L312E SERIES

CUSTOM MULTI-LEVEL FLOAT SWITCH
IDEAL FOR SMALL TANKS IN HAZARDOUS LOCATIONS

DESCRIPTION

The vertically-mounted L312E Multi-Level Switch for Hazardous Locations is designed to monitor up to five levels on a single device. With only one entry, the L312E can track changing levels within a small tank, as well as monitor liquid interfaces of dissimilar liquids for oil/water separations, chemical emulsions and condensation levels. Probe lengths are available up to 4' with various enclosures, 316 stainless steel floats and mounting types to suit most applications.

L312E

PRINCIPLE OF OPERATION

The switching action is achieved through the use of an internal magnet within the float assembly and its interaction with the switch mechanism. As the liquid level fluctuates inside the tank, the float moves. Its magnetic field actuates each reed switch inside the stem and completes an electrical circuit.

PRODUCT CONFIGURATION

- A *Mounting & Materials*
- B *Float Size*
- C *Switch Wiring*
- D *Actuation Levels*

KEY FEATURES

- Modular Design
- Probe Lengths Up to 4'
- Capable of Up to 5 Switch Positions
- SPST 50 VA Switch (Standard)
- Explosion-Proof Rating

APPROVALS

- UL & CUL Recognized
- FM-Approved
  Class I, Div 1, Groups A, B, C, D
  Class II, Groups E, F, G
  Class III, T4, Type 4

A MOUNTING & MATERIALS

MOUNT TYPE*	MOUNT & STEM MATERIALS	FLOAT MATERIALS	SWITCH TYPE	ENCLOSURES
05 ¾" NPT	08 316 / 316L SS	08 316 SS	03 50 VA SPST	00 No Enclosure
06 1" NPT	10 Hastelloy	15 Teflon® (PFA)	04 100 VA SPST	01 Aluminum, ½" NPT
08 1½" NPT			06 3 VA SPDT	02 Small Cast ¾" NPT
09 2" NPT			50 50 VA SPST w/ Leadwire	03 Large Cast ½" NPT
10 3" NPT			51 100 VA SPST w/ Leadwire	
11 4" NPT			52 3 VA SPDT w/ Leadwire	
42 SAE-32 Thread			55 50 VA SPST w/ Terminal	
52 1" BSP Thread			56 100 VA SPST w/ Terminal	
62 1" Sanitary Flange			57 30 VA SPDT w/ Terminal	
73 2" #150 ANSI Flange				
75 3" #150 ANSI Flange				
86 3" #300 ANSI Flange				

B FLOAT SIZE & OPERATING SPECIFICATIONS

FLOAT MATERIALS	DIMENSIONS	AVAILABLE MOUNT TYPES	TEMPERATURE	PRESSURE	SG**
316 Stainless Steel	1" × 1"	06, 08, 09, 10, 11, 42, 52, 62, 73, 75, 86	-40° to +300° F	300 PSIG	1.00
316 Stainless Steel	1.5" × 1"	08, 09, 10, 11, 42, 73, 75, 86	-40° to +300° F	100 PSIG	0.69
316 Stainless Steel	1" Ball	08, 09, 10, 11, 42, 73, 75, 86	-40° to +300° F	375 PSIG	0.84
316 Stainless Steel	0.9" × 1.5"	05, 06, 08, 09, 10, 11, 42, 52, 62, 73, 75, 86	-40° to +300° F	200 PSIG	0.96
316 Stainless Steel	1" × 1.22"	06, 08, 09, 10, 11, 42, 52, 62, 73, 75, 86	-40° to +300° F	275 PSIG	0.86
316 Stainless Steel	1.61" × 1.1"	08, 09, 10, 11, 42, 73, 75, 86	-40° to +300° F	120 PSIG	0.55
Teflon®	1" × 1"	06, 08, 09, 10, 11, 42, 52, 62, 73, 75, 86	-40° to +300° F	1000 PSIG	0.60

SWI SOLUTIONS WITH INNOVATION / AMETEK® LEVEL MEASUREMENT SOLUTIONS

*Additional mounting styles/types available.
**SG refers to the recommended minimum liquid specific gravity.

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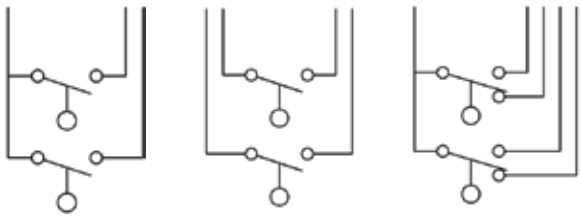
FM APPROVED c UL us

SWITCH WIRING & ELECTRICAL SPECIFICATIONS

Each switching point requires one float. For special applications, a single float can be used to activate two switching points with a minimum separation space of 1/8" (3 mm). The maximum number of actuation levels depends on the wiring.

ELECTRICAL

- Switch Ratings:
  SPST 20 VA @ 120 VAC
  SPST 50 VA @ 240 VAC
  SPDT 3 VA @ 30 VAC/VDC
- Connection: 24" Free Leads #22 AWG TFE Jacketed
- Mounting Altitude: Vertical ± 30˚



1 to 5 Switch Points | 1 to 3 Switch Points | 1 to 2 Switch Points

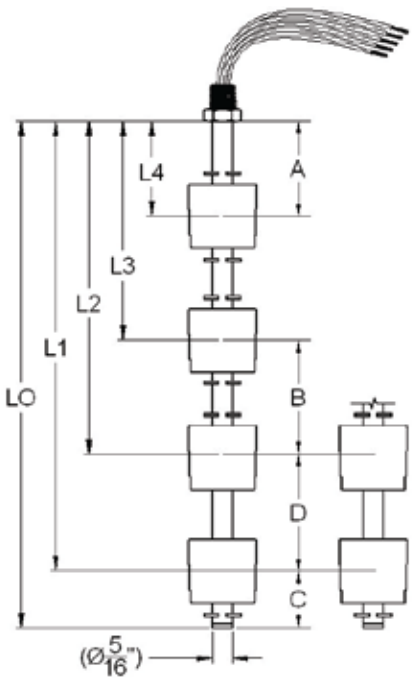
C SWITCH WIRING & ELECTRICAL SPECIFICATIONS

WIRING OPTIONS	GROUP 1 SPST	GROUP 2 SPST		GROUP 3 SPDT	
Common Wire	Black	None		Black	
	NO/NC	NO	NO	NO	NC
L1	Red	Red	Red	Red	White-Red
L2	Yellow	Yellow	Yellow	Yellow	White-Yellow
L3	Blue	Blue	Blue		
L4	Brown				
L5	Orange				

ACTUATION LEVEL DIMENSIONS

NOTES

- A, B and C dimensions are based on a specific gravity of 1.0.
- When using one float for two actuation points, contact the factory for the available switch ratings.
- Actuation levels are calibrated on descending fluid levels with water, unless otherwise specified.
- Standard tolerance on actuation levels is ± 1/8" (3 mm).



D ACTUATION LEVEL DIMENSIONS

AREA	DISTANCE (INCH)	DISTANCE (MM)	DEFINITION
A	1½"	38 mm	Minimum Distance from Actuation Point to Inside Surface of Tank or Mounting Pad
B	3"	76 mm	Minimum Distance Between Actuation Levels
C	2"	51 mm	Minimum Distance from End of Unit to Lowest Actuation Level
D	¼"	6 mm	Minimum Distance Between Points When a Single Float is Used to Activate 2 Switches*

**One float can activate two switches when the lower switch is NC and the upper switch is NO.*