

ELS-950/M Series Electro-Optic Level Switch

Specifications

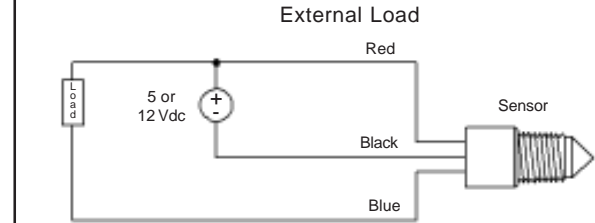
Materials	ELS-950: Polysufone
Housing and Prism	ELS-950M: Brass body with glass prism
Operating Pressure	250 psig, (17 bar)
Operating Temperature	-40°F to 230°F (-40°C to +110°C)
Input Voltage	5 Vdc, 12 Vdc \pm 10%
Output Configuration	Open drain may sink 40mA max. @30Vac
Current Consumption (No Load)	~ 4mA @ 5Vdc ~ 10mA @ 12 Vdc
Repeatability	\pm 1 mm
Approval Specifications	UL listed file no. E108913 CE approved per EN 61326

Note: Not for use in freezing liquids

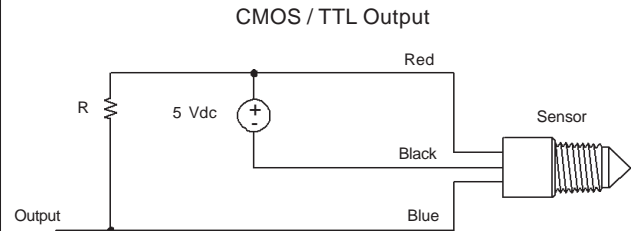
Installation

- For NPT threaded units:
 - Use Teflon (TFE) thread tape or Permatex #80725 plastic pipe sealant to seal threads on plastic bodied sensors.
 - Use Teflon (TFE) thread tape or curing type thread sealant (such as Loctite® #565 with primer "N") to sal threads on metal bodied sensors.
 - Caution: Pipe sealant must not come in contact with prism surface.**
 - Thread sensor into tank wall and tighten by hand. Further tighten an additional one to two threads past hand-tightness. **(Avoid overtightening, as this may damage threads.)**
- For 1/2" and M12 straight threaded units:
 - Thread sensor into tank wall by hand until sensor housing contacts tank wall surface. (See below for mating o-ring gland design information.)
 - The sensor shall be torque tightened to 12 to 24 in-lb (1.4 to 2.7 N-m). This range is slightly more than "hand-tight" to insure sealing, and less than that which would cause housing or thread damage.
 - CAUTION:** Under no circumstances shall the sensor be tightened more than 1/6 turn beyond that required to seat the bottom of the sensor housing with the outside wall of the tank.
- Sensor may be installed in horizontal or up to 45° from horizontal plane for best operation. Vertical mounting is possible, may be droplet sensitive, depending on viscosity of media.
- Caution:** Do not install sensor close to infrared sources or incandescent light. Reflective surfaces may interfere with proper operation of the optical sensor. (Consult Gems Sensors if prism is to be mounted less than 2" from any reflective surface.)
- Connect voltage supply (Vdc \pm 10%) Between red (+) and black (-) of the unit.
Caution: Do not connect output (blue wire) to Vdc power without a load.
See wiring diagrams for output configuration.

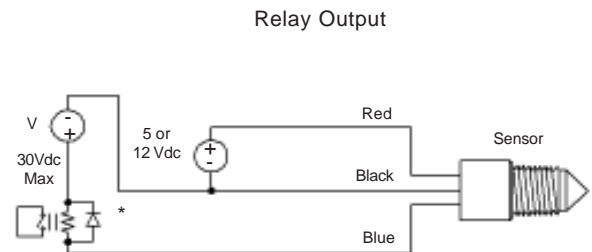
Typical Wiring Diagrams



Note: May sink up to 40mA max. Use diode suppression for inductive loads.



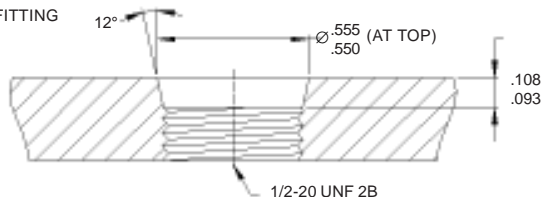
Max. current sink = 40mA
R = Pull-up Resistor (4.7K 1/4W)



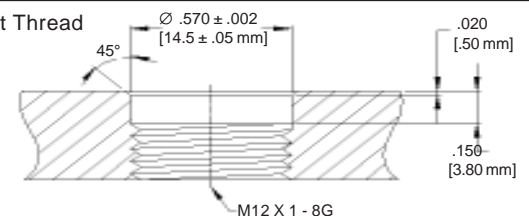
Note: * For inductive loads, use diode suppression

Mating O-Ring Gland Design

1/2" Straight Thread
SAE #5 TUBE FITTING

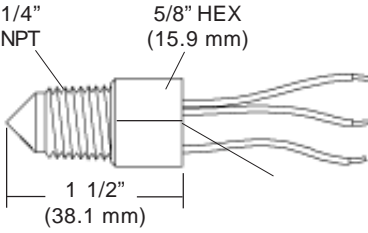
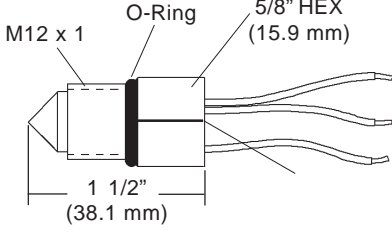
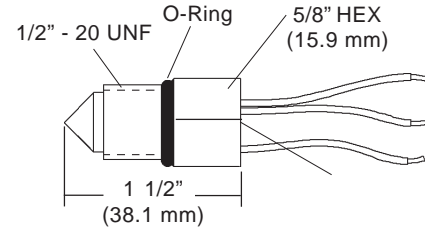


M12 X 1 Straight Thread



Maintenance

Sensor may require a periodic cleaning of prism surface. A mild detergent may be used to clean prism surface.

Dimensions		
1/4" NPT Mounting	M12 x 1	1/2"-20 UNF
		
Electrical Termination: Lead Wires, 22 AWG, TPE Jacketed, 6" to 8" Extended		

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 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.
- Filter liquid media containing particulate and/or debris to ensure the proper operation of our products.
- Electrical entries and mounting points in an enclosed tank may require liquid/vaporsealing.
- Our sensors must not be field-repaired.
- Physical damage sustained by product may render it un-serviceable.

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.

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

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