



# LVE 951/952 & 951-B Electro-Optic Level Switch



**M-5173/1112**

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## Installation:

- For NPT threaded units:
  - 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.
  - Thread sensor into tank wall and tighten by hand. Further tighten an additional one to two threads past hand-tightness. (Avoid over-tightening, as this may damage threads.)
- For 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 Omega if prism is to be mounted less than 2" from any reflective surface.)
- Connect voltage supply (Vdc + 10%) Between red (+) and black (-) of unit. Caution: Do not connect output (blue wire) to Vdc power without a load. See wiring diagrams for output configuration.

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:

- 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.
- If unshielded cable is used, an earth grounded metal conduit can be used to replace the shielded cable.
- 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.
- If a protective plastic housing is used, the housing must be able to withstand at least 2 kV from the housing to earth ground.

**Maintenance:** Sensor may require a periodic cleaning of prism surface. Chlorinated hydrocarbons must not be used for cleaning. A mild detergent may be used to clean prism surface.

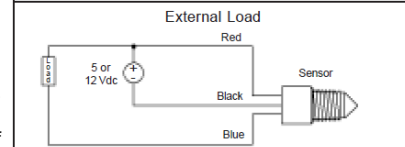
## Specifications

	LVE-951/952	LVE-951B
<b>Materials:</b>		
Housing and Prism	Polysulfone	Nickel plated brass body with glass prism
Operating Pressure	0 to 250 psig, (0 to 17 bar) Max	
Operating Temperature	-40°F to 230°F (-40°C to 110°C)	
Input Voltage	12 VDC ±10%	
Current Consumption	12V ~10mA No Load	
Output Configuration	Open drain may sink 40 mA max.	
Repeatability	±1 mm	
Ambient Light Immunity	See Ambient Light Test	
Approvals	C.E. 61326	

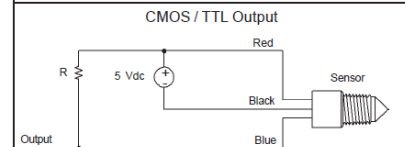
Note: Not for use in freezing liquids.

Actuation Condition	1/4" NPT	M12x1-8
Wet	LVE-951	LVE-951-M12
Dry	LVE-952	LVE-952-M12
Wet	LVE-951-B	N/A

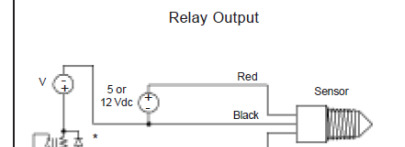
## Typical Wiring Diagrams



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



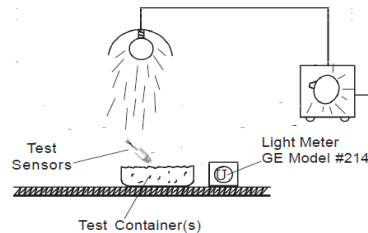
Max. current sink = 40mA  
R = Pull-up Resistor (4.7K 1/4W)



Note: \* For inductive loads, use diode suppression

## Dimensions

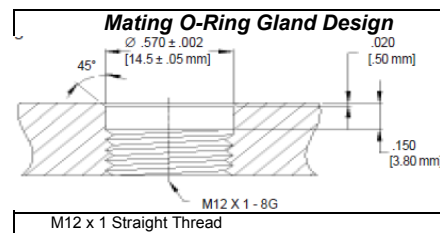
<p>1/4" NPT 11/16" HEX (17.5 mm) 1 7/16" (35.36 mm)</p>	<p>M12 x 1 O-Ring 11/16" HEX (17.5 mm) 1 7/16" (35.36 mm)</p>	<p>1/4" NPT 11/16" HEX (17.5 mm) 1 7/16" (35.36 mm)</p>
LVE-951/952	LVE-951/952-M2	LVE-951-B
Electrical Termination: Lead Wires, 22 AWG, TPE Jacketed, 6" to 8" Extended		



Max Ambient Light	
Black Container	Opaque Container
390 FT-CD	30 FT-CD

Note: Above testing is based on minimum readings of at least two (2) samples.

The test depicted to the left was performed to determine the sensor immunity level to ambient light. The recorded ambient is the maximum level at which the sensor performs/



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