Warrick® Series RA-431XX Remote Alarm Panel
Installation and Operation Bulletin

This bulletin should be used by experienced personnel as a guide to the installation of Series RA-431 Remote Alarm Panels. Selection or installation of equipment should always be accompanied by competent technical assistance. You are encouraged to contact Gems Sensors or one of its local sales representatives for additional information.

Caution
The RA-431 Series panel and the remote switch must be located in a non-hazardous area. If the remote switch is located in a hazardous location, use a TA-730 Series or appropriate panel. Contact Gems Sensors for further assistance.

Installation

1. Mount the RA-431XX panel on a wall or other solid object with 4 (four) #8 or appropriately-sized screws.

2. Incoming Power: 3-Wire, 120 VAC Supply, Class I circuit

3. Remove switch, 2-wire dry contact

4. All wiring shall be in accordance with N.E.C. and local codes.

Specifications

Supply Voltage: 120 VAC +10%, -15%. 4.8 VA, Max

Indicators: Red, green and yellow solid-state LEDs

Audible Alarm: Field adjustable from 77 to 97 dB @ 2 feet by rotating shutter

Enclosure: Weather tight polycarbonate (6.25h X 3.25W X 3.5d)

Sensor Voltage: DC Version: 12 VDC, AC Version: 12 VAC

Terminals: Size 6 pan head screws with captivated wire clamping plate

Temperature: -22°F to 150°F, Ambient

Sensitivity/AC Version: 0-26K ohm maximum specific resistance

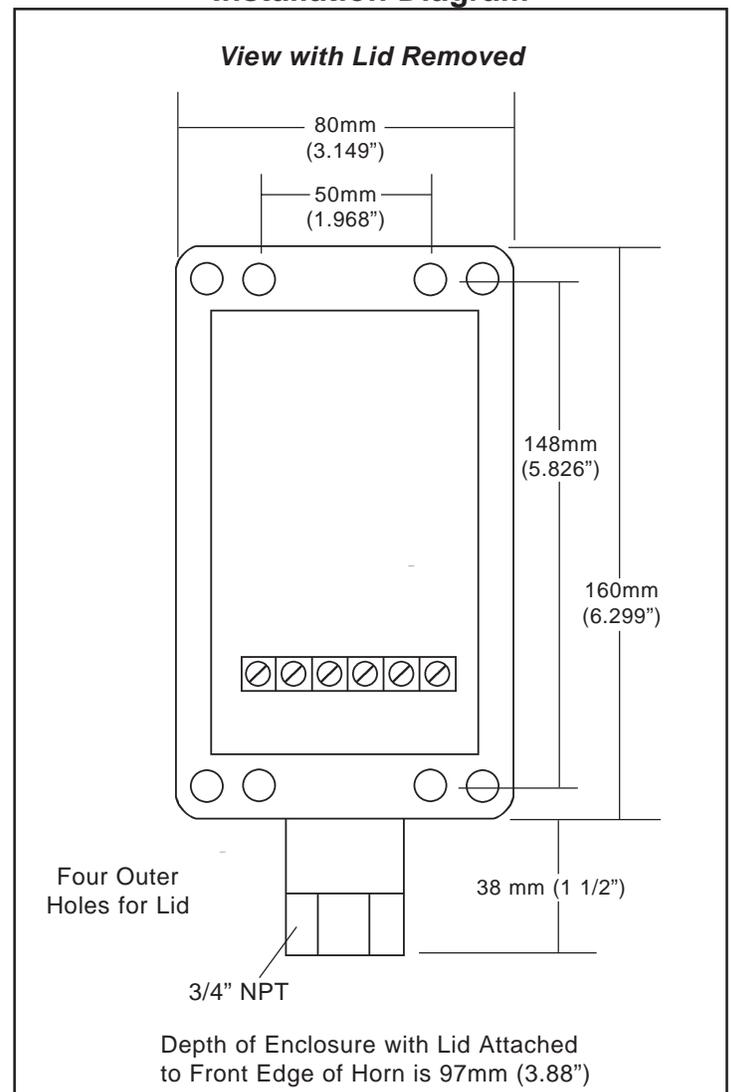**Listings:** UL Listed, Industrial Control Equipment (508)

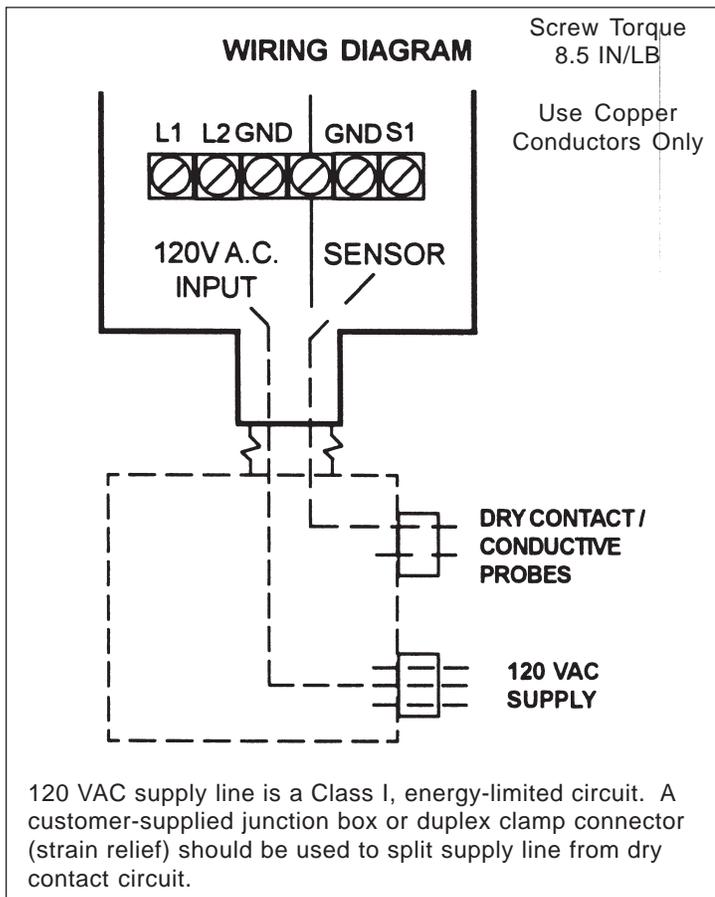**Conduit Connection:** 3/4" NPT, PVC material

Maximum Sensor Wire Run

AC Version: 1,000 feet based on 14 or 16 gauge MTW or THHN wire

DC Version: 5,000 feet based on 14 or 16 gauge MTW or THHN wire

Installation Diagram

View with Lid Removed

80mm (3.149")
50mm (1.968")
148mm (5.826")
160mm (6.299")
38 mm (1 1/2")
Four Outer Holes for Lid
3/4" NPT

Depth of Enclosure with Lid Attached to Front Edge of Horn is 97mm (3.88")

WIRING DIAGRAM

Screw Torque 8.5 IN/LB

Use Copper Conductors Only

L1 L2 GND │ GND S1

120V A.C. INPUT │ SENSOR

DRY CONTACT / CONDUCTIVE PROBES

120 VAC SUPPLY

120 VAC supply line is a Class I, energy-limited circuit. A customer-supplied junction box or duplex clamp connector (strain relief) should be used to split supply line from dry contact circuit.

Dry Contact Operation: The **green LED** will light when power is applied to the unit. When the remote contact switches state (fault condition), the **horn** will activate and the **red** and **yellow LEDs** will light. On pressing the **acknowledge** push-button, the **horn** will silence and the **yellow LED** will clear. The **red LED** will remain lit as long as the fault condition is present. On correcting the fault condition, the **red LED** will automatically clear.
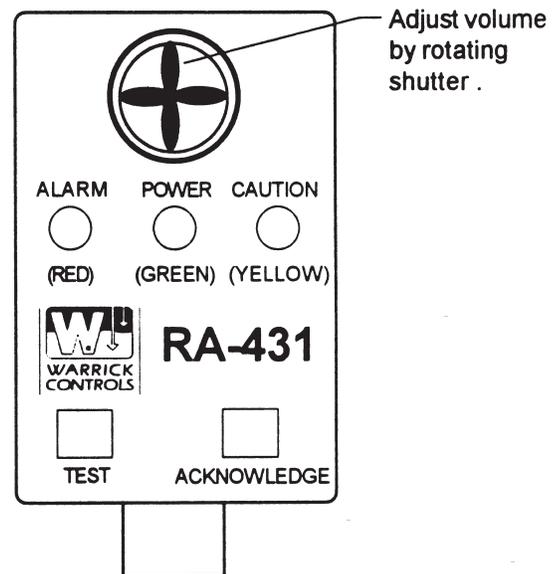
During those situations when the fault condition occurs and corrects itself prior to pushing the acknowledge button, the **horn** and **red LED** will automatically activate and clear, matching the fault condition. However, the **yellow LED** will remain lit to indicate that the fault condition had previously taken place. Pressing the **acknowledge** button will clear the **yellow LED.**

Liquid Level - Conductance Probe Operation: For high level alarms, model RA431A1 should be used. When power is applied to the unit, the **green LED** will light. A normal condition would be when the liquid is below the probes. When the liquid touches the probes, the **horn, red and yellow LEDs** will activate. On pressing the **acknowledge** button, the **horn and yellow LED** will clear. The **red LED** will remain lit until the

fault condition has cleared. During those situations when the fault condition occurs and corrects itself prior to pushing the **acknowledge** button, the **horn and red LED** will activate and clear to match the fault condition. However, the **yellow LED** will remain lit to indicate that the fault condition had previously taken place. Pressing the **acknowledge** button will clear the **yellow LED.**

For low level alarms, use Model RA431B1. A normal condition would be when the liquid is on the probes. A fault condition occurs when the liquid falls off the probes. The operation would be as described above.

Test Button: Pushing the **test button** allows you to test the alarm panel circuitry. On pushing the **test button,** the **horn** will activate and the **red and yellow LED** will light. On releasing the **test button,** the **horn** and **red LED** will deactivate. The **yellow LED** will remain lit until the **acknowledgment** button is pressed.

Adjust volume by rotating shutter .

ALARM   POWER   CAUTION

(RED)   (GREEN) (YELLOW)

RA-431
WARRICK CONTROLS

TEST   ACKNOWLEDGE

Model Number:

RA 43 X X X

Optional Character
O - DC on Sensing Circuit
1 - AC on Sensing Circuit
Interface Contact
A - N.O. Dry Contact
    (Probes normally out of water)
B - N.C. Dry Contact
    (Probes normally in water)
Number of Channels
1 - One Channel Unit
Remote Alarm