

Single level switches made of plastic or metal for horizontal installation

Applications

GEMS level switches can actuate visual or acoustic alarms, control pumps automatically or activate shut down protectors.

Typical applications:

- ▶ Vending machines
- ▶ Water purifiers
- ▶ Medical equipment
- ▶ Hydraulic-oil-tanks
- ▶ Cleaning systems
- ▶ Marine
- ▶ Food and beverage industry

- ▶ LS-6
- ▶ LS-7
- ▶ LS-1050E
- ▶ LS-2050E
- ▶ LS-52100E
- ▶ LS-77700

Construction

By selecting an appropriate construction material for the float, stem and retainer, media compatibility can be ensured. Tight tolerances are held on the air gap dimensions between the float and the stem to give maximum operational reliability and long service.

Installation and Maintenance

For ease of installation standard pipe threads are used throughout. Typical installations are shown in the examples on the right. Maintenance is virtually unnecessary and consists of cleaning off residues from the stem and float if necessary.

General specifications and notes

Max. resistive contact loads of the reed switch:

- SPST 100 VA: 0.5 A; 250 V AC
- SPST 50 VA: 0.5 A; 250 V AC
- SPST 20 VA: 0.5A; 250 V AC
(normally closed NC/normally open NO)
- SPDT 20 VA: 0.5 A; 250 V AC
(change-over contact)

DC ratings on request.

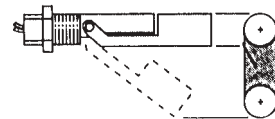
Abbreviations

- NO = Normally open
- NC = Normally closed

- SPST = Single-pole-single throw
- SPDT = Single-pole-double throw (Change-over contacts)

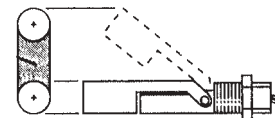
	fly lead	cable	
	red	white	SPST normally open/NO
	red	brown	normally closed/NC
	red	white	SPDT change-over contact
	brown	brown	
	red	green	

Normally Open



When the switch is mounted so that the float lowers with the liquid level, the switch is NO

Normally Closed



When the switch is mounted so that the float rises with the liquid level, the switch is NC



The Type 12 features a "dropped float" with elevated hinge points keeping the hinge and float pivot out of the media eliminating float hang-up problem due to liming and calcium build up. Media Level at switch point is approximately 8mm below pivot.

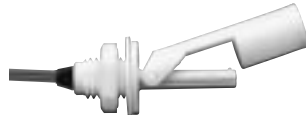
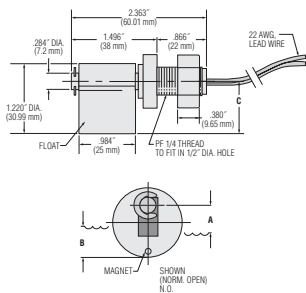
Single Point Level Switches LS6/LS-7

Small Size - Engineered Plastics, Side Mount

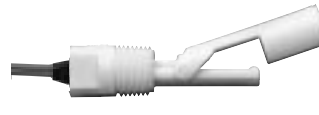
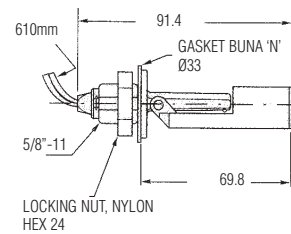
LS-7 Series - Compact side mounts are the solution to many small tanks. These low-cost units are ideal for high volume use in small tanks and vessels. Engineered plastics construction offers broad compatibility in water, oils and chemicals. The high temperature capability of Versaplast offers an alternative to high cost stainless steel switches.



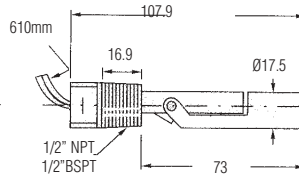
LS-6
Horizontal Mounting through a 1/2" diameter hole in the tank wall



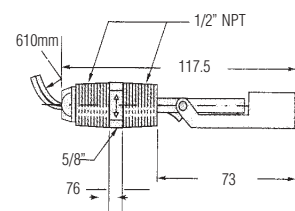
LS-7 Type 3
Internal Mounting



Type 5
External Mounting



Type 7
External Mounting



Specifications

	LS-6	LS-7 Type 3	Type 5	Type 7
Materials				
Stem/mounting	Polypropylene**	Versaplast Polypropylene** Nylon*	Versaplast Polypropylene** Nylon*	Versaplast Polypropylene** Nylon*
Float option	Polypropylene**		Stainless Steel	
Lead wire jacket	TPE***	TPE***	PVC	TPE***
Min. specific gravity of the liquid	Versaplast PP Nylon	0.80 0.55 0.65	0.80 0.55 0.65	0.55 0.65
Operating temperature -40°C to	Versaplast PP Nylon	107° 121°C**** 107°C 121°C	150°C 107°C 121°C	150°C C 107°C 121°C
Operating pressure Max @ 25°C	7 bar	7 bar	7 bar	7 bar
Switch SPST	SPST, 50 VA	20 VA	20 VA	20 VA
Lead wire gauge (Approx 0.6m long)	22 AWG	22 AWG	22 AWG (18 AWG Nylon)	18 AWG
Float arc	23mm	55mm	32mm	38mm
Protection rating	IP65	IP64	IP64	IP65
Weight approx.	30g	80g	60g	70g

* Not suitable for long term use in water.

** Not suitable for Hydrocarbons

*** Thermoplastic Elastomer Zip Cord

**** Limited by gasket to 121°C

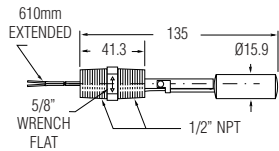
Versaplast (Ryton [80%] + Nylon [20%]) is suitable for both water and Hydrocarbons

How To Order

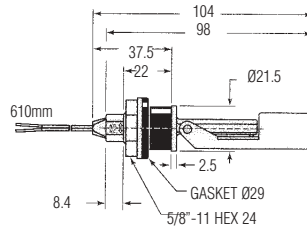
	LS-6	LS-7 Type 3	Type 5 NPT	R1/2 (BSPT)	Type 7 NPT
Polypropylene Float	203740	164520	131100	189423	160450
Nylon Float	-	165570	140620	189421	160460
Versaplast Float	-	182600	177100	189422	188800
Stainless Steel Float	-	-	181625	NA	-



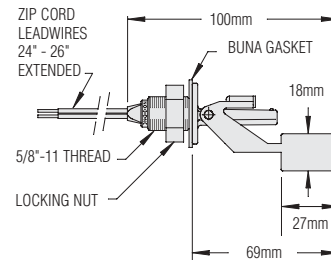
Type 9
External Mounting



Type 10
External Mounting
Mounts and seals through non-threaded hole Ø22 using an HNBR compression gasket. Wall thickness 0.5 to 4mm



Type 12
External Mounting (NC only)



Specifications

	Type 9	Type 10	Type 12
Materials			
Stem/mounting	316 Stainless Steel	Versaplast Polypropylene** Nylon*	Noryl** 27mm
Float option	316 Stainless Steel/Nylon*/Polypropylene**		
Lead wire jacket	TPE***	TPE***	TPE***
Min. specific gravity of the liquid	0.80 Stainless Steel 0.65 Nylon 0.55 PP	0.80 Versaplast 0.55 PP 0.65 Nylon	0.80 Noryl
Operating temperature -40°C to	149°C Stainless Steel 121°C Nylon 107°C PP	121°C **** Versaplast 107°C PP 121°C Nylon	107°C
Operating pressure Max @ 25°C	20 bar Stainless Steel 7 bar Nylon / PP	3.5 bar	7 bar
Switch SPST	20 VA	20 VA	20 VA
Lead wire gauge (Approx 0.6m long)	18 AWG	22 AWG	22 AWG
Float arc	36mm	53mm	18mm
Protection rating	IP65	IP65	IP65
Weight approx.	150g	90g	70g

* Not suitable for long term use in water.
 ** Not suitable for Hydrocarbons
 *** Thermoplastic Elastomer Zip Cord
 **** Limited by gasket to 121°C
 Versaplast (Ryton [80%] + Nylon [20%]) is suitable for both water and Hydrocarbons)

How To Order

	Type 9	Type 10	Type 12
Nylon Float	164850	165900	
Polypropylene Float	164860	165800	—
Stainless Steel Float	164870	—	—
Noryl Float	—	—	191080
Versaplast Float		182700	—

Standard Products in **bold**