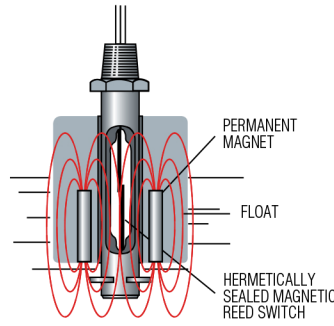


Float Type Level Switches

Single Point

GEMS Level Switches operate on a direct, simple principle. In most models, a float encircling a stationary stem is equipped with powerful, permanent magnets. As the float rises or lowers with liquid level, the magnetic field generated from within the float actuates a hermetically sealed, magnetic reed switch mounted within the stem. The stem is made of non-magnetic metals or rugged, engineered plastics. When mounted vertically, this basic design provides a consistent accuracy of $\pm 1/8$ inch. Multi-station versions use a separate reed switch for each level point being monitored.

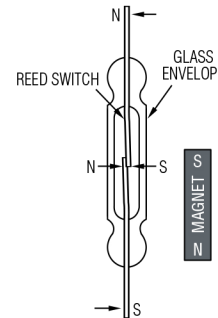


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Side-mounted units use different actuation methods because of their horizontal attitude. The basic principle, however, is the same: as a direct result of rising or falling liquid, a magnetic field is moved into the proximity of a reed switch, causing its actuation.

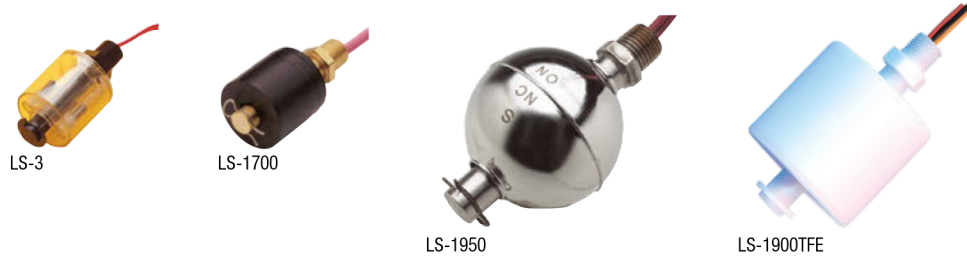
Reed Switch Reliability

The durable construction of these reed switch designs ensures long, trouble-free service. Because the effects of shock, wear and vibration are minimized, these hermetically sealed switches provide precise repeatability with no more than 1% deviation. The switch actuation points remain constant over the life of the unit. See "Reed Switch Protection" in Appendix X for information on extending the life of GEMS Level Switches.



Wide Variety

Top/Bottom Mounting



Side Mounting



Specialty



Additional technical information can be found in Appendix X.

Small Size – Engineered Plastics

LS-3 Series – Offers High Reliability, Compact Size and Low Costs in NPT, Straight and Metric Threads

Ideal for shallow tanks or restricted spaces, or for any low-cost, high volume use. LS-3 Series are available in FDA compliant materials, consult GEMS for details.

LEVEL SWITCHES – SINGLE POINT

Polysulfone Float



FDA
CE
UL US

For water based liquids, with limited use in oils and chemicals.

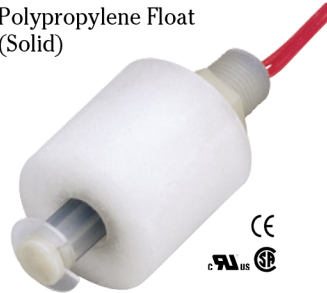
Polypropylene Float (Hollow)



CE
UL US

Features a low specific gravity float offering broad chemical compatibility.

Polypropylene Float (Solid)



CE
UL US

With Polypropylene stem and float, switch offers broad chemical compatibility.

Buna N Float



CE
UL US

Ideal for oils and fuels.

ALL-PVDF



UL US
CE
FDA

Wetted materials of construction comply with FDA food contact regulations.

Stem and float of corrosion-resistant PVDF for ultra-pure applications.

New 3/4" Polypropylene Float



UL US
CE

See next page for details.



RoHS Compliant:

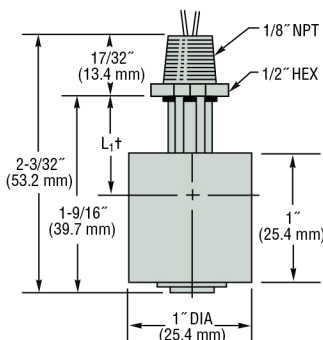
All LS-3 Series level switches featured on this page and the next are in compliance with EU-directive 2011/65/EC.

Common Specifications

Approvals: U.L. Recognized – File No. E45168; CSA Listed – File No. 30200. CE Declaration Available Upon Request. NSF materials are NSF 169 Standard compliant. For NSF approved level switches contact Gems. RoHS – In compliance with EU-directive 2011/65/EC requirements for chemicals and substances.

Switch SPST: 20 VA, 120-240 VAC. Units are shipped N.O. unless otherwise specified. Selectable, N.O. or N.C., by inverting float on unit stem.
For LS-3 Micro: 20 VA, 140 VAC/200 VDC

Dimensions – 1" Float Models only



† L₁ = Actuation Level (see chart on next page)

Alternate Mountings			
	3/8"-16 Straight Thread	G1/8" 1/8"-28 BSP	M12x 1.75 Straight Thread
Electrical Termination	Lead Wires	Cable	Cable

How To Order – Select Part Number based on specifications required.

Stem and Mounting Material	Float Material	Float Dia.	Actuation Level [†]	Min. Liquid Sp. Gravity	Pressure Max. @ 70°F (21°C)	Operating Temperature	Mounting Type	Electrical Termination	Part Number
Polysulfone	Polysulfone	1"	3/4" (19.0 mm)	.75	50 psi (3 bar)	-40°F to +225°F (-40°C to +107°C)	1/8" NPT	Lead Wires	42295 ⚡
Polypropylene ²	Polypropylene (Hollow)	1"	13/16" (20.6 mm)	.60	50 psi (3 bar)	-40°F to +225°F (-40°C to +107°C)	1/8" NPT	Lead Wires	142505 ⚡
							3/8"-16	Lead Wires	171517 ⚡
							G 1/8"-28	Cable	171518
Polypropylene ³ NSF Std. 169 (Kynar float retaining clip)	Polypropylene ³ (Hollow) NSF Std. 169	1"	13/16" (20.6 mm)	.60	50 psi (3 bar)	-40°F to +225°F (-40°C to +107°C)	M12x1.75	Cable	189739
							1/8" NPT	Lead Wires	209475
							3/8"-16	Lead Wires	209455
Polypropylene ²	Polypropylene (Solid)	1"	9/16" (14.3 mm)	.90	150 psi (10 bar) @ 68°F (20°C)	-40°F to +150°F (-40°C to +66°C)	G 1/8"-28	Lead Wires	209460
							1/8" NPT	Lead Wires	116826 ⚡
							3/8"-16	Lead Wires	171514 ⚡
Nylon	Buna	1"	13/16" (20.6 mm)	.45	150 psi (10 bar)	-40°F to +250°F (oil) (-40°C to +121°C [oil])	1/8" NPT	Lead Wires	162745 ⚡
							M12x1.75	Cable	189786
PVDF	PVDF	1"	1/2" (12.7 mm)	.86	50 psi (3 bar)	-40°F to +250°F (-40°C to +121°C)	1/8" NPT	Teflon [®] Jacketed Lead Wires	173250 ⚡

Notes:

- Based on a liquid specific gravity of 1.0.
- All Polypropylene units carry a Kynar[®] retaining clip. Accessories Available in OEM Quantities: Jam Nut, Gaskets, and Slosh Shields.
- NSF 169 Approved unit, for water use only.

⚡ – Stock Items.

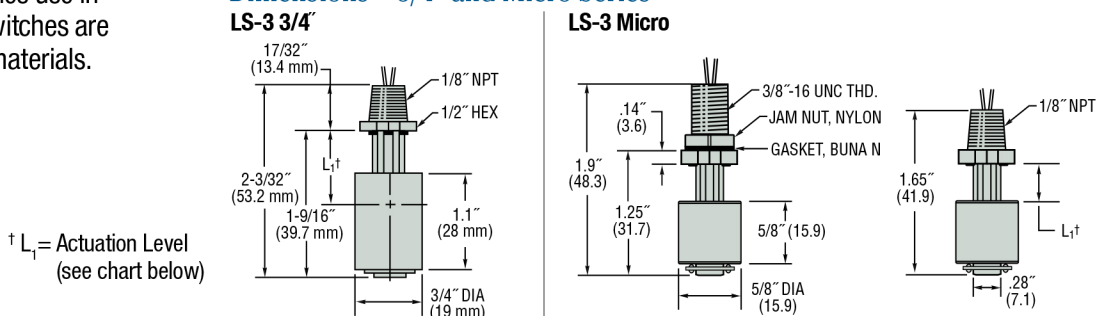
Miniature and Micro Floats for Tiny Tanks

Our smallest LS-3 Series switches yet!

Small yes, but with BIG performance. No other miniature float switches match our LS-3 specs. These units are ideal for potable water, medical devices and other compact appliances, such as printers. Gems proprietary float enables use in lighter-than-water fluids. Switches are made from FDA compliant materials.



Dimensions – 3/4" and Micro Series



Series	Stem and Mounting Material	Float Material	Actuation Level [†]	Min. Liquid Sp. Gravity	Pressure Max. @ 70°F (21°C)	Operating Temperature	Electrical Termination	Mounting Type	Switch Logic	Part Number
LS-3 3/4" ²	Polypropylene ²	Polypropylene (Solid)	7/16" (11.1 mm)	.95	100 psi (6.9 bar)	-40°F to +212°F (-40°C to +100°C)	Lead Wires or Cable	1/8" NPT	N.C./N.O. Reverse Float Position	201540
	Nylon	Buna	11/16" (17.5mm)	.85	150 psi (10.3 bar)	-40°F to +250°F (oil) (-40°C to +121°C [oil])	Lead Wire			177818
LS-3 Micro	Polypropylene	Polypropylene (Hollow)	3/8" (9.5 mm)	.95	50 psi (3 bar)	-40°F to +176°F (-40°C to +80°C)	PVC Jacketed Lead Wires 24"-26"	1/8" NPT	N.O.	247135
								3/8"-16 Straight	N.C.	247137
									N.O.	246985
N.C.	246986									

Notes:

- Based on a liquid specific gravity of 1.0.
- Utilizes a Kynar[®] retaining clip.