

# MAGNETIC FLOAT LEVEL SWITCH

## LS SERIES

The vertical float level switch consist of a float with a built in permanent magnet, and guide tube built in reed switch (one or more), when the float rise up or fall down in liquid that induct the reed switch to become ON or OFF contact function. The ON-OFF contact provide a liquid level control for application by request.

### Technical Data

**Material:** Wetted parts are available for SS304, SS316, PVC, PP, PVDF by requested. Multiple level point are available by requested for customer.

**Enclosure Housing:** Weather proof ; Explosion proof available

**Straight Style LS Series:** LS-simple type; WLS-weather proof type; ELS-explosion proof type

**Angle Style Series:** LA-simple type; WLA-weather proof type; ELA-explosion proof type

**Connection Size:** Thread type- 1½" to 3"; Flange type- 1½" to 4"

### Switch Table

Item Code	23	15	36
Contact Form	A (SPST)	C (SPDT)	C (SPDT)
Switching Capacity Max.	40 WVA	60 WVA	20 WVA
Switching Voltage Max.	230V AC/DC	250V AC/DC	150V AC/DC
Switching Current Max.	2A	1A	1A
Carrying Current Max.	3A	2A	2A
Working Temperature	-20°C~+130°C	-20°C~+130°C	-20°C~+130°C
Suitable Float Size	all float size available Except ø28: 3 setting points only	float size > ø49 available Except ø49: 1 setting point only	all float size available

\*Special rate available on request.

### Wiring Code Numbers

One Float		Two Float			Three Float			Four Float			
1	2	3	4	5	6	7	8	9	10	11	
Suitable Float Size: ø28, ø40, ø49, ø50, ø75								ø40	ø40	ø40 ø50	ø49
								ø49	ø49	ø49 ø75	ø50
								ø50	ø50		ø75
								ø75	ø75		
1xSPST	1xSPDT	SPST (Common Wire Style)		2xSPST		SPST (Common Wire Style)		SPST (Common Wire Style)			
		2xSPDT		3xSPST		3xSPDT		4xSPST		4xSPDT	

\*Float numbers more than four float on request, please contact to manufactory.



### Approvals:



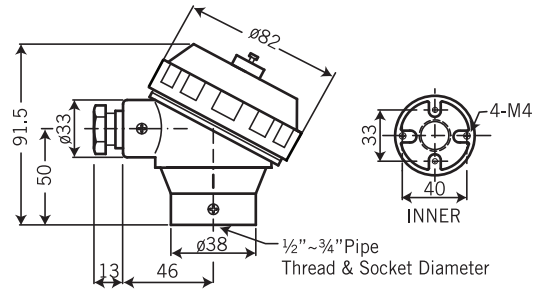
## Head Type Technical Data



**HN TYPE**

### HN Type

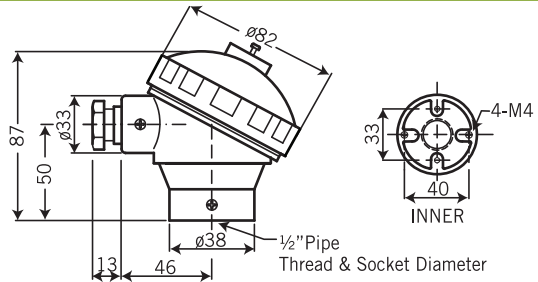
**Protection:** IP68  
**Material:** Aluminum Alloy  
**Weight:** 264g  
**Protection tube connection:** 1/2", 3/4" (PF,NPT,BSP); M20 x 1.5  
**Extension wire connection:** 1/2", 3/4" (PF,NPT,BSP); M20 x 1.5  
 Other specifications are available on request.



**HP TYPE**

### HP Type

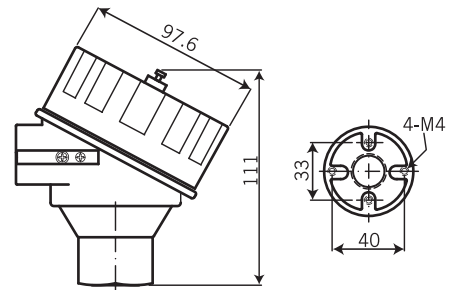
**Protection:** Weather Proof Type  
**Material:** Polypropylene  
**Weight:** 112g  
**Protection tube connection:** 1/2" NPT, 1/2" BSP  
**Extension wire connection:** 3/4" NPT, M20 x 1.5  
 Other specifications are available on request.



**XDS/XDA TYPE**

### XDS / XDA Type

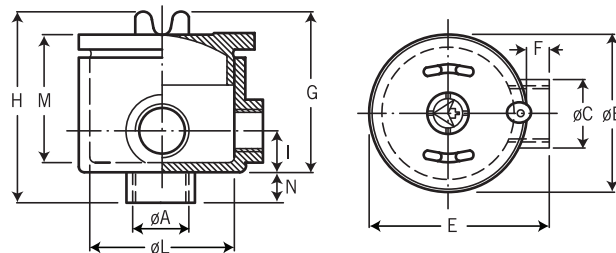
**Material:** XDS-SS316; XDA-Aluminum alloy  
**Weight:** XDS-1278g; XDA-460g  
**Protection tube connection:** 1/2" PF, 3/4" PF, 1/2" NPT, 3/4" NPT, 1/2" BSP, 3/4" BSP, G1/2", G3/4", M20x1.5, M24x1.5, M25x1.5  
**Extension wire connection:** M20x1.5, M25x1.5, 1/2" NPT, 3/4" NPT  
**EC certificate no.:** BSI 07 ATEX 1532458U  
**ATEX directive code:** II 2 G D  
**Standard code:** Ex d IIC T6, Ex tD A21 T100°C IP68  
**FM Approvals:** XP/II/1/ABCD/T6; DIP/II, III/1/EFG/T6; Type 4X  
 Explosionproof for Class I, Division 1, Groups A,B,C and D; and dust-ignitionproof for Class II, III Division 1, Groups E,F and G, hazardous (classified) locations; indoor/ outdoor (NEMA Type 4X).



**S2 TYPE**

### S2 Type

**Protection:** Explosion Proof, EEx d IIC-T6, II 2 GD; IP66  
**Material:** Aluminum Alloy



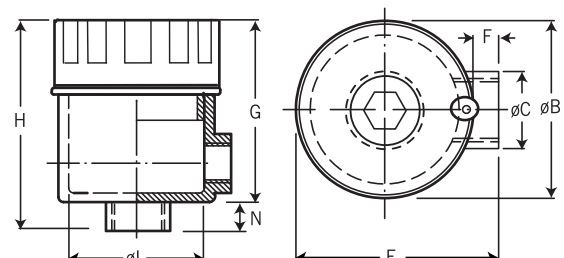
Type	Dimensions											Terminal Block (on request)	Weight Gr.
	øA	øB	øC	E	F	G	H	I	øL	M	N		
S2	3/4"	90	38	100	10	78	92	24	76	69	14	4x4mm <sup>2</sup>	510



**ES/EA TYPE**

### ES / EA Type

**Protection:** Explosion Proof Type  
**Material:** ES: SS316 / EA: Aluminum Alloy  
**Extension wire connection:** 1/2", 3/4" (PF, NPT, BSP)  
**Weight:** 1054 g



Type	Dimensions							
	G	H	øL	N	øB	øC	E	F
ES/EA	76	90	56.5	14	74	35.5	87	13

## Float Specification

**ø75 x 75mm (SUS316)**

Float Size: ø75  
 Max. Working Pressure: 30 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.68  
 The Guide Tube Size: ø20  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**ø50 x 70mm (P.V.C)**

Float Size: ø50  
 Max. Working Pressure: 3 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.7  
 The Guide Tube Size: ø18  
 Material: P.V.C  
 Limited Operating Temperature: 0~70°C

**ø49 x 49mm (SUS316)**

Float Size: ø49  
 Max. Working Pressure: 30 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.68  
 The Guide Tube Size: ø12  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**ø50 x 75mm (PVDF)**

Float Size: ø50  
 Max. Working Pressure: 5 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.8  
 The Guide Tube Size: ø20  
 Material: PVDF  
 Limited Operating Temperature: 0~120°C

**ø40 x 38mm (SUS316)**

Float Size: ø40  
 Max. Working Pressure: 30 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.8  
 The Guide Tube Size: ø9.5  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**ø50 x 75mm (P.P)**

Float Size: ø50  
 Max. Working Pressure: 3 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.7  
 The Guide Tube Size: ø21  
 Material: P.P  
 Limited Operating Temperature: 0~60°C

**ø28 x 27mm (SUS316)**

Float Size: ø28  
 Max. Working Pressure: 15 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.8  
 The Guide Tube Size: ø8  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**ø26 x 26mm (P.P)**

Float Size: ø26  
 Max. Working Pressure: 3 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.7  
 The Guide Tube Size: ø8  
 Material: P.P  
 Limited Operating Temperature: 0~60°C

**ø36.2 x 51.5mm (SUS316)**

Float Size: ø36.2  
 Max. Working Pressure: 30 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.8  
 The Guide Tube Size: ø9.5  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**ø38 x 38mm (P.P) or (PVDF)**

Float Size: ø38  
 Max. Working Pressure: P.P: 3 kg/cm<sup>2</sup>; PVDF: 5 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.7  
 The Guide Tube Size: ø12  
 Material: P.P or PVDF  
 Limited Operating Temperature: P.P: 0~60°C; PVDF: 0~120°C

## ON-OFF Gap

### A. Metal

<b>ø75 x 75mm (SUS316)</b>	<b>ø49 x 49mm (SUS316)</b>

<b>ø40 x 38mm (SUS316)</b>	<b>ø28 x 27mm (SUS316)</b>

**ø36.2 x 51.5mm (SUS316)**

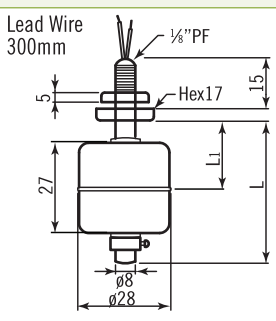
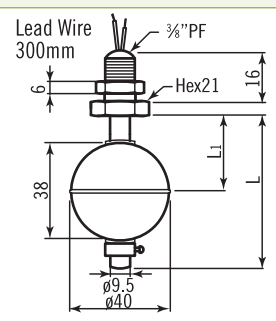
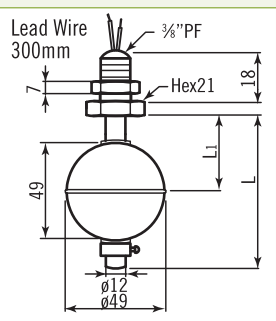
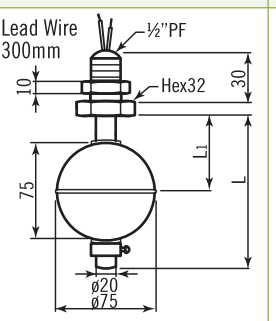
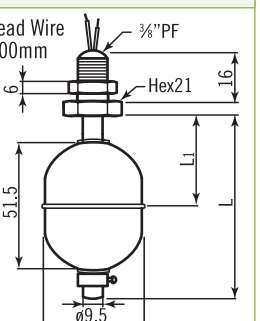
### B. Non-Metal

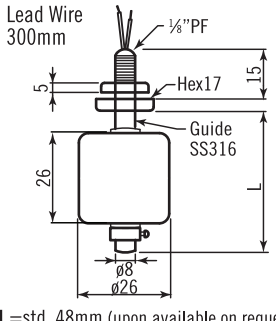
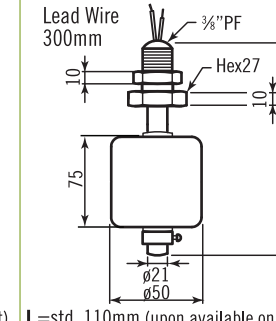
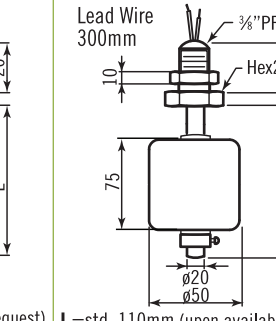
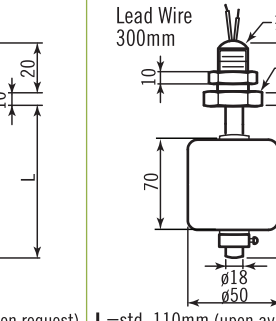
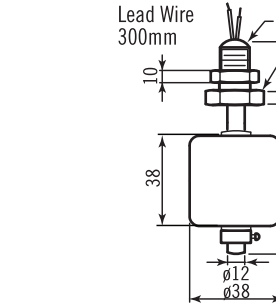
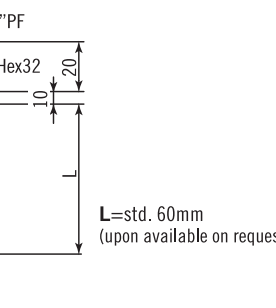
<b>ø50 x 70mm (P.V.C)</b>	<b>ø50 x 75mm (PVDF)</b>

<b>ø50 x 75mm (P.P)</b>	<b>ø26 x 26mm (P.P)</b>

<b>ø38 x 38mm (P.P)</b>	<b>ø38 x 38mm (PVDF)</b>

## LS-100 Series One Float Type

Metal Float				
LS-101	LS-102	LS-103	LS-104	LS-105
 <p>Lead Wire 300mm 1/8" PF Hex17 1.5 5 27 L<sub>1</sub> L ø8 ø28</p> <p>L=std. 48mm / L<sub>1</sub>=std. 21mm (upon available on request)</p>	 <p>Lead Wire 300mm 3/8" PF Hex21 1.6 6 38 L<sub>1</sub> L ø9.5 ø40</p> <p>L=std. 68mm / L<sub>1</sub>=std. 27mm (upon available on request)</p>	 <p>Lead Wire 300mm 3/8" PF Hex21 1.8 7 49 L<sub>1</sub> L ø12 ø49</p> <p>L=std. 80mm / L<sub>1</sub>=std. 32mm (upon available on request)</p>	 <p>Lead Wire 300mm 1/2" PF Hex32 30 10 75 L<sub>1</sub> L ø20 ø75</p> <p>L=std. 110mm / L<sub>1</sub>=std. 49mm (upon available on request)</p>	 <p>Lead Wire 300mm 3/8" PF Hex21 1.6 6 51.5 L<sub>1</sub> L ø9.5 ø36.2</p> <p>L=std. 82mm / L<sub>1</sub>=std. 31mm (upon available on request)</p>

Non-Metal Float			
LS-101P (P.P)	LS-102P (P.P)	LS-103P (PVDF)	LS-104P (P.V.C)
 <p>Lead Wire 300mm 1/8" PF Hex17 1.5 5 26 L ø8 ø26 Guide SS316</p> <p>L=std. 48mm (upon available on request)</p>	 <p>Lead Wire 300mm 3/8" PF Hex27 20 10 75 L ø21 ø50</p> <p>L=std. 110mm (upon available on request)</p>	 <p>Lead Wire 300mm 3/8" PF Hex27 20 10 75 L ø20 ø50</p> <p>L=std. 110mm (upon available on request)</p>	 <p>Lead Wire 300mm 1/2" PF Hex32 20 10 70 L ø18 ø50</p> <p>L=std. 110mm (upon available on request)</p>
 <p>Lead Wire 300mm 1/2" PF Hex32 20 10 38 L ø12 ø38</p> <p>L=std. 60mm (upon available on request)</p>	 <p>Lead Wire 300mm 1/2" PF Hex32 20 10 38 L ø12 ø38</p> <p>L=std. 60mm (upon available on request)</p>		

## Ordering Information

LS	Code	Model					
↓	- Metal Float		101	102	103	104	105
	- Non-Metal Float		101P	102P	103P	104P	105P
↓	Code	Material of Wetted Parts					
		(1) SS304 (2) SS316 (3) P.V.C (4) P.P (5) PVDF (6) option					
↓	Code	Contact Form					
		(1) SPST (230V AC/DC) (2) SPDT (250V AC/DC) (3) SPDT (150V AC/DC)					
↓	Code	Wiring Code Numbers					
		Please refer to <i>Wiring Code Numbers</i> table.					
↓	Code	Float Size					
		(A) ø28 x 27 (SS316) (B) ø40 x 38 (SS316) (C) ø49 x 49 (SS316) (D) ø75 x 75 (SS316) (E) ø26 x 26 (P.P) (F) ø50 x 75 (P.P) (G) ø50 x 75 (PVDF) (H) ø50 x 70 (P.V.C) (I) ø38 x 38 (P.P) (J) ø38 x 38 (PVDF) (K) ø36.2 x 51.5 (SS316)					
↓	Code	Total Insertion Length					
		L= _____ mm					
↓	Code	Setting Point & Switch Acting Functions					
		Please fill in the requested length and float Rised ↑ON or Fall down ↓ON L <sub>1</sub> = _____ mm <input type="checkbox"/> ON					
LS							Complete Ordering Code