

FLOWLINE



ULTRASONIC LEVEL SWITCH

- The switch solution for light coating or scaling type liquids and oils
- 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, SCADA or alarms
- Available in two probe lengths
- Selectable normally open or normally closed output states

APPLICATION

The ultrasonic level switch is an excellent choice for a broad range of liquids including those with light coating or scaling type characteristics. 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.

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



Two piezoelectric crystals are separated by an air gap in the fork shaped tip of the probe. One crystal vibrates at a nominal frequency of 1.5 MHz. and transmits an acoustic signal into the center of the gap. As the probe tip becomes immersed in liquid, the crystals acoustically couple and the FET switch changes state.

SPECIFICATIONS

| | |
|------------------|--|
| Accuracy: | ± 1 mm in water |
| Repeatability: | ± .5 mm in water |
| Frequency: | 1.5 MHz. |
| 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 |

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 |

| Ultrasonic Level Switch | | STARTS FROM |
|--|--|-----------------------|
| LU10 - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | | \$ 250 |
| Sensor Material | | Add \$ _____ |
| 1 - PP | | |
| 2 - PFA (add \$100) | | |
| Sensor Length | | Add \$ _____ |
| 3 - Short | | |
| 4 - Long (add \$10) | | |
| Mounting Thread (1) | | Add \$ _____ |
| 0 - 3/4" NPT | | |
| 2 - 3/4" G (add \$5) | | |
| Switch Output (2) (3) | | Add \$ _____ |
| 0 - Intrinsically safe (add \$40) | | |
| 2 - FET, N-channel | | |
| 3 - FET, P-channel | | |
| 5 - Relay, SPDT (add \$20) | | |
| | | Total \$ _____ |

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.



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.

LEVEL SUPERSTORE