Large Size – Alloys

LS-1800 and LS-1900 Series are a Step Above Our Plastic Units for Pressure Capabilities

Excellent stability for general use in oils and water.

LS-1800 Series – Buna N Float



LS-1800 Series – Teflon® Float



LS-1900 Series – Buna N Float



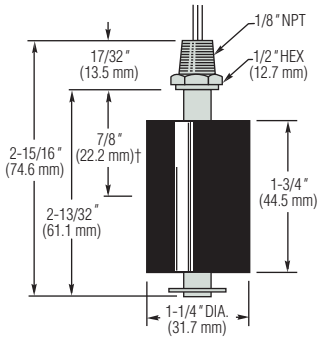
Intermediate in size, LS-1800 switches provide long life and dependability to meet a broad range of requirements.

With large float displacement, switch withstands rough service; is suitable for high viscosity liquids.

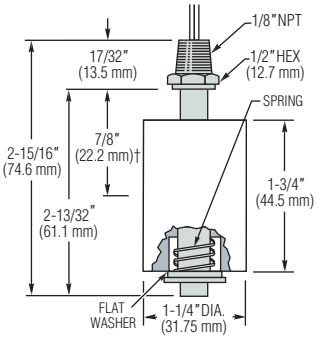
Dimensions

LS-1800 Series

Buna N Float

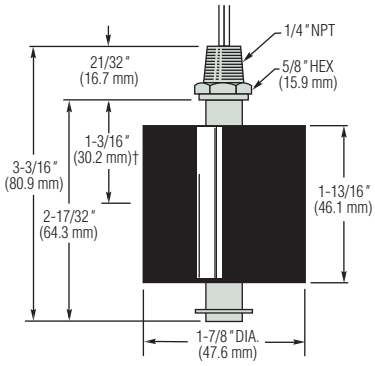


Teflon® Float



LS-1900 Series

Buna N Float



†L_1 = Switch actuation level, nominal (based on a liquid specific gravity of 1.0).

Common Specifications

Electrical Termination: No.18 AWG, 24˝ L., Polymeric Lead Wires.

Approvals: All Switches on this page are U.L. Recognized – File No. E45168, and are CSA Listed – File No. 30200.

Switch Operation: Selectable, N.O. or N.C., by inverting float on unit stem (except for LS-1800 Series switch with Teflon® float). Units are shipped N.O. unless otherwise specified.

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

	Material							
Series Number	Stem and Mounting	Float	Other Wetted	Min. Liquid Sp. Gr.	Operating Temperature	Pressure, PSI, Max.	Switch* SPST	Part Number
LS-1800	Brass	Buna N	316 Stainless Steel, Hysol	.75	Water: to 180°F (82°C) Oil: -40°F to +230°F (-40°C to +110°C)	150	20 VA	**01801**
							100 VA**	**35651**
	316 Stainless Steel	Buna N		.75			20 VA	**01807**
							100 VA**	**35657**
		Teflon®		.65	-40°F to +250°F (-40°C to +121°C)	300	20 VA, N.O.	**01811**
LS-1900	Brass	Buna N	316 Stainless Steel, Hysol	.55	Water: to 180°F (82°C) Oil: -40°F to +230°F (-40°C to +110°C)	150	20 VA	**01901**
							100 VA***	**35676**
	316 Stainless Steel			.55			20 VA	**01907**
							100 VA	**35682**

*See "Electrical Data" on Page X-5 for more information.

**LS-1800 100 VA switches are not U.L. Recognized.

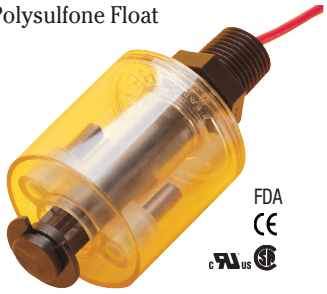
*** LS-1900 100VA unit is UL Resistive Rated.

Small Size – Engineered Plastics

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

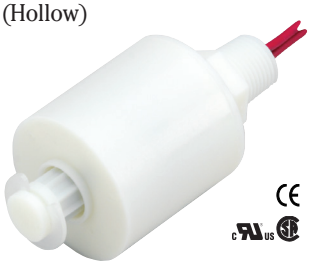
Ideal for shallow tanks or restricted spaces, or for any low-cost, high volume use.
LS-3 Series are available in FDA compliant materials, consult GEMS for details.

Polysulfone Float



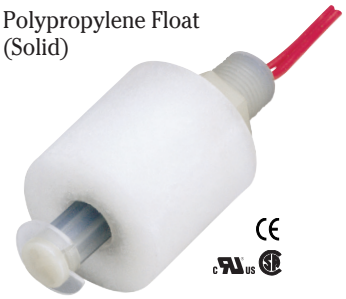
For water based liquids, with limited use in oils and chemicals.

Polypropylene Float (Hollow)



Features a low specific gravity float offering broad chemical compatibility.

Polypropylene Float (Solid)



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

Buna N Float



Ideal for oils and fuels.

ALL-PVDF



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



See next page for details.

RoHS Compliant:

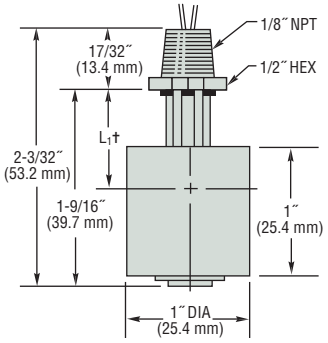
All LS-3 Series level switches featured on this page and the next are in compliance with EU-directive 2011/65/EC.

Common Specifications

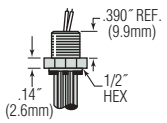
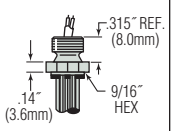
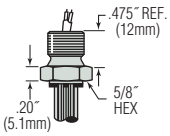
Approvals: U.L. Recognized – File No. E45168; CSA Listed – File No. 30200. CE Declaration Available Upon Request.
NSF materials are NSF 169 Standard compliant. For NSF approved level switches contact Gems.
RoHS – In compliance with EU-directive 2011/65/EC requirements for chemicals and substances.

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



† L_1 = 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[1]	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** ⚡
						-40°F to +176°F (-40°C to +80°C)	G 1/8″-28	Cable	**171518**
							M12x1.75	Cable	**189739**
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)	1/8″ NPT	Lead Wires	**209475**
							3/8″-16	Lead Wires	**209455**
							G 1/8″-28	Lead Wires	**209460**
							M12x1.75	Lead Wires	**209465**
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)	1/8″ NPT	Lead Wires	**116826** ⚡
							3/8″-16	Lead Wires	**171514** ⚡
						-40°F to +176°F (-40°C to +80°C)	M12x1.75	Cable	**189787**
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** ⚡
						-40°F to +176°F (water) (-40°C to +80°C [water])	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** ⚡

⚡ – Stock Items.

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

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.



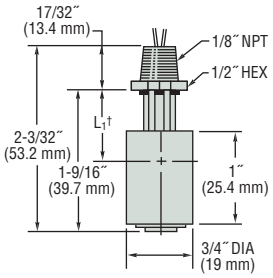
LS-3 3/4″



LS-3 Micro

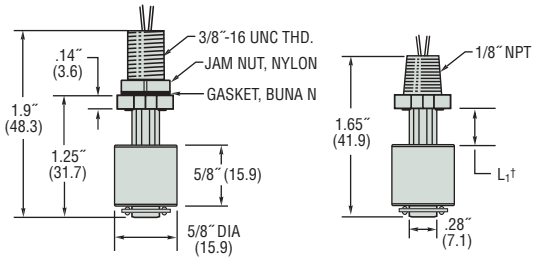
Dimensions – 3/4" and Micro Series

LS-3 3/4″



† L_1 = Actuation Level (see chart below)

LS-3 Micro



Series	Stem and Mounting Material	Float Material	Actuation Level[1]	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 (Hollow)	7/16″ (11.1 mm)	.95	Atmospheric	-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**
									N.C.	**247137**
								3/8″-16 Straight	N.O.	**246985**
									N.C.	**246986**

Notes:
1. Based on a liquid specific gravity of 1.0.
2. Utilizes a Kynar® retaining clip.

Unique Features Make These LS-3 Models Special

These small switches feature unique configurations for special applications.

Part No. 142545
With Slosh Shield



Cut-away version shown

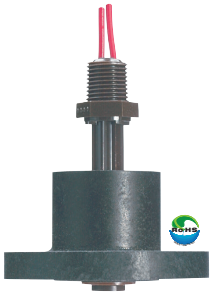
Compact, all-polypropylene switch with slosh shield is ideal for use with turbulent liquids in small tanks. FDA compliant materials.

Part No. 46999
Bottle Level

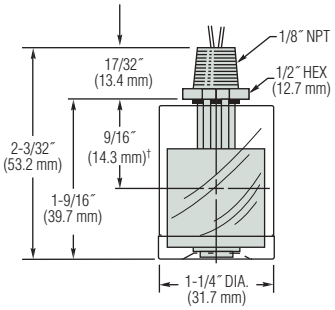


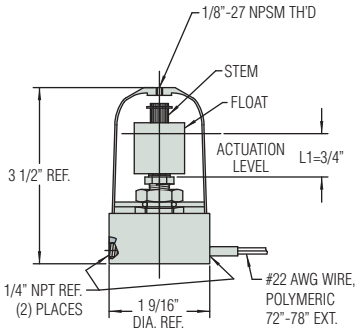
For external mounting on tanks too small to accommodate internally mounted switches. (See note below)

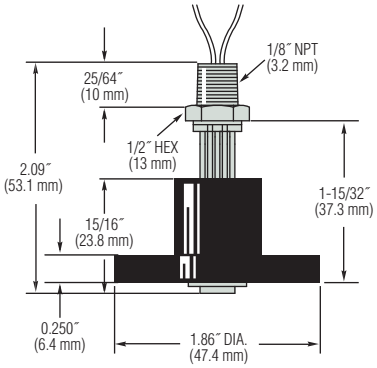
Part No. 76707
For Low Level



For detecting levels as low as 5/8″ from tank bottom. Use in water, some oils and chemicals.







Order By Part Number	142545 ⚡	46999 ⚡	76707 ⚡
Materials			
Stem and Mounting	All Polypropylene (Including Shield[4])	Polysulfone	All Polysulfone (Including Collar)
Float	Polypropylene (Solid)	Polysulfone	Buna N
Other Wetted	—	Brass, Aluminum, Polycarbonate, Viton A	Epoxy
Min. Liquid Sp. Gr.	.90	.75	—
Operating Temperature	-40°F to +150°F (-40°C to +65.6°C)	-40°F to +120°F (-40°C to +48.9°C)	-40°F to +180°F (-40°C to +82.2°C)
Pressure, PSI, Max.[3]	150	50	
Switch[1], SPST	20 VA, N.C./N.O. Dry[2]	20 VA, N.C. Dry	
Electrical Termination	No. 22 AWG, 22″ L., PVC Lead Wires	No. 22 AWG, 72″ L., Polymeric Lead Wires	No. 22 AWG, 72″ L., PVC Lead Wires

Notes:
1. See "Electrical Data" on Page X-5 for more information.
2. Switch operation is selectable, N.O. or N.C., by inverting the float on the unit stem.
3. Maximum pressure at 70°F (21°C).
4. Consult factory for other available materials.

† L_1 = Switch actuation level, nominal (based on a specific gravity of 1.0).

Note: LS-3 Series Bottle Level Switch is also available with any of the float materials shown on opposite page. Contact GEMS for correct part number.

⚡ – Stock Items.