

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 | | LS-1900 Series |
|---|--|---|
| Buna N Float | Teflon® Float | Buna N Float |
| <p>17/32" (13.5 mm) 1/8" NPT 1/2" HEX (12.7 mm) 2-15/16" (74.6 mm) 7/8" (22.2 mm) † 2-13/32" (61.1 mm) 1-3/4" (44.5 mm) 1-1/4" DIA. (31.7 mm)</p> | <p>17/32" (13.5 mm) 1/8" NPT 1/2" HEX (12.7 mm) 2-15/16" (74.6 mm) 7/8" (22.2 mm) † 2-13/32" (61.1 mm) 1-3/4" (44.5 mm) 1-1/4" DIA. (31.7 mm) SPRING FLAT WASHER</p> | <p>21/32" (16.7 mm) 1/4" NPT 5/8" HEX (15.9 mm) 3-3/16" (80.9 mm) 1-3/16" (30.2 mm) † 2-17/32" (64.3 mm) 1-13/16" (46.1 mm) 1-7/8" DIA. (47.6 mm)</p> |

†L_s = 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.

RoHS – In compliance with EU-directive 2011/65/EC requirements for chemicals and substances.

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.

| Series Number | Material | | | Min. Liquid Sp. Gr. | Operating Temperature | Pressure, PSI, Max. | Switch* SPST | Part Number |
|---------------|---------------------|----------|----------------------------|---------------------|--|---------------------|--------------|-------------|
| | Stem and Mounting | Float | Other Wetted | | | | | |
| 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 | -40°F to +250°F (-40°C to +121°C) | 300 | 20 VA | 01807 ⚡ |
| | | Teflon® | | .65 | | | 100 VA** | 35657 ⚡ |
| 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-1900 100VA unit is UL Resistive Rated.

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

Specialty Switches

GEMS Excels in Switches for Special Requirements

The products below are examples of the custom engineering GEMS can provide to meet specific application needs. These units are ideal for use in oils and water.

TH800 Series Temperature/Level Switch



Level monitoring and temperature switch in a single unit. Intermediate in size; single-setting temperature sensor is in bottom of stem.

LS-38760 Series – Cushioned Float



Cushioned float and switch for turbulent liquids or excessive vibration. Easily grounded. Ideal for tank trucks, construction equipment or mobile applications.

LS-270 Series – Bracket Mounting Slosh Shield



U.L. Recognized – File No. E45168

Small, lightweight, and extremely stable in nonstatic, highly contaminated liquids. Slosh shielding minimizes effects of turbulence and helps prevent interference by foreign material. Bracket-mounted to any convenient surface.

LEVEL SWITCHES – SINGLE POINT

Dimensions

| | TH800 Temperature/Level Switch | LS-38760 Series | LS-270 Series |
|-------------------------------|--------------------------------------|--------------------------------------|---|
| | <p>Wire diagram on page B-21</p> | | |
| Electrical Termination | 18 AWG, 24" L., Polymeric Lead Wires | 18 AWG, 36" L., Polymeric Lead Wires | 18/2 Cable, 6 ft. L., Neoprene with waterproof connection |

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

LS-270 Series Note: Installed vertically with cable upward. Caution: Elastomer seals in the sensor and cable are subject to deterioration and aging, and therefore need to be checked regularly. Life expectancy of seals varies with application.

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

| Series | Material | | | Min. Liq. Sp. Gr. | Operating Temperature | Pressure PSI, Max. | Switch ¹ | | Part Number |
|-------------------|-------------------|--------|---|-------------------|--|--------------------|---------------------------|------------------------------------|-------------|
| | Stem and Mounting | Float | Other Wetted | | | | Level SPST | Temperature ³ | |
| TH800 Temp./Level | Brass | Buna N | Beryllium Copper, Hysol | .75 | Water: to 180°F (82°C) Oil: -40°F to +230°F (-40°C to +110°C) | 150 | 20 VA, N.O. | N.C., open on +150°F ±10°F, incr. | 57143 ⚡ |
| | | | | | | | | N.O., close on +150°F ±10°F, incr. | 57144 ⚡ |
| LS-38760 | Aluminum | Buna N | S.S., Hysol | .55 | -40°F to +180°F (-40°C to +82°C) | 150 | 20 VA, N.C. | — | 38760 |
| LS-270 | 316 S.S. | Buna N | Beryllium Copper, Copper Nickel, Polycarb. 304 S.S. | .55 | -40°F to +140°F (-40°C to +60°C) | 150 | 20 VA, N.O. | — | 43765 ⚡ |
| | | | | | | | 20 VA, N.C. | | 43760 ⚡ |
| | | | | | | | 50 VA ² , N.O. | | 43980 ⚡ |
| | | | | | | | 50 VA ² , N.C. | | 43982 ⚡ |

Notes:

- See "Electrical Data" on Page X-5 for more information.
- Switches are not U.L. Recognized or CSA Listed.
- See Page B-21 for thermostat ratings and wiring diagram. Other temperature settings are available; consult factory.

Specialty Switches – Continued

Portable Level Switch — Integral Mounting Magnet



Precisely monitors liquid level and is ideal for controlling filling operations and preventing overflows. Permanent magnet attaches unit securely to steel tank wall at exact level required.

LS-750 Series — Weighted for Suspension Cable



With a compact-sized float, sash shield and weighted collar, the LS-750 provides liquid level detection for a wide variety of applications. Suspend in stand pipes or sumps for leak detection duty, or drop into wells for ground-water monitoring. Supplied with 25 feet of waterproof cable.

U.L. Recognized—
File No. E-45168.
CSA Listed-File No.
LR-30200.

LS-700F Series



Overfill Protection for Refrigerant Tanks. The LS-700F enables safe compliance with EPA directives to recover refrigerants. These units are designed to fit standard 30# and 50# D.O.T. approved refrigerant tanks. They provide 80% full shutoff capability when used as an integral part of a recovery system.

U.L. Recognized—
File No. SA8857.
CSA Listed-File No.
LR-30200-31.

Dimensions

| Portable Level Switch | LS-750 | LS-700F |
|---------------------------|----------------------|---------------------------------------|
| | | |
| SJO, 18/2 10'L., Neoprene | 22 AWG, 2-Wire Cable | 3- or 4-Pin, Quick-Connect Receptacle |

$\uparrow L_1$ = Switch actuation level. In liquid with specific gravity of 1.0, switch actuation is approximately half the distance from end of stem to mounting, or at the halfway point of float travel.

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

| Series | Material | | | Min. Liquid Sp. Gr. | Operating Temperature | Pressure PSI, Max. | Switch* | Electrical Termination Option | Part Number |
|----------|-------------------|----------|------------------------------|---------------------|--|--------------------|-----------------------|-------------------------------|-------------|
| | Stem and Mounting | Float | Other Wetted | | | | | | |
| Portable | Brass | Buna N | Aluminum, 316 S.S. | .85 | Oil: -40°F to +230°F (-40°C to +110°C) Water: to 180°F (82°C) | 10 | SPST, 20 VA N.O., Dry | — | 15208 |
| LS-750 | Brass | Buna N | Nylon, PVC, Beryllium Copper | .45 | | 150 | SPST, 20 VA N.C., Dry | PVC Cable Jacket | 149350 ⚡ |
| | 316 S.S.** | 316 S.S. | PVDF, Viton® | .65 | -40°F to 212°F (-40°C to +100°C) | 375 | SPST, 10 VA N.C., Dry | Teflon® Cable Jacket | 197433 |
| LS-700F | Brass | 304 S.S. | — | .98 | -40°F to +221°F (-40°C to +105°C) | 400 | SPST, 20 VA N.C., Dry | 3-Pin | 128500 ⚡ |
| | | | | | | | | 4-Pin | 144900 ⚡ |

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

⚡ — Stock Items.

** Stainless steel is generally recognized as safe (GRAS) with FDA for food contact regulations.