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.

Tel: 860-793-4357
Fax: 860-793-4563

This product complies with EN61326 Electrical Equipment for Measurement, Control and Laboratory use - EMC Requirements for Minimum Requirements and Industrial Locations. Special caution should be taken to meet EN61000-4-5 Surge Immunity if any of the following conditions apply to the installation: The product is installed outside; the cable is greater than 30 meters in length. In order to meet the Surge Immunity requirements, the following conditions must be followed during installation:

1. Shielded cable must be used, and the shield must be tied to earth ground (not power supply ground) on at least one end of the cable shield/drain wire. The shield must be maintained all the way from sensor to the power supply.
2. If unshielded cable is used, an earth grounded metal conduit can be used to replace the shielded cable.
3. For the sensor with metal body or enclosure the body/enclosure must be grounded to earth. If a protective metal housing is used, the metal housing should be grounded to earth.
4. If a protective plastic housing is used, the housing must be able to withstand at least 2 kV from the housing to earth ground.

Important Points

- Product must be maintained and installed in strict accordance with the National Electrical Code and the product catalog and instruction bulletin. Failure to observe this warning could result in serious injuries or damages.
- An appropriate explosion-proof enclosure or intrinsically safe interface device must be used for hazardous area applications involving such things as *(but not limited to)* ignitable mixtures, combustible dust and flammable materials.
- Pressure and temperature limitations shown on individual catalog pages and drawings for the specified sensors 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 these sensors. Take care in the proper selection of materials of construction; particularly wetted materials.
- Life expectancy of switch contacts varies with applications.
- Ambient temperature changes do affect switch set points, since the specific gravity of a liquid can vary with temperature.
- The sensors have been designed to resist shock and vibration; however, shock and vibration should be minimized.
- Liquid media containing particulate and/or debris should be filtered to ensure proper operation of these products.
- Electrical entries and mounting points may require liquid/vapor sealing if located in an enclosed tank.
- Sensors must not be field repaired.
- Physical damage sustained by the product may render it unserviceable.

P/N 179348
Rev. D

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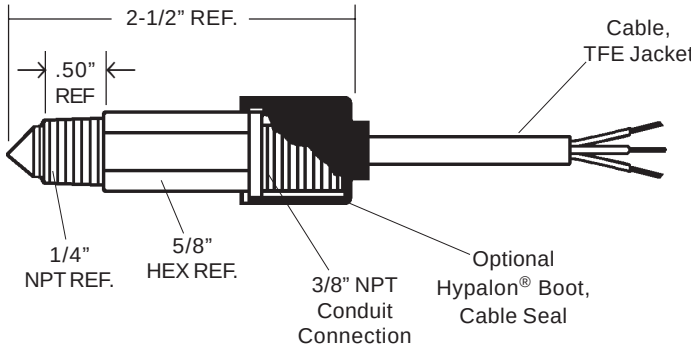
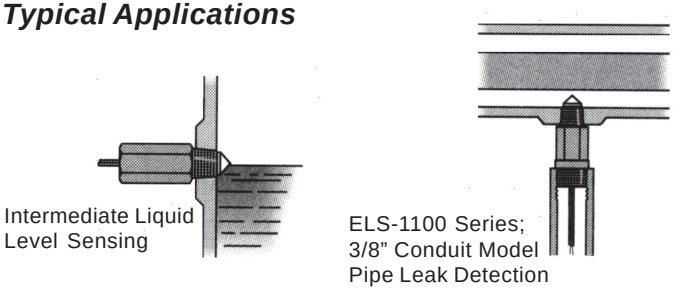
All Teflon®
Electro-Optic Level Switches
ELS-1100TFE Series

Instruction Bulletin No. 179348

Dimensions



Typical Applications



Installation

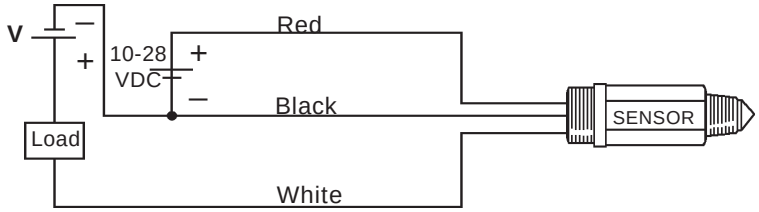
1. Use Teflon (TFE) thread tape or Permatex #80725 plastic pipe sealant to seal thread. **Caution: Pipe sealant must not come in contact with prism surface.**
2. Thread sensor into tank wall and tighten by hand. Further tighten an additional one to two threads past hand-tightness. **(Avoid overtightening, as this may damage threads.**
3. Sensor may be installed in **horizontal** or **vertical** positions, only.
4. ***CAUTION*: Do not install sensor close to infrared sources or incandescent light.**
5. Prism surface must be at least 2" from any reflective surfaces.
6. Connect 10 - 28 VDC power to red lead; return (-) to black lead.
7. Output Configuration: ***See Fig. 1, Fig. 2 and Fig. 3.***

Typical Wiring Diagrams
- Current Sink -

Figure 1
TTL/CMOS Output

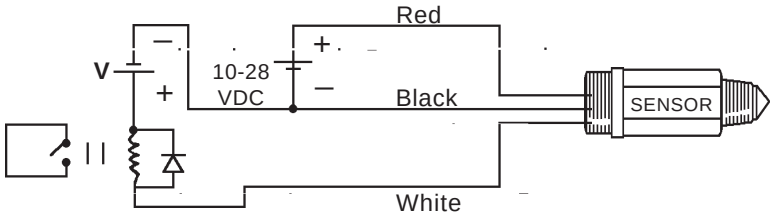
***Note**
For 5 volt CMOS: No pull-up resistor needed. For higher voltage (15 V CMOS), a pull-up resistor is required on output.

Figure 2
External Load



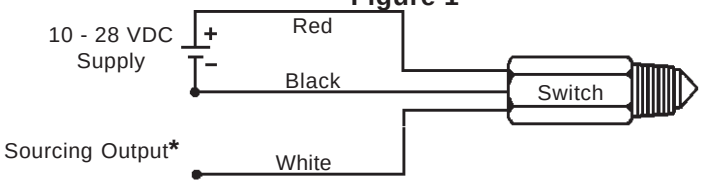
***Note**
Maximum Spec. = 40mA sink @ 30 VDC

Figure 3
Relay Output



***Note**
Inductive loads must be diode suppressed.

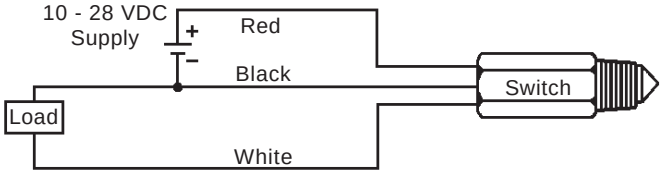
Typical Wiring Diagrams
- Current Source -
- Figure 1 -



* Maximum Sourcing Output: 40mA @ 30V Max.

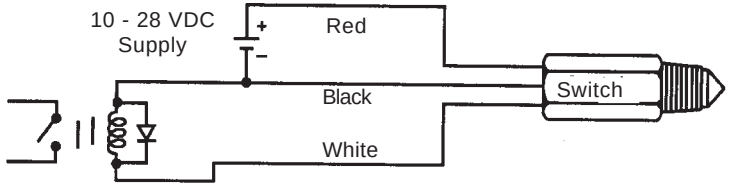
For 5 volt CMOS: No pull-down resistor needed. For higher voltage (15 V CMOS), a pull-down resistor is required on output.

- Figure 2 -
External Load



Max. Spec. = 40mA @ 30 VDC

- Figure 3 -
Relay Output



Max. Spec. = 40mA @ 30 VDC
Inductive loads must be diode suppressed.

Specifications

Material	All Teflon Construction	
Temperature Ranges	0°F to 176°F (-17.8°C to 80°C)	
Pressure Range	0 - 150 psi	
Outputs	Wet Sink Media: Water Output (White): Low (OV) Dry Sink Media: Air Output (White): Low (OV)	Wet Source: Water Output: 28 V (Max) Dry Source: Air Output: 28 V (Max)
Approvals	Units Labelled U.L.File E108913 CE EN61326	

Maintenance

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