

LS-350 Series Combination Siphon and Level Sensor

- ▶ Multi-Level Switch Options
- ▶ Up to 4 Actuation Points
- ▶ Integral Siphon or Fill Tube
- ▶ Customized Mountings
- ▶ Custom Configurable

Save valuable space and costly installation/maintenance time with these highly customizable sensors. LS-350 units combine a siphon tube and up to four liquid level sensors as a single component. The complete unit installs through a single opening in the fluid container.

Simple and clean — a single component that enables remote monitoring of a tank's fluid content while allowing access for container filling and draining. These units are custom configured to fit the container of your choice, with a wide range of mountings, fluid and electrical connectors, materials and lengths.

Typical Applications

- Immuno-Chemistry/Cytology
- Hematology
- Automated Urine Analysis
- Laboratory Automation

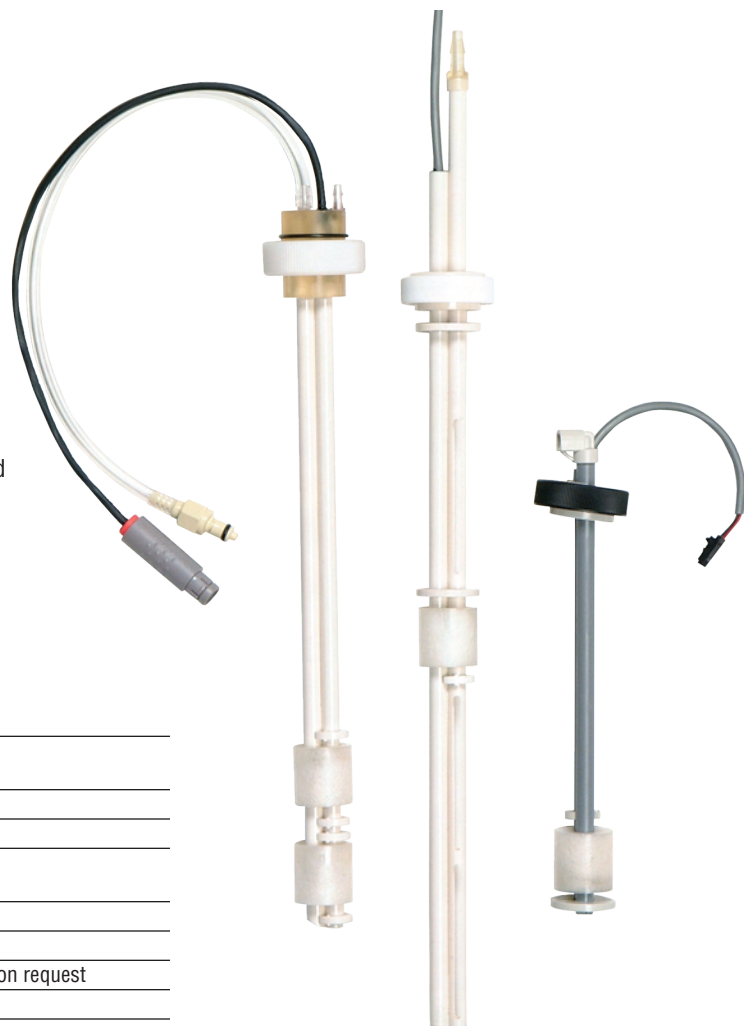
Specifications

Materials	
Stem and Mounting	Polysulfone or Noryl®
Floats	Polypropylene or Buna N
Gasket	Buna N
Operating Temperature	
Buna N Float	221°F (105°C) Max.
Polypropylene Float	210°F (99°C) Max.
Switch	
Length	15" (380 mm) Max., Longer units available on request
Mounting Attitude	
Actuation Level Points	±30° from vertical
Actuation Level Points	6 Max.

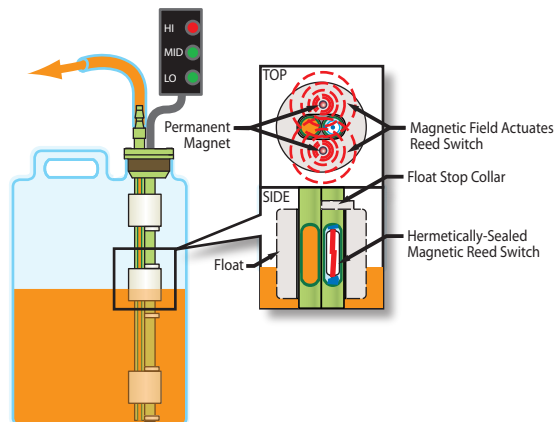
Operating Principle

The LS-350 Series provides two functions: liquid level monitoring and fluid fill or extraction access. The latter function is accomplished with an integrated siphon tube that runs parallel to the float sensor stem and through the top mounting; it is commonly topped with a barb (or customer specified) fitting for the connection of flexible tubing. Fluid level sensing is accomplished with magnetic reed switch technology. One or more floats encircling a stationary stem are equipped with powerful, permanent magnets. As a float rises or lowers with liquid level, the magnetic field generated from within the float actuates a hermetically sealed magnetic reed switch mounted inside the stem. The switch actuation may be used for alarm, solenoid, pump or other fluid control operations.

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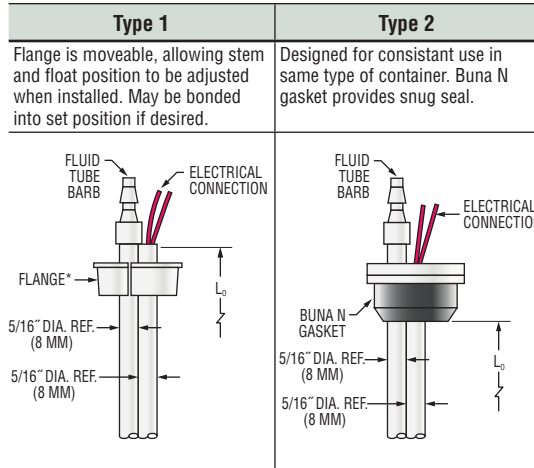


LEVEL SWITCHES - MULTI POINT



1. Mounting Types

Each mounting type can be configured with stem lengths (L_0) and as indicated below.



Mounting Hole Dia.	1.20"/1.25" (30.5 mm/31.75 mm)	1.31"/1.32" (33.3 mm/33.5 mm)
Stem, Mounting and Collar Material	Polysulfone	Polysulfone with Buna N Gasket
Pressure Rating (mounting)	Atmosphere (Not recommended for pressurized applications)	
Fluid Barb	Compatible 3/16" I.D. Hose (Options available)	
Max Length (L_0)	15 inches (38 cm) \pm 1/16" (2 mm)	
Mounting Position	Vertical \pm 30° Inclination	
Mounting Compatibility	Cubitainer® Style Opening	Tank Wall Thickness 1/32"–1/8"

* Orientation of slot in flange is not critical.

2. Float Types

A single float type is used for all actuation points.

	Buna N	Polypropylene
Part Number	128642	130893
Liquid Suitability	Oil-Based	Water-Based
Min. Media Specific Gravity	0.75	0.98
Operating Temperature	Oil: -40°F to +221°F (-40°C to +105°C) Water: to 180°F (82°C)	-40°F to +210°F (-40°C to +99°C)

3. 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.

Group I Wiring: 1 to 4 Actuation Levels.

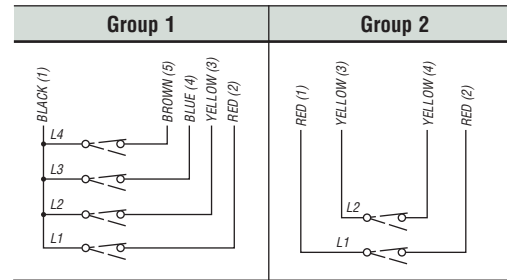
Group II Wiring: 1 or 2 Actuation Levels.

Switch (SPST, N.O. or N.C.): 10/20/50/100 VA.

Notes:

1. Other wiring options available. Consult factory.
2. Consult Factory for load information.

4. Wiring Group



5. Electrical Connections

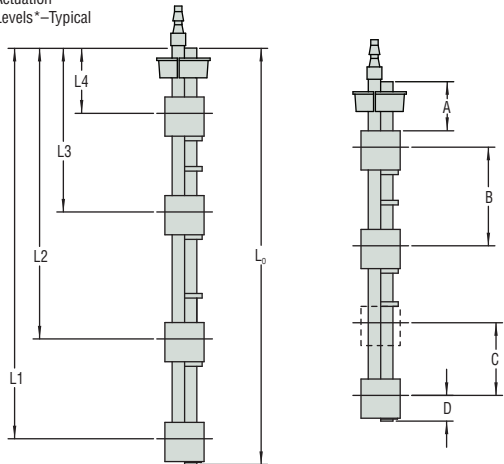
Type 1: Lead Wires, 24" to 26" (610 mm, Min.)

Type 2: Cable, 24" to 26" (610 mm, Min.)

6. Actuation Level Dimensions

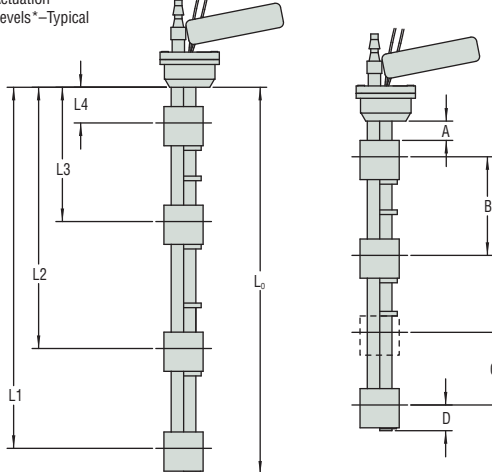
Type 1

Actuation Levels*--Typical



Type 2

Actuation Levels*--Typical



* Actuation level distances and L_0 (overall unit length) are measured from inner surfaces of mounting plug or flange. See mounting types on page 1 for L_0 reference point.

** Length Overall (L_0) = L_1 + Dimension D. See Mounting Types for Maximum Length values.

Switch actuation levels are determined following the guidelines below.

A = Minimum distance to highest actuation level.

B = Minimum distance between actuation levels.


C = 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 level.

Float Type	Dimensions				
	A		B	C	D
	Type 1 Mount	Type 2 Mount			
Buna N	3/4" (19 mm), Min.	3/4" (19 mm)	1-3/4" (45 mm)	1/8" (3 mm)	15/16" (24 mm)
Polysulfone	1/2" (13 mm), Min.	1/2" (13 mm)	1-3/4" (45 mm)	Minimum	1-3/16" (30 mm)

Notes:

1. Actuation levels are calibrated on ascending fluid level with water, specific gravity 1.0, as the calibrating fluid, unless otherwise specified.
2. Tolerance on actuation levels is $\pm 1/8"$ (3 mm).

 <p>Photocopy This Form Use one form for each product type you are selecting. <small>This form may also be completed online at gemssensors.com for RFQ.</small></p>	This is a <input type="checkbox"/> Request for a Quote <input type="checkbox"/> Order P.O.# _____ Quantity Needed _____ Date Required ____/____/____ Shipping Method: _____ Partial Accepted: <input type="checkbox"/> Yes <input type="checkbox"/> No	Name _____ Company _____ Street _____ City _____ State ____ Zip _____ Phone (____) _____ Fax (____) _____
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LS-350 Engineered Plastics Custom Length with Siphon Tube Float Type Level Switch Check List

Application Environmental Conditions

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

- | | |
|--|--|
| <p>1. Liquid Media: _____</p> <p>2. Pressure: Minimum _____ <input type="checkbox"/> psig <input type="checkbox"/> bar Maximum _____</p> <p>3. Temperature: Minimum _____ <input type="checkbox"/> °F <input type="checkbox"/> °C Maximum _____ <input type="checkbox"/> °F <input type="checkbox"/> °C</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"/> T – Top Mounted <input type="checkbox"/> B – Bottom Mounted</p> |
|--|--|

1. Mounting Type:

- Type 1 (Standard)
- Type 2

2. Float Type:

- Buna-N – P/N 128462
- Solid Foamed Polypropylene – P/N 130893 (Standard)

3. Electrical Rating:

- 010 – SPST, 10VA 020 – SPST, 20VA
- 050 – SPST, 50VA 100 – SPST, 100VA

4. Wiring Group:

- Group 1 – Common Return
- Group 2 – Independent Return

5. Electrical Connections:

<input checked="" type="checkbox"/>	Type	Description
1		Lead Wires, 24" to 26" (610mm, Min.)
2		Cable, 24" to 26" (610mm, Min)

6. Switch Actuation Level:

Actuation Level	Distance to Actuation Level* <input type="checkbox"/> Inches <input type="checkbox"/> Millimeters	SPST Switch Operation** (Check Type)	
		N.O.	N.C.
L4			
L3			
L2			
L1***			

* Measured from inner surface of mounting plug or flange. See mounting types on page B-11.
 ** 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 Millimeters

7. Barb Fitting:

- 3/16" (Standard)
- Other _____

Please contact GEMS Sensors Inc. for any configuration or special requirements not covered on this form. **800-378-1600**

Quote \$ _____ Date Quoted ____/____/____



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