

# 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 provdie 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 IP65 and IP67; Explosion proof available  
**Straight Style LS Series:** LS-simple type; WLS-IP65 & weather proof type; ELS-explosion proof type

**Angle Style Series:** LA-simple type; WLA-IP65 & weather proof type; ELA-explosion proof type

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

### Switch Table

Contact Form	A (SPST)	C (SPDT)
Switching Capacity Max.	40 W/VA	60 W/VA
Switching Voltage Max.	230V AC/DC	230V AC/DC
Switching Current Max.	2A	1A
Carrying Current Max.	3A	2A
Working Temperature	-20°C~+130°C	-20°C~+130°C

\*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
							Ø40	Ø40	Ø28	Ø49
							Ø49	Ø49	Ø40	Ø75
							Ø75	Ø75	Ø49	
									Ø75	
							Suitable Float Size: Ø28, Ø40, Ø49, Ø75			
1xSPST	1xSPDT	2xSPST	SPST (Common Wire Style)	2xSPDT	3xSPST	SPST (Common Wire Style)	3xSPDT	4xSPST	SPST (Common Wire Style)	4xSPDT



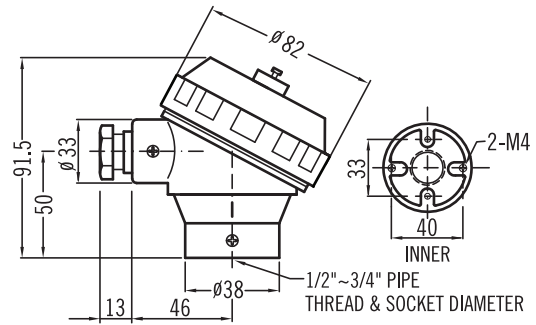
Head Type Technical Data



HN TYPE

HN Type

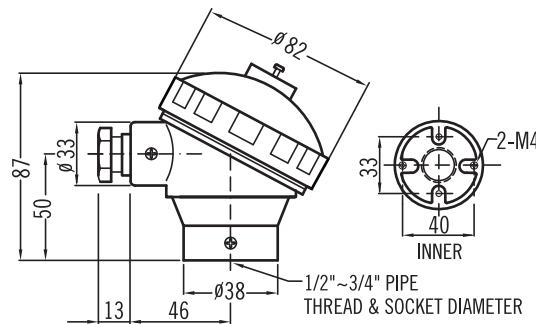
**Protection:** IP67  
**Material:** Aluminum Alloy  
**Weight:** 264g  
**Protection tube connection:** 1/2", 3/4" (PF, NPT, BSP), M20X1.5  
**Extension wire connection:** 1/2", 3/4" (PF, NPT, BSP), M20X1.5  
 Other specifications are available on request.



HP TYPE

HP Type

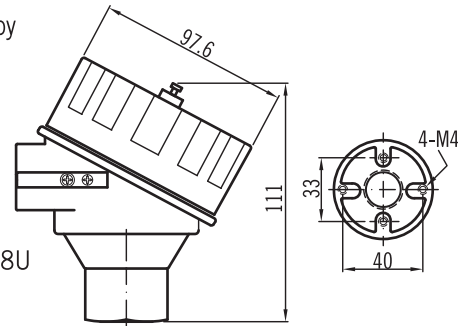
**Protection:** IP65  
**Material:** Polypropylene  
**Weight:** 112g  
**Protection tube connection:** 1/2" NPT, 1/2" BSP  
**Extension wire connection:** 3/4" NPT, M20X1.5  
 Other specifications are available on request.



XDS TYPE

XDS / XDA Type

**Material:** XDS-SS316; XDA-Aluminum alloy  
**Weight:** XDS-1278 g; XDA-460 g  
**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 IP6x Ta= -20°C to +40°C



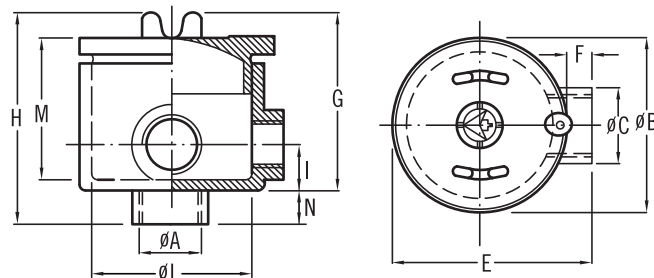
**FM Approvals:** XP/II/1/ABCD/T6; DIP/II,III/1/EFG/T6; Type 4X  
 Explosionproof for Class I, Division 1, Groups A,B,C and D; and dust-ignitionproof for Class II, III Division 1, Groups E,F and G, hazardous (classified) locations; indoor / outdoor (NEMA Type 4X).



XDA TYPE

S2 Type

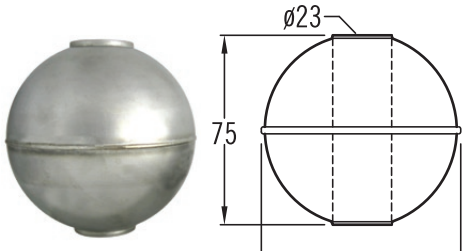
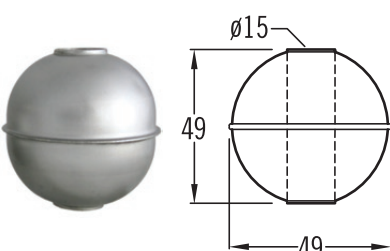
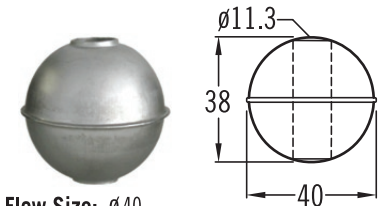
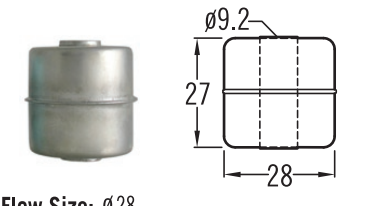
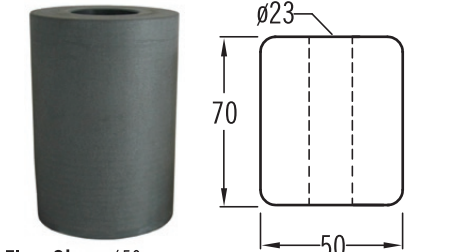
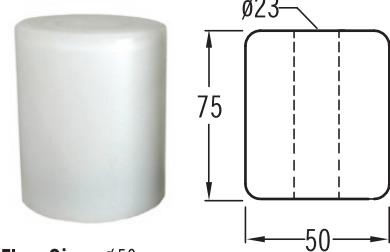
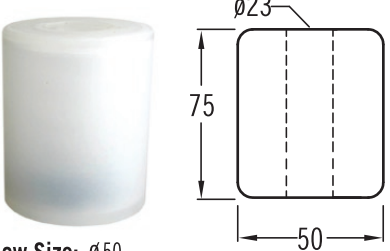
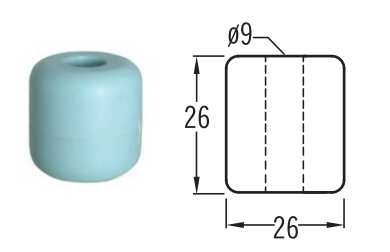
**Protection:** Explosion proof. EExdIIC T6 IP65  
**Material:** Aluminum Alloy



S2 TYPE

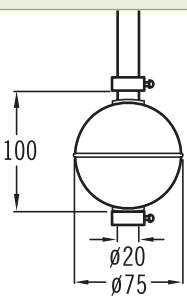
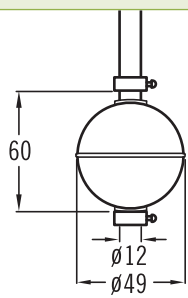
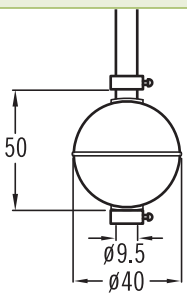
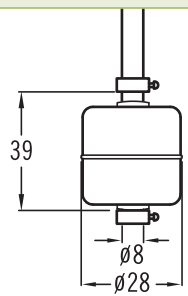
Type	Dimensions											Terminal Block (on request)	Weight Gr.
	ØA	ØB	ØC	E	F	G	H	I	ØL	M	N		
S2	3/4"	90	38	100	10	78	92	24	76	69	14	4x4 mm <sup>2</sup>	510

## Float Specification

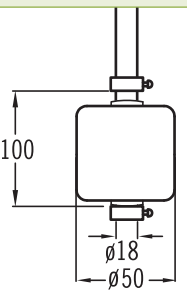
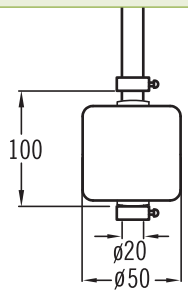
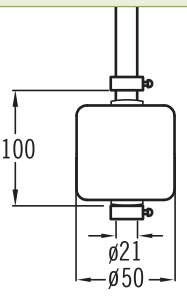
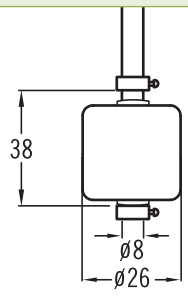
<p><math>\phi 75 \times 75 \text{mm (SUS316)}</math></p>  <p>Flow Size: <math>\phi 75</math>            Max. Working Pressure: 30 kg/cm<sup>2</sup>            Working S.G.: <math>\geq 0.68</math>            The Guide Tube Size: <math>\phi 20</math>            Material: SUS316            Limited Operating Temperature: -20 ~ 140°C</p>	<p><math>\phi 49 \times 49 \text{mm (SUS316)}</math></p>  <p>Flow Size: <math>\phi 49</math>            Max. Working Pressure: 30 kg/cm<sup>2</sup>            Working S.G.: <math>\geq 0.68</math>            The Guide Tube Size: <math>\phi 12</math>            Material: SUS316            Limited Operating Temperature: -20 ~ 140°C</p>
<p><math>\phi 40 \times 38 \text{mm (SUS316)}</math></p>  <p>Flow Size: <math>\phi 40</math>            Max. Working Pressure: 30 kg/cm<sup>2</sup>            Working S.G.: <math>\geq 0.8</math>            The Guide Tube Size: <math>\phi 9.5</math>            Material: SUS316            Limited Operating Temperature: -20 ~ 140°C</p>	<p><math>\phi 28 \times 27 \text{mm (SUS316)}</math></p>  <p>Flow Size: <math>\phi 28</math>            Max. Working Pressure: 15 kg/cm<sup>2</sup>            Working S.G.: <math>\geq 0.8</math>            The Guide Tube Size: <math>\phi 8</math>            Material: SUS316            Limited Operating Temperature: -20 ~ 140°C</p>
<p><math>\phi 50 \times 70 \text{mm (P.V.C)}</math></p>  <p>Flow Size: <math>\phi 50</math>            Max. Working Pressure: 3 kg/cm<sup>2</sup>            Working S.G.: <math>\geq 0.7</math>            The Guide Tube Size: <math>\phi 18</math>            Material: P.V.C            Limited Operating Temperature: 0 ~ 70°C</p>	<p><math>\phi 50 \times 75 \text{mm (PVDF)}</math></p>  <p>Flow Size: <math>\phi 50</math>            Max. Working Pressure: 5 kg/cm<sup>2</sup>            Working S.G.: <math>\geq 0.8</math>            The Guide Tube Size: <math>\phi 20</math>            Material: PVDF            Limited Operating Temperature: 0 ~ 120°C</p>
<p><math>\phi 50 \times 75 \text{mm (P.P)}</math></p>  <p>Flow Size: <math>\phi 50</math>            Max. Working Pressure: 3 kg/cm<sup>2</sup>            Working S.G.: <math>\geq 0.7</math>            The Guide Tube Size: <math>\phi 21</math>            Material: P.P            Limited Operating Temperature: 0 ~ 60°C</p>	<p><math>\phi 26 \times 26 \text{mm (P.P)}</math></p>  <p>Flow Size: <math>\phi 26</math>            Max. Working Pressure: 3 kg/cm<sup>2</sup>            Working S.G.: <math>\geq 0.7</math>            The Guide Tube Size: <math>\phi 8</math>            Material: P.P            Limited Operating Temperature: 0 ~ 60°C</p>

## ON-OFF Gap

### A. Metal

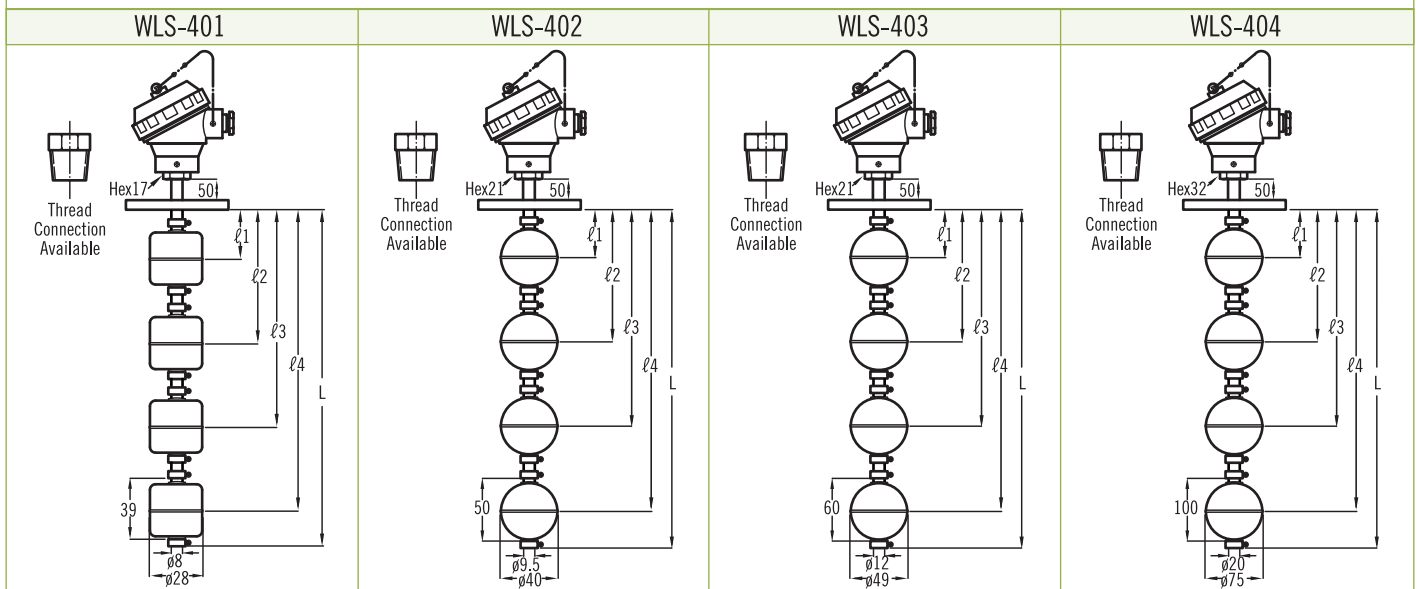
<p><math>\phi 75 \times 75 \text{mm (SUS316)}</math></p> 	<p><math>\phi 49 \times 49 \text{mm (SUS316)}</math></p> 
<p><math>\phi 40 \times 38 \text{mm (SUS316)}</math></p> 	<p><math>\phi 28 \times 27 \text{mm (SUS316)}</math></p> 

### B. Non-Metal

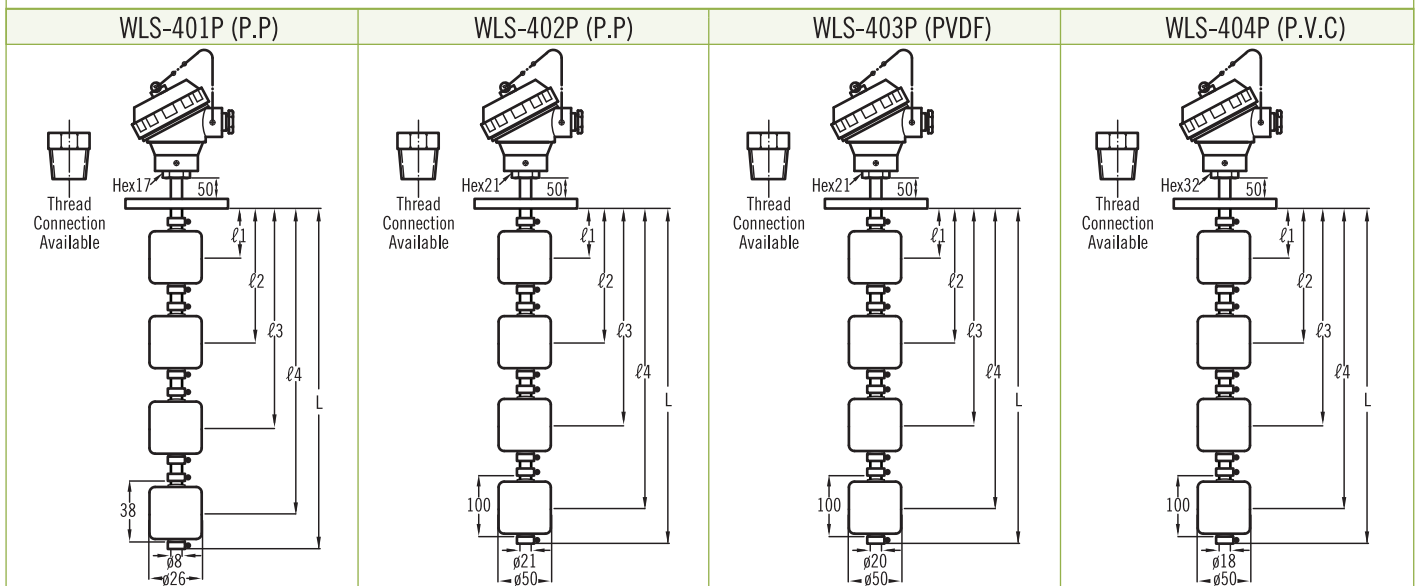
<p><math>\phi 50 \times 70 \text{mm (P.V.C)}</math></p> 	<p><math>\phi 50 \times 75 \text{mm (PVDF)}</math></p> 
<p><math>\phi 50 \times 75 \text{mm (P.P)}</math></p> 	<p><math>\phi 26 \times 26 \text{mm (P.P)}</math></p> 

## WLS-400 Series Four Float Type

### Metal Float



### Non-Metal Float



### Ordering Information

WLS	Code	Model	Code	Wiring Code Numbers
	- Metal Float	401 402 403 404		Please refer to <i>Wiring Code Numbers</i> table.
	- Non-Metal Float	401P 402P 403P 404P		
	<b>Code</b>	<b>Process Connection Size</b>		<b>Code</b> <b>Head Type</b>
	<b>A</b>	1½" (for float ø28, ø40 only)		(1) HN type (2) HP type (3) option
	<b>B</b>	2" (float ø75 not available)		<b>Code</b> <b>Float Size</b>
	<b>C</b>	3"	<b>D</b> option	(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)
	<b>Code</b>	<b>Process Connection Rating</b>		<b>Code</b> <b>Conduit Connection</b>
		Thread type (A) PT (B) NPT (C) BSP (D) option		(A) ½"PF (B) ½"NPT (C) ¾"PF (D) ¾"NPT
		Flange type (E) JIS 5K (F) JIS 10K (G) ANSI 150# (H) option		<b>Code</b> <b>Total Insertion Length</b>
				L= _____ mm
	<b>Code</b>	<b>Material of Wetted Parts</b>		<b>Code</b> <b>Setting Point &amp; Switch Acting Functions</b>
		(1) SS304 (2) SS316 (3) P.V.C (4) P.P		Please fill in the requested length and float Rised ↑ON or Fall down ↓ON
		(5) PVDF (6) option		l1= _____ mm <input type="checkbox"/> ON
	<b>Code</b>	<b>Contact Form</b>		l2= _____ mm <input type="checkbox"/> ON
		(A) A type (C) C type (D) option		l3= _____ mm <input type="checkbox"/> ON
				l4= _____ mm <input type="checkbox"/> ON
WLS			+	<b>Complete Ordering Code</b>