

# 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	2xSPST	SPST (Common Wire Style)	2xSPDT	3xSPST	SPST (Common Wire Style)	3xSPDT	SPST (Common Wire Style)	4xSPST	4xSPDT	

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



### Approvals:



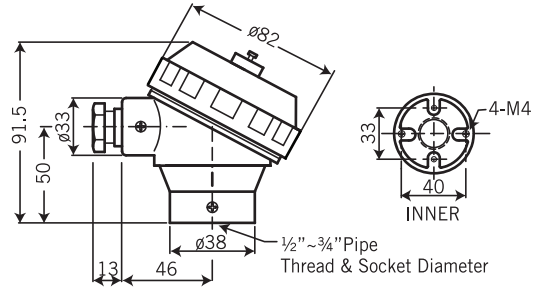
## Head Type Technical Data



**HN TYPE**

### HN Type

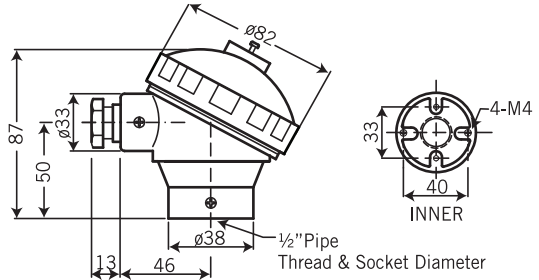
**Protection:** IP68  
**Material:** Aluminum Alloy  
**Weight:** 264g  
**Protection tube connection:**  
 1/2", 3/4" (PF,NPT,BSP); M20 x 1.5  
**Extension wire connection:**  
 1/2", 3/4" (PF,NPT,BSP); M20 x 1.5  
 Other specifications are available on request.



**HP TYPE**

### HP Type

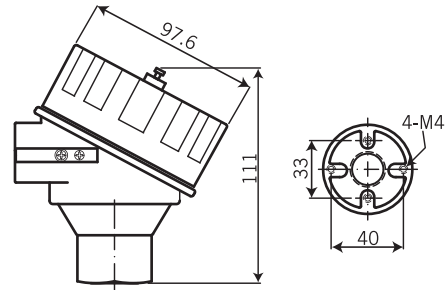
**Protection:** Weather Proof Type  
**Material:** Polypropylene  
**Weight:** 112g  
**Protection tube connection:**  
 1/2" NPT, 1/2" BSP  
**Extension wire connection:**  
 3/4" NPT, M20 x 1.5  
 Other specifications are available on request.



**XDS/XDA TYPE**

### XDS / XDA Type

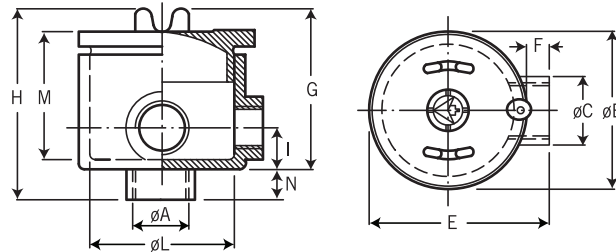
**Material:** XDS-SS316; XDA-Aluminum alloy  
**Weight:** XDS-1278g; XDA-460g  
**Protection tube connection:**  
 1/2" PF, 3/4" PF, 1/2" NPT, 3/4" NPT  
 1/2" BSP, 3/4" BSP, G1/2", G3/4"  
 M20x1.5, M24x1.5, M25x1.5  
**Extension wire connection:**  
 M20x1.5, M25x1.5, 1/2" NPT, 3/4" NPT  
**EC certificate 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



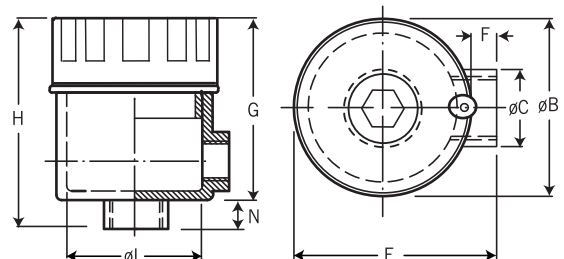
Type	Dimensions											Terminal Block (on request)	Weight Gr.
	øA	øB	øC	E	F	G	H	I	øL	M	N		
S2	3/4"	90	38	100	10	78	92	24	76	69	14	4x4mm <sup>2</sup>	510



**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

**φ75 x 75mm (SUS316)**

Float Size: φ75  
 Max. Working Pressure: 30 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.68  
 The Guide Tube Size: φ20  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**φ50 x 70mm (P.V.C)**

Float Size: φ50  
 Max. Working Pressure: 3 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.7  
 The Guide Tube Size: φ18  
 Material: P.V.C  
 Limited Operating Temperature: 0~70°C

**φ49 x 49mm (SUS316)**

Float Size: φ49  
 Max. Working Pressure: 30 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.68  
 The Guide Tube Size: φ12  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**φ50 x 75mm (PVDF)**

Float Size: φ50  
 Max. Working Pressure: 5 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.8  
 The Guide Tube Size: φ20  
 Material: PVDF  
 Limited Operating Temperature: 0~120°C

**φ40 x 38mm (SUS316)**

Float Size: φ40  
 Max. Working Pressure: 30 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.8  
 The Guide Tube Size: φ9.5  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**φ50 x 75mm (P.P)**

Float Size: φ50  
 Max. Working Pressure: 3 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.7  
 The Guide Tube Size: φ21  
 Material: P.P  
 Limited Operating Temperature: 0~60°C

**φ28 x 27mm (SUS316)**

Float Size: φ28  
 Max. Working Pressure: 15 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.8  
 The Guide Tube Size: φ8  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**φ26 x 26mm (P.P)**

Float Size: φ26  
 Max. Working Pressure: 3 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.7  
 The Guide Tube Size: φ8  
 Material: P.P  
 Limited Operating Temperature: 0~60°C

**φ36.2 x 51.5mm (SUS316)**

Float Size: φ36.2  
 Max. Working Pressure: 30 kg/cm<sup>2</sup>  
 Working S.G.: ≥0.8  
 The Guide Tube Size: φ9.5  
 Material: SUS316  
 Limited Operating Temperature: -20~140°C

**φ38 x 38mm (P.P) or (PVDF)**

Float Size: φ38  
 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: φ12  
 Material: P.P or PVDF  
 Limited Operating Temperature: P.P: 0~60°C; PVDF: 0~120°C

## ON-OFF Gap

### A. Metal

<b>φ75 x 75mm (SUS316)</b>	<b>φ49 x 49mm (SUS316)</b>

<b>φ40 x 38mm (SUS316)</b>	<b>φ28 x 27mm (SUS316)</b>

**φ36.2 x 51.5mm (SUS316)**

### B. Non-Metal

<b>φ50 x 70mm (P.V.C)</b>	<b>φ50 x 75mm (PVDF)</b>

<b>φ50 x 75mm (P.P)</b>	<b>φ26 x 26mm (P.P)</b>

<b>φ38 x 38mm (P.P)</b>	<b>φ38 x 38mm (PVDF)</b>

## LA-100 Series One Float Type

### Metal Float

LA-101	LA-102	LA-103
<p>L = minimum 78mm (≥78mm on request)</p>	<p>L = minimum 95mm (≥95mm on request)</p>	<p>L = minimum 125mm (≥125mm on request)</p>

### Ordering Information

LA	Code	Model
		– Metal Float
		101 102 103
	<b>Code</b>	<b>Material of Wetted Parts</b>
		(1) SS304 (2) SS316 (3) option
	<b>Code</b>	<b>Contact Form</b>
		(1) SPST (230V AC/DC) (2) SPDT (250V AC/DC) (3) SPDT (150V AC/DC)
	<b>Code</b>	<b>Wiring Code Numbers</b>
		Please refer to <i>Wiring Code Numbers</i> table.
	<b>Code</b>	<b>Float Size</b>
		(A) $\phi 28 \times 27$ (SS316) (B) $\phi 40 \times 38$ (SS316) (C) $\phi 49 \times 49$ (SS316)
	<b>Code</b>	<b>Total Insertion Length</b>
		L= _____ mm (please notice the minimum length as above drawing)
	<b>Code</b>	<b>Setting Point &amp; Switch Acting Functions</b>
		Please fill in the requested length and float Rised $\uparrow$ ON or Fall Down $\downarrow$ ON $\ell 1 =$ _____ mm <input type="checkbox"/> ON
		<b>Complete Ordering Code</b>