Innovative Solutions

L500 Series Custom Switches with a Maximum Length of 11'

The L500 series level switches are individually designed from over 1,400 component parts to create a custom switch available in lengths from six inches (152 mm) to 11 feet (3.3 meters).

To specify, review the choices in mounting types, stem and mounting, float sizes, switching points and electrical specifications that appear on these pages.

L500

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 **Table D.**

A. Component Choices L500:

Series	Mounting* Types		Mounting* & Stem Materials		Float Materials		Switch Types		Enclosures	
L500	04	½" NPT	01	Brass	02	Polypropylene (hollow)	20	20VA SPST	00	No enclosure
	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

**Other mountings and materials are available. Consult factory for details.*

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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 +500° 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

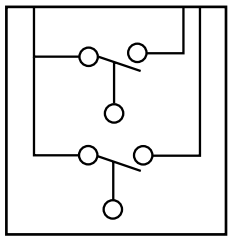
Each switching point requires one float. For special applications, a single float can be used to activate two switch points, though these points must have a minimum separation of ⅛" (3mm). The maximum number of actuation levels depends on the wiring type selected.

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

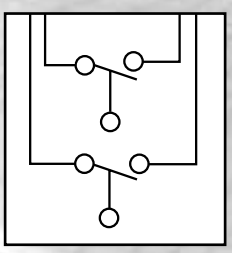
Connection: 24" Free Leads
#22 AWG

Mounting Attitude: Vertical ±30˚

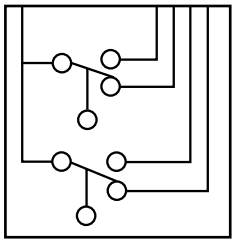
Group 1 SPST
One Common Wire



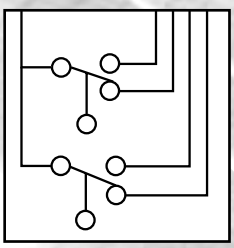
Group 2 SPST
Independent Circuits



Group 3 SPDT
One Common Wire



Group 4 SPDT
Independent Circuits



Switch Wiring Codes

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

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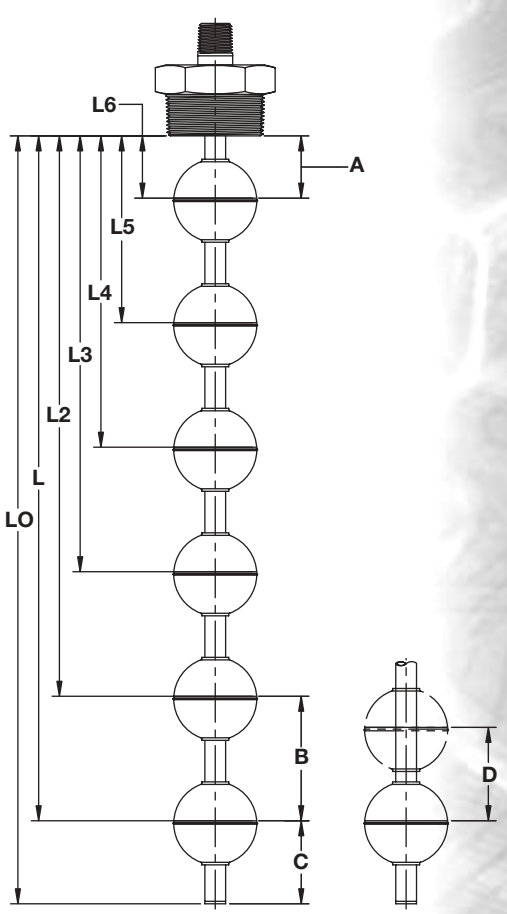
D. Actuation Level Dimensions

A = 1½" (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 = ¼" (6mm) 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 ±⅛" (3mm).



Integrated Temperature Sensors

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

Thermistor:	Variable resistance, continuous output
Thermocouple:	"Type K Junction" continuous readout
Thermostat:	Fixed set point for high/low alarm switching