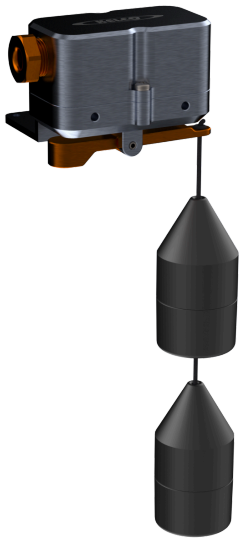
D50 SERIES

LIQUID LEVEL SWITCH

Top entry two position level regulator



FEATURES

- High and low float level control for tanks and sumps
- 20 A S.P.D.T. switch rated to 500 VAC
- No metal parts in contact with liquids
- Heavy duty, fully weatherproof all-metal housing
- Super reliable magnetic action
- Two mounting brackets supplied

20 A	2 HP	115 mm	20 m
S.P.D.T. switch rated to 500 VAC	UL motor rating at 250 VAC	Minimum level differential	Maximum level differential

APPLICATIONS

- Level control in confined or tight locations
- Suitable for pump in or pump out applications
- Water tank level control
- Effluent and liquid waste level control
- Suits slurry and high solid applications
- For fresh water and waste water – not for sea water or chemicals
- Works in sumps, pits, bores, tanks, wells or bunds

OVERVIEW

The D50 level switch is designed to detect a level change in liquids that have a specific gravity of 0.95 to 1.0, that is, water or water that contains dissolved or suspended solids. The switch can be mounted in any location above the liquid being sensed. The twist lock displacers are positioned on the cord at points where the switch is required to change state, for example close to the bottom of a tank for the low level switching point and close to the top of a tank for the high level switching point. A falling liquid level will trip the switch when the bottom displacer is partly uncovered, and a rising liquid will reset the switch when the top displacer is two thirds covered by water.

OPERATING PRINCIPLE

The D50 two position level switch operates on Archimedes' principle. When non-floating solid displacers suspended from the switch are immersed in liquid, their weight is reduced by an amount equal to the weight of the liquid they displace. The weight change is detected and used to actuate a magnetically isolated switch.

Surface agitation, froth, floating or submerged solids do not affect the action of the D50 switch. The displacement principle depends on the specific gravity of the liquid in which the displacers are suspended. The D50 is set to operate in water with a specific gravity of 0.95 or greater.

CONSTRUCTION

The electrical housing and body of the D50 level switch are machined from solid billet aluminium. The displacers are made from glass-reinforced polypropylene and the suspension cord is made from virgin polypropylene. Each switch is supplied with two mounting brackets, a wall mounting plate and a right angle mounting bracket.

DIMENSIONS

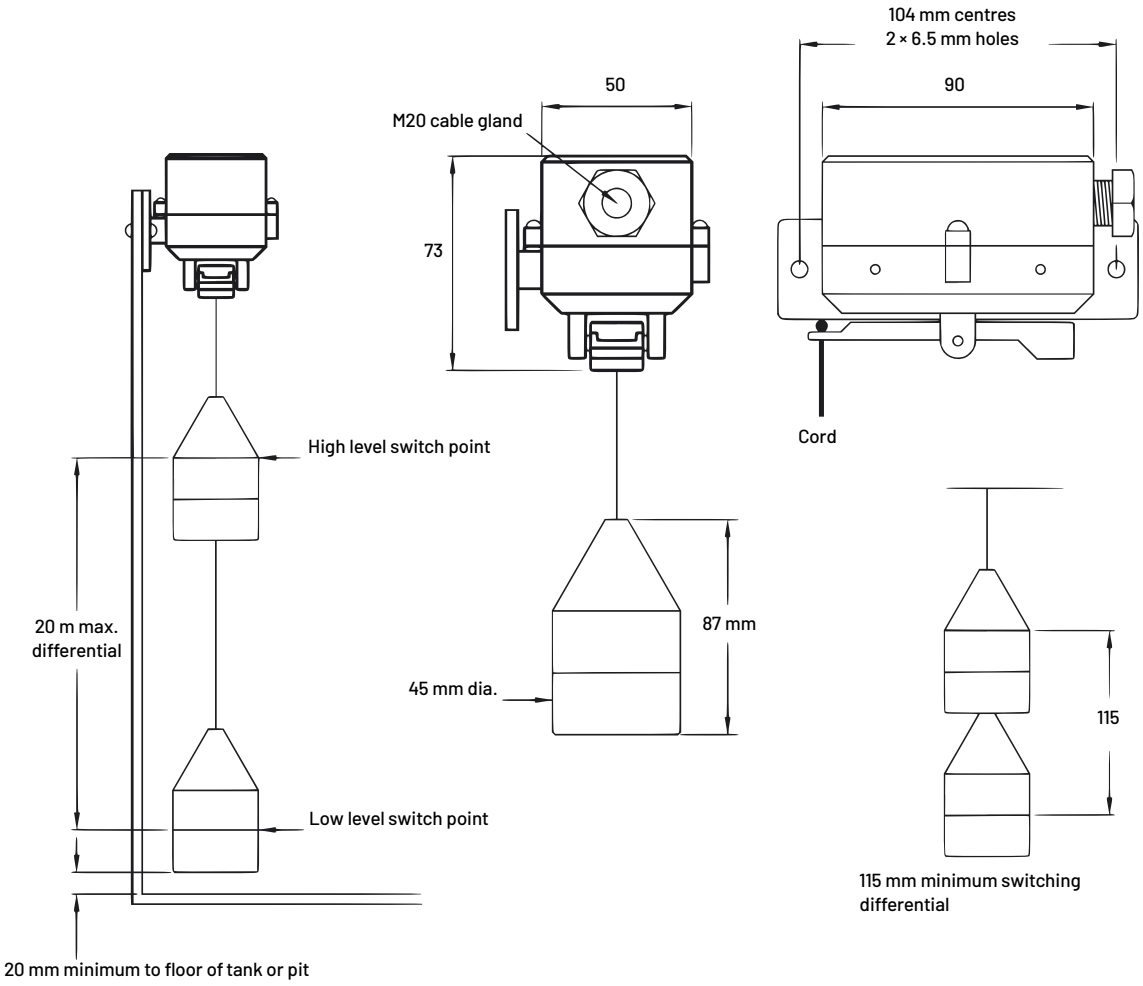


FIG. 1 D50 dimensions in millimetres

OPERATING LIMITATIONS

Minimum level differential	**115 mm** with the 2 displacers stacked close together
Maximum level differential	**20 metres** 3 metres of cord is supplied with the switch
Minimum distance from switch point to floor of a tank or sump	**20 mm** Sumps can be pumped out to within 20 mm of the floor
Maximum liquid temperature	**90 °C** Displacers and cord only can withstand this temperature
Specific gravity of process liquid	**> 0.95** Water at ambient temperature
Ingress protection rating	**IP56 and IP68** to 1 metre submergence

ELECTRICAL DATA FOR THE D50

The standard D50 level switch houses an S.P.D.T. (single pole, double throw) switch. The 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 D50 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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