D40 SERIES

LIQUID LEVEL SWITCH

Top entry displacement level switch



FEATURES

- 20 A S.P.D.T. switch rated to 500 VAC
- No metal parts in contact with liquids
- 60 mm level change, on to off or off to on
- Highly reliable magnetic action
- Fully sealed IP67 electrical housing
- M20 cable gland built in

20 A	2 HP	60 mm	90 °C
S.P.D.T. switch rated to 500 VAC	UL motor rating at 250 VAC	Fixed switching differential	Maximum liquid temperature

APPLICATIONS

- Confined locations in sumps and pits
- Bund area warning alarms
- Cooling tower water level control
- Suits effluent and high solids uses
- For fresh water and waste water – not for sea water or chemicals
- Level monitoring in wells and bores

OPERATING PRINCIPLE

The D40 level switch operates on Archimedes' principle. When the non-floating polypropylene displacer suspended from the switch is immersed in liquid, its weight is reduced by an amount equal to the weight of the liquid it displaces.

This weight change is detected by a magnet and is used to actuate a powerful switch inside the electrical head of the D40. The D40 is designed to be used in water with a specific gravity of 0.95 or greater.

CONSTRUCTION

The D40 level switch is constructed from solid billet aluminium. The displacer supplied with the switch is made from polypropylene. The displacer is suspended from the underside of the D40 with polypropylene cord (supplied). The D40 is supplied with two mounting brackets suitable for direct mounting on walls, tank lids or horizontal beams. The D40 level switch has no metal parts that come in contact with liquid, regardless of the mounting method used. The actuating arm of the D40 operates the switch magnetically through the solid metal wall of the electrical housing.

DIMENSIONS

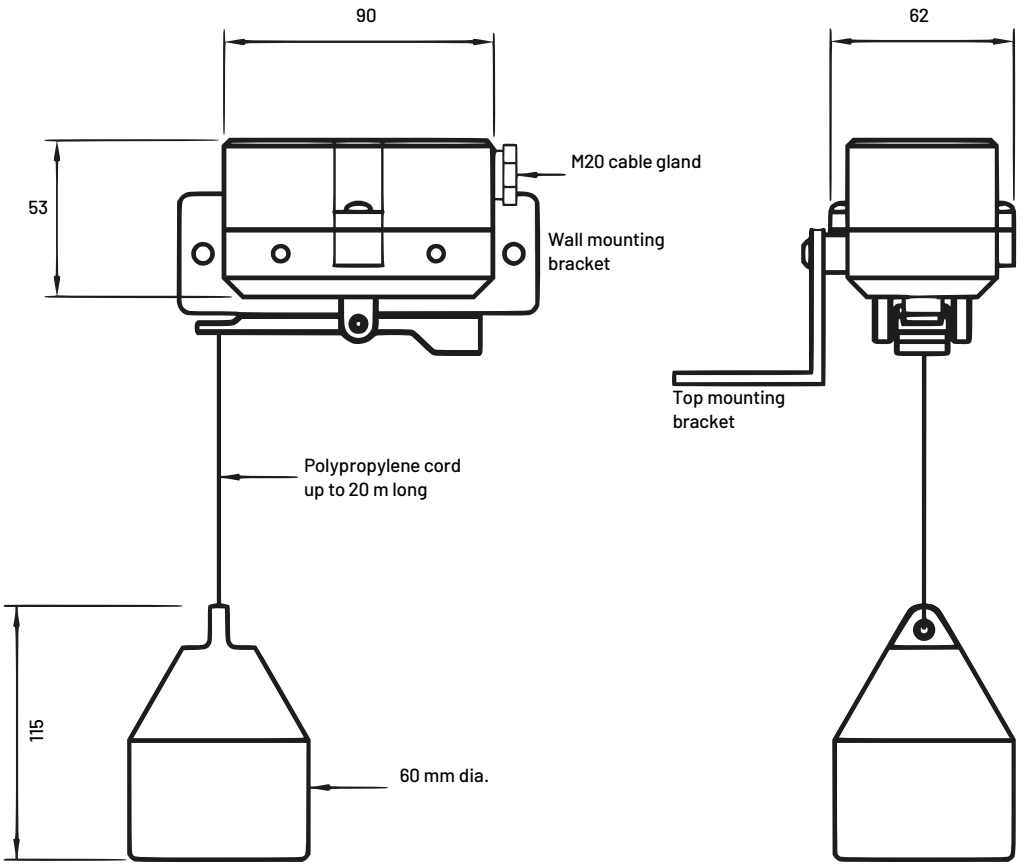


FIG. 1 D40 dimensions in millimetres

OPERATING LIMITATIONS

Fixed switching differential	**60 mm**
Maximum distance between D40 and displacer	**20 metres** 3 m of cord is supplied as standard
Minimum distance from displacer to the floor of a tank or sump	**20 mm**
Minimum inside diameter of pipe housing or shroud	**70 mm**
Maximum liquid temperature	**90 °C**
Specific gravity of process liquid	**0.95 or greater**
Ingress protection rating (weatherproof rating)	**IP56 and IP68** to 1 metre submergence

TYPICAL APPLICATION

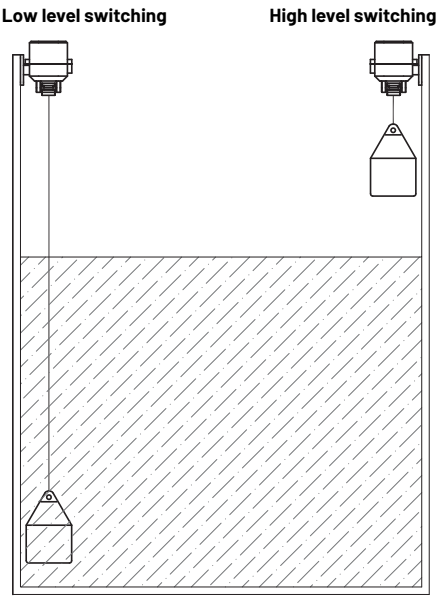


FIG. 2 Low and high level switching

ELECTRICAL DATA FOR THE D40

The standard D40 level switch houses an S.P.D.T. (single pole, double throw) switch. The standard switch is suitable for all general control circuit applications up to 500 VAC. It is ideal for the control of pump starters, relay logic circuits, and for the direct control of contactors and timers.

IMPORTANT

The standard switch is rated to 500 VAC: 20 A resistive (15 A at 500 VAC). Motor load ratings are 12.5 A at 125 VAC, 8.3 A at 250 VAC and 2 A at 500 VAC (UL: 1 HP at 125 VAC, 2 HP at 250 VAC).

RATED VOLTAGE	NON-INDUCTIVE LOADS (A)				INDUCTIVE LOADS (A)			
	RESISTIVE		LAMP		INDUCTIVE		MOTOR	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	20		7.5		20		12.5	
250 VAC	20		7.5		20		8.3	
500 VAC	15		4		10		2	
8 VDC	20		3	1.5	20		12.5	
14 VDC	20		3	1.5	15		12.5	
30 VDC	6		3	1.5	5		5	
125 VDC	0.5		0.5	0.5	0.05		0.05	
250 VDC	0.25		0.25	0.25	0.03		0.03	
Maximum switched voltage			**500 VAC**					
Maximum switched current			**20 A** (15 A at 500 VAC)					

NOTE Do not apply maximum voltage at maximum current across the switch contacts. See the data table above for current limits at specific voltages and for specific loads.

HAZARDOUS AREAS

The D40 is not certified for use in hazardous areas and must not be installed in any area classified as hazardous under AS/NZS 60079.10 (Zone 0, 1, 2, 20, 21 or 22).

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