

# KELCO

## D50 Liquid Level Switch

### Features

- High and low float level control for tanks and sumps
- 2 HP 1.5kW 20 AMP 500V S.P.D.T switch
- No metal parts in contact with liquids
- Heavy duty, fully Weather proof all-metal housing
- Super reliable magnetic action
- Two mounting brackets supplied

### Applications

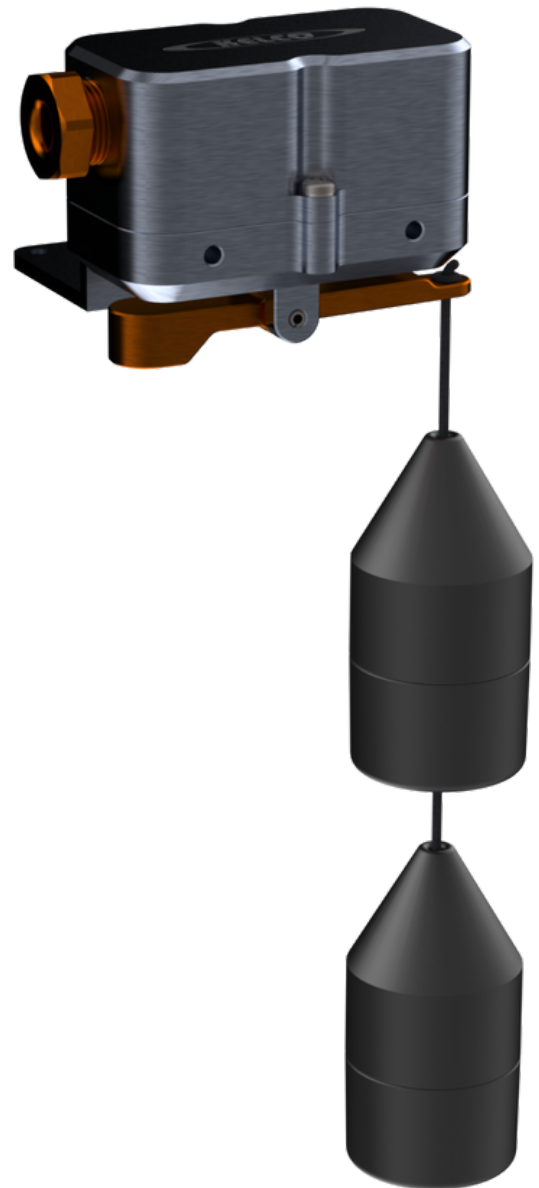
- Level control in confined or tight locations
- Suitable for pump in or pump out applications
- Water tank level control
- Effluent and liquid waste level control
- Suits slurry and high solid applications
- Suitable for use in sea water, acids and many chemicals
- Works in sumps, pits, bores, tanks, wells or bunds

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.

# D50 SERIES DATA

## Electrical Data for the D50

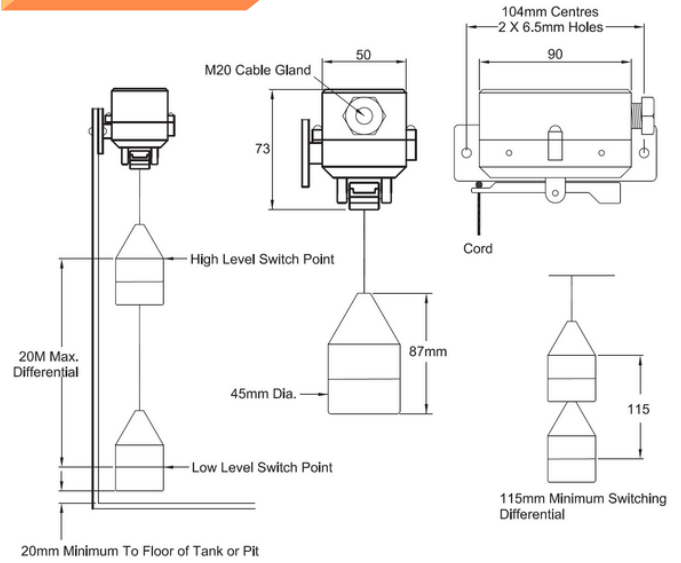
The standard D50 level switch houses a S.P.D.T (Single Pole Double Throw) switch. The switch is suitable for all general control circuit applications up to 500V AC. It is ideal for the control of pump starters, relay logic circuits, and for the direct control of contactors and timers. The standard switch can operate at ANY voltage from 5 to 500VAC. It is rated to directly control motors up to 1.5kW (2HP) at 240VAC.

RATED VOLTAGE	NON INDUCTIVE LOADS				INDUCTIVE LOADS			
	RESISTIVE LOAD		LAMP LOAD		INDUCTIVE LOAD		MOTOR LOAD	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	20 A		7.5 A		20 A		12.5 A	
250 VAC	20 A		7.5 A		15 A		8.3 A	
500 VAC	15 A		4 A		6 A		2 A	
8 VDC	20 A		3 A	1.5 A	15 A		12.5 A	
14 VDC	20 A		3 A	1.5 A	10 A		12.5 A	
30 VDC	6 A		3 A	1.5 A	5 A		5 A	
125 VDC	0.5 A	0.5 A	0.25 A		0.05 A		0.05 A	
250 VDC	0.25 A	0.5 A	0.25 A		0.03 A		0.03 A	

Maximum Switched Voltage	500VAC
Maximum Switched Current	20A
Minimum Switched Voltage	5VDC
Minimum Switched Current	160mA

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

## Dimensions



## 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 temp.)
Ingress Protection Rating	IP56 & IP68 to 1 meter submergence

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