



Instruction Manual

PLS1600 Series

Liquid level Systems



Sensaras

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General.

The **PLS16X** Series is an ideal solution for detecting liquid in storage vessels, tanks and pipes. With integrated electronics it is designed for almost any liquid level application. The probe is constructed in 316LSS material. The electronic module is captured in a plastic cassette and is mounted in a NEMA 4/ 7 explosion proof housing. An LED indicator on the electronic module offers a visual status of the system. Field selectable Fail safe allows for the relays to be energized on power up or in normal condition to close when liquid is present. A Demand Push button self-test feature on the electronic module assures the user the system is functioning correctly. A delay is added in on the liquid down to avoid false trip due to wave action.

PLS161- sensor is designed to detect liquid at the lowest point in a vessel. The design requires only 0.25" from the end of the probe to detect a signal.

PLS162- sensor is designed with a higher gain where aeration in liquids can be problematic.

PLS163- sensor is designed with a larger gap to detect sludge in liquid.

PLS164- sensor is designed for cold temperatures.

PLS167-sensor is designed built for detecting an interface between two non-homogenous liquids.

PLS168- sensor is designed built on a pipe section from 0.5" to 3".

The **Electronic Module** is the same for the above models of sensors. It is designed to function without calibration allowing the probe to be functional if the chemical density or viscosity changes. A potentiometer is provided to adjust the gain for the application such as with the PLS163 thru PLS168- series.

Specifications:

Electrical ratings:	Input 24VDC (60mA Max);	Output: 5A DPDT 240VAC 50/60Hz
	Input 90-230VAC (30mA Max);	Output: 5A DPDT 240VAC 50/60Hz
	Input 9-30VDC (21mA Max);	Output: Loop Power 4-20mA
Temperature:	Electronics:	-20°C to 60°C
	Sensor:	Refer to model number
Pressure:	Sensor:	Maximum Working Pressure (MWP) 1000 psig.
Material:	Sensor:	Compatible with process Fluids or Gasses.

Installation:

Prior to installation a preliminary operation check is recommended. Inspect the unit for visual damage and report to the company if any is found.

Verify the power source with that of the model. **See wiring diagram.**

Connect the power source to the electronic module.

Turn on power.

The LED should glow RED or GREEN depending on the Fail-Safe select switch. Push the Demand Self-Test button. The LED should change color.

Fill a container with water and dip the probe to the actuation point.

The LED should change color.

Select the mode of operation in Normal or Fail-Safe before final installation. Should the gain need to be adjusted, turn the potentiometer clockwise to increase the gain or counter clockwise to decrease the gain. For Loop Power operation perform test using a multi-meter.

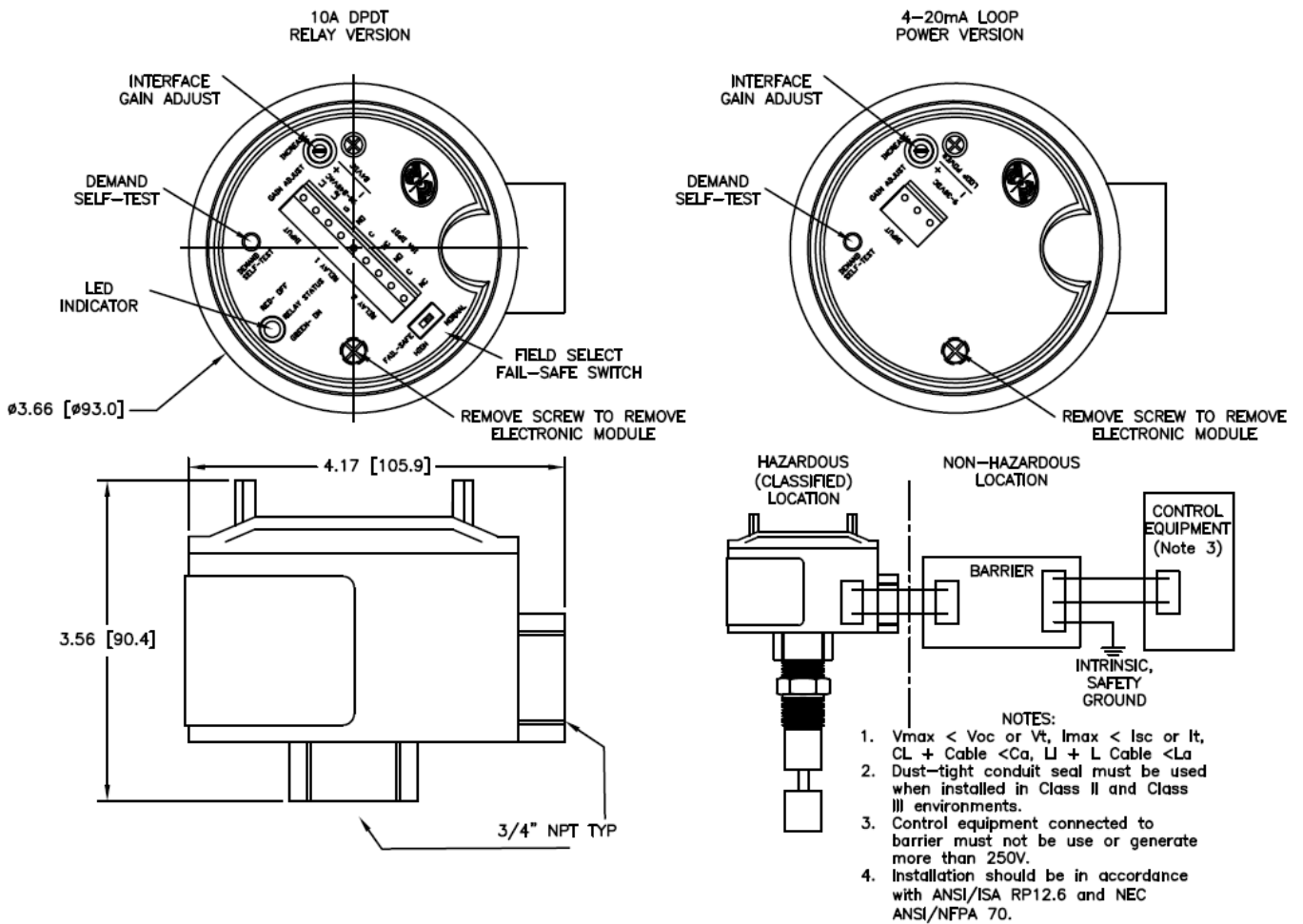
Final Installation.

Install the sensor into the matching process connection as purchase order determined. Use pipe compound or tape on threaded connections as required for a good seal. Do not over tighten. Run power and output wires to electronic enclosure, follow National Electrical Codes required.

Maintenance.

The sensors have no moving parts but can become clogged by liquids that tend to coat the surface. Periodically clean the sensor if used in such liquids.

The Electronic Module Wiring Diagram.



Dimensions for the probe are on the data sheets for the series of sensor.

Warranty:

Sensaras LLC, products are warranted to be free from defects in material and workmanship for a period of 12 months from the date of shipment of the original Purchaser and Order. This warranty applies to the general purchaser and to components installed, serviced and operated according to the instruction manual. Sensaras will repair or replace at its option.

Claims are to be made in the warranty period. It does not apply to any component that has been damaged due to improper installation, exposed to unusual atmospheric conditions, misuse, misapplied or damage due to neglect, damage, abuse, altering or repairing.

- The Sensaras products must be maintained and installed in strict accordance with the National Electrical Code and the applicable.
- The Sensaras Product Instruction Bulletin that covers installation, operation and proper maintenance. Failure to observe this information may result in serious injury or damages.
- Please adhere to the pressure and temperature limitations shown in drawings data sheets and specifications. These limitations must not be exceeded. These pressures and temperatures take into consideration possible system surge pressures / temperatures and their frequencies.
- Selection of materials for compatibility with the media is critical to the life and operation of the Sensaras products.
- Ambient temperature changes do affect switch set points, since the gravity of a liquid can vary with temperature.
- Our sensors have been designed to resist shock and vibration. However, shock and vibration should be minimized.
- Filter liquid media containing particulate and/or debris to ensure the proper operation of our products.
- Our sensors must not be field-repaired.
- Physical damage sustained by product may render it unserviceable.

Material Returns:

Returns are accepted on stock items up to 30 days from date of order. You must contact our Returns Department for a Return Material Authorization (RMA) # Return the goods - freight prepaid - in the original container and include original packing slip.

C. O. D. returns are not accepted. Sensaras reserves the right to apply restocking charges.

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