

# L500E SERIES

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

### DESCRIPTION

The wider displacement L500E Single or Multi-Level Switch for Hazardous Locations is designed to monitor up to six levels on a single device. With only one entry, the L500E can track changing levels within a large 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 15' with various enclosures, 316 stainless steel floats and mounting types to suit most applications.

### 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.



L500E

### PRODUCT CONFIGURATION

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

### KEY FEATURES

- Modular Design
- Probe Lengths Up to 15'
- Capable of Up to 6 Switch Positions
- SPST 50 VA Switch (Standard)
- Adjustable Model Options
- 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
09 2" NPT	08 316 SS	08 316 SS	03 50 VA SPST	00 No Enclosure
10 3" NPT	10 Hastelloy	10 Hastelloy	04 100 VA SPST	01 Aluminum, ½" NPT
11 4" NPT			14 100 W SPDT	02 Small Cast ¾" NPT
64 2 ½" Sanitary Flange			55 50 VA SPST w/ Terminal	03 Large Cast ½" NPT
73 2" #150 ANSI Flange			56 100 VA SPST w/ Terminal	
74 2 ½" #150 ANSI Flange			57 30 VA SPDT w/ Terminal	
75 3" #150 ANSI Flange				
86 3" #300 ANSI Flange				

### B FLOAT SIZE & OPERATING SPECIFICATIONS

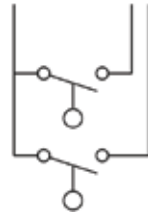
FLOAT MATERIALS	DIMENSIONS	AVAILABLE MOUNT TYPES	TEMPERATURE	PRESSURE	SG**
316 Stainless Steel	2" Ball	09, 10, 11, 64, 73, 74, 75, 86	-40 to +300 °F	750 PSIG	0.79
316 Stainless Steel	2.25" Ball	10, 11, 64, 73, 74, 75, 86	-40 to +300 °F	200 PSIG	0.65
316 Stainless Steel	3.5" Ball	11, 64, 73, 74, 75, 86	-40 to +300 °F	300 PSIG	0.40
316 Stainless Steel	1.5" x 1.3" Cylinder	09, 10, 11, 64, 73, 74, 75, 86	-40 to +300 °F	120 PSIG	0.80
316 Stainless Steel	2" Oblong	09, 10, 11, 64, 73, 74, 75, 86	-40 to +300 °F	300 PSIG	0.80

## SWITCH WIRING & ELECTRICAL SPECIFICATIONS

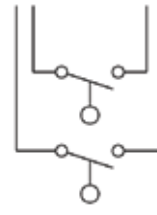
Each switching point requires one float. For special applications, a single float can be used to activate two switching points with a minimum separation space of 1/8" (3 mm). The maximum number of actuation levels depends on the wiring.

### ELECTRICAL

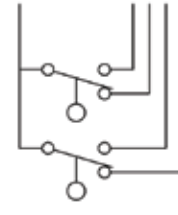
- Switch Ratings:
  - SPST 20, 50 or 100 VA @ 120 VAC
  - SPST 50 VA @ 240 VAC
  - SPDT 100 W @ 240 VAC
- Connection: 24" Free Leads #22 AWG or 18 AWG
- Mounting Altitude: Vertical  $\pm 30^\circ$



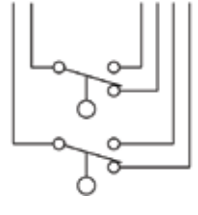
GROUP 1 SPST  
One Common Wire



GROUP 2 SPST  
Independent Circuits



GROUP 3 SPDT  
One Common Wire



GROUP 4 SPDT  
Independent Circuits

## C SWITCH WIRING & ELECTRICAL SPECIFICATIONS

WIRING OPTIONS	GROUP 1 SPST	GROUP 2 SPST		GROUP 3 SPDT		GROUP 4 SPDT		
Common Wire	Black	None		Black		None		
	NO/NC	NO	NO	NO	NC	Common	NO	NC
L1	Red	Red	Red	Red	White-Red	Red	White-Red	White-Black-Red
L2	Yellow	Yellow	Yellow	Yellow	White-Yellow	Yellow	White-Yellow	White-Black-Yellow
L3	Blue	Blue	Blue	Blue	White-Blue			
L4	Brown	Brown	Brown					
L5	Orange							
L6	Gray							

## 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  $\pm 1/8"$  (3 mm).

## D ACTUATION LEVEL DIMENSIONS

AREA	DISTANCE (INCH)	DISTANCE (MM)	DEFINITION
A	1 1/2"	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	1/4"	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.

