

# L31

## Heavy Duty Vertical Multi-Station Stainless Steel Liquid Level Switch

### OVERVIEW

The Whitman Controls L31 Series Heavy Duty Vertical Multi-Station Stainless Steel Liquid Level Switches provide the user with as many as six level control points and up to 72" in overall length. The structure allows these switches to be mounted at the top or bottom of a tank. It can be fully customized to meet various tank size and switch requirements, and has assorted reversible polarities and wiring possibilities. These are most commonly found in potable water, hot water, acids, and various solvent applications.

### KEY FEATURES

- Whitman Red Seal potting submersible to a NEMA 6 rating
- 316L Stainless Steel
- Up to 7 level control points
- Up to 72" in overall length
- Reversible polarities & wiring possibilities

### SPECIFICATIONS

- **Wetted Materials:** 316 / 316L Stainless Steel
- **Fitting:** 1/2" NPT, 2" NPT, or 3" 150# Flange
- **Minimum Liquid Specific Gravity:** 0.85
- **Liquid Temperature range:** -40°F to +300°F
- **Max System Pressure:** 975 PSIG
- **Electrical Switch Rating:** 50 VA
- **Weight:** Varies based on length and number of floats



Up to 72" Overall Length  
Up to 6 Control Points



Please consult factory directly for specification and customization.

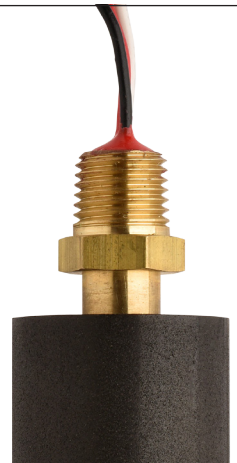
*\*Actuation point is roughly midway of float travel in liquid with a specific gravity of approximately 1.0  
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above*

## Liquid Level Information



The Whitman Controls full line of quality liquid level switches are factory sealed with our **Red Seal** potting compound, allowing submersibility to a NEMA 6 rating. Every switch meets our high quality standards and rigorous internal testing requirements, providing the end user confidence in the performance of our offering. Our ISO 9001 Certified Quality Management System combined with extensive experience in related products, means greater assurance that Whitman Liquid Level Switches will deliver accuracy and reliability year after year. The National

Sanitation Foundation (N.S.F.) has approved our line of liquid level switches for use in food, food handling, potable water, beverage dispensing, and sanitary system components and equipment.

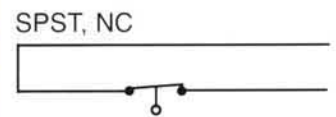
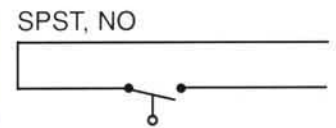


## Dry Reed Switch Information

The dry reed switch in our liquid level switches is a single pole single throw (SPST) device that may run either normally open (NO) or normally closed (NC) by reversing the float or the mounting of the switch.



Electrical Ratings – Max Resistive Load AC and DC Except As Noted:			
CONTACT RATING	VOLTS	AMPS AC	AMPS DC
50 VA	0-25	1.5	1.5
	50	0.5	0.5
	120	0.4	0.4
	150 VAC RMS	0.25	
	200 VDC		0.25



## Installation Instructions:

While our Red Seal liquid level switches are rugged, care should be given to the tightening of the switches during installation. Here are some simple reminders that will make this process easy and damage free:

**Note:** Over tightening will damage the threads and cause a leak. Threads damaged by over tightening will not be covered by our Warranty.

1. During installation, use care in tightening the connection.
2. Using an appropriate wrench, turn the switch to approximately  $\frac{1}{2}$  to  $\frac{3}{4}$  turn past “hand tight.”
3. This connection can be subjected to a pressure equal to the crush pressure of the float.

## Three Year Limited Warranty

The proven quality and reliability of Whitman Controls Corporation Pressure, Vacuum, Liquid Level, and Temperature Switches are backed by our 3 Year Limited Warranty when used in normal operation. Our complete warranty statement is provided with all quotations or is available on request.

## Liquid Level Switch Selection Guide

The chart below gives an overview of our liquid level switch product catalog at Whitman, and the functionality of each of our levels. Depending on your minimum liquid specific gravity, wetted materials, temperature range, and maximum system pressure, you will find a switch that will meet your specific needs and exceed your expectations.

### SPECIFICATIONS

Liquid Switch Model Number	Min. Liquid Specific Gravity	Wetted Materials	Liquid Temperature Range	Max. System Pressure (PSIG)
<b>L10 Temp-Level</b>	0.75	Brass, Buna, 316 S.S.	-40°F to +180°F (+230°F in oil)	160
<b>L20 / L25 Side Mounted S.S.</b>	0.85	316 Stainless Steel	-40°F to +257°F	500
<b>L20 / L25 Side Mounted CPVC Plastic</b>	0.90	CPVC Plastic	-40°F to +180°F	100
<b>L20 / L25 Side Mounted Kynar Plastic</b>	1.00	Kynar Plastic	-40°F to +180°F	100
<b>L20 / L25 Side Mounted Polypropylene</b>	0.70	Polypropylene	-40°F to +180°F	100
<b>L30 S.S. Multi-Level</b>	0.85	316L Stainless Steel	-40°F to +300°F	1,000
<b>L30 Brass / Buna Multi-Level</b>	0.70	Brass stem, Buna float	-40°F to +180°F (+230°F in oil)	160
<b>L31 S.S. Heavy Duty Multi-Level</b>	0.85	316L Stainless Steel	-40°F to +300°F	975
<b>L40 Vertical Mount 1" Cylinder S.S.</b>	0.90	316L Stainless Steel	-40°F to +300°F	900
<b>L40 Vertical Mount 1" Sphere S.S.</b>	0.85	316L Stainless Steel	-40°F to +300°F	1,000
<b>L40 Vertical Mount Brass / Buna</b>	0.70	Brass stem, Buna float, 316 S.S.	-40°F to +300°F (230°F in oil)	160
<b>L40 Vertical Mount CPVC Plastic</b>	0.85	CPVC Plastic	-40°F to +180°F	100
<b>L40 Vertical Mount Kynar Plastic</b>	1.00	Kynar Plastic	-40°F to +180°F	100
<b>L40 Vertical Mount Polypropylene</b>	0.70	Polypropylene	-40°F to +180°F	100
<b>L54 / L55 Bent Stem Side Mount S.S.</b>	0.90	316L Stainless Steel	-40°F to +300°F	900
<b>L60 Vertical Mount 2" Sphere S.S.</b>	0.80	316L Stainless Steel	-40°F to +300°F	975
<b>L60 Vertical Mount Brass / Buna</b>	0.75	Brass stem, Buna float, 316 S.S.	-40°F to +180°F (+230°F in oil)	160
<b>L70 Mini Polypropylene Vertical Mount</b>	0.77	Polypropylene, Buna	-40°F to +176°F	100

### Steps Required for Identifying the Right Liquid Level Switch for your Application:

**Step 1:** Determine your Liquid Specific Gravity – Ratio of Mass of liquid to mass of equal volume of water

**Step 2:** Select a float material that is compatible with your Liquid

**Step 3:** Identify your Maximum System Pressure

**Step 4:** Select an Optimal Mounting Orientation – Horizontal/Side Mounted, Vertical / Top Mounted, Multi-Level

**Step 6:** Determine your ideal Fitting

**Step 7:** Select any Additional Options

Please refer to our website at [www.whitmancontrols.com](http://www.whitmancontrols.com) for additional information or contact our engineering department at [engineering@whitmancontrols.com](mailto:engineering@whitmancontrols.com).

#### Limitation of Application Liability:

Whitman Controls Corporation assumes the buyer to be expert in the intended application of Whitman Controls' products. Whitman Controls claims no special expertise in the application of its products in the buyer's equipment. Whitman Controls accepts no responsibility for the buyer's selection and use of Whitman Controls products. Buyer's interpretation and implementation of application suggestions and recommendations by Whitman Controls, general or specific, transmitted verbally or in writing, published or unpublished, is strictly at the buyer's own risk.

#### Terms and Conditions:

All sales FOB Bristol, CT prepaid and added to the invoice. All prices net. Prices and specifications are subject to change without notice. Terms with established credit are net 30 days. Returns will not be accepted without a return authorization number issued by Whitman Controls. A 30% restocking fee will be charged on all items returned unless merchandise shipped was due to a Whitman Controls error.

#### International Terms and Conditions:

All sales FOB Bristol, CT. Payment prepaid in U.S. Dollars, on a U.S. Bank or by electronic transfer to a Whitman Controls banking institution.

# WHITMAN VALUE

## High Quality Switches, Fully Customizable, with an Unrelenting Focus on Superior Service

Whitman Controls has been a leader in the pressure, vacuum, and liquid level switch industry for over 40 years. The Whitman Value is built on our differentiated offering of high quality switches, and the ability to deliver product to EXACT customer specifications in two weeks or less. Off the shelf switches limit an application's functionality and versatility - Why choose a competitor switch that results in inferior performance? We take into account your application and media environment, as well as all desired specifications to design a switch that will meet performance needs and exceed your expectations. Quality switches, designed to customer specifications in two weeks or less, with an unrelenting focus on superior service - Together they add up to the Whitman Value.

## ISO 9001 Certified – We Hold Ourselves, and Our Products, to the Highest Standards

Whitman Controls is ISO 9001:2015 Certified, which gives our customers the confidence that we hold our internal processes, and products, to the highest standards of quality and rigorous testing requirements. You can be confident that the product you receive has met all necessary regulatory requirements and will outperform your desired expectations.

## Experience and Knowledge, That's Invaluable.

Whitman Controls directs its years of design and manufacturing experience toward providing value-added services to our customers. These services can help you lower costs and increase efficiency. Our engineering team will work intimately with you and your team to design a switch that will maximize application performance no matter what the environment. In addition, our exceptional mechanical abilities allow us to perform additional assemblies and deliver more complete tested systems and subassemblies.

## Diversified Product Offering – More Choices and More Savings.

We offer the most extensive pressure, vacuum, and liquid level switch offering in the industry. What does this mean for you? The ability to identify a switch that is suited perfectly for your application at a price that doesn't break your budget. At Whitman, we are constantly evaluating our input prices to identify savings we can pass along directly to the buyer. And we do all of this without sacrificing performance and quality.

## Numerous Choices and Additional Options – Have it your Way.

Need additional wire on top of the 12" standard offering? Looking for a 1/4" NPT fitting instead of 1/8" NPT? Need Teflon tape or Loctite Vibraseal on your fitting? These are just a few of the numerous additional options that are available to customers on all our switch offerings. You have a need and we have an answer. All our switches can be customized to meet any end-user requirements.

## At the Other End, Whitman Can Handle Wire Harness Assemblies Too.

As a UL and CSA approved harness assembly house, Whitman can do your next level of assembly. With our capabilities we can provide "value-added" benefits top to bottom. Whitman can guarantee leak free subassemblies and can handle a wide variety of switch mounts in customer designed systems. From T's to elbows, we will purchase and assemble parts and switches to your specifications.

## Plus we can do it all at a price that will save you money. Call or email us today and we will give you a quotation on your assembly project.

*Quality products, fully customizable, with a commitment to superior service. Together they add up to the Whitman Value.*

