

# MLS Magnetic Level Switches

## Operating Principle

The MLS Magnetic Level Switches uses the principle of buoyancy and reed switching technology to create a switching action based on the rise and fall of the measurement medium. A float ball with an integrated magnet is fixed onto a measuring probe with built-in miniature reed switches are required switching points.

As the liquid medium rises or falls, the float will follow the level of the medium along the probe according to Archimedes Principle. The specific density of the float being lighter than the medium enables the float to stay afloat on the medium surface. When the float arrives at the actuation point of the reed switch, the magnet will cause the reed switch to actuate and producing a switching action that is used to signify that a particular level position is reached.



MLS series can be completely customized with up to 4 different action points for a multitude of switching requirements. Contact forms such as Normally Open (N.O), Normally Closed (N.C) and SPDT are available with allowance for single float multiple reed switch configurations.

## Technical Advantages

- Long service life
- Explosion proof design
- Customized design available
- Multiple switch points possible
- High repeatability of set points
- Suitable for most liquid medium
- Suitable for rough environments

## Product Application

- Standard (Screw)
- Standard (Flange)
- Explosion Proof Enclosure (EEx d IIC)
- Test Rod

## Technical Specification Examples

Model Number	Connection	Stem Size	Float Type	Specific Gravity	No. Of Floats
MLS-K-5E-B6S2-4	1½" x 5kg/cm <sup>2</sup>	Ø 9.5mm (SUS 316)	Ø 41 x 38 (SUS 316)	0.7	4 (SPST) 2 (SPDT)
MLS-K-6E-C6S3-4	2" x 5kg/cm <sup>2</sup>	Ø 12.7mm (SUS 316)	Ø 45 x 55 (SUS 316)	0.65	4 (SPST) 2 (SPDT)
MLS-K-6E-C6S4-4	2" x 5kg/cm <sup>2</sup>	Ø 12.7mm (SUS 316)	Ø 52 x 52 (SUS 316)	0.55	4 (SPST) 2 (SPDT)
MLS-K-8F-D6S6-4	3" x 5kg/cm <sup>2</sup>	Ø 17.2mm (SUS 316)	Ø 75 x 108 (SUS 316)	0.5	4 (SPST) 2 (SPDT)

\* Please refer to ordering code for detailed specifications.

## Ordering Code

**Model MLS** -□-□□-□□□□-□-□□□□

Terminal Housing	Code	Material	Protection Class
	K	Die Cast Aluminium	IP65
	P	Polypropelene	IP65
	X	Die Cast Aluminium	Eex d IIC
	A	Stainless Steel 316	IP65
	Y	Stainless Steel 316	Eex d IIC
	A	Test Rod Type	IP65

  

Connection	Code	Size	Code	Thread / Flange	Code	Thread / Flange
	1	3/8" (10A)	A	PF (G)	I	PN10
	2	1/2" (15A)	B	PT (R)	J	PN16
	3	3/4" (20A)	C	BSP	K	PN25
	4	1" (25A)	D	NPT	L	PN40
	5	1-1/2" (40A)	E	5kg/cm <sup>2</sup> JIS		
	6	2"(50A)	F	10kg/cm <sup>2</sup> JIS		
	7	2-1/2" (65A)	G	150 Lbs ANSI		
	8	3"(80A)	H	300 Lbs ANSI		

  

Stem Size	Code	Diameter	Material	Code	Diameter	Material
	A4	ø8mm	SUS 304	A6	ø8mm	SUS 316
	B4	ø9.5mm	SUS 304	B6	ø9.5mm	SUS 316
	C4	ø12.7mm	SUS 304	C6	ø12.7mm	SUS 316
	D4	ø14mm	SUS 304	D6	ø14mm	SUS 316
	E4	ø17.2mm	SUS 304	D5	ø17.2mm	SUS 316
	PP	ø12.7mm	PP			
	PV	ø12.7mm	PVDF			

  

Float Type	Code	Dimension	Specifications	Temperature & Pressure
	S1	28 x 28 x 9.5	SUS 316 (S.G 0.7)	200°C, 10kg/cm <sup>2</sup>
	S2	41 x 38 x 11	SUS 316 (S.S 0.7)	200°C, 35kg/cm <sup>2</sup>
	S3	45 x 55 x 15	SUS 316 (S.G 0.65)	200°C, 12kg/cm <sup>2</sup>
	S4	52 x 52 x 15	SUS 316 (S.G 0.55)	200°C, 30kg/cm <sup>2</sup>
	S6	75 x 108 x 20	SUS 316 (S.G 0.5)	200°C, 10kg/cm <sup>2</sup>
	P1	25 x 15 x 10	PP (S.G 0.65)	80°C, 4kg/cm <sup>2</sup>
	P3	48 x 45 x 18.5	PP (S.G 0.6)	80°C, 5kg/cm <sup>2</sup>
	F1	75 x 50 x 23	PVDF (S.G 0.8)	120°C, 5kg/cm <sup>2</sup>

  

Number of Floats	Code	Number
	1	1 Float
	2	2 Floats
	3	3 Floats
	4	4 Floats

  

Length	Code	Length (mm)

\* Maximum of 12 poles (4 x SPDT)