

Direct Insert Type Level Switches



Features

- Float level switch with application upto 60 bar and 350 deg cent application
- Heavy walled floats for critical application
- Tight sealing versions for float sensors with switch to enable correct application solutions, with sealing internals at 10(-3/-4) mbar ltr / sec available
- Insertion length defined for 3000mm
- Switching differential upto 2mm
- Durability defined on sealing and pressure and temperature application
- Improved reliability with dual opposed magnet design which provides snap action
- Applicable with various versions of MOC's depending on pressure and temperature, versions with Stainless and steel, Hastelloy, monel, PTFE, PP, Titanium available
- Special magnet attractor to meet high temperature and pressure
- Versions with flange, screwed, welded available
- Applicable for H2S, NACE, certified
- Switch is CCOE approved and certified for IP67
- Switch certified for group IIA/IIB, IIC
- Switch enclosure at die cast aluminium and SS available
- Application with PTFE lined at special 1.6 mm thickness and PTFE floats for critical media available
- Versions with ATEX and FM certified available

Concept and Principle of Operation

Direct insert or direct mounted level switch uses the counterbalance principle. It consists of float and float stem with counterbalance weight and switch mechanism with magnet attractor.

In this type there are two versions applicable:

- Direct insert side mounted LS1000-SM
- Direct insert top mounted LS1000-MT

LS1000-SM: Side Mounted direct insert mounted level switch

Principle of operation:

In this type of Level Switch Float held in horizontal position and moves upwards and downwards with rising and falling level in the tank / vessel. This movement results in a rotary motion of the attractor causes actuation of microswitch. To improve reliability it employs dual opposed magnet design which provides snap action.

Application

This type of level switch is mounted directly on the tank / vessel having horizontal nozzle as shown in figure. The tank / vessel connection must be located at the elevation where set level is to occur. Applications are suitable in cryo tanks and applications for high temperature with special material are also applicable



Exproof IIC version for LS1000-SM



Weather proof version of LS1000-SM

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LS 1000: Top Mounted Direct Insert Mounted Level Switch

This is direct mounted type level switch. This provides contact changeover at a selected elevation level in the tank / vessel. Switch is mounted on top of the tank / vessel and coupled with float assembly rides on the liquid surface with rising and falling of level. The magnet attractor is connected on the isolating tube as shown in figure. As the level rises stem head of float assembly reaches upto attractor causes actuation of microswitch. To improve reliability the stem guide isolated just above the float. This type of level switch issued for lengths upto 3000mm.



Exproof IIC version for LS1000MT

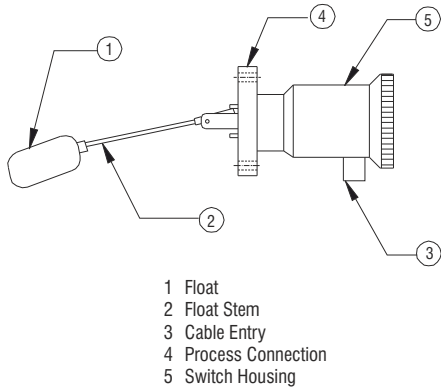


Weather proof version of top mounted LS1000MT

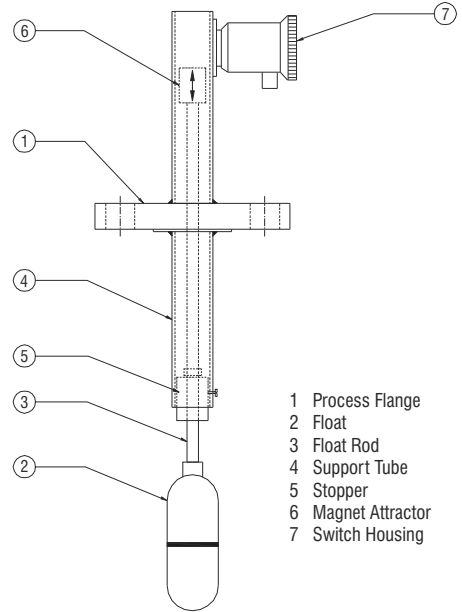
Technical Specifications: Table-1 Technical data

Type	Direct Insert Type
Mounting	Side Mounted / Top Mounted
Switch Housing	Die Cast Aluminium Weatherproof to IP-67 Die Cast Aluminium Explosionproof suitable for Gr. IIA, IIB Die Cast Aluminium Explosionproof suitable for Gr. IIC
Switch Type	Snap Acting 1SPDT / 2SPDT Microswitch, 5A, 230VAC / 0.5A, 24VDC
Cable Entry	1 no / 2 nos. of 3/4"ET(F), 1/2"NPT(F), M20x1.5(F)
Process Connection	Flanged in various sizes
Flange MOC	SS304, SS316, SS316L, Monel400, Titanium, Inconel 600, Hastelloy-C Others on request
Float/Stem MOC	SS304, SS304L, SS316, SS316L, Monel400, Titanium, Inconel 600, Hastelloy-C Others on request
Specific gravity	Please specify
Pressure	Up to 100kg/cm ² g
Temperature	(-100) to 350°C
Switch certification	CCOE, FM, ATEX, CE (Versions applicability on request)

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Side mounted direct insert level switch



Top mounted direct insert level switch

G A Drawing for assembly and mounting

Ordering Information

LS1000 SM-F05-ZC-RA-SI-PU-MQ



Model	
Direct Insert Type Level Switch	LS1000

Type	
SM	Side Mounted
MT	Top Mounted

Process Connection	
Flanged Connection	
F05	2", 150# RF
F06	2.5", 150# RF
F13	2", 300# RF
F14	2.5", 300# RF
XX	Any Other

MOC of Connection			
ZC	SS 304	ZK	Monel 500
ZD	SS 304L	ZM	Hastelloy-B
ZE	SS 316	ZN	Hastelloy-C
ZF	SS 316L	ZO	Inconel 600

Cable Entry	
MQ	One
MR	Two

Enclosure	
PU	Die Cast Aluminium Weatherproof to IP – 67
PV	Die Cast Aluminium Flameproof suitable to Gr. IIA / IIB
PW	Die Cast Aluminium Flameproof suitable to Gr. IIC

Microswitch	
SI	1 SPDT
SJ	2 SPDT

MOC of Float Assembly			
RA	SS 304	RF	Monel 500
RB	SS 304L	RG	Hastelloy-B
RC	SS 316	RH	Hastelloy-C
RD	SS 316L	RI	Inconel 600