

# FLOWLINE



## OPTIC LEVEL SWITCH

- The leak detection alarm solution for secondary containment vessels
- Cost effective alternative to expensive conductive wire type systems
- Offered in both general purpose and intrinsically safe configurations
- All plastic construction with PP or PFA materials for corrosive environments
- Sensor and cable rated IP68 for submersible operation in tanks or sumps
- Relay or FET switch output for interface with PLC or relay control devices
- Selectable normally open or normally closed switch states



The optic switch measures differences in the refractive index between air and liquid to detect level. An optical prism is located in the tip of the probe. A pulsed beam of infrared light is refracted against in the inner wall of the prism. As the probe tip becomes immersed in a translucent liquid, the light disperses into the liquid and the switch changes state.

### SPECIFICATIONS

Accuracy: ± 1 mm in water  
 Repeatability: ± .5 mm in water  
 Supply voltage: 12-36 VDC  
 Consumption: Relay: 25mA  
 FET: 5mA (dry)  
 19mA (wet)  
 Relay rating: 60 VAC/VDC @ 1A  
 FET rating: 36 VDC @ 100 mA  
 Switch output: Selectable NO or NC states  
 Temp. rating: F: -40° to 194°  
 C: -40° to 90°  
 Pressure rating: 150 psi (10 bar) @ 25 °C., derated @ 1.667 psi (.113 bar) per °C. above 25 °C.  
 Sensor material: PP or PFA  
 Sensor rating: NEMA 6 (IP68)  
 Short threads: 3/4" NPT (3/4" BSP)  
 Long threads: 3/4" NPT (3/4" G)  
 Mounting gasket: Viton (3/4") metric  
 Cable type: 8 ft. (2.5 m), 4-wire (relay) or 3-wire (FET), 22 gauge with ground, shield & PP or PFA jacket

### APPLICATION

The optic switch is an excellent choice for leak detection applications in and around the secondary containment vessel if sumps, tanks and pipes. The relay or FET output provides a reliable switch interface with remote devices such as PLC, SCADA or alarm. For maximum flexibility, the sensor is offered in general purpose and intrinsically safe versions with two probe lengths and PP or PFA Teflon® materials.

### Approvals

CSA approval: Class I, Groups A, B, C & D; Class II, Groups e, F & G; Class III  
 CSA entity parameters: Vmax = 32 VDC  
 Imax = 0.5 A  
 Ci = 0  
 Li = 0  
 CSA certificate: LR79326-4  
 CE compliance: EN 50082-2 immunity  
 EN 55011 emission

General Purpose	Yes	Relay	Option
Conductive	Yes	FET	Option
Non-conductive	Yes	Intrinsically safe	Option
Clean	Yes	Foam	No
Translucent	Yes	Bubbles	No
Non-coating	Yes	Opaque	No
Metallic tank	Yes	Dirty	No
Non-metallic tank	Yes	Light coating	No
PP sensor	Option	Medium coating	No
PFA sensor	Option	Heavy coating	No
Short sensor	Option	Reed	No
Long sensor	Option		

LEVEL SUPERSTORE

Optic Leak Switch		STARTS FROM
LO10 - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		\$ 140
<b>Sensor Material</b>		Add \$ _____
1 - PP		
2 - PFA (add \$100)		
<b>Sensor Length</b>		Add \$ _____
3 - Short		
4 - Long (add \$10)		
<b>Mounting Thread (1)</b>		Add \$ _____
0 - 3/4" NPT		
2 - 3/4" G (add \$5)		
<b>Switch Output (2) (3)</b>		Add \$ _____
0 - Intrinsically safe (add \$40)		
2 - FET, N-channel		
3 - FET, P-channel		
5 - Relay, SPDT (add \$20)		
<b>Total</b>		\$ _____



This document is provided for reference and is believed to be accurate at the time of publication. However, Flowline reserves the right to change the product specifications at any time without notice. Additional information may be obtained on the Internet at <http://www.flowline.com> or by contacting Flowline.

To order a 25' or 50' sensor cable, place the cable length at the end of the part number (ex: LU10-1302-25') and add the following: 25' add \$15.00 for PP or \$50.00 for PFA; 50' add \$30.00 for PP or \$100.00 for PFA.

The G thread sensor comes with a 3/4" Viton mounting gasket.

The intrinsically safe output is a current loop (dry: 5 mA, wet 19 mA). Package the intrinsically safe sensor with isolation controllers or a matching CSA approved intrinsically safe barrier.