



**eVOQUA**  
WATER TECHNOLOGIES



## **WALLACE & TIERNAN® SYSTEMS ACUTECH™ 35 GAS DETECTION SYSTEM**

The Acutec™ 35 system utilizes the latest on-line gas monitoring technology to provide a flexible and reliable, self-testing detection system in a compact modular design. With sensors to detect the presence of chlorine, ammonia, or sulfur dioxide gases in ambient air, the Acutec 35 system is ideal for detecting leaks from storage containers, process piping, or gas feed equipment in any type of water, wastewater, or industrial plant environment.

### **THE BEST GAS DETECTION SYSTEM UNDER THE SUN**

The Acutec 35 system's modular design allows for a wide range of configurations that can be simply and neatly installed, using standard enclosures.

The receiver module is available in a choice of either a Detector or Monitor version, which has an LED display, and an mA output signal. Both provide two selectable levels of alarm. A low level warning alarm may simply indicate transient leak conditions, whereas a second alarm can initiate a full alert in the event of more serious leaks. And, for real peace of mind, there is an optional Auto-Test unit. This incorporates an integral gas generator that automatically tests the sensor each

day, sounding alarms in the event of sensor failure. This added safety feature also reduces the costs incurred with manual procedures.

Combine the features of the Acutec 35 system with the fact that it comes with the backing and technical support of one of the world's most respected chemical feed and disinfection companies, and you will see why the Acutec 35 system is the best gas detection system under the sun. Every single component in the Acutec 35 system is precision manufactured and vigorously tested to ensure accuracy and reliability.

### **KEY BENEFITS**

- Gas detection for Chlorine, Ammonia or Sulfur Dioxide
- Simple and neat installation of module components
- Easy access to control panel via a hinged cover on the NEMA 4X enclosure
- Audible horn to provide local warning.
- Choice of Detector or Monitor version
- Sunlight readable 4 digit LED on the monitor
- Single or multipoint gas detection systems
- Automatic integral gas generator

## INSTALLATION

The flexibility of the modular system allows for simple installation of single or multipoint gas detection systems. Each point of detection requires the installation of one sensor/transmitter and one receiver module. The sensor/transmitter is installed in the area to be monitored and the receiver module can be located up to 1000 feet away. A power supply module, sufficient for use with up to two receivers, is housed with the Receivers in a NEMA 4X enclosure.

All enclosures are provided with knockouts on all four sides to facilitate wiring using the 1/2" FNPT (12.7 mm) conduit hubs provided. Equally suitable for indoor or outdoor applications, these NEMA 4X-rated polystyrene enclosures are fitted with a tough hinged polycarbonate window for clear visibility of all indicators and easy access to the control panel. Included within the enclosure is a piezoelectric horn to provide audible local warning.

### Receiver Module

Two versions of the receiver are available. The detector signals the presence of specified gas and includes two gas alarm set points and three configurable and assignable gas alarm relays. It is also supplied with a separate sensor alarm and relay. The monitor provides, in addition to the above, an LED display of gas concentrations in PPM and an isolated 4-20mA output.

Each module is switch-programmable for full scale range. A single switch on the front panel provides alarm acknowledgement, reset functions, alarm relay inhibition, on-demand activation of Auto-Test, and LED indicator testing. In addition, LED light bars provide a visual indication of alarm status.

### Power Supply Mode

This module, designed for installation alongside the receiver module, can accept any AC input between 85-25, 5 VAC, transforming the supply to a 12 VDC output for the receiver module without and modification or adjustment. Loss of input power is indicated by a built-in power failure alarm relay. One module provides the power to operate one or two receiver modules, an integral audible alarm and the charging of the optional battery back-up.

## Control Enclosure

A single or dual point standard enclosure is provided for housing the power supply module and either one or two receiver modules. The enclosure is rated NEMA 4X with a ringed polycarbonate window. An integral audible alarm horn is included as standard.

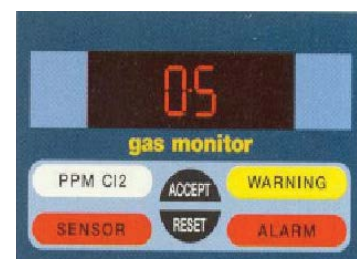
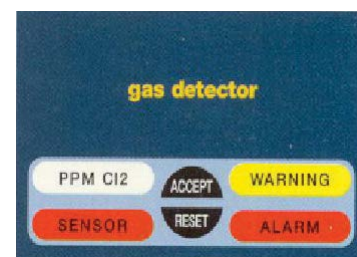
### Sensor/Transmitter

A highly efficient electrochemical gas sensor for location in areas where gas leakage could occur is combined with an equally efficient transmitter; both housed in a NEMA 4X enclosure. Digitally converted measurements of gas concentrations are then sent to the receiver module located anywhere up to 1000 feet away.

An optional auto-test facility is available for fitting to a sensor. Consisting of an electrochemical generator, it automatically tests the sensor everyday, triggering an alarm if a fault is found. The auto-test option also provided early warning of reduced sensitivity that can occur over time, allowing users to determine when sensors need replacing.

### Battery Back-Up System

The battery back-up option consists of a sealed lead-acid battery mounted in its own enclosure. In the event of power failure, it will maintain all receiver functions for a minimum of 12 hours on a single point system, or six hours on a dual point system. Battery charging is fully automatic and continuous through the power supply module.



## TECHNICAL DATA

**Gases Detected** Chlorine, Sulfur Dioxide, Ammonia

### Gas Ranges

|                 | Std. Range | Min. Range | Max. Range |
|-----------------|------------|------------|------------|
| Cl <sub>2</sub> | 0-10 ppm   | 0-5 ppm    | 0-50 ppm   |
| SO <sub>2</sub> | 0-20 ppm   | 0-10 ppm   | 0-100 ppm  |
| NH <sub>3</sub> | 0-100 ppm  | 0-50 ppm   | 0-500 ppm  |

### Power Requirements

85-255 VAC, 50/60 HZ 1 Amp - Self-regulating

### Ambient Temperature

0° to 105°F (-18° to 40°C) continuous

-10° to 120°F (-23° to 49°C) intermittent

**Humidity** 0-99% non-condensing

### Gas Alarm Setpoints

2 independent setpoints

Warning Level - adjustable from 5% to 100% of range

Alarm Level - adjustable from 5% to 100% of range

**Alarm Indicators** High intensity LED bars

### Function

- WARNING indicator non-latching

- Alarm indicator latching

### Alarm Relays

Three assignable alarm relays for either alarm setpoint 10A at 120 VAC, 5A at 250 VAC, resistive, SPDT configurable for normal/fail-safe, latching/non-latching, and fast/slow operation.

### Alarm Relay and Indicator Reset

Activated from front panel switch or through remote reset.

### Sensor Alarm

Indicates loss of sensor/transmitter input or failure of

Optional sensor Auto-Test.

### Sensor Alarm Relay and Indicator

Front panel LED indicator and relay; 10A, at 120 VAC, 5A at 250 VAC, resistive SPDT factory set to fail-safe operation.

### Monitor Concentration Display

4-digit LED, sunlight readable.

### Monitor Concentration Output Signal

Isolated 4-20 mA DC, 1000 ohms maximum load.

### Power Supply Output Voltage

Regulated 13.7 VDC, 1A supplied to 1 or 2 receivers. Also, for recharging external battery, audible back-up and for integral Alarm horn power.

### Audible Alarm Horn

Weatherproof 12 VDC piezoelectric horn 85-dB output  
Signal for local alarming.

### Power Failure Alarm Relay

Loss of AC input power.

1 relay 10A at 120 VAC, 5A at 250 VAC, SPDT resistive.

### Enclosure

NEMA 4X Polystyrene with knockouts on four sides for 1/2" (12.7 mm) FNPT conduit hubs.

Four single point enclosure -4 conduit hubs are provided.

Four dual point enclosure -7 conduit hubs are provided.

### Gas Sensor Type

Electrochemical gas diffusion

### Gas Sensor Connection Distance

Up to 1000 feet (300 m) to receiver.

### Two wire cable.

For a dual point unit, 50 ft. (15 m) of cable is provided.

For a single point unit, 25 ft. (8 m) of cable is provided.

**Sensor Operating Life** 2 years

**Sensor Storage Life** 5 years

Optional Battery Back-Up

|               |                                   |
|---------------|-----------------------------------|
| Battery Type: | 12 VDC, 4 Amp HR sealed lead acid |
|---------------|-----------------------------------|

|                   |   |
|-------------------|---|
| Battery Capacity: | For single point unit, min. 12 hrs. (avg. 24 hrs.)<br>For dual point unit, min. 6 hrs. (avg. 12 hrs.) |
|-------------------|---|

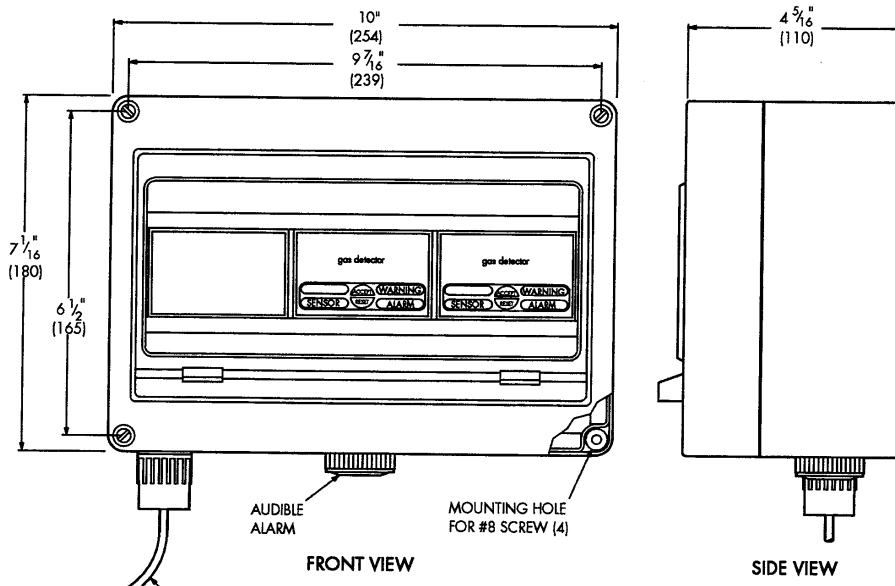
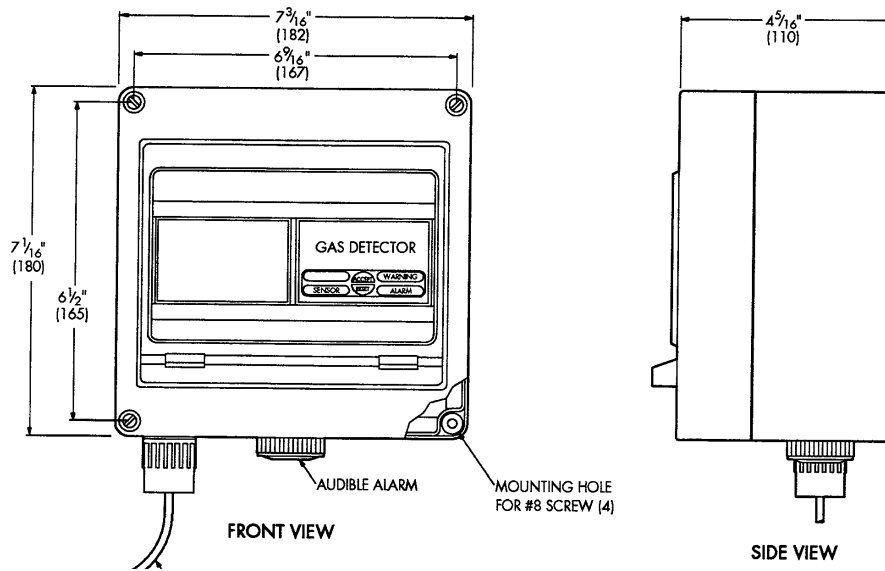
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| Charge Control: | Current limited to 0.75A max. |
|-----------------|-------------------------------|

|              |  |
|--------------|--|
| Charge Time: | 10 hours typically from fully discharged |
|--------------|--|

|                     |                            |
|---------------------|----------------------------|
| Low Voltage Cutoff: | Relay disconnect at 10 VDC |
|---------------------|----------------------------|

|                   |  |
|-------------------|--|
| Fault Protection: | Relay disconnect on shorted charger wiring |
|-------------------|--|

|               |                          |
|---------------|--------------------------|
| Battery Life: | Min. 3 yrs. in operation |
|---------------|--------------------------|



\* For complete dimensions, see WT.050.130.100 for single point, WT.050.130.102 for dual point, and WT.050.130.104 for battery backup.