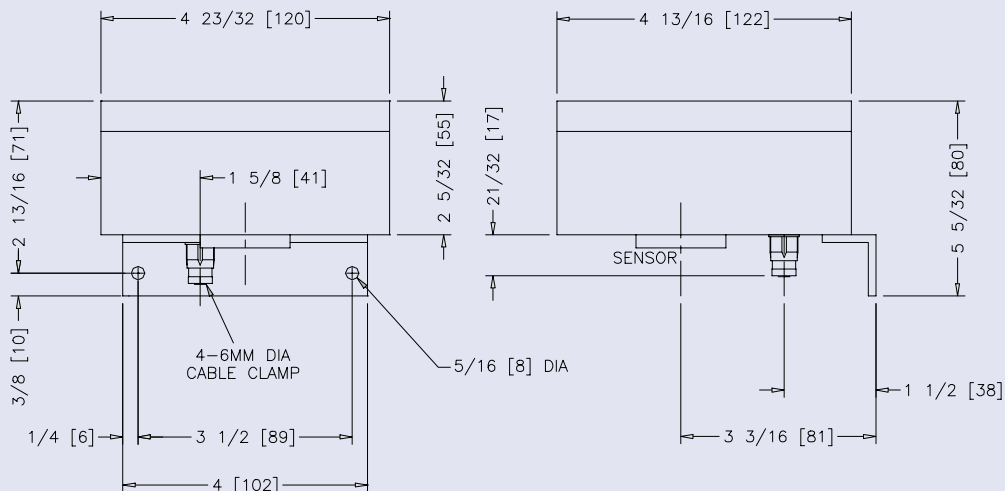
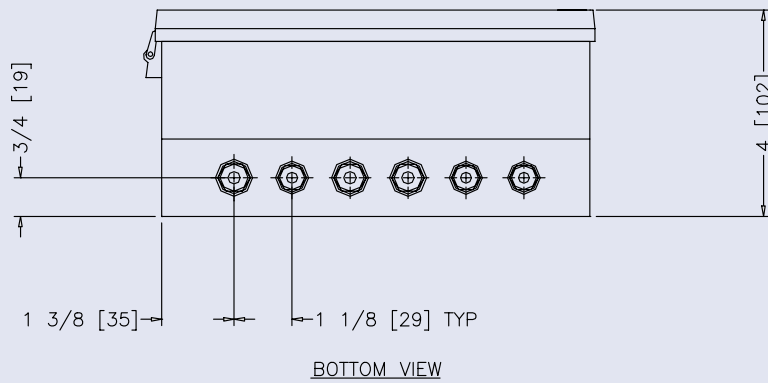
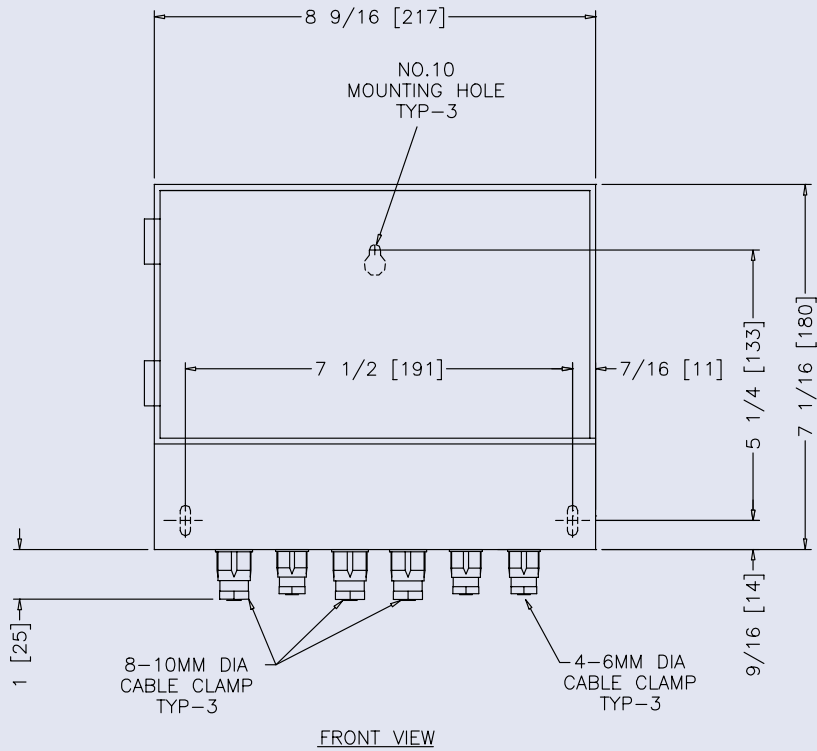
Series 1610B design includes protection against radio frequency /electromagnetic interferences (RFI/EMI) typically present at industrial and municipal plants.

The modular design for the gas detector provides easy installation of the receiver and sensor module.

ADVANCE™ Single Point Gas Detector Series 1610B



- ◆ Maintenance-free, long-life sensor
- ◆ Dual alarm output for remote warning and device control
- ◆ Audible and visual alarms
- ◆ Rapid response to chlorine or sulfur dioxide
- ◆ NEMA 4X enclosure
- ◆ Power backup for continuous operation
- ◆ Indicator for remote monitoring
- ◆ RFI/EMI protection



Receiver and Sensor Dimensions (reference only)

Technical Data

ADVANCE™ Gas Detector

RECEIVER

Quality Standard: ISO 9001
Compliance: CE
Receiver:
Power requirements: 120 or 240 Vac, 50/60 Hz, single phase
Power consumption: 12 watts
Input from sensor: 4-20 mAdc
Output to sensor: 18-24 Vdc
Sensor stabilization timer: Jumper selectable 1/2, 1, 2, 4, 8, 16 minutes
LED indicators: Power, Ready, Alarm, Malfunction, Bar Graph Indicator
Bar graph indicator range: 0-10 ppm
Indicator signal output: 4-20 mAdc into 900 ohms maximum impedance
Accuracy: ±1 bar segment
Alarm and malfunction control rating: 10 amps @240 Vac maximum or 10 amps @ 28 Vdc maximum resistive or inductive load, SPDT (N.O./N.C.); DPDT (N.O./N.C.) by jumper selection for dual alarm output
Alarm and malfunction contact type: Jumper selectable latching (manual reset) or unlatching (automatic reset)
Enclosure: NEMA 4X

SENSOR

Sensor:
Type: Electrochemical of the micro-redox type
Gases sensed: chlorine or sulfur dioxide
Minimum detectable concentration: 0.5 by volume
Response time: 30 seconds maximum for 80% of range to 10 ppm gas at 20°C, after stabilization
Recovery Time: 3 minutes for 90% of range at 10 ppm gas concentration
Operating temperature: -2°F to 131°F (-20°C to 55°C)
Operating humidity: 2% to 98% R.H.
Maximum separation between receiver and sensor: 1000 feet (305 meters)
Enclosure: NEMA 4X
Weight: 9 oz. (.25 kg)

Gas	Interference Gases for Chlorine Sensor		Interference Gases for Sulfur Dioxide Sensor	
	Concentration	Approximate Equivalent to Chlorine Signal	Concentration	Approximate Equivalent to Sulfur Dioxide Signal
Hydrogen	100 ppm	-1 ppm	100 ppm	1 ppm
Carbon Monoxide	100 ppm	-1 ppm	--	--
Ethylene	100 ppm	-1 ppm	--	--
Sulfur Dioxide	100 ppm	-5 ppm	--	--
Nitric Oxide	100 ppm	+1 ppm	--	--
Chlorine	--	--	10 ppm	<0.6 ppm
Hydrogen Sulfide	--	--	100 ppm	200 ppm
Alcohols	--	--	100 ppm	<1 ppm
Nitrous Dioxide (Internal combustion engine exhaust)	10 ppm	+16 ppm	10 ppm	-10 ppm

Warranty and Capability

Capital Controls warrants its gas detectors for eighteen (18) months from the date of invoice, or twelve (12) months from date of installation.

Capital Controls is ISO 9001 certified to provide quality and precision materials. Disinfection technologies, water quality monitors and instrumentation for water and wastewater are areas of specialization. Over 35 years of industrial and municipal application experience in the water and wastewater industries is incorporated into the equipment design to provide high quality comprehensive solutions for the global market.

Brief Specification

The single point gas detection system for (chlorine) (sulfur dioxide) shall consist of an electrochemical type sensor (requiring no chemical additions), housed in a corrosion-resistant, NEMA 4X enclosure suitable for wall mounting. In the presence of gas, a current flow will develop and be transmitted through electrical wiring to the receiver. The maximum separation between the receiver and sensor shall be 1000 feet (305 meters).

The receiver shall process and display incoming signals from the sensor module, and be housed in a NEMA 4X enclosure suitable for wall mounting. The receiver shall contain the following components: a power switch and LED indicators for power and ready; set point alarm level, field set via push button on the front of the receiver and indicated by on the color bar graph by a flashing bar segment; an LED alarm indicator and annunciator with corresponding contact; an LED malfunction indicator with jumper-selectable manual or automatic reset relay contact; a RESET button for clearing alarm and malfunction circuits; a timer for sensor stabilization, and an LED bar graph display in the range of 0-10 ppm. A 4-20 mAdc output signal shall be provided to transmit scanned levels.

The minimum detectable concentration of chlorine or sulfur dioxide gas shall be 0.5 ppm by volume, The response time shall be 30 seconds for 80% of range to 10 ppm gas at 20°C, after stabilization. Protection shall be provided against radio frequency/ electromagnetic interference typically present at industrial and municipal plants. The unit shall operate from a (120 Vac) (240) 50/60 Hz single phase power supply. Battery terminals shall be provided for use in the event of a power failure. The gas detector shall be Capital Controls Series 1610B.

An optional power backup shall be provided, with internal 18 Vdc battery and shall automatically provide power in the event of a power failure. No manual switching shall be required. The unit shall automatically and continuously recharge to supply maximum support to the gas detector and/or the remote indicator. The power backup shall be Capital Controls Model 1640.

An optional remote indicator shall be provided to remotely indicate and alarm when a preset gas level is exceeded. A cumulative bar graph indicator shall provide level indication. An annunciator shall provide audible indication of an alarm condition and can be turned off but the indicator ALARM light will flash until the condition is cleared. The remote indicator shall be Capital Controls Model 1630.

Design improvements may be made without notice.

Represented by:



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