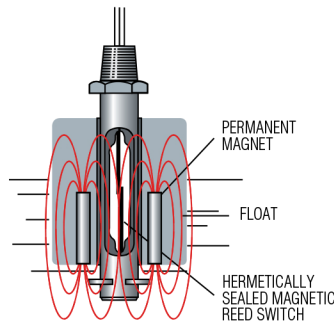


Float Type Level Switches

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.

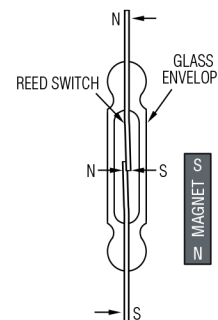


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Side-mounted units use different actuation methods because of their horizontal attitude. The basic principle, however, is the same: as a direct result of rising or falling liquid, a magnetic field is moved into the proximity of a reed switch, causing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

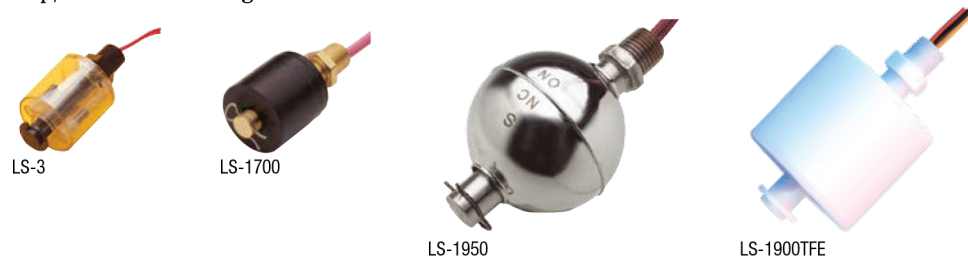
Reed Switch Reliability

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.

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



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.

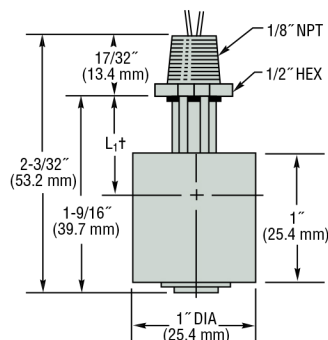
NSF materials are NSF 169 Standard compliant. For NSF approved level switches contact Gems.

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 |
| 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) | 1/8" NPT | Lead Wires | 209460 |
| | | | | | | | G 1/8"-28 | Lead Wires | 209465 |
| | | | | | | -40°F to +176°F (-40°C to +80°C) | M12x1.75 | Lead Wires | 209465 |
| 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 | 116826 ⚡ |
| | | | | | | | 3/8"-16 | Lead Wires | 171514 ⚡ |
| | | | | | | -40°F to +176°F (water) (-40°C to +80°C [water]) | M12x1.75 | Cable | 189787 |
| 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 | 162745 ⚡ |
| | | | | | | | | | 189786 |
| | | | | | | | | | 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

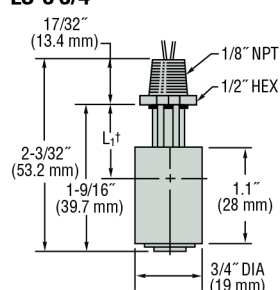
Our smallest LS-3 Series switches yet!

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.



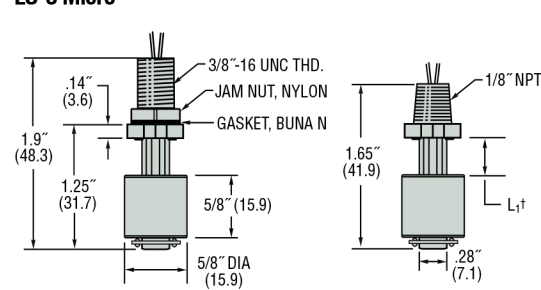
Dimensions – 3/4" and Micro Series

LS-3 3/4"



[†] L₁ = 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 (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" (17.5 mm) | .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:

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