

**Introducing**  
**LOW COST**  
**LIQUID LEVEL**  
**FLOAT SWITCHES**



A new family of affordable switches:

- Top or side mounting
- Compact design
- Low price
- Orange Research reliability, ruggedness and service
- For chemical processing, petrochemical, food and beverage, and marine applications

# LIQUID LEVEL FLOAT SWITCHES

- **Compact, low cost**
- **Withstand harsh chemicals**
- **Unaffected by electrical interference, high temperatures, high pressures**

## INTRODUCTION

For over 30 years Orange Research has enjoyed the respect of industry as a supplier of high quality process control instruments. It started with our differential pressure gauges and switches, and soon moved to flow meters and flow switches. We now are pleased to offer this new line of low cost liquid level float switches.

Whether your needs are vertical or horizontal switches we have the solution. Choose from a wide variety of materials, from stainless steel to polypropylene. We offer many sizes and shapes that meet the most common level measurements. We also offer special materials and designs to meet more uncommon requirements.

Please review our product offerings and let us know if there is a modification or custom requirement we can fill. We have built our reputation on adaptability. We know that no two customers are alike.

## HOW THEY WORK

We offer two basic types of float switches: top mounted and side mounted. Both work on the principle of moving a magnet into the proximity of a reed switch. The magnetic field causes the reed switch contacts to close, completing the electrical circuit.

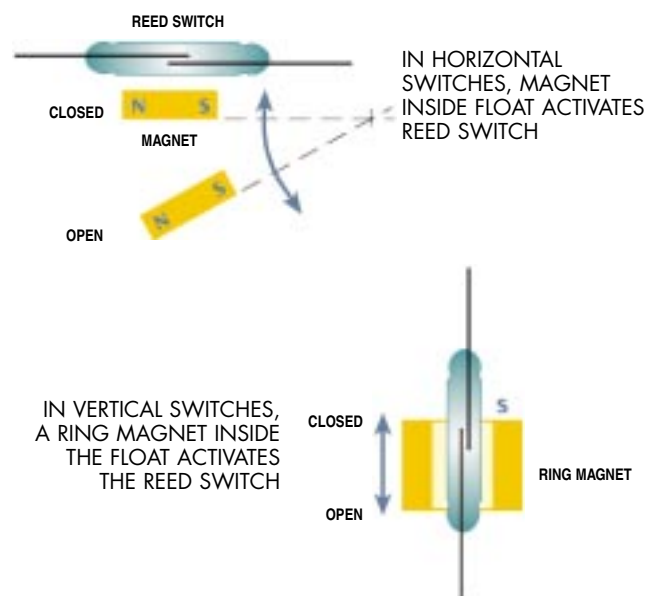
This normally open switch operation is standard for all catalog items. With a few exceptions the float position can be reversed in the field to allow for normally closed operation.

Our horizontal switches utilize a small permanent magnet in the pivoting arm while the reed switch is located in the stationary stem. Our vertically oriented floats utilize a ring magnet in the cylindrical float with the reed switch mounted in the center stem.

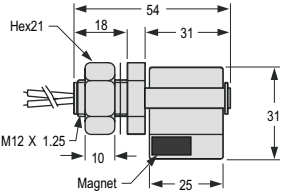
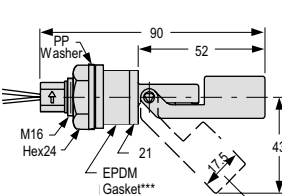
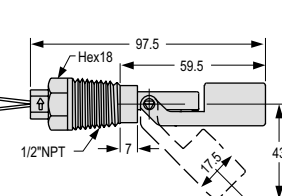
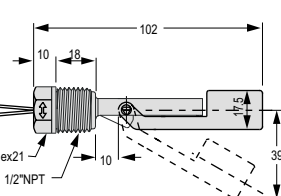




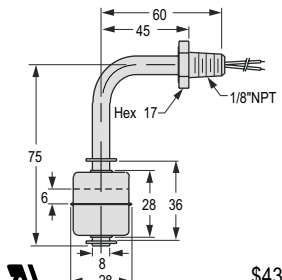
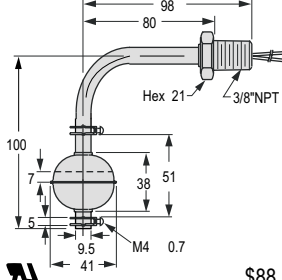
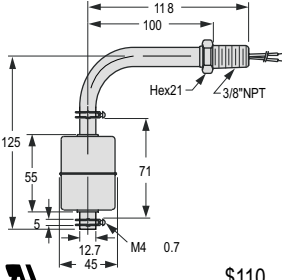
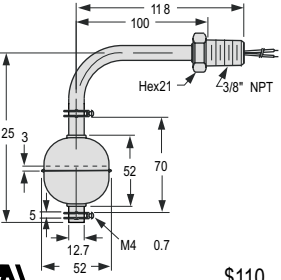




The engagement of the switch activates alarms or lights, or sends a signal to a controller that activates a pump, valve or other similar level-controlling device.

All of our level switches are designed and built to withstand the most rigorous requirements. They are tested in controlled laboratory conditions to meet the highest quality standards in the industry. In fact, they meet the number one test of all, the Orange Research requirement that all of our instruments be rugged and reliable.

Please contact our inside sales and customer service representatives for technical, pricing or delivery assistance. We look forward to speaking with you about your application.



# MINI FLOAT LEVEL SWITCH

Model	RF-OH11	RF-OH21	RF-OH31	RF-OH41
Dimensions				
Price	 \$12	 \$14	 \$14	 \$15
Material	PP	PP	PP	PP
Max. Temp	-4°F~176°F	-4°F~176°F	-4°F~176°F	-4°F~176°F
Max. PSIG	ATM	60	60	60
Switch Capac. max./type	50W / SPST	50W / SPST	50W / SPST	50W / SPST
Switching voltage max.	240V AC / 200VDC	240V AC / 200VDC	240V AC / 200VDC	240V AC / 200VDC
Switching current max.	0.5A	0.5A	0.5A	0.5A
Carry current max.	1A	1A	1A	1A
Connection	M12 X 1.25	M16/ Hex24	1/2" NPT	1/2" NPT
Wire Material (Length)	PVC AWG22 (30cm)	XLPE AWG22 (30cm)	XLPE AWG22 (30cm)	XLPE AWG22 (30cm)
Suitable S.G.	0.78	0.75	0.75	0.65
Reversible switch action*	**	**	**	**
Model	RF-3002D	RF-4002D	RF-4502D	RF-5002D
Dimensions				
Price	 \$43	 \$88	 \$110	 \$110
Material	SS 316	SS 316	SS 316	SS 316
Max. Temp	14°F~248°F	14°F~248°F	14°F~248°F	14°F~248°F
Max. PSIG	150	450	180	450
Switch Capac. max./type	50W / SPST	50W / SPST	50W / SPST	50W / SPST
Switching voltage max.	240V AC / 200VDC	240V AC / 200VDC	240V AC / 200VDC	240V AC / 200VDC
Switching current max.	0.5A	0.5A	0.5A	0.5A
Carry current max.	1A	1A	1A	1A
Connection	1/8" NPT	3/8" NPT	3/8" NPT	3/8" NPT
Wire Material (Length)	XLPE AWG22 (30cm)	XLPE AWG22 (30cm)	XLPE AWG22 (30cm)	XLPE AWG22 (30cm)
Suitable S.G.	0.8	0.7	0.65	0.55
Reversible switch action*	YES	YES	YES	YES

1) Wire length: 30 cm (12 inches) customized wire length is subject to extra charge.

2) Protective circuits should be used to prevent damage when using reed switch with inductive loads such as motors, relay coils and solenoids.

3) Special designs are welcome.

4) 200° C special items are available by special order.

# MINI FLOAT LEVEL SWITCH

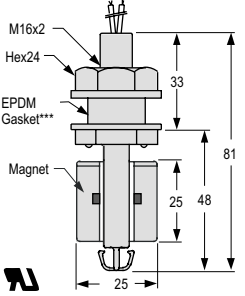
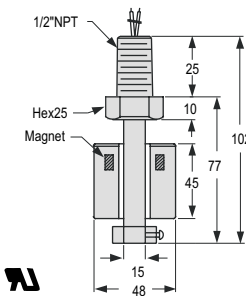
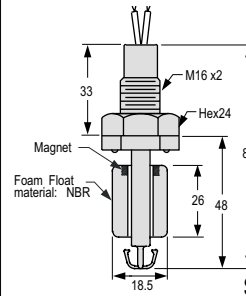
Model	RF-OH51D	RF-OV21D	RF-OV31D	RF-OV41D
Dimensions				
Price	\$15	\$9	\$11	\$14
Material	PP	PP- foam float	PP- hollow float	PP- hollow float
Max. Temp	-4°F~176°F	-4°F~176°F	-4°F~176°F	-4°F~176°F
Max. PSIG	60	ATM	60	60
Switch Capac. max./type	50W / SPST	50W / SPST	50W / SPST	50W / SPST
Switching voltage max.	240VAC / 200VDC	240VAC / 200VDC	240VAC / 200VDC	240VAC / 200VDC
Switching current max.	0.5A	0.5A	0.5A	0.5A
Carry current max.	1A	1A	1A	1A
Connection	1/2" NPT	1/8" NPT	1/8" NPT	M16/ Hex24
Wire Material (Length)	XLPE AWG22 (30cm)	PVC AWG22 (30cm)	PVC AWG22 (30cm)	PVC AWG22 (30cm)
Suitable S.G.	0.65	0.8	0.7	0.7
Reversible switch action*	**	YES	YES	YES
Model	RF-3001D	RF-4001D	RF-4501D	RF-5001D
Dimensions				
Price	\$31	\$60	\$66	\$66
Material	SS 316	SS 316	SS 316	SS 316
Max. Temp	14°F~248°F	14°F~248°F	14°F~248°F	14°F~248°F
Max. PSIG	150	450	180	450
Switch Capac. max./type	50W / SPST	50W / SPST	50W / SPST	50W / SPST
Switching voltage max.	240VAC / 200VDC	240VAC / 200VDC	240VAC / 200VDC	240VAC / 200VDC
Switching current max.	0.5A	0.5A	0.5A	0.5A
Carry current max.	1A	1A	1A	1A
Connection	1/8"NPT	3/8"NPT	3/8"NPT	3/8"NPT
Wire Material (Length)	XLPE AWG22 (30cm)	XLPE AWG22 (30cm)	XLPE AWG22 (30cm)	XLPE AWG22 (30cm)
Suitable S.G.	0.8	0.7	0.65	0.55
Reversible switch action*	YES	YES	YES	YES

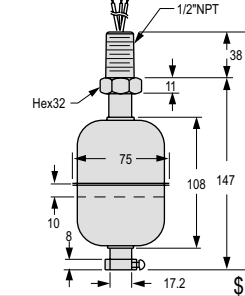
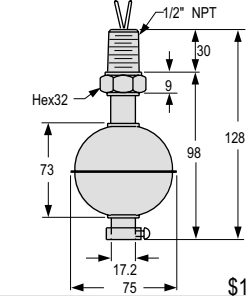
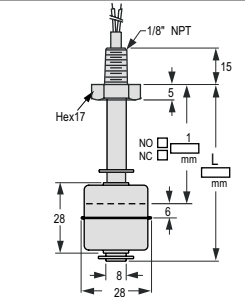
\* If yes – switch operation is reversible by inverting float. Units are shipped N.O. unless otherwise specified.

\*\* Normally open condition shown above. Rotate switch 180° for normally closed operation.

\*\*\* EPDM compression gasket. Mounts through and seals non-threaded holes.

# MINI FLOAT LEVEL SWITCH

Model	RF-OV51D	RF-OV81D	RF-OV92D	
Dimensions				
Price	\$13	\$57	\$11	
Material	PP- foam float	PP- hollow float	Buna- NBR	
Max. Temp	-4°F~176°F	-4°F~176°F	-4°F~212°F	
Max. PSIG	ATM	60	ATM	
Switch Capac. max./type	50W / SPST	50W / SPDT	50W / SPST	
Switching voltage max.	240VAC / 200VDC	240VAC / 200VDC	240VAC / 200VDC	
Switching current max.	0.5A	0.5A	0.5A	
Carry current max.	1A	1A	1A	
Connection	M16/ Hex24	1/2" NPT	M16/ Hex24	
Wire Material (Length)	PVC A WG22 (30cm)	PVC A WG22 (30cm)	XLPE A WG22 (30cm)	
Suitable S.G.	0.7	0.6	0.8	
Reversible switch action*	YES	NO	NO	

Model	RF-1001G	RF-7501G	METAL SPECIAL TYPES	
Dimensions			<b>RF-SA 11/12</b>  Dimensions (contact sales with requirements and for pricing)	
Price	\$138	\$126		
Material	SS 316	SS 316	Material	SS 316
Max. Temp	14°F~248°F	14°F~248°F	Max. Temp	14°F~248°F
Max. PSIG	150	450	Stem Length	Max. L: 500mm
Switch Capac. max./type	40W / SPDT	40W / SPDT	Float Number	1~2 float
Switching voltage max.	250VAC	250VAC	Switching current max.	0.5A
Switching current max.	2A	2A	Carry current max.	1A
Carry current max.	3A	3A	Connection	1/8" NPT
Connection	1/2" NPT	1/2" NPT	Wire Material (Length)	XLPE A WG22 (30cm)
Wire Material (Length)	XLPE A WG22 (30cm)	XLPE A WG22 (30cm)	Suitable S.G.	0.8
Suitable S.G.	0.5	0.55	Reversible switch action*	YES
Reversible switch action*	NO	NO		

## OTHER ORANGE RESEARCH PRODUCTS

In addition to new, liquid level float switches, the Orange Research product family includes standard differential pressure, low differential pressure, and flow instruments and switches. They are used in a variety of industrial processes to provide reliable, instantaneous and continuous information about system conditions.

Our standard DP instruments incorporate a patented magnetic movement that completely isolates the gauge function from the pressure chamber without mechanical seals, and gives our instruments the unique ability to indicate small values of differential pressure even at high line pressures. Our low differential pressure family uses an innovative, ultrasensitive and accurate transducer design that provides price/ performance other manufacturers can't match.

Orange Research flow instruments use rugged piston or piston-diaphragm sensors to directly measure a wide range of flow rates. Unlike fragile rotameters, our flow gauges can operate with dirty or opaque liquids.

- **Differential pressure gauges and switches**
- **Advanced low DP instruments**
- **Reliable flow gauges and switches**
- **Microprocessor-controlled transmitters**
- **Liquid Level switches**



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