

**Multiple level switches series,  
LS-300 (1...5 switch points),  
LS-400E (1...4 switch points),  
LS-800E (1...7 switch points)**

MEYLE level switches LS-300, LS-400E, LS-800E, LS-800E-PVC series provide an excellent method of controlling liquid levels in tanks. The units are made to the customer's specific requirements and are well suited to most industries due to the large range of different mountings and materials of construction.

**Operation**

A float equipped with a permanent magnet moves up and down with the fluid level between two stop rings and its magnetic field actuates a hermetically sealed reed switch embedded in the stem.

**Installation and Maintenance**

The level switches of the LS-300, LS-400E, LS-800E, LS-800E-PVC are mounted through the opening (flange or threaded) in the tank top or the bottom of the tank. Although the units are designed for vertical operation, they operate without problems even when mounted at an angle of up to 30° from the vertical axis. Maintenance work is reduced to a minimum and consists of cleaning off residues from the switch stem if necessary.

**Max lengths:**

LS-300:	400mm
LS-400E:	800mm
LS-800E:	3000mm
LS-800E-PVC	2000mm



LS-300 with flange



LS-400E



LS-800E



**LEVEL SWITCHES**

## Multiple Level Switch LS-300 (1 - 5 switch points)



- ▶ All-Plastic Wetted Parts
- ▶ Lengths to 500mm

Designed for the high quantity needs of the OEM, LS-300 Series Switches are the ideal level sensor for shallow tanks and reservoirs. Compact and versatile, these low-cost, plastic level switches offer a broad choice of mountings and float materials. The following pages illustrate the various design parameters available to configure custom LS-300 Series Switches.

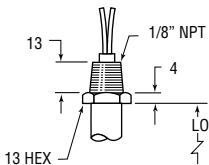
### Electrical Connections

	Type 1 Leadwire	Type 2 Cable	Type 3 Liquid-Tight Cable	Type 4 Junction Box Assembly	Type 5 DIN43650 Plug	Type 6 DIN43651 Plug
Compatible Mounting Type(s)	All		42	42	42, 62	42
Protection Rating	IP64		IP67	IP65		
Extended Leads	#22 AWG PVC 610mm Min.	#22 AWG PVC Jacketed Cable, 610mm Min.		Terminal Box (7 Terminals)	3 Poles	6 Poles
Max. No. of Levels						
Group I	5			2		
Group II	3			1		

### Mounting Types

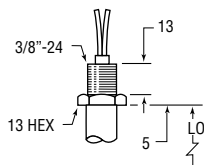
#### NPT Threads

**Type 21**  
1/8" NPT



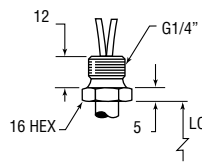
#### Straight Threads

**Type 31**  
3/8" - 24

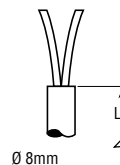


#### Metric Threads

**Type 41**  
G1/4" (1/4"-19BSP)

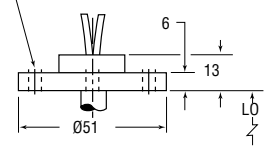


**Type 11**  
No Mounting

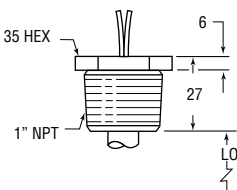


#### Flange Mountings

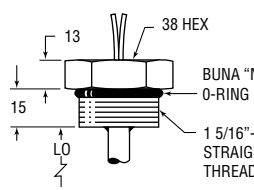
**Type 61**  
2" O.D. Flange  
4 DIA. (4) HOLES EQUALLY SPACED AS SHOWN ON A 38 B.C.



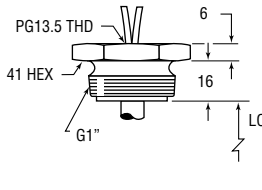
**Type 22**  
1" NPT



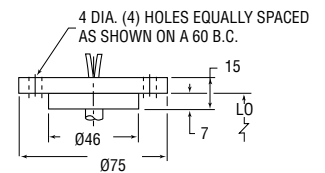
**Type 32**  
1-5/16" - 12



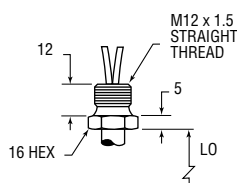
**Type 42**  
G1" (1"-11BSP)



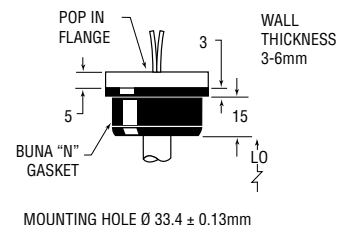
**Type 62**  
3" O.D. Flange



**Type 51**  
M12x1.5 Straight Thread

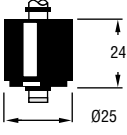
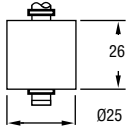
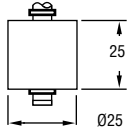
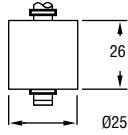


**Type 63**  
PopFlange



Stem, Mounting and Collar Material	Polysulfone
Max Length (Lo)	400mm
Mounting Position	Vertical ± 30° Inclination

## Floats

Float Material	Buna N	Polysulfone	Polypropylene	
			Solid Foamed	Hollow
Float Dimensions				
Float Material Suitable for ...	Oil, Fuels	Waterbased Liquids	Broad Chemical Use	Low Specific Gravity Liquids
Operating Temperature *	Water to 80° Oil: -40°C to +105°C	-40°C to +105°C	-40°C to +105°C	-40°C to +105°C
Pressure, (bar), Max. **	17	3.5	17	3.5
Min. Media Specific Gravity	.45	.75	.90	.65

\* Operating temperature range based on float ratings

\*\* When used with mounting Type 21, 32 or 22 only; Mounting Type 61, 62 and 63 are not recommended for pressure applications. Pressures are derated with increasing temperature.

### Electrical Specifications

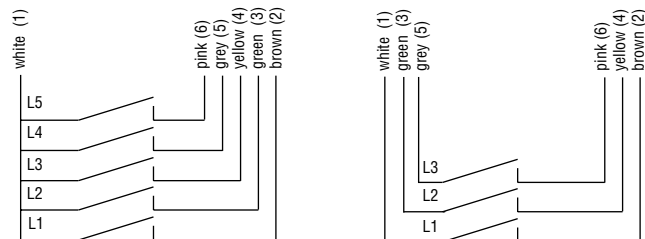
Typically, one float is required for each point at which you need a switch action to occur. The number of actuation levels available depends on the Group Type Wiring selected; see below.

- Group I Wiring: 1 to 5 Actuation Levels
- Group II Wiring: 1 to 3 Actuation Levels
- Switch (SPST, N.O. or N.C.): 10/20/50/100 VA.

#### Notes:

1. Units with 50 and 100 VA switches are not UL Recognized or CSA Listed.
2. Other wiring options available. Consult factory.
3. Consult Factory for load information.

### Wiring Group



\* Pin correlation of plug connectors shown in parenthesis.

A = Minimum distance to highest actuation level.

B = Minimum distance between actuation levels.

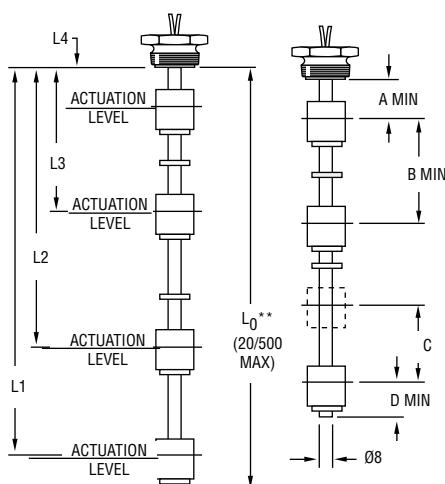
C = Minimum distance between two actuation levels with one float

(Note: One float for two levels can be used only when low level is N.C. dry and high level is N.O. Dry.

D = Minimum distance from end of unit to lowest level.

Switch actuation levels are determined following the guidelines below.

### Actuation Level Dimensions



\* Actuation level distances and  $L_0$  (overall unit length) are measured from inner surfaces of mounting plug or flange.

See mounting types on page 40 for  $L_0$  reference point.

\*\* Length Overall ( $L_0$ ) =  $L_1$  + Dimension D. See Mounting Types for Maximum Length values.

Float Type	Dimensions			
	A	B	C	D
Buna N	25mm	45mm	3mm Minimum	18mm
Polysulfone	22mm			24mm
Solid P.P.	16mm			29mm
Hollow P.P.	22mm			22mm

#### Notes:

1. Actuation levels are calibrated on ascending fluid level with water, specific gravity 1.0, as the calibrating fluid, unless otherwise specified.
2. Tolerance on actuation levels is  $\pm 3$ mm.
3. Tolerance on length is  $\pm 2$ mm.