VARIOUS TECHNOLOGIES INCORPORATED

Komand-O-Lot™ Series LS-30

Publication PL-003-1993

VERTICAL SINGLE POINT LIQUID LEVEL SWITCH

The LS-30 is a small vertically traveling single point magnetically activated liquid level switch capable of switching an inductive load 100 watts up to 200Vdc or 120VA up to 230Vac. It is available in normally closed or normally open single pole single throw dry contact configurations. The LS-30 is ideally suited for mounting through the top of a tank to sense levels. This switch is designed to be connected directly to solenoid valves and larger load control relays used in conjunction with heaters, electro-mechanical audible alarms, and indicator lights. Materials of construction are unpigmented natural Polypropylene and PVDF. The LS-30 is economically priced and ideally suited for OEM applications. Custom design variations are available upon request.

ELECTRICAL CONSIDERATIONS

The maximum amperage due to the contact point air gap is 3.0 amps below 33 Vdc or 40 Vac. The maximum power switching above 33 Vdc or 40 Vac is 100 Watts to 200 Vdc or 120 VA to 230 Vac. Air gap is the actual physical distance separating the the switch contacts when open, which translates into the switches ability to resist electrical flow. High voltages have a greater ability to jump across the switch contacts and lead to contact pitting and premature failure, therefore the lower current ratings. The general relationship used in determining maximum current flow at higher voltages is: Current (Amps) equals Rated Switch Power (P) divided by Operating Voltage (V). See the Maximum Switching Capacity Graph.

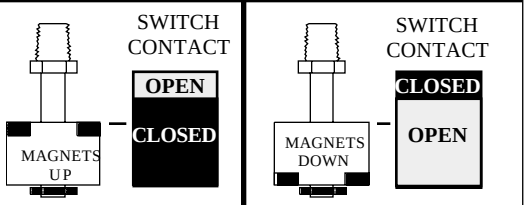
OPERATION

At the heart of this unit is a magnetically sensitive switch containing two magnetically polarized contacts, which are attracted to each other when exposed to a magnetic field. When the contacts come together an electric current can flow. When the magnetic field is removed the contacts separate and electrical current flow is interrupted.

The major components of the LS-30 are the specially oriented magnets within the float and the switch within the float shaft. The normally open configuration occurs when the float is closest to the snap ring, and the magnets are located at the bottom of the float. As the float travels up the shaft due to rising liquid level the magnetic field closes the switch contacts completing the circuit. As the level lowers the float the contacts open breaking the circuit. Normally closed operation is achieved by inverting the float orienting the magnets at the top of the float. The switch contacts will be closed when the level is below the switch and open as the level rises.

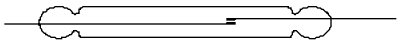
Safe and Reliable Switch Selection - In selecting a level switch, the total system design must be considered to assure safe, trouble-free performance. Switch function, material compatibility, adequate power ratings, proper installation, operation and maintenance are the responsibility of the system designer and user. Please feel free to ask for a copy of our Product Warranty.

MAGNETIC NORMALLY CLOSED OR OPEN ORIENTATION



SCHEMATIC SYMBOL

SINGLE POLE SINGLE THROW SWITCH



SIMPLE MAKE AND BREAK OPERATION

LS-30 SWITCH SPECIFICATIONS

MATERIAL: Polypropylene (PP)
Polyvinylidene Fluoride (PVDF)

WIRE: UL 1061 PVC coated solid single strand standard. Other wire optional

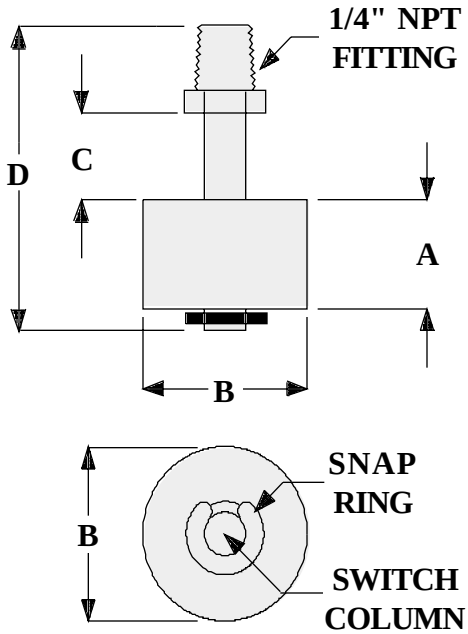
BUOYANCY: 50% for Polyproylene
30% for Polyvinylidene Fluoride

MOUNTING ATTITUDE: +/- 30 degrees in clean liquid

COLUMN / TANK CLEARANCE: Flush in clean liquid. 3 inches from the bottom of the tank in precipitate or sediment bearing liquids.

ANTI - TURBULANCE SHROUD: Optional

DIMENSIONAL DATA



MAXIMUM RECOMMENDED SWITCH LOADS		
VOLTS	DC (AMPS)	AC (AMPS)
5	1	1
12	1	1
24	1	1
48	1	1
120	1	.83
200	.5	.5
230	.5	.43

The above table was calculated using P=IV where P= power was 100 Watts or 120 VA. I = amperes, V = Voltage. Maximum inrush should not exceed 6 times that of the chart values for a specific voltage. Do not try to directly operate coils larger than 58 Watts.

PART NUMBER	WET END MATERIAL	DIMENSIONS				TEMP -VS- PRESSURE (PSIG)			
		A	B	C	D	70°F	140°F	180°F	230°F
LS-30P-0000	POLYPRO	1	1.75	.75	2.8	80	30	0	N/R
LS-30F-0000	PVDF	1	1.75	.75	2.8	80	60	30	0

VARIOUS TECHNOLOGIES INCORPORATED
2720 AIELLO DRIVE BUILDINGS C & D
SAN JOSE, CALIFORNIA 95111
PHONE (408) 972-4460 FAX (408) 972-4125

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