

# Large Size – Engineered Plastics

## LSP-800 Series – Features Inert Materials for Corrosive Liquids

- ▶ All-Plastic Wetted Parts - PVC, Polypropylene or PVDF
- ▶ 1 to 6 Actuation Levels
- ▶ Lengths to 70 inches

Specifically designed for corrosive liquids and vapors. Three standard model types in a choice of materials offer broad chemical compatibility.

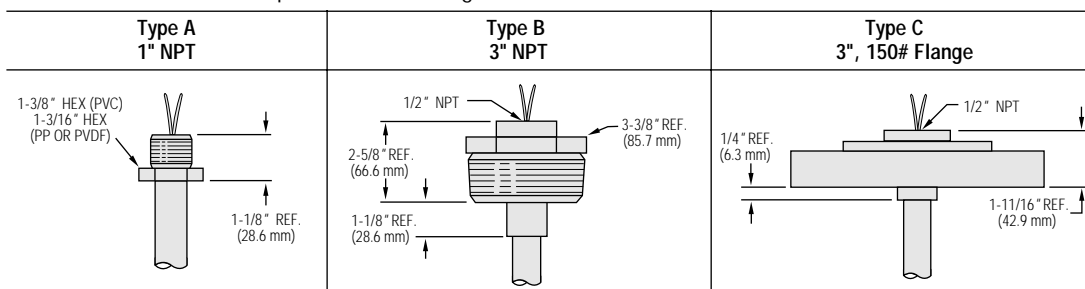


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LEVEL SWITCHES

### 1. Mounting Types

Each mounting type can be configured with stem lengths ( $L_0$ ) and materials indicated in the table below. Floats and float stop collars are of same material specified for mounting.



Stem, Mounting, Float and Collar Material	PVC, Polypropylene or PVDF
Max. Length ( $L_0$ )	70 inches (177.8 cm)
Mounting Position	Vertical $\pm 30^\circ$ Inclination

### 2. Float Types

Float Material	PVC	Polypropylene	PVDF
Float Dimensions	<p>2-9/32" (57.9 mm) 2-27/32" Dia. (72.2 mm)</p>	<p>2-9/32" (57.9 mm) 2-27/32" Dia. (72.2 mm)</p>	<p>2-9/32" (57.9 mm) 2-27/32" Dia. (72.2 mm)</p>
Part Number	61326	61327	61328
Operating Temperature and Pressure	See Ratings Chart at top of following page		
Min. Liquid Specific Gravity	.60	.40	.75

Note: Part Numbers are shown for reference only. Floats are always supplied in same material as specified for mounting.

## LSP-800 Series - Continued

### Temperature and Pressure Ratings Chart

Maximum Pressure vs. Temperature

LSP-800 Material	Operating Temperature							
	0°F (-17.7°C)	70°F (21.1°C)	100°F (37.7°C)	125°F (51.7°C)	140°F (60.0°C)	170°F (76.7°C)	200°F (93.3°C)	210°F (98.9°C)
PVC	50 PSI	50 PSI	35 PSI	20 PSI	10 PSI	NOT RECOMMENDED		
Polypropylene	50 PSI	50 PSI	40 PSI	35 PSI	30 PSI			
PVDF	50 PSI	50 PSI	45 PSI	40 PSI	35 PSI	30 PSI	25 PSI	25 PSI

### 3. Electrical Specifications

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

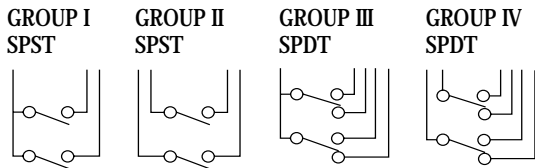
SPST: 20 VA or 100 VA

SPDT: 20 VA

Lead Wires: #22 AWG, 24" L., Polymeric

#### Typical Wiring Diagrams

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

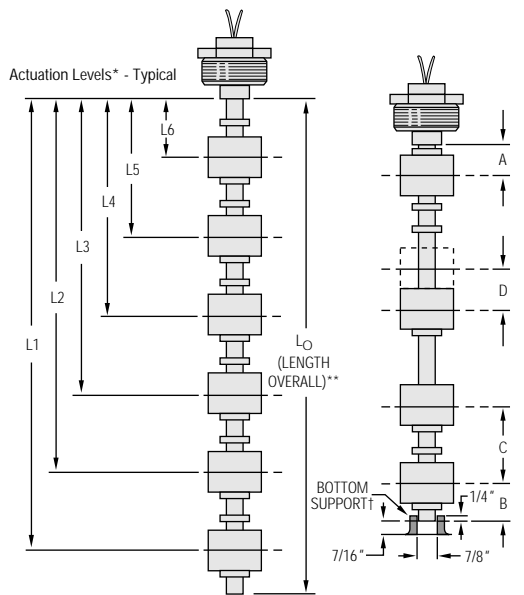


### Wiring Color Code

Wiring	SPST Switches			SPDT Switches 20 VA				
	Group I	Group II		Group III		Group IV		
Com. Wire	Black	None		Black		None		
	NO/NC	SW. Com.	NO/NC	NO	NC	SW. Com.	NO	NC
L1	Red	Red	Red	Red	Wh/Red	Red	Wh/Red	Wh/Blk/Red
L2	Yellow	Yellow	Yellow	Yellow	Wh/Yel	Yellow	Wh/Yel	Wh/Blk/Yel
L3	Blue	Blue	Blue	Blue	Wh/Blue	Blue	Wh/Blu	Wh/Blk/Blu
L4	Brown	Brown	Brown	Brown	Wh/Brn	Brown	Wh/Brn	Wh/Blk/Brn
L5	Orange	Orange	Orange	Orange	Wh/Orn	Orange	Wh/Orn	Wh/Blk/Orn
L6	Gray	Gray	Gray	Gray	Wh/Gra	Gray	Wh/Gra	Wh/Blk/Gra

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

### 4. Actuation Level Dimensions



Switch actuation levels are determined following the guidelines below.

A = 2-1/16" (52.4 mm) ±1/16" minimum distance to centerline of float (ref. mounting).

B = 2-11/16" (68.3 mm) ±1/16" minimum distance to centerline of float (ref. stem end).

C = 3-1/2" (88.9 mm) minimum distance between actuation levels.

D = Distance between actuation levels using one float.

Minimum = 1/4" (6.3 mm)

Maximum = 3-1/2" (88.9 mm)

Notes:

- The centerline of the float is used as a standard reference for actuating the switches.
- All levels are set on descending float travel with overtravel = 1/4" (6.3mm) ±1/8" (3.2mm). Overtravel on Ascending = 1/8" (3.2mm) min.
- Tolerance on all actuation levels is ±1/8" (3.2 mm) Ref.

\* Actuation level distances and L<sub>0</sub> (overall unit length) are measured from inner surfaces of mounting plug or flange.

\*\* Length Overall L<sub>0</sub> = L<sub>1</sub> + Dimension B. See Mounting Types for Maximum Length values.

† Bottom support recommended for units longer than 36 inches, or in applications having turbulent conditions.

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## LS-800 Types Custom Length Float Type Level Switches (Pages A-34 to A-40)

### Application Environmental Conditions

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

1. **Liquid Media:** \_\_\_\_\_  
 2. **Pressure:** Minimum \_\_\_\_\_ psig Maximum \_\_\_\_\_ psig  
 3. **Temperature:** Minimum \_\_\_\_\_ °F Maximum \_\_\_\_\_ °F  
 4. **Specific Gravity:** Minimum \_\_\_\_\_ Maximum \_\_\_\_\_

5. **Viscosity:** \_\_\_\_\_ SSU  
 6. **Tank Material:** \_\_\_\_\_  
**Tank Depth:** \_\_\_\_\_  
 7. **Unit is Mounted In:**  Tank Top  Tank Bottom

#### 1. Series (Page No.):

- LS-800PVC (A-34)     LSP-800 (A-36)     LS-800 (A-38)  
 LS-800-A (A-41)    See product page number for available mounting type and materials.

#### 2. Mounting Type:

- Type A     Type B     Type C     Type 4  
 Type 1     Type 2     Type 3

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

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

#### 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  
 Group III     Group IV  
**B.**  SPST     SPDT (20 VA only)  
**C.**  20 VA     100 VA

#### 7. Switch Actuation Level

Actuation Level	Distance to Actuation Level – Inches*	SPST Switch Operation** (Check Type)	
		N.O.	N.C.
L6			
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 (Customer supplied support bracket assembly recommended for lengths over 72".)

#### 8. Lead Wire Length:

- 12"     24"     Other: \_\_\_\_\_ inches.

#### Options:

- Temperature Switch: \_\_\_\_\_ °F Temperature Setting;  
 On rising temperature, switch...  
 Opens     Closes  
 Slosh Shield     Collars  
 J-Box Electrical Connection:  
 Explosion Proof Type     Explosion Proof/CSA Type  
 NEMA 4 Type     Plastic ABS Type

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

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