

# 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:** IP65 and IP67, Explosion proof, Weather proof

**Straight style LS series:** LS-simple type, WLS-IP65 & weather proof, ELS-explosion proof

**Angle style series:** LA-simple type, WLA-IP65 & weather proof, ELA-explosion proof


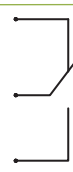

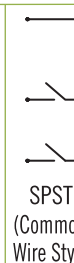


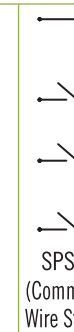
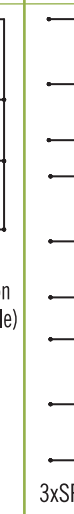


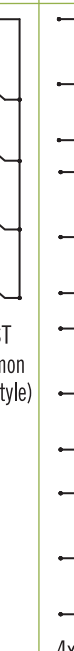
**Connection size:** Thread Type—1½" to 3", Flange Type—1½" to 4"

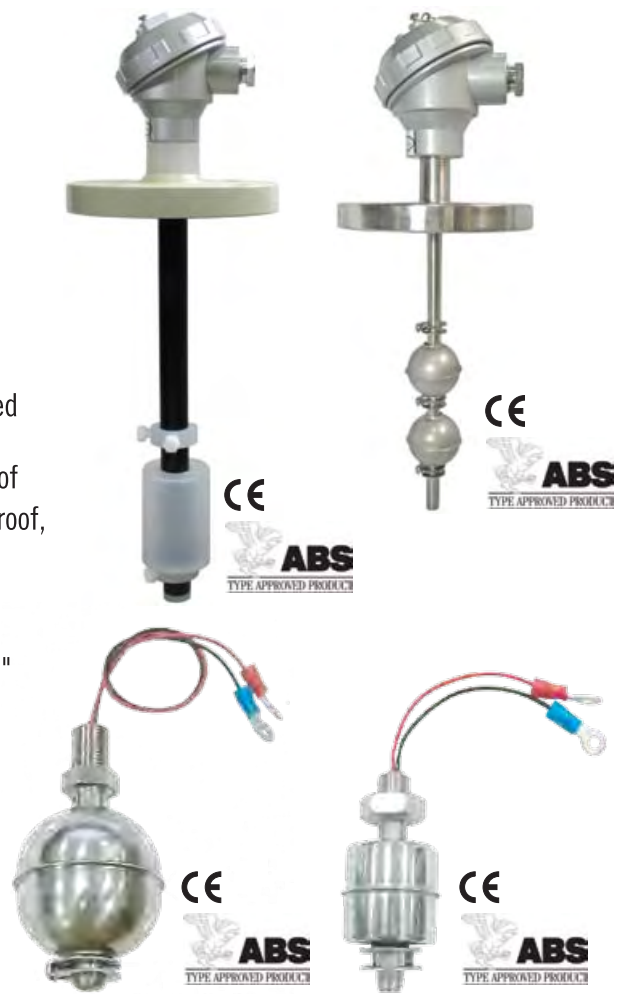
### Switch Table

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	-40°C~+130°C	-40°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	
Suitable Float Size: ø28, ø40, ø49, ø75								ø40	ø40	ø28	ø49
								ø49	ø49	ø40	ø75
								ø75	ø75	ø49	
										ø75	
											
1xSPST	1xSPDT	2xSPST	SPST (Common Wire Style)	2xSPDT	3xSPST	SPST (Common Wire Style)	3xSPDT	4xSPST	SPST (Common Wire Style)	4xSPDT	





**HN TYPE**



**HP TYPE**



**KS TYPE**

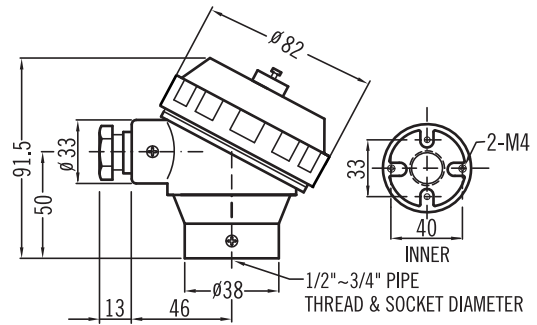


**S2 TYPE**

## Head Type Technical Data

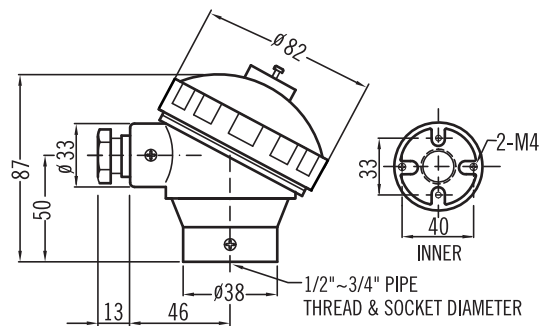
### HN Type

**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

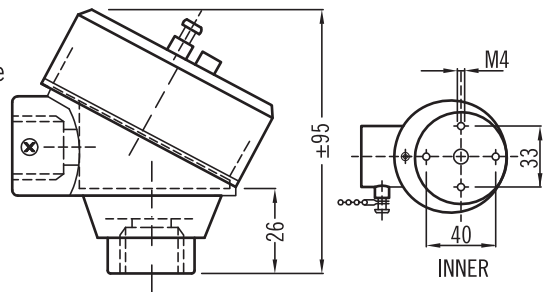
**Protection:** IP65  
**Material:** Polypropylene  
**Weight:** 112g  
**Protection tube connection:** 1/2" NPT, 1/2" BSP  
**Extension wire connection:** 3/4" NPT, M20X1.5  
 Other specifications are available on request.



### KS Type

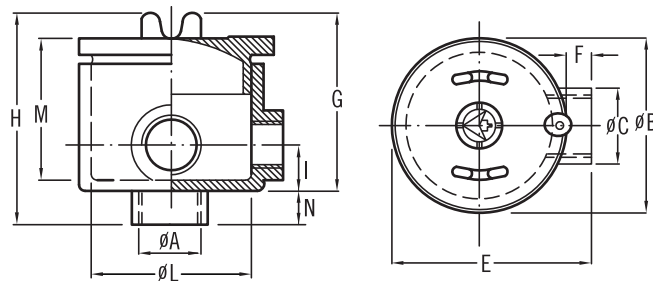
**Protection:** FM/CSA Approvals Class I, DIV I Groups B, C and D  
 Class II, DIV I Groups E, F and G  
 CENELEC Approvals Eexd IIC ATEX II 2G

**Material:** 316SS  
**Weight:** 900g  
 Other specifications are available on request.



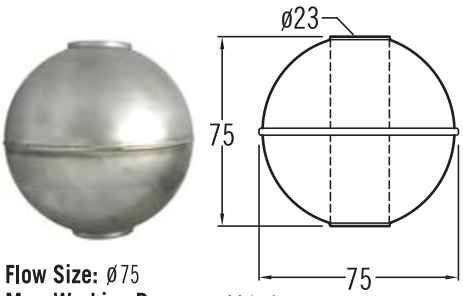
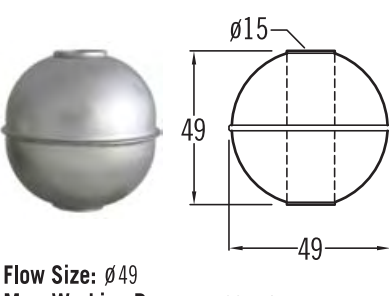
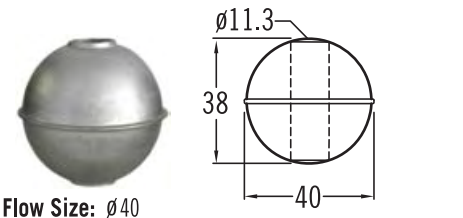
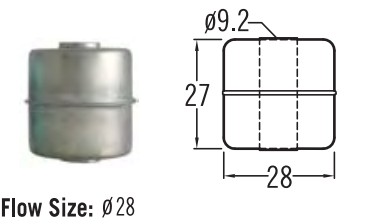
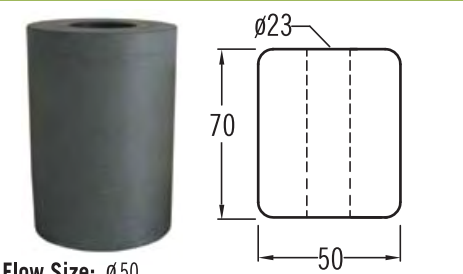
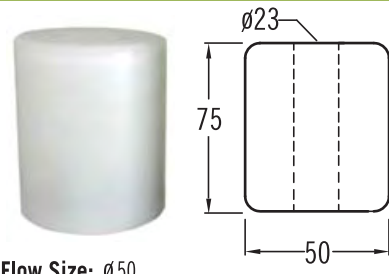
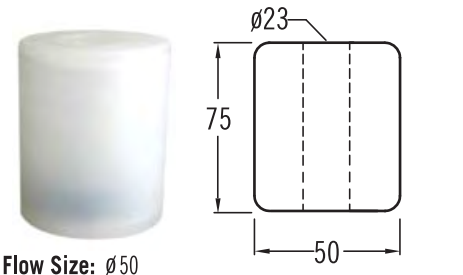
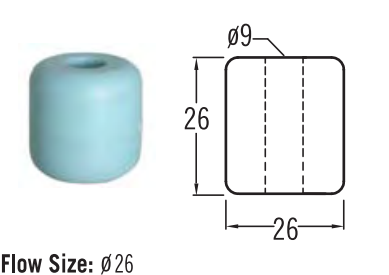
### S2 Type

**Protection:** Explosion proof. EExdIICT6 IP65  
**Material:** Aluminum Alloy



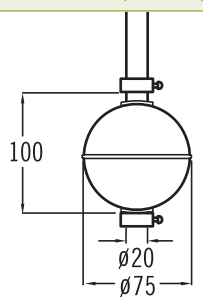
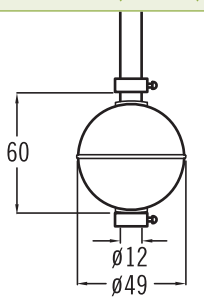
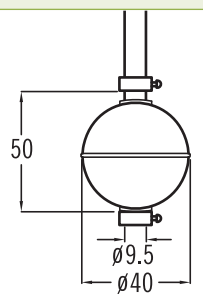
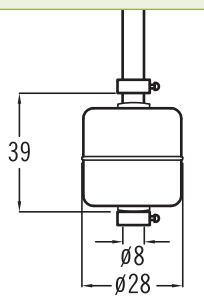
Type	Dimensions											Terminal Block (on request)	Weight Gr.	
	ØA	ØB	ØC	E	F	G	H	I	ØL	M	N			unitmm
S2	3/4"	90	38	100	10	78	92	24	76	69	14		4x4 mm <sup>2</sup>	510

## Float Specification

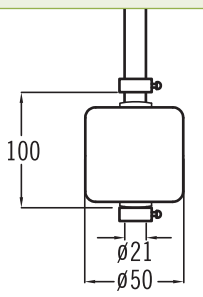
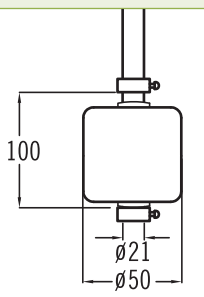
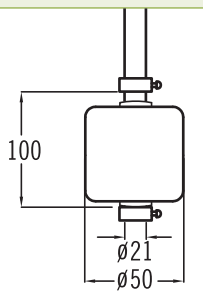
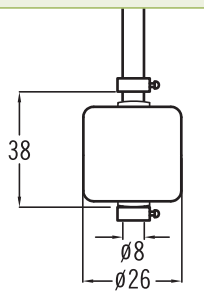
<p><math>\phi 75 \times 75 \text{mm (SUS316)}</math></p>  <p>Flow Size: <math>\phi 75</math>            Max. Working Pressure: 30 kg/cm<sup>2</sup>            Working S.G.: <math>\geq 0.68</math>            The Guide Tube Size: <math>\phi 17.2</math>            Material: SUS316            Limited Operating 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 17.2</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 21.5</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 21.5</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 9</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> 

## LS Series Dimension

### LS-100 Series One Float Type

LS-101	LS-102	LS-103	LS-104

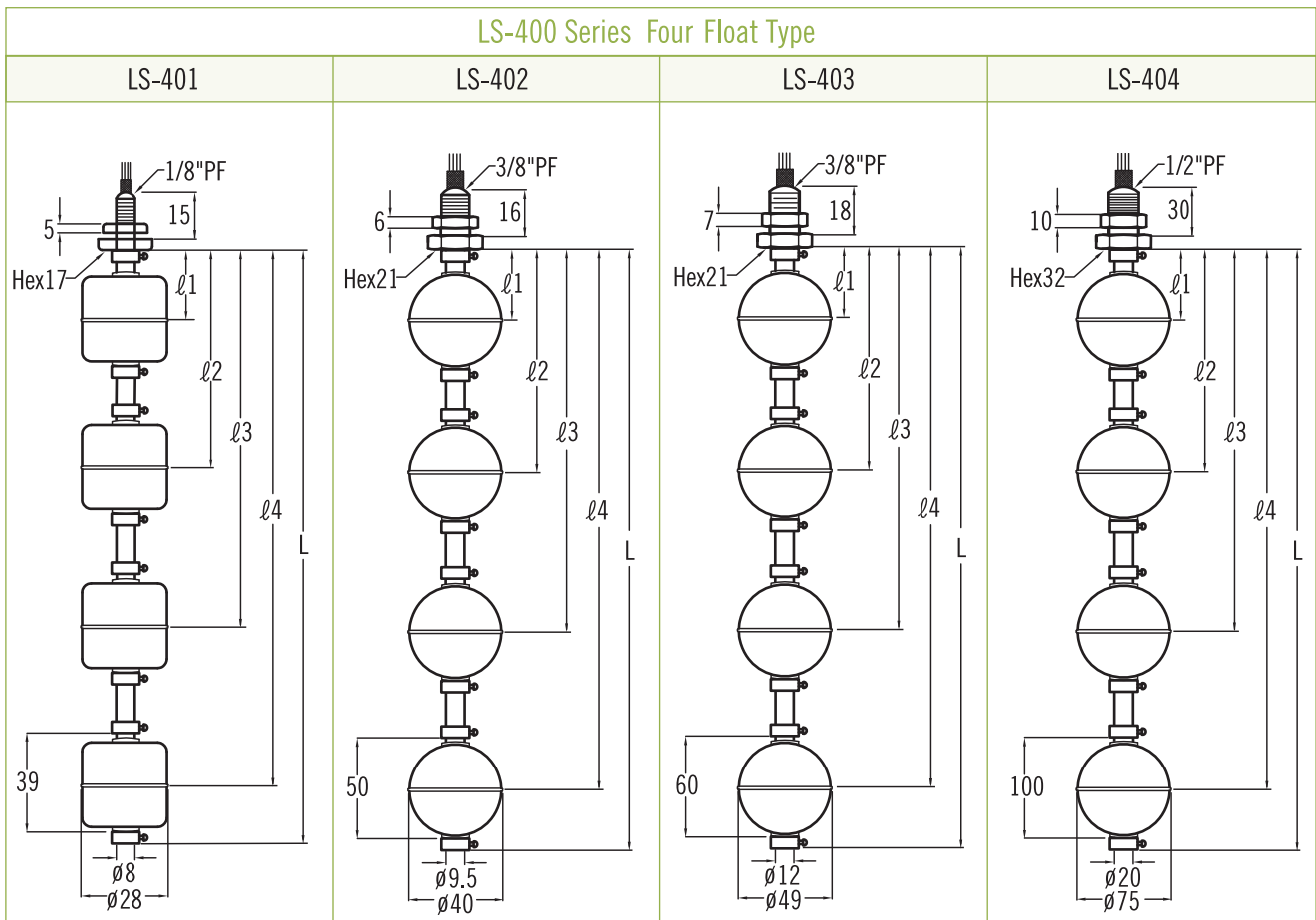
### LS-200 Series Two Float Type

LS-201	LS-202	LS-203	LS-204

### LS-300 Series Three Float Type

LS-301	LS-302	LS-303	LS-304

LS Series Dimension



Ordering Information

LS	Code	Model												
↓	↓	101 201 301 401												
		102 202 302 402												
		103 203 303 403												
		104 204 304 404												
↓	↓	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Code</th> <th style="width: 85%;">Material of Wetted Parts</th> </tr> <tr> <td> </td> <td>(1) SS304 (2) SS316 (3) P.V.C (4) P.P (5) PVDF (6) Option</td> </tr> </table>	Code	Material of Wetted Parts		(1) SS304 (2) SS316 (3) P.V.C (4) P.P (5) PVDF (6) Option								
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↓	↓	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Code</th> <th style="width: 85%;">Contact Form</th> </tr> <tr> <td> </td> <td>(A) A Type (C) C Type (O) Option</td> </tr> </table>	Code	Contact Form		(A) A Type (C) C Type (O) Option								
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↓	↓	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Code</th> <th style="width: 85%;">Wiring Code Numbers</th> </tr> <tr> <td> </td> <td>Please refer to wiring code numbers table.</td> </tr> </table>	Code	Wiring Code Numbers		Please refer to wiring code numbers table.								
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		Code	Float Size											
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↓	↓	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Code</th> <th style="width: 85%;">Setting Point &amp; Switch Acting Functions</th> </tr> <tr> <td> </td> <td>Please fill in the requested length and float rised <math>\uparrow</math>ON or fall down <math>\downarrow</math>ON</td> </tr> <tr> <td> </td> <td><math>\ell</math>1= _____ mm <input type="checkbox"/> ON</td> </tr> <tr> <td> </td> <td><math>\ell</math>2= _____ mm <input type="checkbox"/> ON</td> </tr> <tr> <td> </td> <td><math>\ell</math>3= _____ mm <input type="checkbox"/> ON</td> </tr> <tr> <td> </td> <td><math>\ell</math>4= _____ mm <input type="checkbox"/> ON</td> </tr> </table>	Code	Setting Point & Switch Acting Functions		Please fill in the requested length and float rised $\uparrow$ ON or fall down $\downarrow$ ON		$\ell$ 1= _____ mm <input type="checkbox"/> ON		$\ell$ 2= _____ mm <input type="checkbox"/> ON		$\ell$ 3= _____ mm <input type="checkbox"/> ON		$\ell$ 4= _____ mm <input type="checkbox"/> ON
		Code	Setting Point & Switch Acting Functions											
			Please fill in the requested length and float rised $\uparrow$ ON or fall down $\downarrow$ ON											
			$\ell$ 1= _____ mm <input type="checkbox"/> ON											
	$\ell$ 2= _____ mm <input type="checkbox"/> ON													
	$\ell$ 3= _____ mm <input type="checkbox"/> ON													
	$\ell$ 4= _____ mm <input type="checkbox"/> ON													
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		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="4" style="text-align: center;">Complete Ordering Code</td> </tr> </table>	Complete Ordering Code											
Complete Ordering Code														

## WLS Series Dimension

### WLS-100 Series One Float Type

WLS-101	WLS-102	WLS-103	WLS-104

### WLS-200 Series Two Float Type

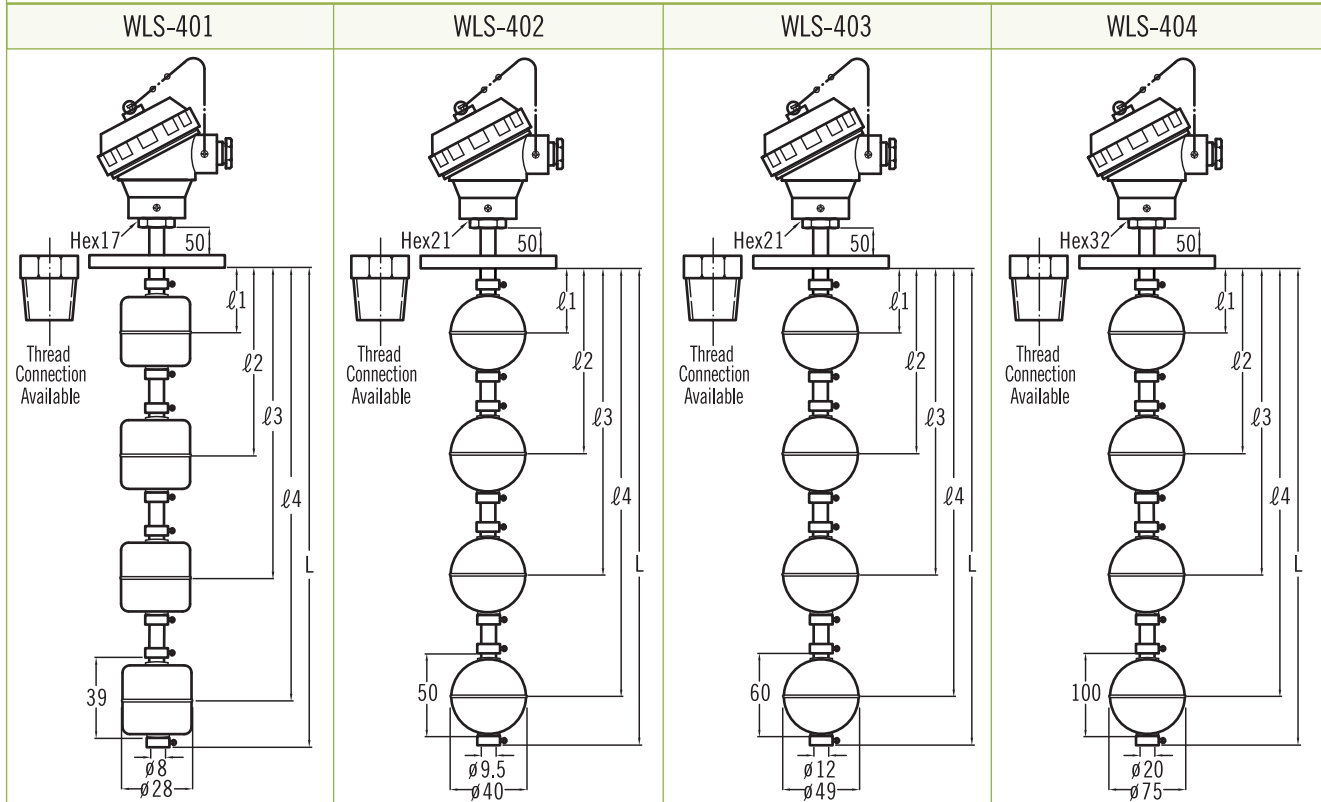
WLS-201	WLS-202	WLS-203	WLS-204

### WLS-300 Series Three Float Type

WLS-301	WLS-302	WLS-303	WLS-304

WLS Series Dimension

WLS-400 Series Four Float Type



Ordering Information

<b>WLS</b>	<b>Code</b>	<b>Model</b>
		101 201 301 401
		102 202 302 402
		103 203 303 403
		104 204 304 404
<b>Code</b>		<b>Process Connection Size</b>
A		1½" (for float ø28 and ø40 only)
B		2" (float ø75 not available)
C		3"
D		Option
<b>Code</b>		<b>Process Connection Rating</b>
Thread	(A) PT (B) NPT (C) BSP (D) option	Flange (E) JIS 5K (F) JIS 10K (G) ANSI 150# (H) option
<b>Code</b>		<b>Material of Wetted Parts</b>
		(1) SS304 (2) SS316 (3) P.V.C (4) P.P (5) PVDF (6) option
<b>Code</b>		<b>Contact Form</b>
A	A Type	C C Type 0 option
<b>Code</b>		<b>Wiring Code Numbers</b>
		Please refer to wiring code numbers table.
<b>Code</b>		<b>Head Type</b>
		(1) HN type (2) HP type (3) option
<b>Code</b>		<b>Float Size</b>
		(A) ø75(SS316) (B) ø49(SS316) (C) ø40x38(SS316) (D) ø28x27(SS316) (E) ø50x70(P.V.C) (F) ø50x75(PVDF) (G) ø50x75(P.P) (H) ø26x26(P.P)
<b>Code</b>		<b>Conduit Connection</b>
		(A) ½"PF (B) ½"NPT (C) ¾"PF (D) ¾"NPT
<b>Code</b>		<b>Total Inserting Length</b>
		L= _____ mm
<b>Code</b>		<b>Setting Point &amp; Switch Acting Functions</b>
		Please fill in the requested length and float risen↑ ON or fall down↓ ON
		l1= _____ mm <input type="checkbox"/> ON
		l2= _____ mm <input type="checkbox"/> ON
		l3= _____ mm <input type="checkbox"/> ON
		l4= _____ mm <input type="checkbox"/> ON
<b>Complete Ordering Code</b>		

## ELS Series Dimension

### ELS-100 Series One Float Type

ELS-101	ELS-102	ELS-103	ELS-104
<p>Thread Connection Available</p>	<p>Thread Connection Available</p>	<p>Thread Connection Available</p>	<p>Thread Connection Available</p>

### ELS-200 Series Two Float Type

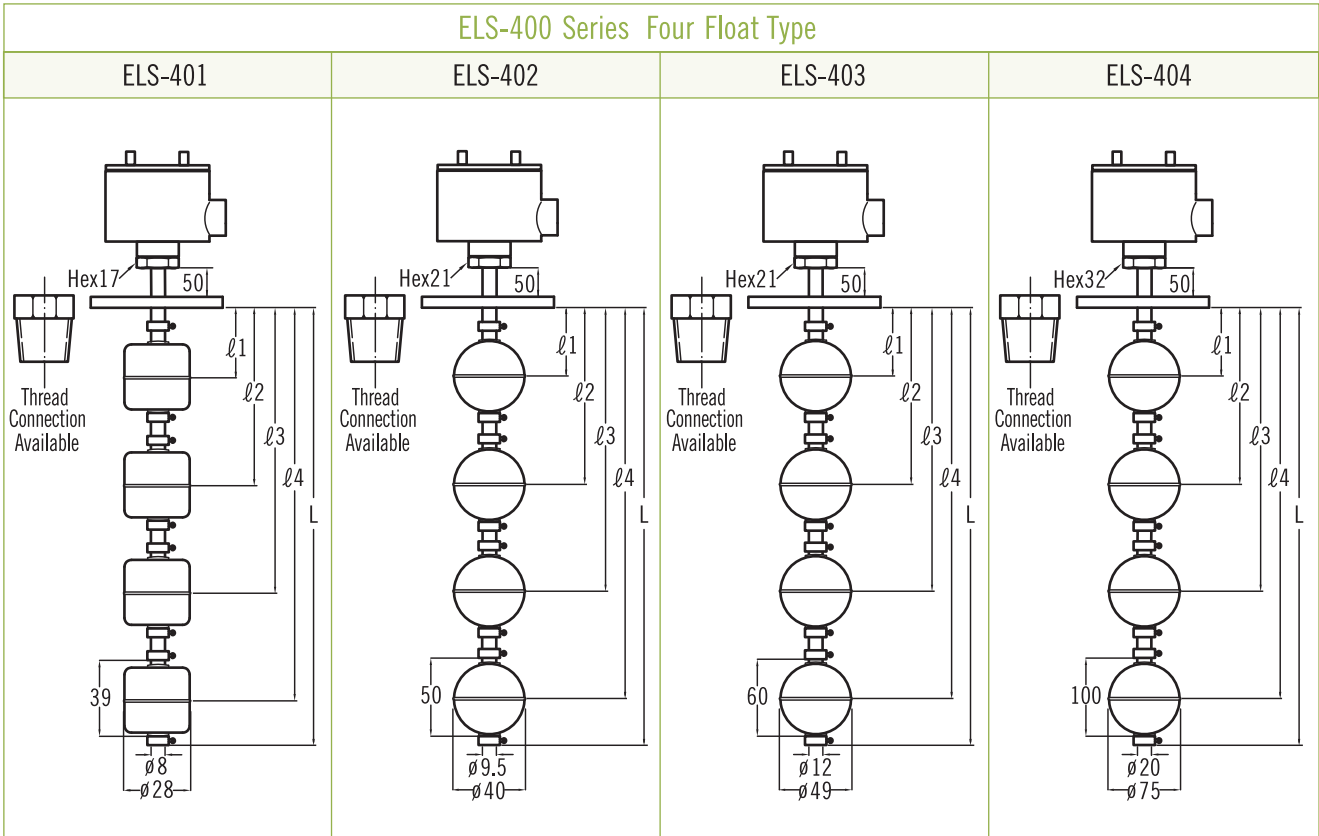
ELS-201	ELS-202	ELS-203	ELS-204
<p>Thread Connection Available</p>	<p>Thread Connection Available</p>	<p>Thread Connection Available</p>	<p>Thread Connection Available</p>

### ELS-300 Series Three Float Type

ELS-301	ELS-302	ELS-303	ELS-304
<p>Thread Connection Available</p>	<p>Thread Connection Available</p>	<p>Thread Connection Available</p>	<p>Thread Connection Available</p>



ELS Series Dimension



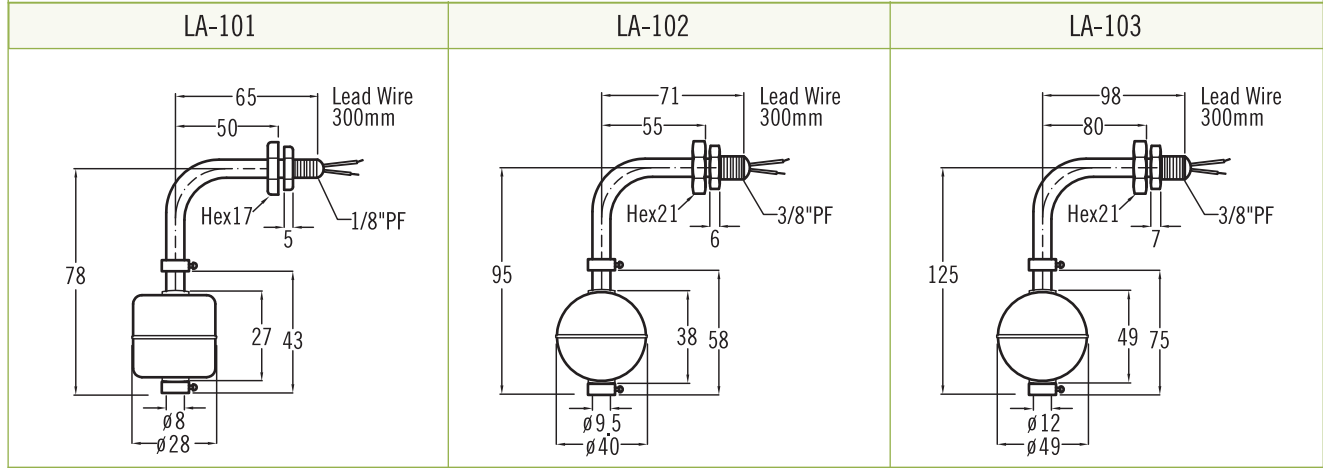
Ordering Information

ELS	Code	Model
		101 201 301 401
		102 202 302 402
		103 203 303 403
		104 204 304 404
<b>Code</b>		<b>Process Connection Size</b>
A	1½" (for float ø28 and ø40 only)	B 2" (float ø75 not available)
C	3"	D Option
<b>Code</b>		<b>Process Connection Rating</b>
Thread	(A) PT (B) NPT (C) BSP (D) option	Flange (E) JIS 5K (F) JIS 10K (G) ANSI 150# (H) option
<b>Code</b>		<b>Material of Wetted Parts</b>
		(1) SS304 (2) SS316 (3) P.V.C (4) P.P (5) PVDF (6) option
<b>Code</b>		<b>Contact Form</b>
A	A Type	C C Type
O	option	
<b>Code</b>		<b>Wiring Code Numbers</b>
		Please refer to wiring code numbers table.
<b>Code</b>		<b>Head Type</b>
		(1) KS type (2) S2 type
<b>Code</b>		<b>Float Size</b>
		(A) ø75(SS316) (B) ø49(SS316) (C) ø40x38(SS316) (D) ø28x27(SS316)
		(E) ø50x70(P.V.C) (F) ø50x75(PVDF) (G) ø50x75(P.P) (H) ø26x26(P.P)
<b>Code</b>		<b>Conduit Connection</b>
		(A) ½"PF (B) ½"NPT (C) ¾"PF (D) ¾"NPT
<b>Code</b>		<b>Total Inserting Length</b>
		L= _____ mm
<b>Code</b>		<b>Setting Point &amp; Switch Acting Functions</b>
		Please fill in the requested length and float raised↑ON or fall down↓ON
		l1= _____ mm <input type="checkbox"/> ON
		l2= _____ mm <input type="checkbox"/> ON
		l3= _____ mm <input type="checkbox"/> ON
		l4= _____ mm <input type="checkbox"/> ON

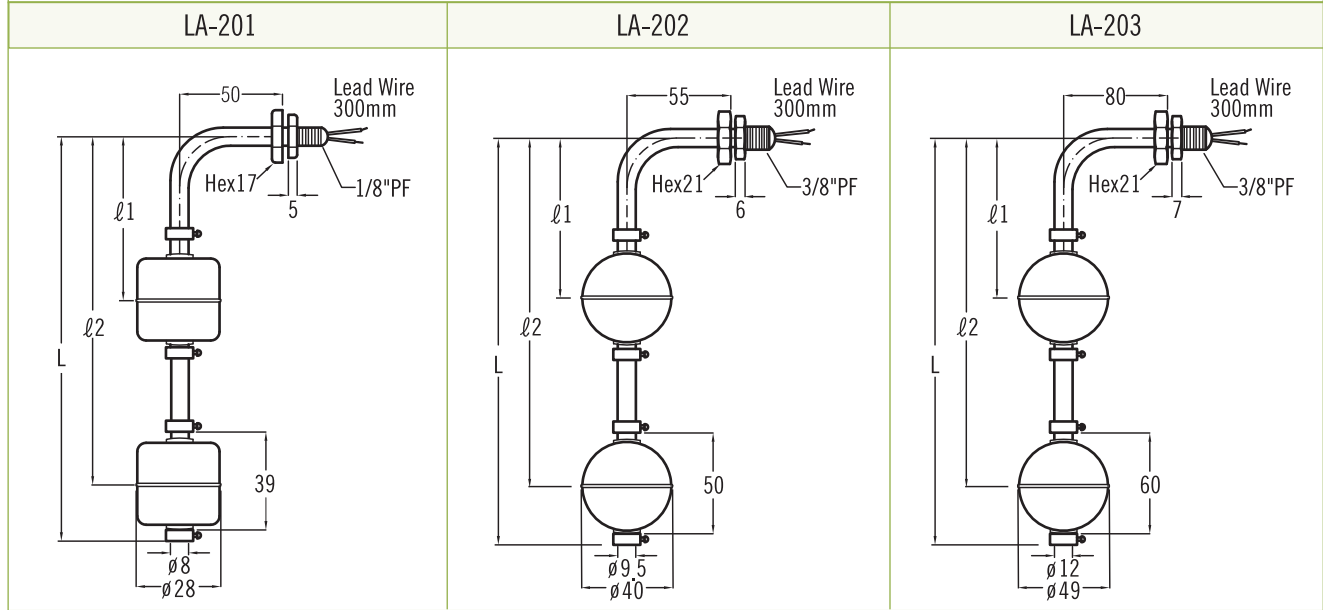
**Complete Ordering Code**

## LA Series Dimension

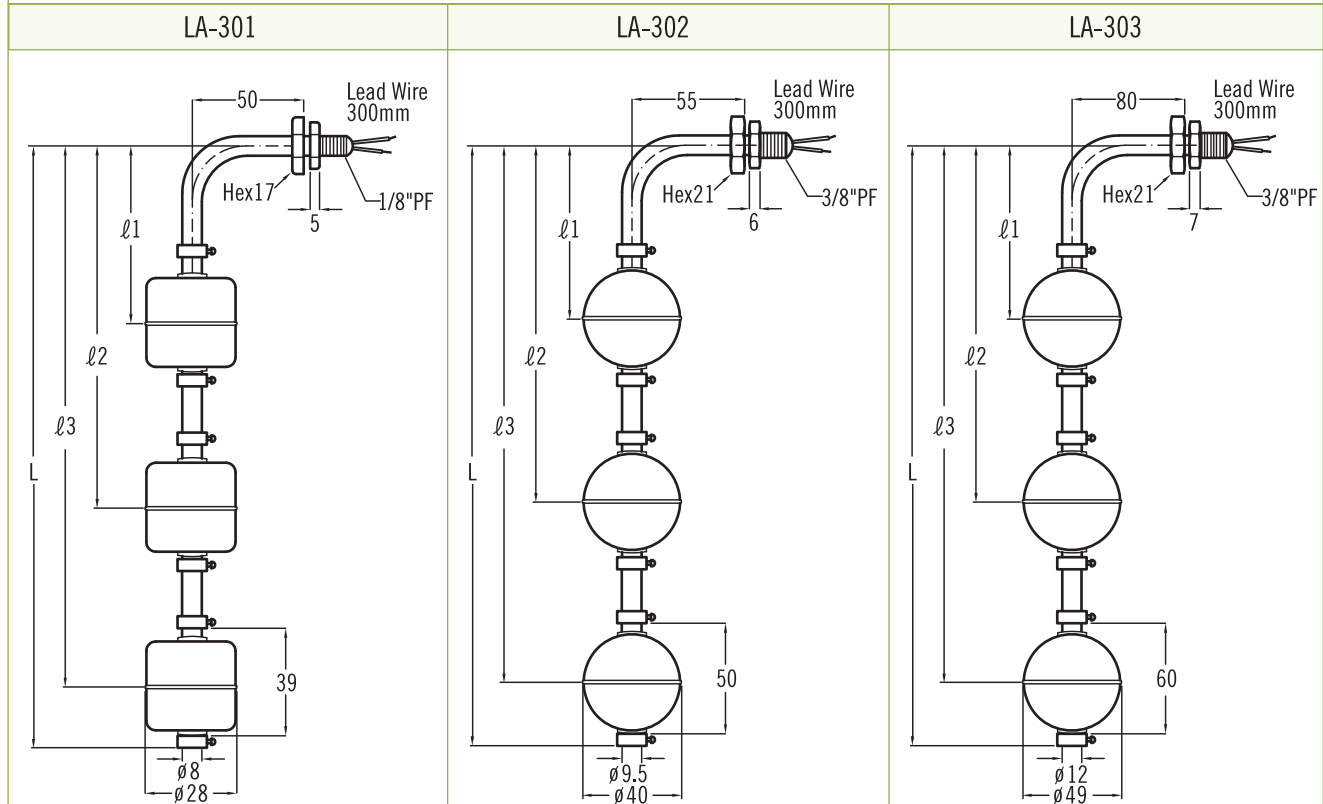
### LA-100 Series One Float Type



### LA-200 Series Two Float Type



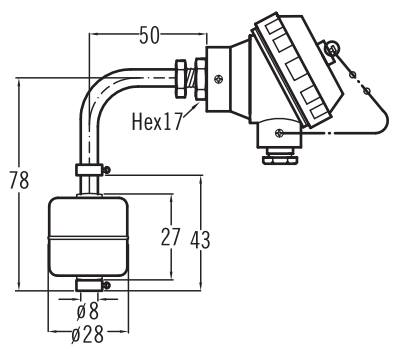
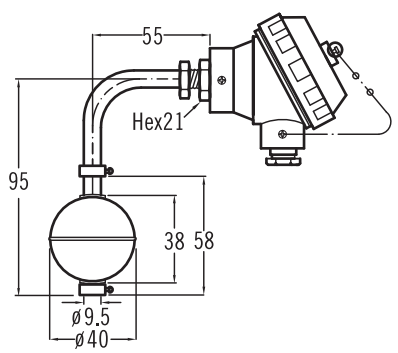
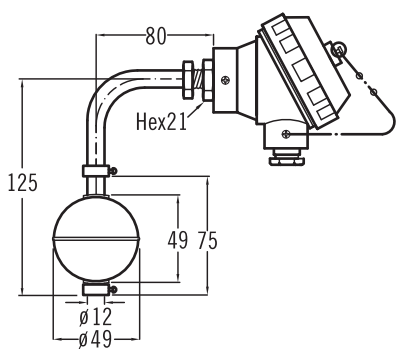
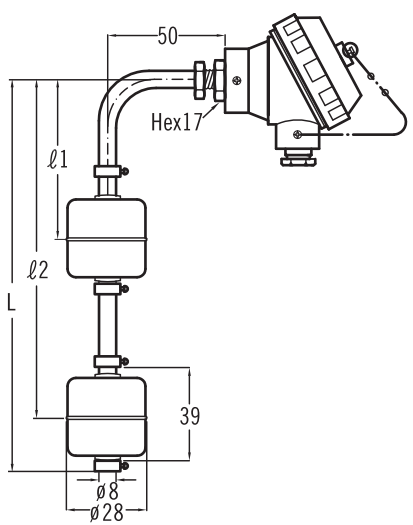
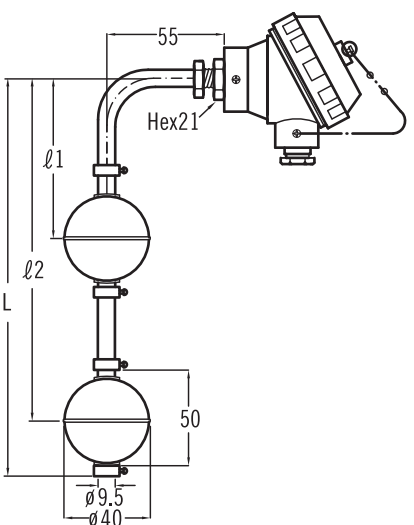
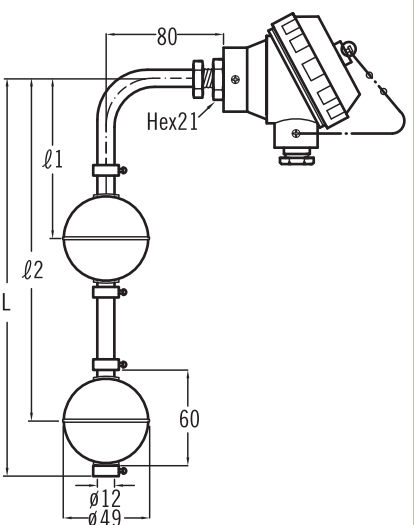
### LA-300 Series Three Float Type



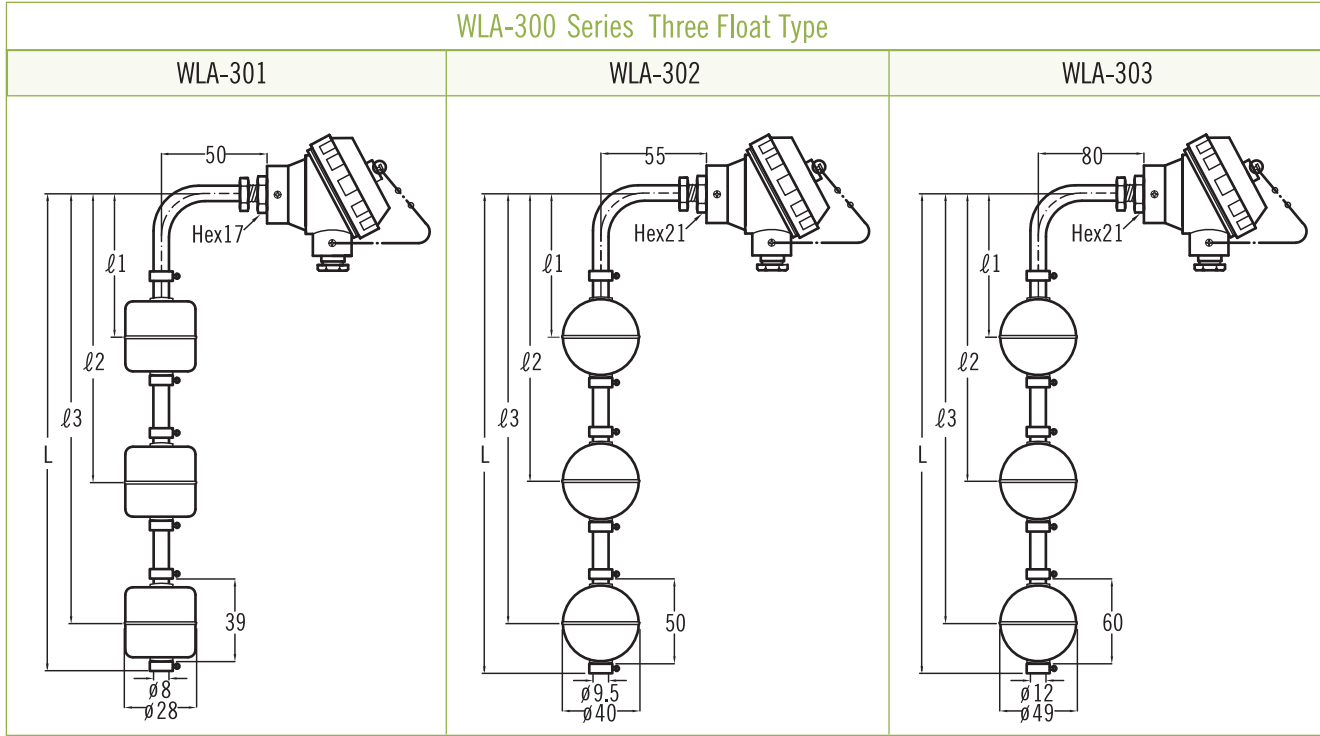
Ordering Information

LA	Code	Model
           		101 201 301 102 202 302 103 203 303
	Code	Material of Wetted Parts
		(1) SS304 (2) SS316 (3) P.V.C (4) P.P (5) PVDF (6) Option
	Code	Contact Form
		(A) A Type (C) C Type (O) Option
	Code	Wiring Code Numbers
		Please refer to wiring code numbers table.
Code	Float Size	
	(A) $\varnothing 75$ (SS316) (B) $\varnothing 49$ (SS316) (C) $\varnothing 40 \times 38$ (SS316) (D) $\varnothing 28 \times 27$ (SS316) (E) $\varnothing 50 \times 70$ (P.V.C) (F) $\varnothing 50 \times 75$ (PVDF) (G) $\varnothing 50 \times 75$ (P.P) (H) $\varnothing 26 \times 26$ (P.P)	
Code	Total Inserting Length	
	L= _____ mm	
Code	Setting Point & Switch Acting Functions	
	Please fill in the requested length and float rised $\uparrow$ ON or fall down $\downarrow$ ON $\ell 1 =$ _____ mm <input type="checkbox"/> ON $\ell 2 =$ _____ mm <input type="checkbox"/> ON $\ell 3 =$ _____ mm <input type="checkbox"/> ON	
	Complete Ordering Code	

WLA Series Dimension

WLA-100 Series One Float Type		
WLA-101 	WLA-102 	WLA-103 
WLA-200 Series Two Float Type		
WLA-201 	WLA-202 	WLA-203 

## WLA-300 Series Three Float Type



### Ordering Information

WLA	Code	Model
		101 201 301 102 202 302 103 203 303
	<b>Code</b>	<b>Material of Wetted Parts</b>
		(1) SS304 (2) SS316 (3) P.V.C (4) P.P (5) PVDF (6) Option
	<b>Code</b>	<b>Contact Form</b>
		(A) A Type (C) C Type (0) Option
	<b>Code</b>	<b>Wiring Code Numbers</b>
		Please refer to wiring code numbers table.
	<b>Code</b>	<b>Head Type</b>
		(1) HN type (2) HP type (3) option
	<b>Code</b>	<b>Float Size</b>
		(A) $\varnothing 75$ (SS316) (B) $\varnothing 49$ (SS316) (C) $\varnothing 40 \times 38$ (SS316) (D) $\varnothing 28 \times 27$ (SS316) (E) $\varnothing 50 \times 70$ (P.V.C) (F) $\varnothing 50 \times 75$ (PVDF) (G) $\varnothing 50 \times 75$ (P.P) (H) $\varnothing 26 \times 26$ (P.P)
	<b>Code</b>	<b>Total Inserting Length</b>
		L= _____ mm
	<b>Code</b>	<b>Setting Point &amp; Switch Acting Functions</b>
		Please fill in the requested length and float rised ↑ ON or fall down ↓ ON l1= _____ mm <input type="checkbox"/> ON l2= _____ mm <input type="checkbox"/> ON l3= _____ mm <input type="checkbox"/> ON
		<b>Complete Ordering Code</b>

ELA Series Dimension

ELA-100 Series One Float Type

ELA-101	ELA102	ELA-103

ELA-200 Series Two Float Type

ELA-201	ELA-202	ELA-203

ELA-300 Series Three Float Type

ELA-301	ELA-302	ELA-303

## Ordering Information

ELA	Code	Model													
↓	↓	101 201 301													
		102 202 302													
		103 203 303													
	↓	<b>Code</b>	<b>Material of Wetted Parts</b>												
			(1) SS304 (2) SS316 (3) P.V.C (4) P.P (5) PVDF (6) Option												
	↓	<b>Code</b>	<b>Contact Form</b>												
			(A) A Type (C) C Type (O) Option												
	↓	<b>Code</b>	<b>Wiring Code Numbers</b>												
			Please refer to wiring code numbers table.												
	↓	<b>Code</b>	<b>Head Type</b>												
		(1) KS type (2) S2 type													
↓	<b>Code</b>	<b>Float Size</b>													
		(A) $\varnothing$ 75(SS316) (B) $\varnothing$ 49(SS316) (C) $\varnothing$ 40x38(SS316) (D) $\varnothing$ 28x27(SS316) (E) $\varnothing$ 50x70(P.V.C) (F) $\varnothing$ 50x75(PVDF) (G) $\varnothing$ 50x75(P.P) (H) $\varnothing$ 26x26(P.P)													
↓	<b>Code</b>	<b>Total Inserting Length</b>													
		L= _____ mm													
↓	<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 $\varnothing$ 1= _____ mm <input type="checkbox"/> ON $\varnothing$ 2= _____ mm <input type="checkbox"/> ON $\varnothing$ 3= _____ mm <input type="checkbox"/> ON													
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table>													
		<b>Complete Ordering Code</b>													