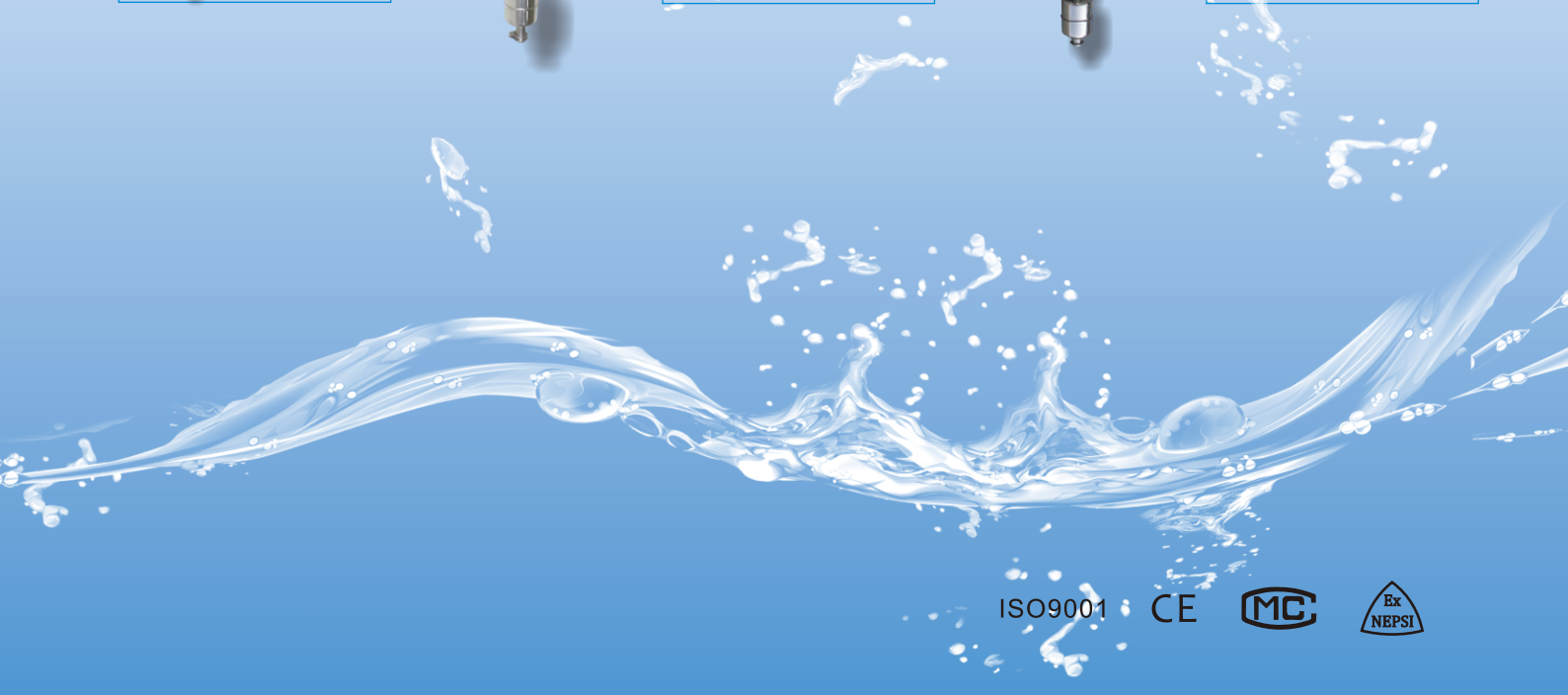




SHANGHAI SPES ELECTRONIC TECHNOLOGY CO., LTD.

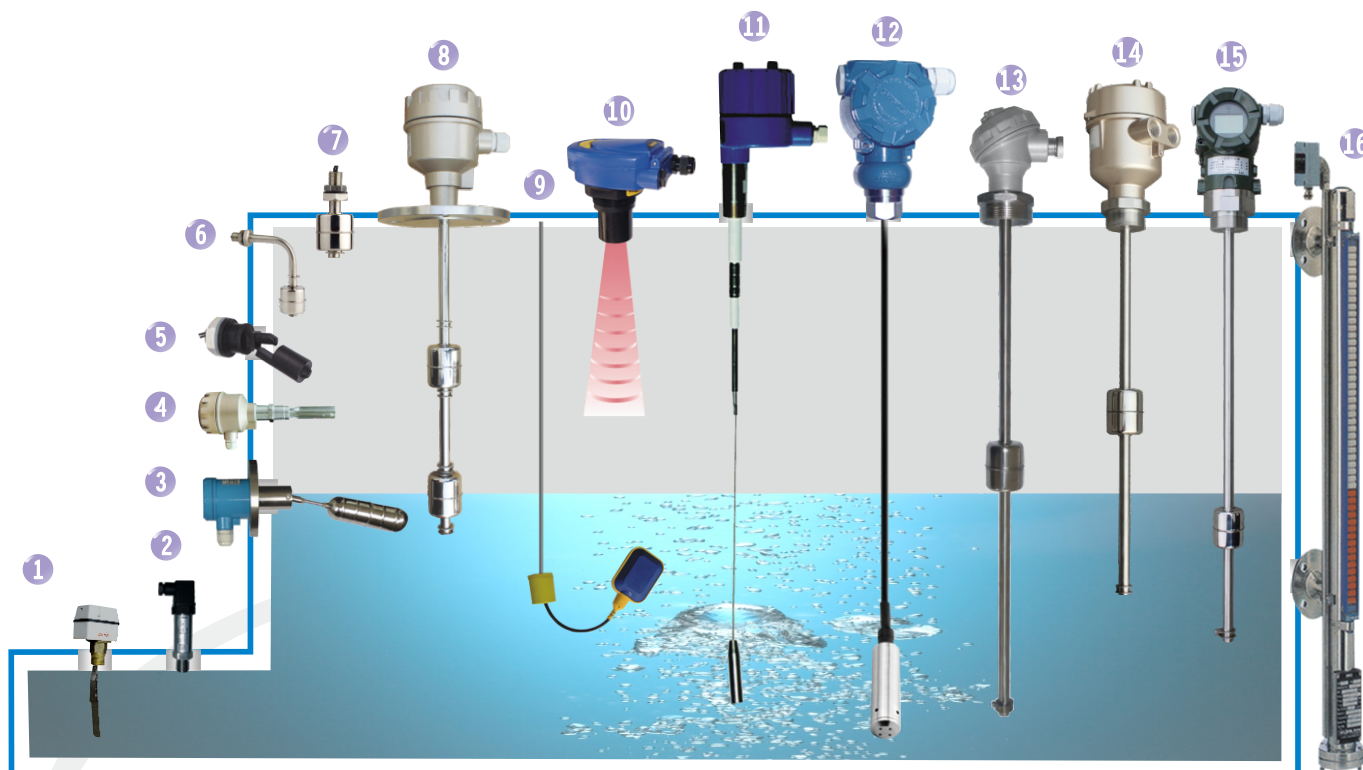
A Version of 2016 Liquid Level Switch



ISO9001

CE



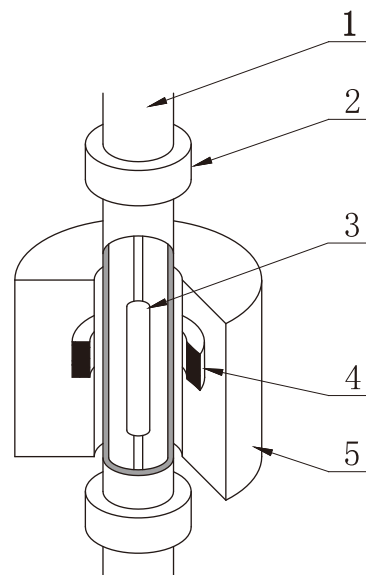


Contents

1 Flow Switch P13	9 Cable Float Level Switch.....P10
2 Pressure Transmitter See Pressure Page	10 Ultrasonic Level Sensor.....P12
3 Side-mounting Float Level Switch P08-P09	11 RF Admittance Level Sensor.....See RF Page
4 Tuning Fork Level Switch ... See Tuning Fork Page	12 Submersible Pressure Transmitter See Pressure Page
5 Float Level Switch P01-P03	13 Plug-in Magnetic Level Transmitter.....See Magnetic Meter Page
6 Float Level Switch P01-P03	14 Plug-in Magnetic Level Transmitter.....See Magnetic Meter Page
7 Float Level Switch P01-P03	15 Magnetostrictive Level Transmitter.....See Magnetic Meter Page
8 Multi-point Float Level Switch P04-P07	16 Magnetic Level Gauge.....See Magnetic Level Gauge Page

Working Principle

Fix the magnetic reed switch 3 into the airtight and non-magnetic tube 1. When the inner hollow float 5 with ring magnet 4 approaches the magnetic reed switch along the tube under the buoyancy, the reed switch 3 drives the contact to be ON under the magnetic force. Conversely, when the float drops from the magnetic reed switch, the contact is OFF. Therefore, the signal ON or OFF is output for alarm or remote control.



Schematic Diagram

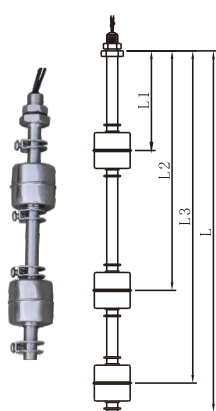
Performance Specification

Contact Rated Power	DC 50W /AC 70VA
Max Contact Voltage	DC 220v /AC 240V
Max Contact Current	DC 0.7A /AC 0.5A
Insulation Resistor	min $10^{10} \Omega$
Service Life	10^7 times

Features

- Simple structure, stable and reliable performance with long service life;
- Applicable for AC220V and AC/DC24V;
- Imported original magnetic reed switch with service life up to 10^7 times;
- Multiple operation points for remote control on request;
- Isolated magnetic reed switch and conductor from the measured medium for application in high-temperature and high-pressure conditions;
- Various materials such as SUS, PP, PVC, PVDF with multiple installation methods such as flange, screw and sanitary chuck to meet different needs under different conditions;
- Smart size and wide application in fields of water treatment, food, medicine, chemical industry, electronics, shipping, textile, and hydraulic pressure

Selection Guide



Selection Diagram

SLM — ☐ ☐ ☐ — ☐ ☐ ☐ ☐

Lead Wire Length L: Unit: mm

Total Length L: Unit: mm

Control Point: 1. One 2. Two 3. Three...

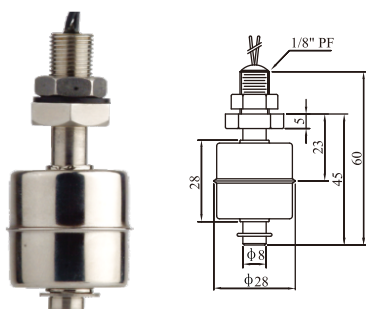
Temperature: N. -10~125°C T. -10~200°C

Installation Method: 1. Vertical Installation 2. Horizontal Installation

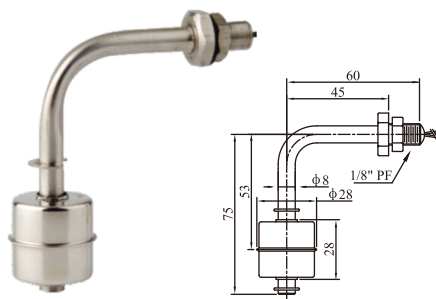
Wetted Material: 0. SUS304 4. SUS304+PP 6. SUS316 8. PP

Float Size: 30. $\Phi 28 \times 28$ 45. $\Phi 45 \times 55$ 50. $\Phi 52 \times 52$ 75. $\Phi 75 \times 75$

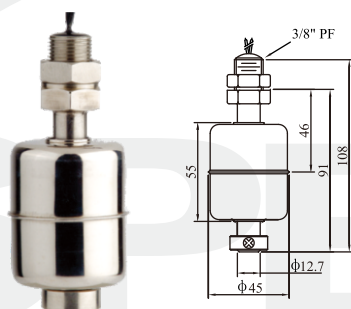
Model: **SLM** – Small Float Level Switch

Model: SLM-3001


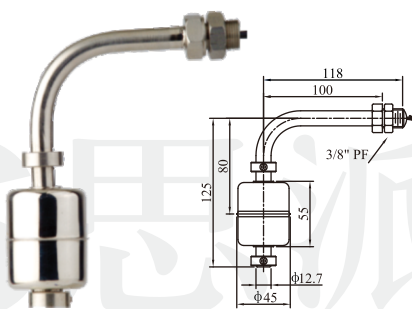
- Wetted Material: SUS304/316L
- Installation Method: vertical installation from inside to outside
- Installation Size: $\Phi 10$ aperture

Model: SLM-3002


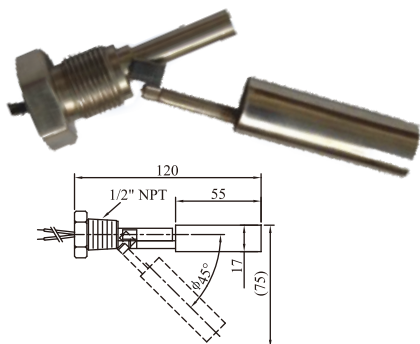
- Wetted Material: SUS304/316L
- Installation Method: horizontal installation from inside to outside
- Installation Size: $\Phi 10$ aperture

Model: SLM-4501


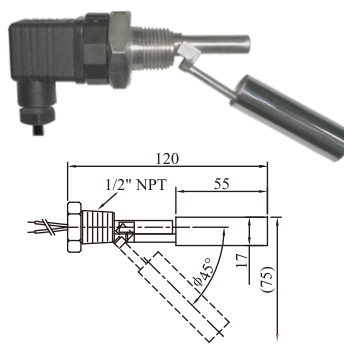
- Wetted Material: SUS304/316L
- Installation Method: vertical installation from inside to outside
- Installation Size: $\Phi 17$ aperture

Model: SLM-4502


- Wetted Material: SUS304/316L
- Installation Method: horizontal installation from inside to outside
- Installation Size: $\Phi 17$ aperture

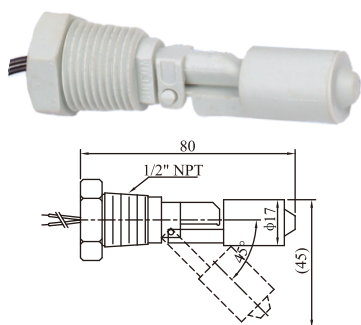
Model: SLM-MH16


- Wetted Material: SUS304
- Installation Method: horizontal installation from outside to inside
- Installation Size: $\frac{1}{2}$ " internal screw



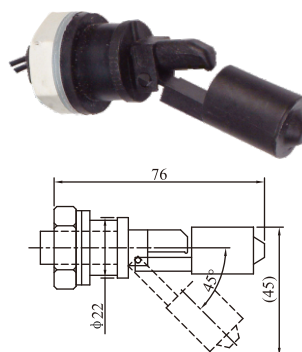
- Wetted Material: SUS304
- Installation Method: horizontal installation from outside to inside
- Installation Size: $\frac{1}{2}$ " internal screw

Model: SLM-MH31C



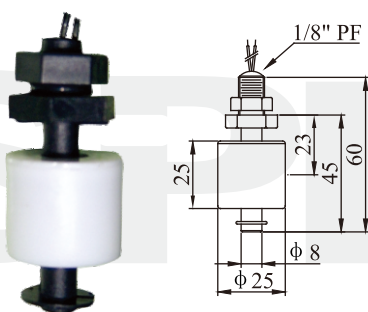
- Wetted Material: PP, Polyamide, Nylon, PVDF
- Installation Method: horizontal installation from outside to inside
- Installation Size: 1/2" external screw

Model: SLM-MH21C



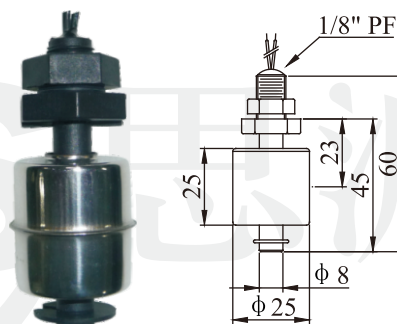
- Wetted Material: PP, Polyamide, Nylon, PVDF
- Installation Method: horizontal installation from outside to inside (or from inside to outside)
- Installation Size: $\Phi 22$ aperture (or $\Phi 16$ aperture)

Model: SLM-MV25P



- Wetted Material: PP
- Installation Method: vertical installation from inside to outside
- Installation Size: $\Phi 10$ aperture

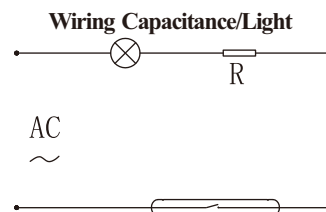
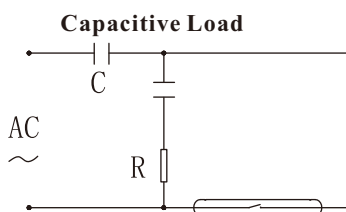
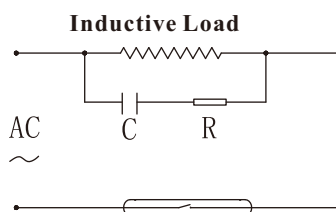
Model: SLM-MV25S



- Wetted Material: PP, SUS
- Installation Method: vertical installation from inside to outside
- Installation Size: $\Phi 10$ aperture

Circuit Protection Diagram

If the magnetic reed switch is used in motor, magnetic ring and other inductive load circuit, or in circuit with surge current such as capacitive loading, light, long cable, the following contact protection circuit should be used.





Working Principle

One or more magnetic reed switches are fixed to a closed and non-magnetic conduit. When the inner hollow float with fixed permanent ring magnet approaches the switch along the conduit under the buoyancy of liquid, the contact is ON under the function of magnetic force. Conversely, when the float leaves the magnetic reed switch, the contact is OFF. Thus one or more signals of ON & OFF are output for alarm or remote control.

Features

- Imported magnetic reed switch with contact service life up to 10^7 times;
- Simple structure, stable and reliable performance with long service life and wide application;
- Various kinds of materials such as SUS, PP, PVC, PVDF/PTFE with multiple process connection methods to meet different needs of various environments.

Performance Specification

Contact Capacity: 220VAC, 70W, max 0.5A SPST

220VAC, 120W, max 3A SPDT

Wetted Material: SUS304/316L : Standard: -20°C~125°C

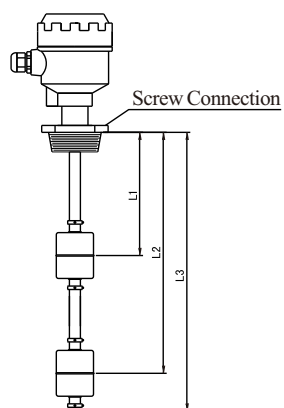
SUS304/316L : High Temperature: -20°C~200°C

PP : -20°C~80°C

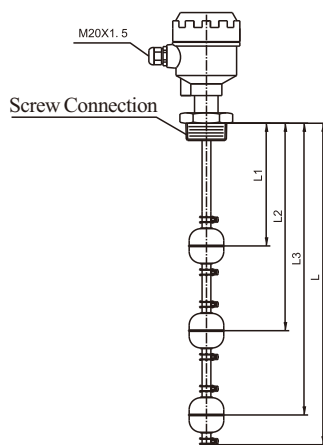
PVDF/PTFE: -20°C~120°C

Protection Grade: IP65

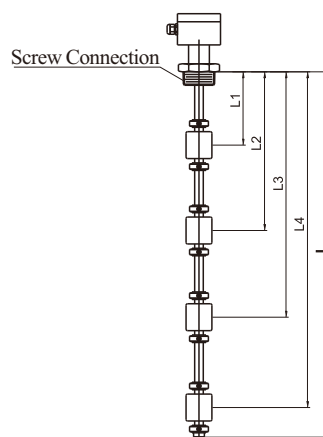
Model: SLH-B-B-2-S



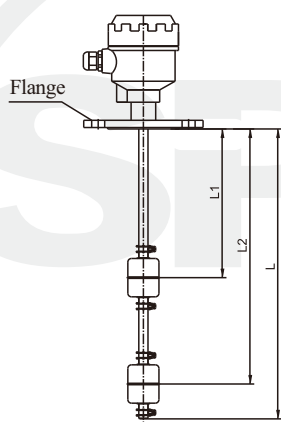
Model: SLH-B-C-3-S



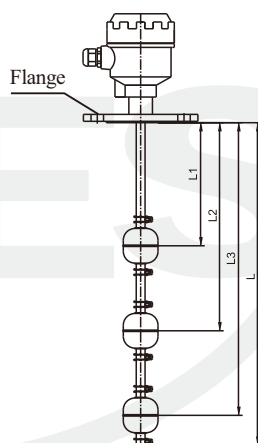
Model: SLH-P-E-4-S



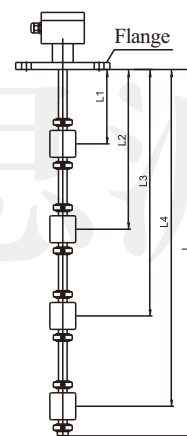
Model: SLH-B-B-2-F



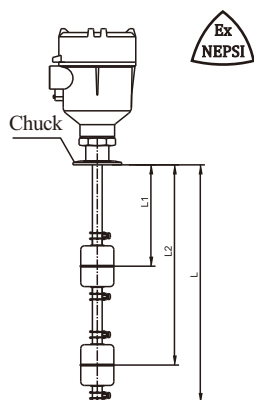
Model: SLH-B-C-3-F



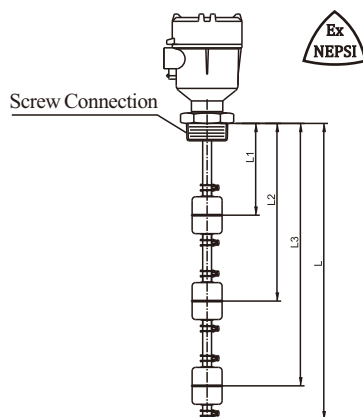
Model: SLH-P-E-4-F



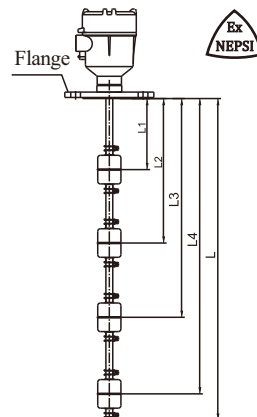
Model: SLH-K-B-2-C

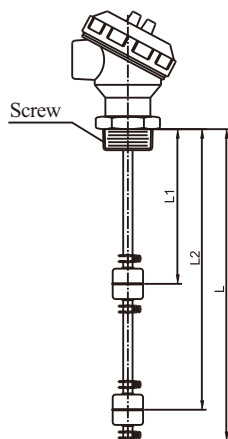
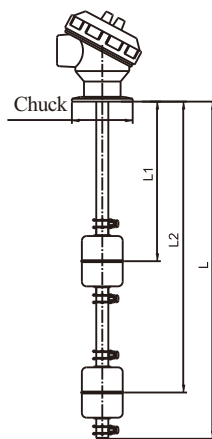
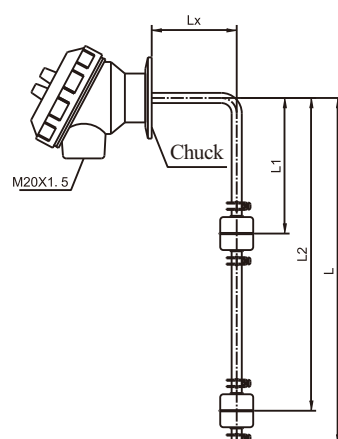


Model: SLH-K-B-3-S

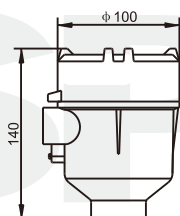
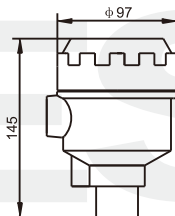
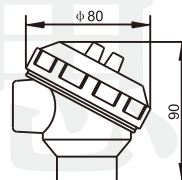


Model: SLH-K-B-4-F



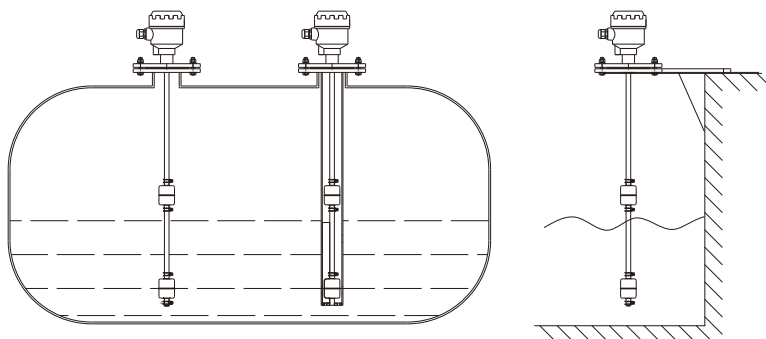
Model: SLH-E-A-2-S

Model: SLH-E-B-2-C

Model: SLH-E-A-2-C


Junction Box Diagram

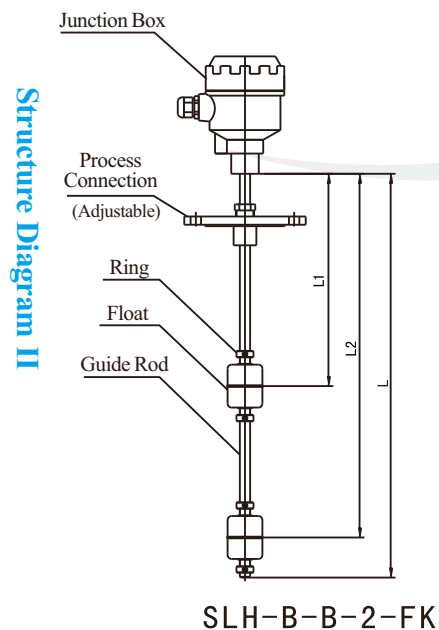
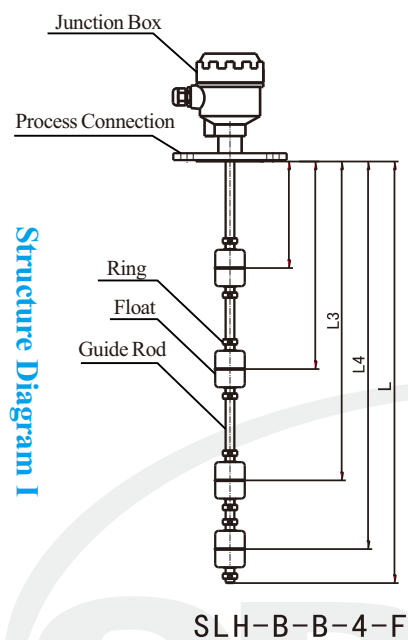

Type K Explosion-proof Junction Box

Type B Junction Box

Type E Junction Box

Installation Precaution

- 1、The internal diameter D of the internal screw should be larger than the float diameter d.
- 2、If there is great fluctuation in the liquid, please install a protection tube.
- 3、Keep away from the water inlet when installing.
- 4、Clean regularly to prevent sundries from getting stuck in the float.
- 5、Be sure to use it within the contact capacity to prevent burnout.


Installation Diagram

Selection Guide



SLH - - - - -

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④

⑤

⑥

Model

Junction Box Type

Float Size

Control Point

Process Connection Method

Total Length

1	Model	SLH-Shanghai SPES Multi-point Float Level Switch	
2	Junction Box Type	B	Standard Type
		E	Simple Type
		P	Anti-corrosive Type
		K	Explosion proof Type
		N	No Junction Box Type
3	Float Size	A	SUS316 Cylinder $\Phi 28 \times 28 \times \Phi 9.5$
		B	SUS316 Cylinder $\Phi 45 \times 55 \times \Phi 15$
		C	SUS316 Sphere $\Phi 52 \times 52 \times \Phi 15$
		D	SUS316 Sphere $\Phi 75 \times 75 \times \Phi 23$
		E	PP Cylinder $\Phi 48 \times 50 \times \Phi 19$
		F	PVDF Cylinder $\Phi 60 \times 70 \times \Phi 24$
		X	Special Customization
4	Control Point	1	One
		2	Two
		3	Three
		4	Four
5	Process Connection Method	F	Flange
		S	Screw
		C	Chuck
		X	Others
		FK	Adjustable Flange
		SK	Adjustable Screw
6	Total Length L	Unit: mm	

Please specify the detailed process connection method, control point and size.

Selection Example: SLH-B-B-2-F-xxxx

Working Principle

When the float goes up and down along the fixed support or shaft with the rising and falling of the liquid level, the permanent magnet at the end of the float-fixing shaft swings accordingly under level function, which consequently drives the micro switch in the junction box to move and output ON or OFF signal for alarm or remote control.

Features

- Horizontal installation on the side wall of container or vertical installation on the top of container;
- Simple and reasonable structure, stable and reliable performance with convenient installation;
- Isolated control part and measured liquid medium to be applied for high temperature and high pressure environments;
- Various materials and connection methods to meet different needs of working conditions;
- Wide application in food, medicine, chemical industry, electronics, shipping, water treatment etc.

Performance Specification

Type	Contact Capacity	Working Temperature	Wetted Material
Standard Type	220VAC、5A、SPDT	-10~100℃	SUS 304/316
High Temperature Type	220VAC、1A、SPDT	-20~200℃	SUS 304/316
High Temperature & Heat Dissipation Type	220VAC、5A、SPDT	-20~350℃	SUS 304/316
Anti-corrosive Type	220VAC、1A、SPDT	-10~80℃	PP

Selection Guide

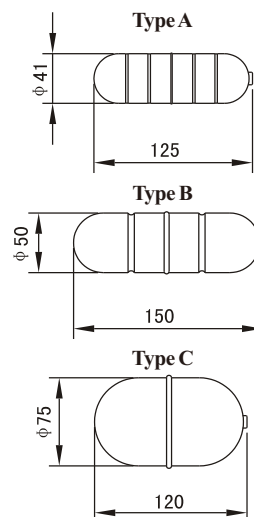
SLF - - -

① ② ③

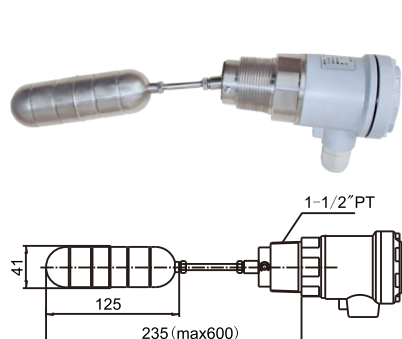
Selection Example: SLF - 10- F - A

- ① Product Type: 10: Standard 20: Standard High Temperature
 30: Upper Mounting Standard 32: Upper Mounting High Temperature
 35: Upper Mounting High Temperature & Heat Dissipation
 40: Hyperbolic Standard 42: Hyperbolic High Temperature
 45: Hyperbolic High Temperature & Heat Dissipation
 55: High Temperature & Radiator 60: Adjustable
 70: Explosion-proof 80: Simple Anti-corrosive Type
 81: Standard Anti-corrosive Type
- ② Process Connection: F: Flange S: Screw C: Chuck X: Others
- ③ Float Size: A: $\Phi 41 \times 125$ B: $\Phi 50 \times 150$ C: $\Phi 75 \times 120$
 X: Special Customization

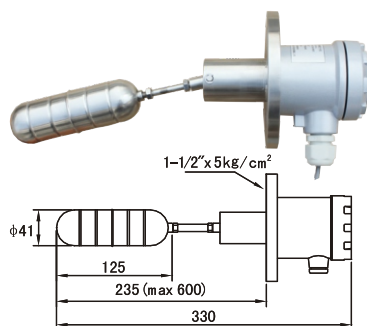
Float Size



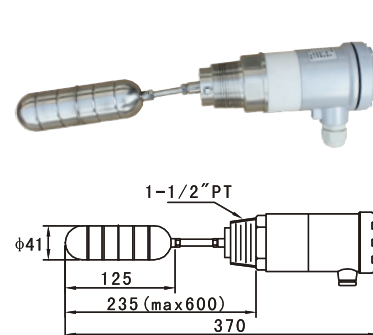
Model: SLF-10-S-A



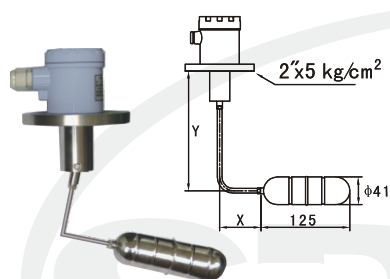
Model: SLF-10-F-A



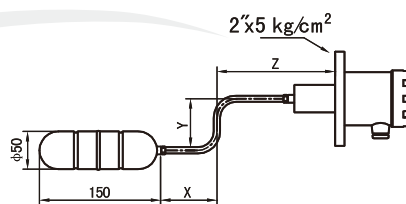
Model: SLF-20-S-A



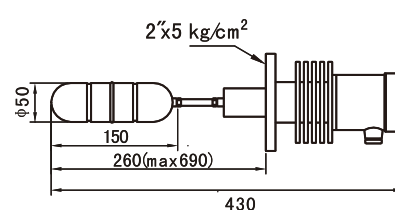
Model: SLF-30-F-A



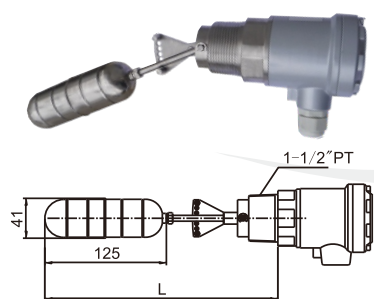
Model: SLF-40-F-B



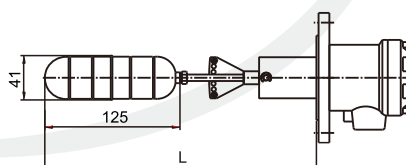
Model: SLF-55-F-B



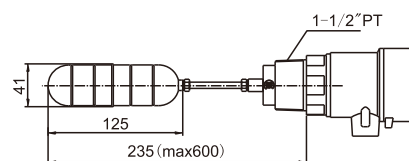
Model: SLF-60-S-A



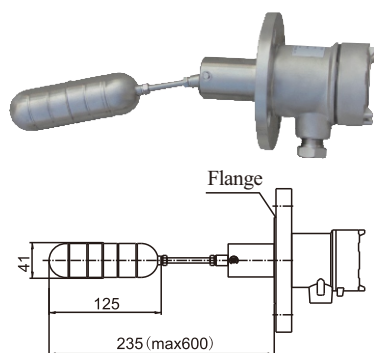
Model: SLF-60-F-A



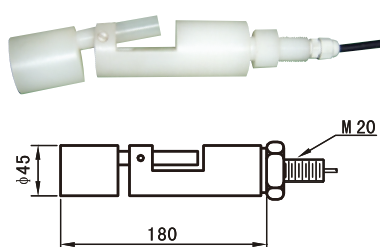
Model: SLF-70-S-A



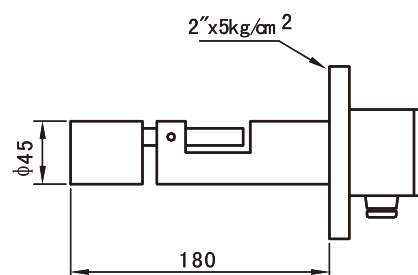
Model: SLF-70-F-A



Model: SLF-80-S-X



Model: SLF-81-F-X



Working Principle

When the float goes up and down to the horizontal level with the liquid level rising or falling to a certain angle, the driving mechanism in the float drives the large-capacity micro switch to operate, thus outputting the signal ON or OFF for alarm prompt or remote control.

Features

- Imported patent technology with complete plastic injection molding;
- Simple and reasonable structure with stable and reliable performance;
- Easy installation and operation with simple on-site adjustment;
- Available for application together with kinds of water pumps, and widely used in water supply & drainage, and self-control of liquid level with corrosive or suspended matters.

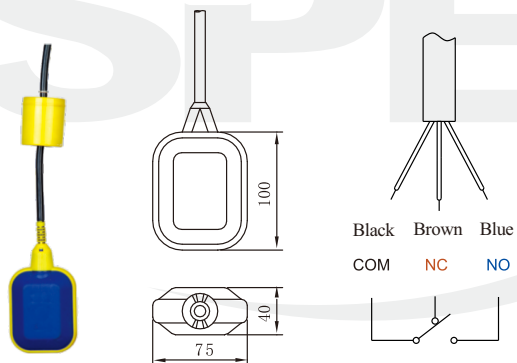
Selection Guide

SLC — — —

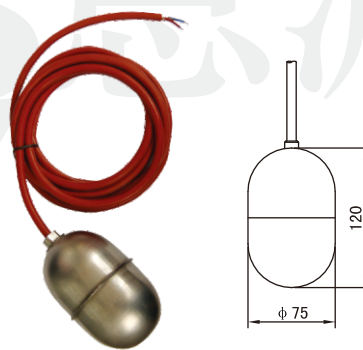
① ② ③ ④

- ① **Wetted Material:** P: PP + Rubber Cable, -10~80℃, 220VAC 10A, SPDT
S: SUS + Silica Gel Cable, -10~180℃, 220VAC 2A, SPDT
- ② **Single/ Set:** C: Single G: Set
- ③ **Float Number:** N
- ④ **Cable Length:** Unit: m **Selection Example:** SLC – PC1- 05

Model: SLC-PC1-03



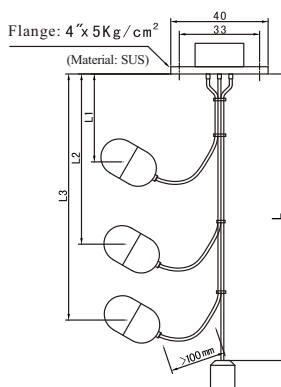
Model: SLC-PC1-05



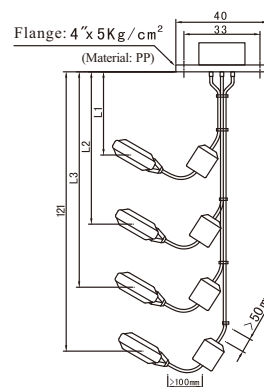
Model: SLC-PG2



Model: SLC-SG3



Model: SLC-PG4



Working Principle

SLD series electrode level switch works together with the controller. When conductive liquid medium is not in contact with the electrode bar, there is no current between the electrode rods; when the electrode rod contacts the liquid, the electrode rod is connected and the controller operates. The weak current supplied to the electrode rod by the controller allows the product to operate safely for a long time.

Performance Specification

Electrode Rod: 1. Wetted Material (for selection)

SUS304/316L+PP(PE) Working Temperature: -20~80℃

SUS304/316L+PTFE Working Temperature: -20~200℃

Ti+PTFE Working Temperature: -20~200℃

2. Process Connection: Screw or Flange (the size depends on the number of the liquid level point controlled)

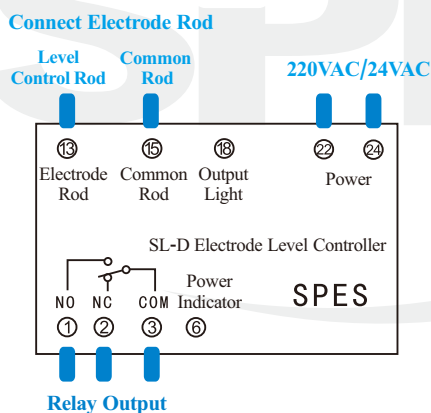
Controller: 1. Power Supply: 220VAC, 24VAC

2. Contact Capacity: 240VAC 5A, SPDT

3. One controller matches one liquid point output (confirm the number of liquid point that matches corresponding controller, and the common rod of each controller needs to be connected to the common rod of the electrode rod).

4. Standard NIN chuck interface with simple installation

Connection Diagram



Selection Guide

SLD — ☐ ☐ ☐ — **xxxx** — ☐ ☐ Selection Example: SLD – 3FA – 1000 – A2

① ② ③ ④ ⑤ ⑥

- ① Number of Electric Rod: 1: No Common Electrode Rod
2, 3, 4...: with Common Electrode Rod
- ② Process Connection Method: F: Flange S: Screw C: Chuck X: Customization
- ③ Wetted Material: A: SUS304+PP B: SUS316L+PP C: SUS304+PTFE
D: SUS316L+PTFE E: Ti+PTFE X: Others
- ④ Electrode Rod Length: xxxx
- ⑤ Controller: A: Power 220VAC B: Power 24VAC
- ⑥ Number of Controller: 0: None 1: One 2: Two 3: Three...

Working Principle

1. Advanced CPU and unique EachDis echo processing technology;
2. Automatic false signal echo analysis function to effectively identify real echo;
3. Ultrasonic generator with built-in temperature controller for automatic temperature compensation;
4. Optimal acoustic function technology and more effective radiation propagation of transmission power to improve the signal strength;
5. Automatic temperature compensation within the full range;
6. Plastic structure of PVDF material with NEMA4X solid shell;
7. LCD digital level display in feet or centimeter;
8. Easy-Cal button to calibrate all user set points;
9. Echo-MAPTM filter to eliminate incorrect echo signal;
10. Failure protection intelligence to ensure no loss of echo signal.



Performance Specification

Measuring Range: 2m, 3m, 5m, 8m (max 20m)

Precision: $\pm 0.25\%$ of full range in the air

Resolution: 0.125" (3mm)

Display Type: 4-digit LCD

Max Circuit Impedance: 900 ohms@36VDC

Signal Output: 4 ~ 20mA or 12~36VDC

Calibration: Button

Failure Diagnosis: Return to 4mA or 22mA

Temperature Range: F: -40° to 140°

C: -40° to 60°

Temperature Compensation: Automatic within the full range

Shell Grade: NEMA4X/IP65

Shell Material: PP

Sensor Shell Material: PVDF

Installation Screw: G2"



Selection Guide

P/N Description:

1. Integrated Type: **SU-T**

①	②	③
Model	Type	Range
	A: Standard	04: 4m
	B: Special	06: 6m
		08: 8m
		10: 10m
		15: 15m
		20: 20m

2. Separate Type: **SU-S** (Probe)

①	②
Model	Range
	04: 4m
	06: 6m
	08: 8m
	10: 10m
	15: 15m
	20: 20m

3. Separate Type: **SU-C** (Controller)

①	②
Model	Range
	04: 4m
	06: 6m
	08: 8m
	10: 10m

Working Principle

SLG-FS series flow switch drives the blade by the change of the flow force generated by the change of liquid flow to serve as cut-out protection;

Screw adjustment can be made according to different flow requirement; clockwise rotation to increase flow while anti-clockwise to reduce flow;

Large-load SPDT micro switch with fast operation ensures transient response of the micro switch;

The shell of the product is designed with a fully sealed structure, and the internal structure is made of stainless steel corrosion-resistance material to ensure the maximum normal operation of the product in various conditions.

Performance Specification

Wetted Material: SUS304, Cu
Contact Capacity: 220VAC 5A, SPDT
Connection Screw: 1" PT
Medium Temperature: 0~120°C
Working Pressure: max 1.6Mpa
Flow: Decided by the tube diameter, please contact Shanghai SPES for details

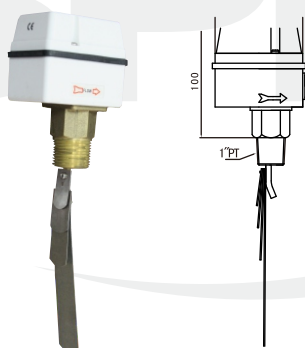
Selection Guide

Selection Example:

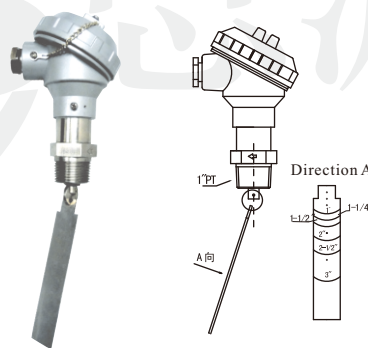
SLG-FS01 One-way flow switch

SLG-FS02 Two-way flow switch

Model: SLG-FS01



Model: SLG-FS02



SVP Optical Level Switch Working Principle

1. Simple installation with easy operation without maintenance
2. Power Supply: 10~40VDC
3. Screw Connection: 3/8"PF
4. Output: NPN OR PNP
5. Multiple Wetted Materials: PSF, Polyamide, SUS
6. Meet different working conditions
7. Strict requirement on light.





1. Flow Switch
2. Pressure Transmitter
3. Side-mounting Float Level Switch
4. Tuning Fork Level Switch
5. Single-point Float Level Switch
6. Multi-point Float Level Switch
7. Cable Float Level Switch
8. Ultrasonic Level Sensor
9. Plug-in Magnetic Level Transmitter
10. Submersible Pressure Transmitter
11. RF Admittance Level Sensor
12. Magnetic Level Gauge



1. RF Admittance Level Switch
2. Rotary Paddle Level Switch
3. Rotary Paddle Level Switch
4. Radar Level Sensor
5. Sensing Weight Level Meter
6. RF Admittance Level Sensor
7. Intelligent Digital Displayer
8. Small Rotary Paddle Level Switch
9. Rotary Paddle Level Switch
10. Capacitance Level Switch
11. Pneumatic Hammer
12. Pneumatic Vibrator

SPES 思派 SHANGHAI SPES ELECTRONIC TECHNOLOGY CO., LTD.

Headquarter: 8F, Jinyuan Center, NO.28 Yuanwen Road, Minhang District, Shanghai, China

Production Base: 3 Building, NO.18 Lianying Road, Songjiang District, Shanghai, China

Tel: +86 21-51087352 61278052 Fax: +86 21-51879567 61278153

Mail: spes@spes.com.cn

QQ: 800007352

Website: [Http://www.spes.com.cn/en](http://www.spes.com.cn/en)