



Instruction Manual

PLS 2600 Series

Multipoint Liquid Level System



Sensaras

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General.

The PLS26X Series Dual Point system is an ideal solution for detecting liquid in storage vessels, tanks and pipes at two independent points. With integrated electronics it is a 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. Factory set function for Auto Fill or Auto Empty is available.

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.**

For Loop-Powered version of the sensor, test for continuity between the chassis of the sensor and the pins of the terminal block on the electronic module. **It must be isolated.**

Connect the power source to the electronic module.

Turn on power. Follow **LED and Relay function (Chart).**

The LED should glow the color as in chart. Push the Demand Self-Test button.

The relays should change state depending on the failsafe switch.

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

The LED should change color as in the chart.

Select the mode of operation in Normal or Fail-Safe before final installation. Should the gain need to be adjusted, turn the potentiometer clock wise to increase the gain or counter clock to decrease the gain.

Final Installation.

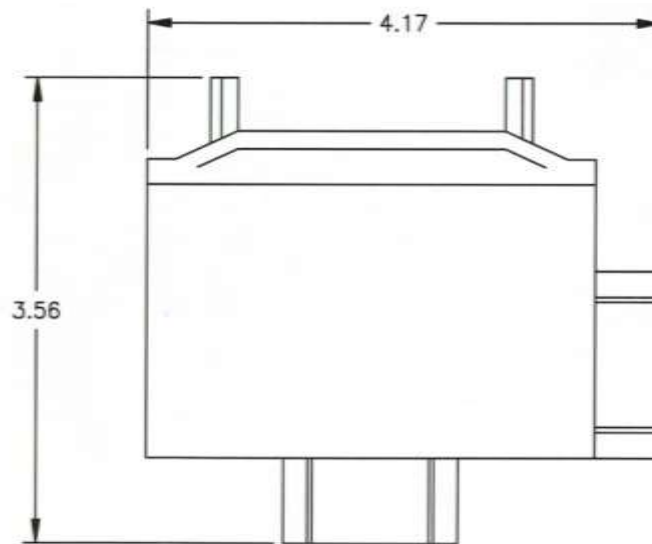
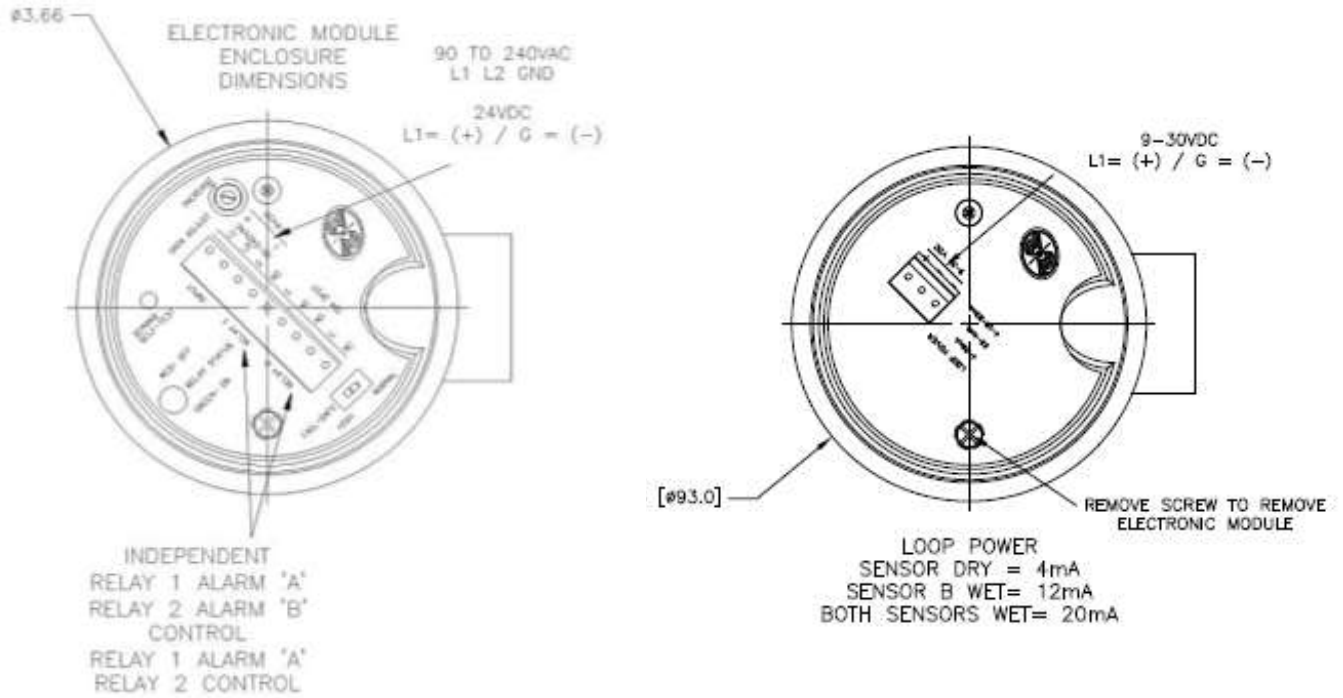
Install the sensor into the matching process connection as purchase order determined.

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.

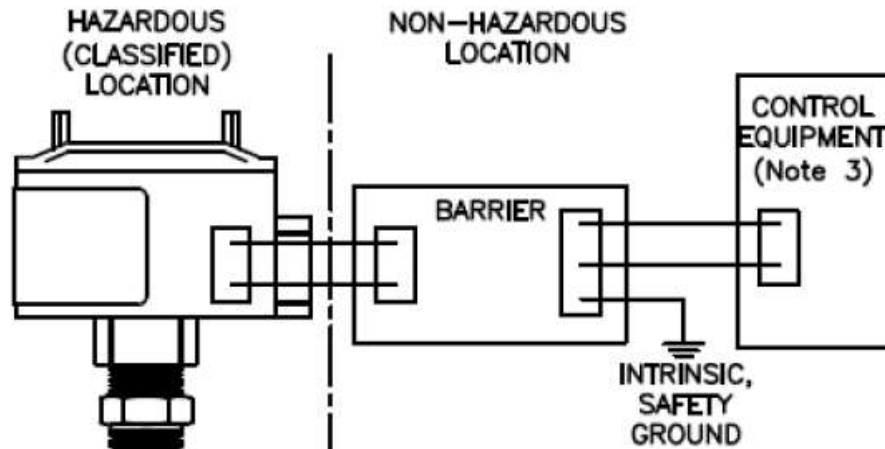
The Electronic Module Wiring Diagram.



Relay Version:

<i>Sensor 'A' (High)</i>	<i>Sensor 'B' (Low)</i>	<i>LED Status</i>	<i>Relay 1</i>	<i>Relay 2 (CONTROL)</i>	<i>Switch</i>	<i>Condition</i>
INDEPENDENT DUAL POINT SYSTEM						
DRY	DRY	RED	OFF	OFF	NORMAL	
DRY	WET	BLUE	OFF	ON	NORMAL	
WET	WET	GREEN	ON	ON	NORMAL	
SENSORS DRY		GREEN	ON	ON	NORMAL	DEMAND SELF TEST
UNPLUGGED SENSOR		FAST BLINK RED	OFF	OFF	NORMAL	FAULT
WET	DRY	SLOW BLINK RED	ON	OFF	NORMAL	FAULT
DRY	DRY	RED	ON	ON	FAIL SAFE	
DRY	WET	BLUE	ON	OFF	FAIL SAFE	
WET	WET	GREEN	OFF	OFF	FAIL SAFE	
SENSORS DRY		GREEN	OFF	OFF	FAIL SAFE	DEMAND SELF TEST
UNPLUGGED SENSOR		FAST BLINK RED	ON	ON	FAIL SAFE	FAULT
WET	DRY	SLOW BLINK RED	OFF	ON	FAIL SAFE	FAULT
AUTO FILL / AUTO EMPTY FACTORY SET SYSTEM						
DRY	DRY	RED	OFF	ON	AUTO FILL	POWER UP
DRY	WET	BLUE	OFF	ON	AUTO FILL	FILL CYCLE
WET	WET	GREEN	ON	OFF	AUTO FILL	
DRY	WET	BLUE	OFF	OFF	AUTO FILL	LATCH
DRY	DRY	RED	OFF	ON	AUTO FILL	
UNPLUGGED SENSOR		FAST BLINK RED	OFF	OFF	AUTO FILL	FAULT
WET	DRY	SLOW BLINK RED	ON	ON/OFF	AUTO FILL	FAULT / CONDITIONAL
DRY	DRY	RED	OFF	OFF	AUTO EMPTY	POWER UP
DRY	WET	BLUE	OFF	OFF	AUTO EMPTY	EMPTY CYCLE
WET	WET	GREEN	ON	ON	AUTO EMPTY	
DRY	WET	BLUE	OFF	ON	AUTO EMPTY	LATCH
DRY	DRY	RED	OFF	OFF	AUTO EMPTY	
UNPLUGGED SENSOR		FAST BLINK RED	OFF	OFF	AUTO EMPTY	FAULT
WET	DRY	SLOW BLINK RED	ON	ON/OFF	AUTO EMPTY	FAULT / CONDITIONAL

Loop-Power Version:



- NOTES:
1. $V_{max} < V_{oc}$ or V_t , $I_{max} < I_{sc}$ or I_t , $CL + \text{Cable} < C_a$, $L_I + L_{\text{Cable}} < L_a$
 2. Dust-tight conduit seal must be used when installed in Class II and Class III environments.
 3. Control equipment connected to barrier must not be use or generate more than 250V.
 4. Installation should be in accordance with ANSI/ISA RP12.6 and NEC ANSI/NFPA 70.

The sensor chassis makes contact with the chassis of the container that is grounded. As a Loop Powered device, the chassis of the dual point sensor in this version is electrically isolated from the input power of the electronic module. This allows for the output to be isolated.

Trouble shooting

- The level sensor does not function if the sensors are bent at the gap.
 - Depending on the how bent the sensor is, it can be straightened and function.
- There is a buildup of residue between the gap.
 - Cleaning the sensor would make the sensor function.
- Not enough power to the electronics.
 - Make sure that the minimum power requirements are met.
 - If a barrier is used, make sure it adequate to handle the output current load.
- Air bubbles in the liquid that the sensor is being in.
 - The air bubbles may get trapped at the top of the gap, having the design at 90° would help (installing the sensor in the side of the tank/pipe).

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 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.

Telephone: 1-631-524-5775.

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