



XLS-1 Series

Single Point Ultrasonic Level Sensor

General Description

XLS-1 ultrasonic level switches are compatible with water-based and hydrocarbon based liquids, and are perfect for applications where condensation may affect other sensing technologies. The XLS-1 is an ideal solution for sensing liquid level in generators, water tanks, radiators, printers, and other industrial applications. XLS-1 ultrasonic level switches expand the Gems catalogue of solid-state level sensors.

Principle of Operation

1. Function

- a. The sensor's protruding tip detects the presence or absence of the liquid medium and actuates a solid state switched output.

The sensor is optimized to detect water or hydrocarbon based liquids.

2. Orientation and Mounting

- a. The sensor may be mounted horizontally $\pm 60^\circ$.

Specifications:

Mountings	1/4"NPT, 1/2"-20 per SAE J1926-3, M12x1, M12x1.5 ISO 6149-3, 1/2"NPT
Installation Torque	M12x1.0 = 11-13 ft-lbs M12x1.5 = 14.5-16.5 ft-lbs 1/2"-20 = 16-18 ft-lbs
Housing Material	316 Stainless Steel
Operating Pressure	0-750 psi
Operating Temperature	
Deutsch®/Leads	-40°F to +257°F (-40°C to +125°C)
Cable Versions	-4°F to +158°F (-20°C to +80°C)
Supply Voltage	5 to 28 VDC
Current Consumption	20mA max. (no load)
Output	Open collector, sinking or sourcing output, 5-28 VDC, 30mA max.
Response time to fluid	Less than 0.5 seconds
Electrical Termination	3-pin Deutsch® (DT04-3P), 18 AWG Type SXL flying leads 12" std. (304.8mm) or 18 AWG PVC Cable 3' std.
Sensing Element Length	1.25"(31.8mm) (including thread length)
Approvals	CE, RoHS, UL / cUL, IP67 and IP6K9K

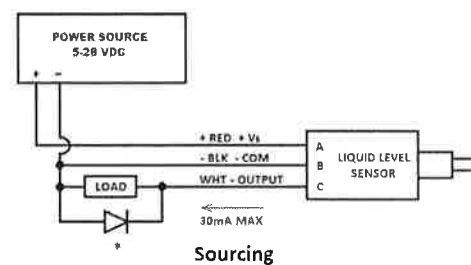
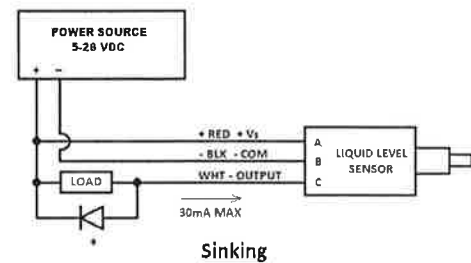
Installation:

1. Straight Thread Sensors: Tighten sensor to the applicable torque shown in table. Do not apply torque to the plastic components. Threading sensors into plastic threads may require lower torque value.

2. 1/4"NPT or 1/2"NPT Sensors: Using Teflon tape, torque one to two turns (maximum) past the hand-tight engagement. Over torque of the sensor can permanently damage sensor. If pipe sealant is used, ensure no sealant is accidentally applied to the probe tip gap.

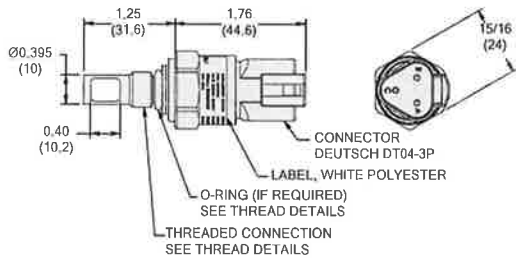
Wiring Diagrams:

* For inductive loads, use diode suppression.

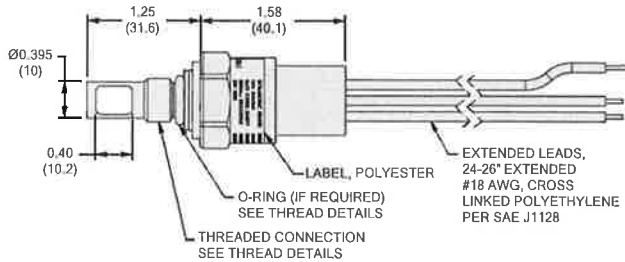


Dimensions:

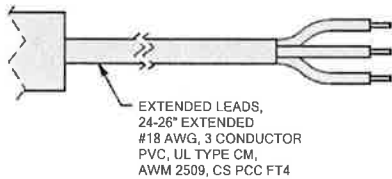
3-PIN Deutsch Connector



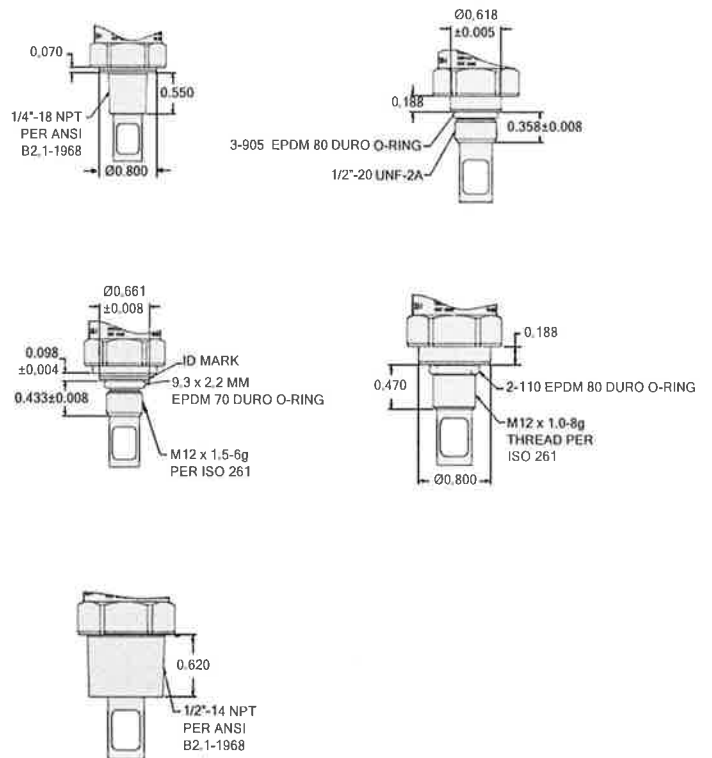
3-Wire Output



PVC Cable



Thread Details:



Important Points:

- Gems products must be maintained and installed in strict accordance with the National Electrical Code and the applicable Gems 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 throughout this catalog for our level and flow sensors. 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 Gems products. Take care in the proper selection of materials of construction; Testing is required.
- Our sensors have been designed to resist shock and vibration. However, shock and vibration should be minimized.
- Electrical entries and mounting points in an enclosed tank may require liquid/vapor sealing.
- Our sensors must not be field-repaired.
- Physical damage sustained by product may render it unserviceable.

Return Policy

Returns are accepted on stock items up to 30 days from date of order. You must contact our Returns Department for a Return Authorization (RA) number. Return the goods—freight prepaid—in the original container and include original packing slip. COD returns are not accepted. Gems reserves the right to apply restocking charges.