

ORDER IT!

It's Easy With Step-by-Step Check Lists. See Page A-24.

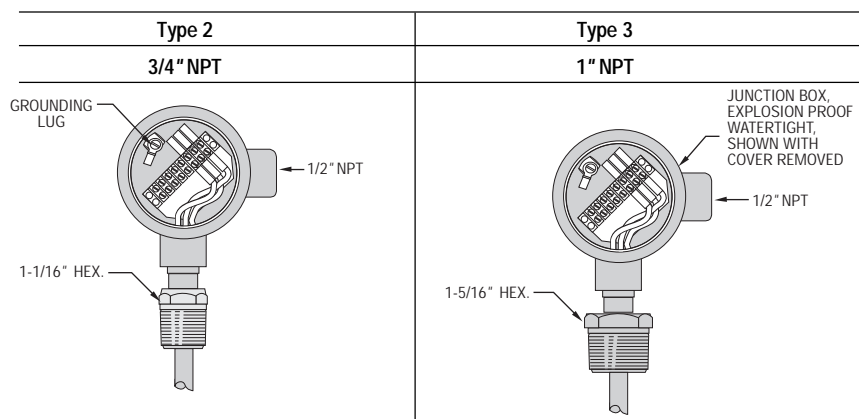
Small Size – Alloys

LS-700-EP Series is Factory Mutual (FM) Approved Explosion Proof

- ▶ Stainless Steel or Brass Mountings and Stems
- ▶ 1 to 5 Actuation Levels
- ▶ Lengths to 48 inches

1. Mounting Types

Each mounting type can be configured with stem lengths (L_p) and float material indicated in the table below.



LEVEL SWITCHES

| | |
|--|--|
| Stem and Mounting Material | Brass or 316 Stainless Steel |
| Max Length (L_p) | 48 inches (121.9 cm) |
| Mounting Position | Vertical $\pm 30^\circ$ Inclination |
| Float Stops* | Brass Units: Beryllium Copper Grip Rings; Stainless Steel Units: S.S. ARMCO PH-15-7MO Grip Rings |
| Pressure Rating, PSI, Max. (Mounting Only**) | See Float Value Below |

* In some instances, concentrations of chlorine and other corrosive compounds in the media require the use of collar type float stops. Consult factory for details.

** Maximum pressure rating for complete unit will be the lower of this pressure or the selected float pressure (see Float Types, below).

2. Float Types

A single float type is selected for use at all actuation points.

| Float Materials | 316 Stainless Steel | 304 Stainless Steel | | Teflon – Spring Biased |
|------------------------------|-------------------------------------|---------------------|--------|------------------------|
| Compatible Mounting Types | 3 | 2, 3 | 2, 3 | 2, 3 |
| Float Dimensions | | | | |
| Part Number | 141750 | 136540 | 136550 | 133764 |
| Operating Temperature | -40°F to +300°F (-40°C to +148.9°C) | | | |
| Pressure, PSI, Max. | 275 | 150 | 400 | 1000* |
| Min. Liquid Specific Gravity | .90 | 1.05 | 1.10 | .65 |

*De-rated with increasing temperature.

LS-700-EP Series – Continued

3. Number of Actuation Levels and Electrical Specifications

Typically, one float is required for each point at which you need a switch action to occur. The number of actuation levels available depends on the Group Type Wiring selected; see below.

Switch (N.O. or N.C.):

SPST: 20 VA

Electrical Termination: Size 50 J-Box;

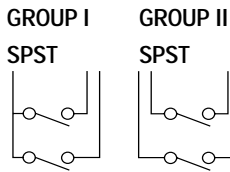
Explosion Proof, Watertight,

With Terminal Strip

Approvals: Factory Mutual (FM)

Typical Wiring Diagrams

For clarity, only two actuation levels are shown in each group diagram.



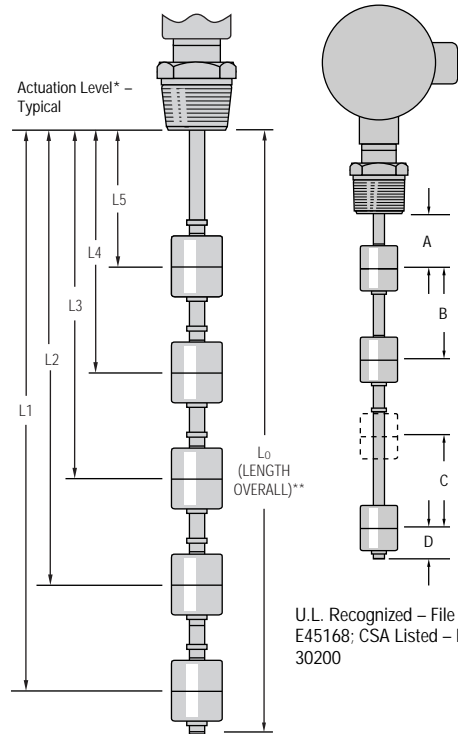
Wiring Color Code

Tinted area designates U.L. Recognized wiring configurations.

| SPST Switches | | | |
|---------------|---------|-----------|--------|
| Wiring | Group I | Group II | |
| Common Wire | Black | None | |
| | NO/NC | SW Common | NO/NC |
| L1 | Red | Red | Red |
| L2 | Yellow | Yellow | Yellow |
| L3 | Blue | Blue | Blue |
| L4 | Brown | | |
| L5 | Orange | | |

Note: See "Electrical Data" on Page A-4 for more information.

4. Actuation Level Dimensions



U.L. Recognized – File No. E45168; CSA Listed – File No. 30200

Switch actuation levels are determined following the guidelines below.

A = Minimum distance to highest actuation level.

B = Minimum distance between actuation levels.

C = 1/8" minimum distance between two actuation levels with one float (Note: One float for two levels can be used only when low level is N.C. dry and high level is N.O. dry).


D = Minimum distance from end of unit to lowest actuation level.

| Dimensions | | | | |
|-------------------|-------------------|-------------------|--------------------|--|
| Float Part Number | A | B | C | D |
| 141750 | 1" (25.4 mm) | 2" (50.8 mm) | 1/8" (3.2 mm) Min. | 1-1/8" (28.6 mm) |
| 136540 | 1-9/16" (39.7 mm) | 2-7/16" (61.9 mm) | | 1-11/16" (42.9 mm) |
| 136550 | 1-5/8" (41.3 mm) | 2-7/16" (61.9 mm) | | 1-3/4" (44.4 mm) |
| 133764 | 13/16" (20.6 mm) | 1-7/8" (47.6 mm) | | 7/8" (22.2 mm), N.O. 1-3/16" (30.2 mm) N.C. |

Note: A, B and D dimensions based on a liquid specific gravity of 1.0.

* Actuation Level Distances and L₀ (overall unit length) are measured from inner surface of mounting plug.

** Length Overall (L₀) = L₁ + Dimension D.

| | | |
|---|--|---|
|  <p>Photocopy This Form Use one form for each product type you are selecting.</p> | <p>Page# _____</p> <p>The OrderIt! Order Sheet (Z-4) must accompany this Check List. The Order Sheet is not required for quotes.</p> | <p>Name _____</p> <p>Company _____</p> <p>Street _____</p> <p>City _____ State _____ Zip _____</p> <p>Phone (____) _____ Fax (____) _____</p> <p>This is a <input type="checkbox"/> Request for a Quote <input type="checkbox"/> Order P.O.# _____</p> <p>Quantity Needed _____ Date Required ____/____/____</p> <p>Shipping Method: _____ Partial Accepted: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|---|--|---|

LS-700 Types Custom Length Float Type Level Switches (Pages A-29 to A-33)

Application Environmental Conditions

This information is essential to the accurate and proper operation of your GEMS configurable sensors. Please complete fully and accurately.

- | | |
|---|---|
| <p>1. Liquid Media: _____</p> <p>2. Pressure: Minimum _____ psig Maximum _____ psig</p> <p>3. Temperature: Minimum _____ °F Maximum _____ °F</p> <p>4. Specific Gravity: Minimum _____ Maximum _____</p> <p>5. Viscosity: _____ SSU</p> | <p>6. Tank Material: _____</p> <p>Tank Depth: _____</p> <p>7. Unit is Mounted In: <input type="checkbox"/> Tank Top <input type="checkbox"/> Tank Bottom</p> |
|---|---|

1. Series (Page No.):

- LS-700 (A-29) LS-700-EP (A-32)

See product page number for available mounting type and materials.

2. Mounting Type:

- Type 1 Type 2 Type 3
 Type 4 Type 5 Type 6

3. Mounting and Stem Material (if choice available):

- Brass Carbon Steel (Flanges Only, in association with stainless steel stems.)
 316 Stainless Steel

4. Mounting Position:

- Tank Top Tank Bottom

5. Float Part Number: _____

Matching floats will be used at each actuation level specified.

6. Switch Type and Rating:

- A. Group I Group II
- B. SPST
- C. 20 VA 100 VA (Not available on LS-700-EP)

7. Switch Actuation Level

| Actuation Level | Distance to Actuation Level – Inches* | SPST Switch Operation** (Check Type) | |
|-----------------|---------------------------------------|--------------------------------------|------|
| | | N.O. | N.C. |
| L5 | | | |
| L4 | | | |
| L3 | | | |
| L2 | | | |
| L1*** | | | |

* Measured from inner surface of mounting plug or flange.
 ** Switch position is "normal" with unit dry (tank empty).
 *** L1 is the distance to the lowest actuation level with mounting "up," and is the distance to the highest actuation level with mounting "down."

B. Length Overall _____ inches.

8. Lead Wire Length:

- 12" 24" Other: _____ inches.

Options:

- Temperature Switch: _____ °F Temperature Setting;
 On rising temperature, switch...
 Opens Closes
 Slosh Shield Collars
 1/2" NPT Conduit Connection

Please contact GEMS Sensors Inc. for any configuration or special requirements not covered on this form. **800-321-6070**

Quote \$ _____ Date Quoted ____/____/____

Additional minimum charges may apply on special orders.



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CUSTOM LENGTH FLOAT TYPE LEVEL SWITCHES

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