



### Environmental Products

**These Sensors may not be compatible with indicating and alarm equipment supplied by other manufacturers**

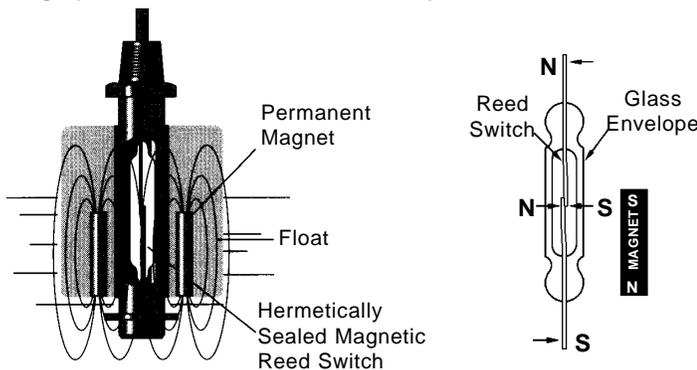
**Note:** LS-800 HLI sensors are non-voltage producing devices and do not contain energy storing components. However, since primary use is in hazardous locations, an appropriate intrinsically safe interface device is required.

Gems LS-800 HLI High Level Indicator has a 2" NPT mounting, making it ideal for use in underground and aboveground storage tanks. When mounted vertically at the tank top, it reliably indicates high liquid level. This indicator is exceptionally versatile. The unit adapts to just about any environment due to rugged construction and the multiple design options available. The LS-800 HLI is available in brass or stainless steel, making it suitable for use with a wide range of liquids.

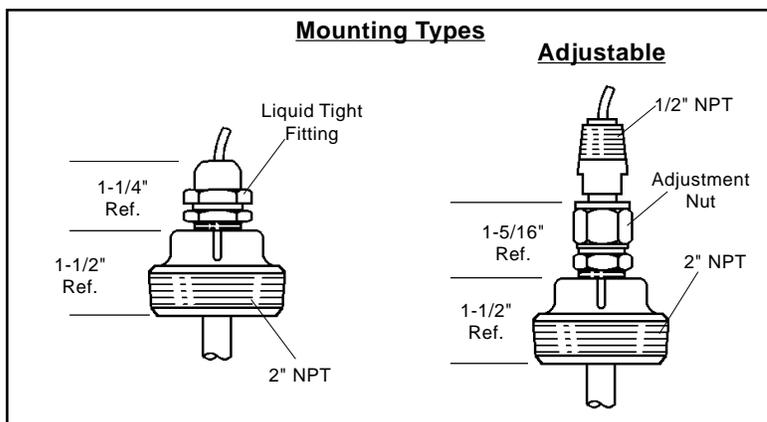
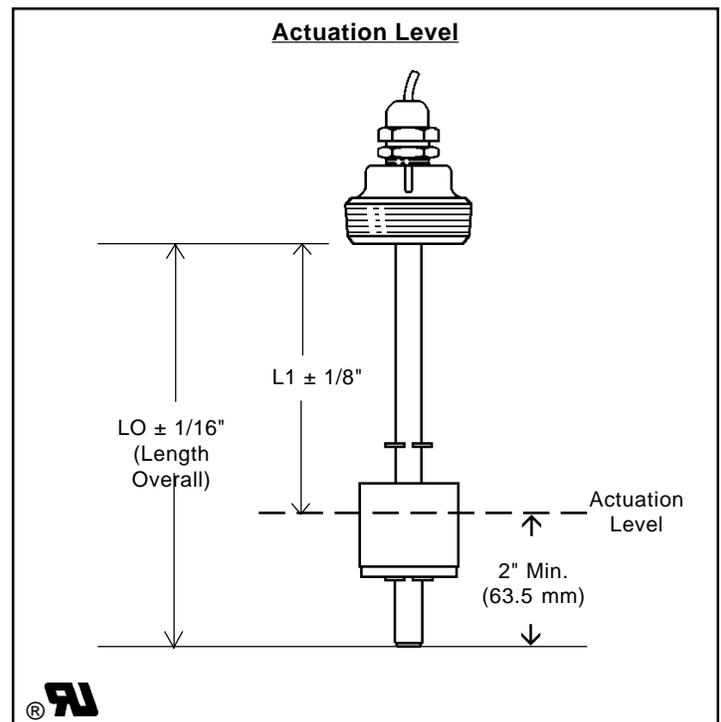
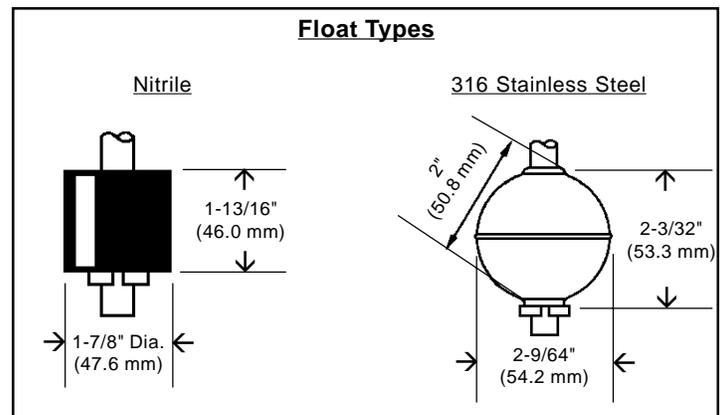
Adjustable versions of the LS-800 HLI are available for varying tank sizes. A special cinch nut on the mounting allows the stem to travel up or down, to fine-tune actuation points. The extent of the adjustment depends on the unit length and distance from the mounting to the highest float stop.

#### Sensor Operating Principle

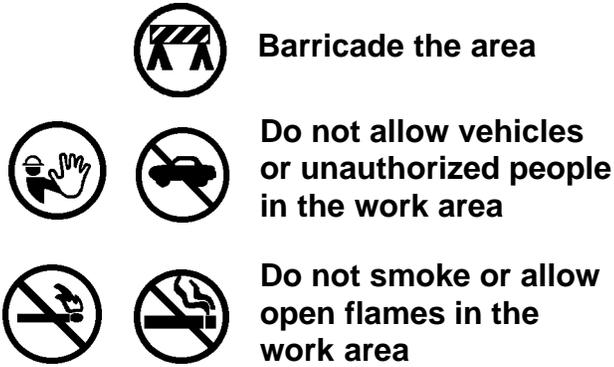
Gems LS-800 HLI liquid level sensor operates on a direct, simple principle. A float is equipped with powerful, permanent magnets. As the float rises or lowers with liquid level, it actuates a magnetic reed switch mounted within the stem. This condition either opens or closes the electrical circuit to operate an external alarm or control circuit. When mounted vertically, this basic design provides a consistent accuracy of  $\pm 1/8$ th inch.



**Note:** Please refer to specific Gems outline drawings for operational specifications.



# Read all instructions before beginning - Follow all safety precautions



**⚠ WARNING**

Dangerous environment.  
 Failure to install this equipment in accordance with NFPA 30A and NFPA 70 could result in severe injury or death.  
 Read, understand and follow NFPA 30A and NFPA 70.



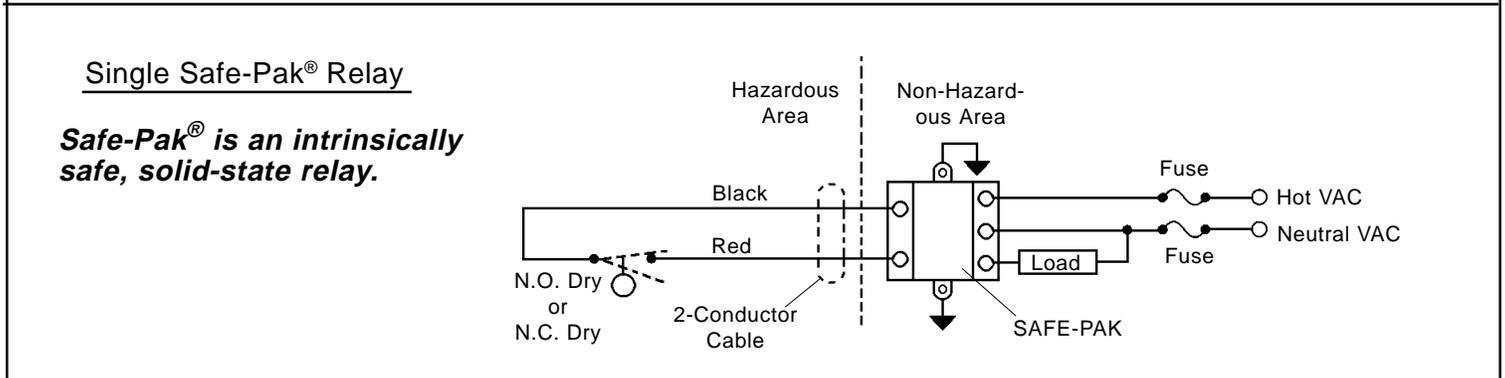
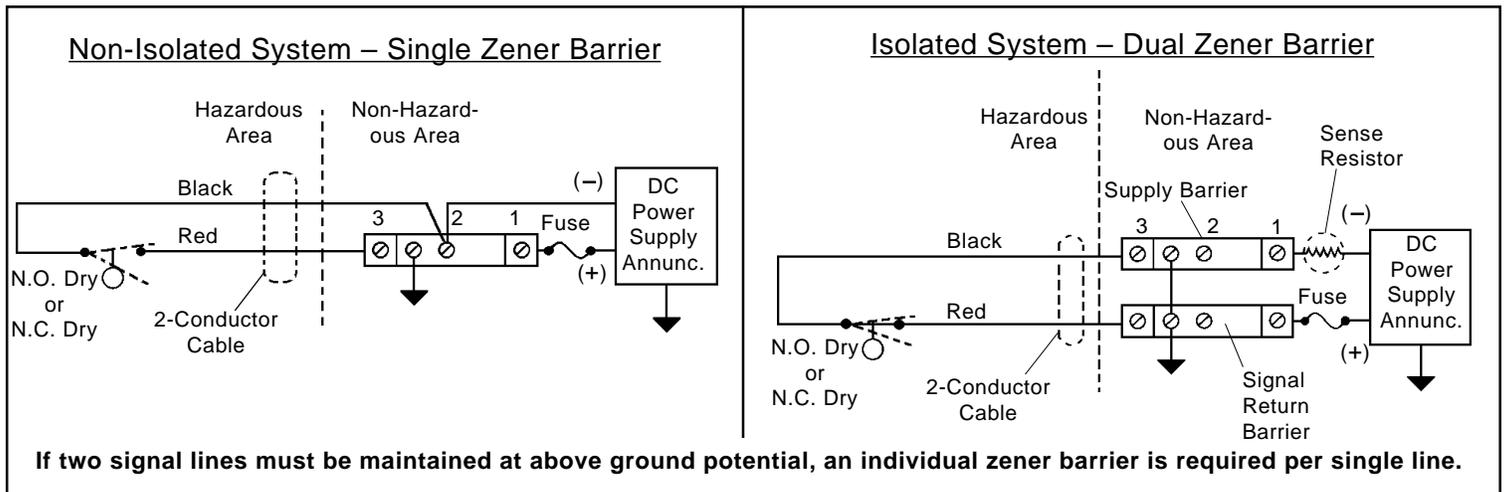
## WARNINGS

Read the instructions and warnings carefully before installing the sensor. This unit must be installed in accordance with National Electrical Code ANSI/NPFA-70, 1990; as well as Federal, State and local codes and any other applicable safety codes.

1. To avoid electrical shock, which could kill you, be sure AC power to monitor is off during installation.
2. The nature of the sensor is that it is a non-voltage producing device, containing limited energy-storing components. However, since its primary use is in a hazardous location, an appropriate intrinsically safe interface device must be used.

***Note: Failure to observe these warnings could result in serious injury and death, as well as undetected potential environmental and health hazards.***

### Typical Wiring Diagrams



## - IMPORTANT -

This manual assumes all preliminary site preparation is completed and that field wiring from the monitor to the sensor junction box is in place.

### Installation Instructions

#### A. Pre-Installation Sensor Testing

1. Temporarily connect the two-wire sensor cable to the field wires in the sensor junction box.
2. Turn power on.
3. Turn the LS-800 HLI upside down. Audible and visual indicators should alarm.
4. To remove alarm condition, turn the sensor right side up.

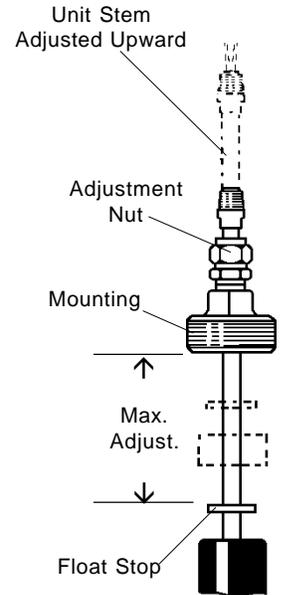
#### B. Sensor Installation Instructions

1. Turn off power to the control.
2. Apply thread tape or pipe sealant to male threads on the 2" NPT of LS-800 HLI.
3. Install LS-800 HLI hand-tight, plus 1-1/2 to 2-1/2 turns.
4. Tighten using wrench: 1 to 1-1/2 turns past hand-tight.
5. Feed sensor cable through the cord grip on the junction box.
6. Tighten cord grip nut to ensure a watertight seal at the cable entry.
7. Using the wire nuts, connect the 2-wire cable to the field wires in the sensor junction box.

#### For Adjustable Mounting:

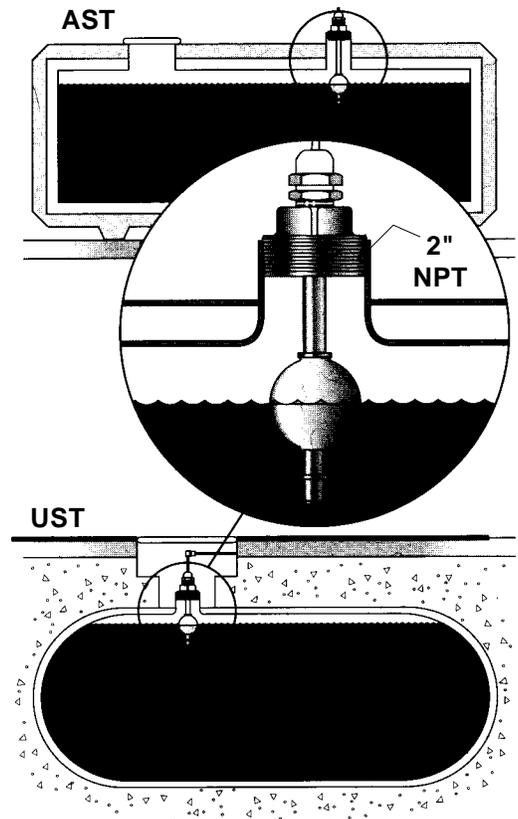
A special cinch-nut on this mounting allows stem to travel up or down for fine-tuning the actuation points. The extent of adjustment depends on unit length and distance from mounting to highest float stop.

To adjust unit, loosen adjustment nut, slide center stem to desired location and tighten adjustment nut.



### Typical Installation

- Underground Storage Tanks
- Aboveground Storage Tanks



## Maintenance

**Note:** Please consult your state E.P.A. office or appropriate regulatory agency regarding periodic inspection of the sensor. There are no user serviceable parts.

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## WARNING

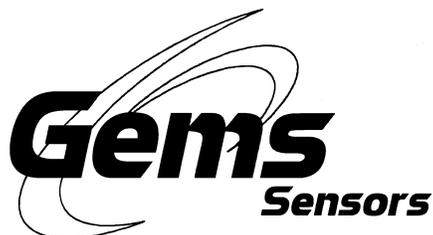
**Product must be maintained and installed in strict accordance with the National Electrical Code and the applicable GEMS technical bulletin and instruction bulletin. Failure to observe this warning could result in serious injuries or damages.**

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## Warranty

Gems' standard warranty applies

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