



L500

Description

The wider displacement L500 multi-level switch for larger tanks monitors up to eight independent levels in a single device. Available in lengths up to 15 feet, these sensors are individually designed for your application from over 1,400 possible combinations of floats, mounts, and material options.

With only a single entry, the L500 can track changing levels within the tank as well as monitoring liquid interfaces of dissimilar liquids in a single tank like oil/water separations, chemical emulsions, or condensation levels. These sensors can also be equipped with a wide variety of enclosures and thermostatic switches to provide level and temperature control in a single control.

Principle of Operation

A hermetically sealed reed switch is actuated by a magnet inside the float. As the float rises and falls, the magnetic field passing the switches within the stem causes the switches to either close or open.

Product Configuration Choices

Mounting & Materials: Select mounting size, mount and stem material, float material, switch type, and optional enclosure from Table A.

Float Size: Select float from Table B.

Switch Wiring: Select switch wiring from Table C.

Actuation Levels: Select switch actuation level(s) from Section D.



A. Component Choices L500										
L500	Mounting Types		Mounting & Stem Materials		Float Materials		Switch Type		Enclosures	
		04	½" NPT	01	Brass	02	Polypropylene (hollow)	20	20VA SPST	00
	06	1" NPT	02	Polypropylene	05	PVC	03	50VA SPST (standard)	01	Polypropylene NEMA 4
	07	1¼" NPT	05	PVC	08	316 SS	04	100VA SPST	02	Cast aluminum NEMA 4/7/9
	08	1½" NPT	08	316 SS	20	Buna-N	06	3VA SPDT		
	09	2" NPT							03	Cast Iron NEMA 4/7/9
	73	2" 150# ANSI Flange								
	75	3" 150# ANSI Flange								
	76	4" 150# ANSI Flange								



Example: L500-0901-0803-00 = 2" NPT mounting; brass mounting & stem material; 316 SS float; 50VA SPST switches; no enclosure

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B. Float Sizes and Operating Specifications

Float Materials	Dimensions	Available Mount Types	Temperature	Pressure	Minimum Specific Gravity
Polypropylene (hollow)	1.810" x 1.875"	04, 06, 09, 73, 75, 76	-40° to +150° F	50 psig	.55
316 stainless steel	1.5" x 1.3"	04, 06, 09, 73, 75, 76	-40° to +300° F	120 psig	.85
316 stainless steel	2" ball	04, 06, 09, 73, 75, 76	-40° to +300° F	750 psig	.75
Teflon® (hollow)	2.150" x 1.980"	04, 06, 09, 73, 75, 76	-40° to +300° F	100 psig	.95
Buna-N	1.250" x 1.875"	04, 06, 07, 09, 73, 75, 76	-40° to +180° F	150 psig	.65
Buna-N	1.875" x 1.750"	04, 06, 09, 73, 75, 76	-40° to +180° F	150 psig	.65

C. Switch Wiring and Electrical Specifications

Each switching point requires one float. For special applications, a single float can be used to activate two switch points, though these points must have a minimum separation of ½" (12mm). The maximum number of actuation levels depends on the wiring type selected.

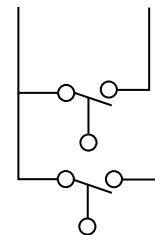
Ratings: 20, 50, or 100 VA @ 120 VAC SPST
50 VA @ 240 VAC SPST
100 W @ 240 VAC SPDT

Connection: 24" Free Leads
#22 AWG

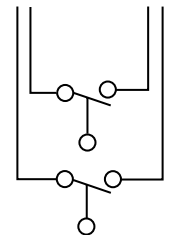
Mounting Attitude: Vertical ±30°



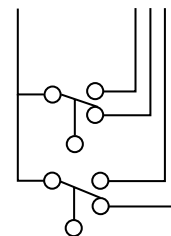
**Group 1 SPST
One Common Wire**



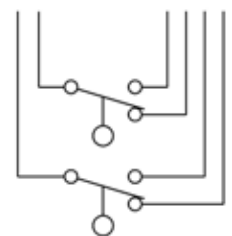
**Group 2 SPST
Independent Circuits**



**Group 3 SPDT
One Common Wire**



**Group 4 SPDT
Independent Circuits**



C. Switch Wiring and Electrical Specifications

Wiring Options	Group 1 SPST	Group 2 SPST		Group 3 SPDT		Group 4 SPDT		
	Common Wire	NO/NC	NO	NC	NO	NC	Common	No
	Black	None		Black		None		
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							

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D. Actuation Level Dimensions

A = 1/2" (38mm) minimum distance from actuation point to inside surface of tank or mounting pad.

B = 3" (76mm) minimum distance between actuation levels.

C = 2" (51mm) minimum distance from end of unit to lowest actuation level.

D = 1/2" (12mm) minimum distance between points when a single float is used to activate two switches. (One float can activate two switches when the lower switch is NC and the upper switch is NO.)

Notes:

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

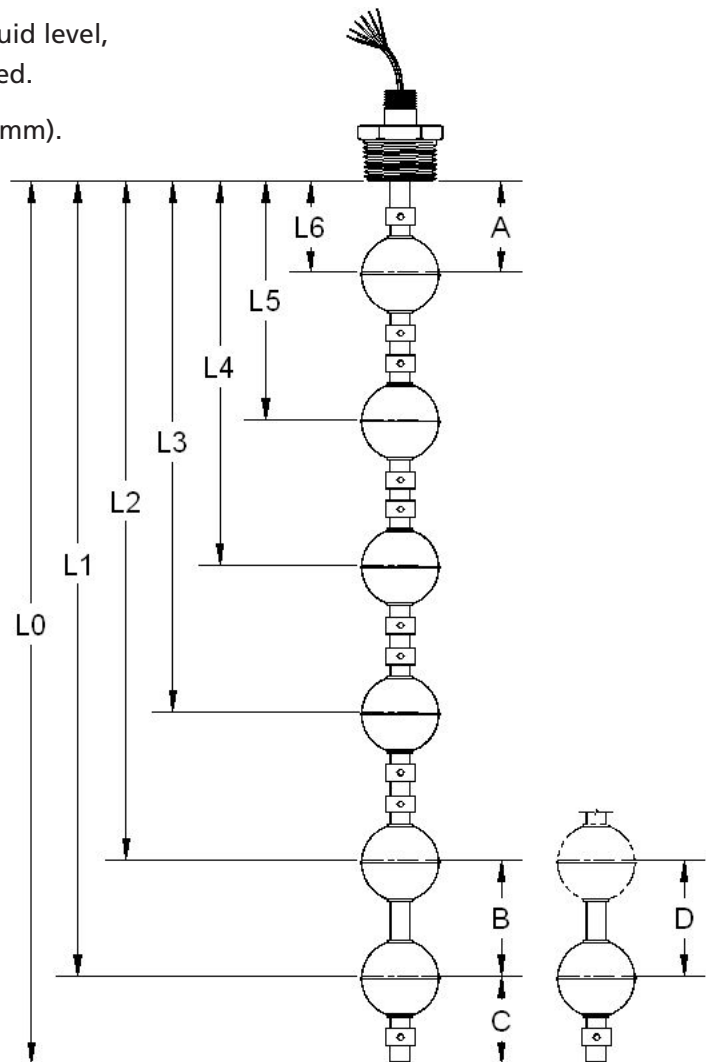
Integrated Temperature Sensors

All Innovative Solutions L500, multi-level switches can be specially equipped with integrated temperature sensors. Contact Innovative for more information.

Thermistor: Variable resistance, continuous output

Thermocouple: "Type K Junction" continuous readout

Thermostat: Fixed setpoint for high/low alarm switching



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