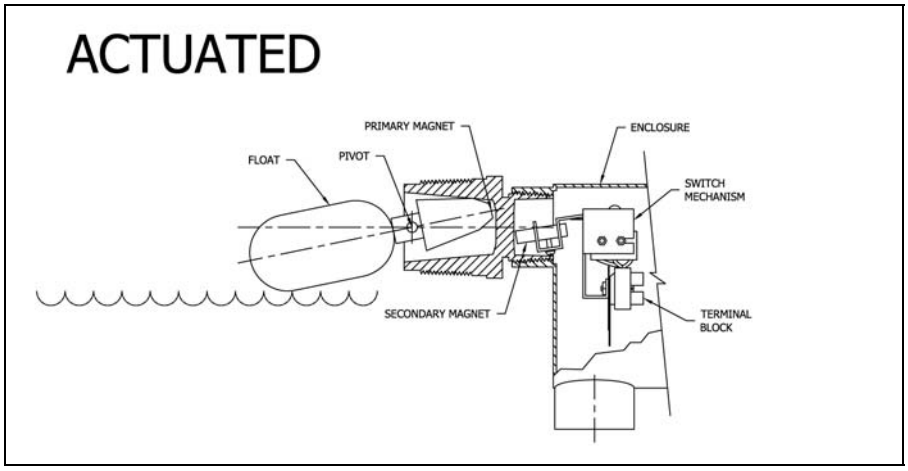
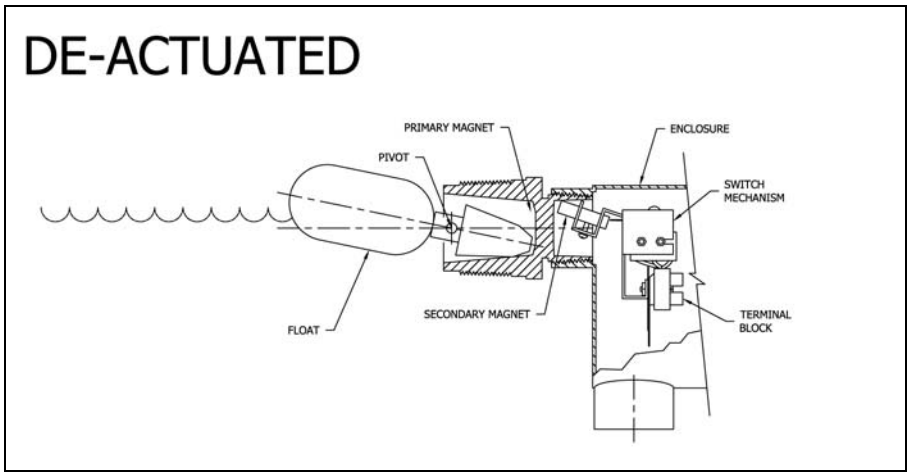
Basic Operating Principal

The basic operating principle provides for magnetic switch action being repelled through a stainless steel barrier by an externally located magnet resulting from a change in liquid level. This design eliminates problems associated with conventional seals such as o-rings or packing glands. The schematic shown illustrates the extreme float positions showing the magnetic repulsion effect on the switch element. At low level magnet "A" is in the "high" position and repels magnet "B" driving it to its "low" position. As the float moves upward and passes magnet "B" to its "high" position thus causing snap action of the electrical switch. Since SPDT switches are utilized, the level switch can simply be wired to energize at either a high or low level position.





Process Piping Instructions

The MLS must be mounted within 3° of the horizontal centerline of the vessel through a 1-1/2" NPT HALF COUPLING ONLY. Caution should be taken to assure there is adequate clearance within the tank or mounting nozzle to provide for unrestrictive float movement. MLS units equipped with the flange mounting option should have a float stem extension to provide for clearance through the mounting nozzle.

Wiring Instructions

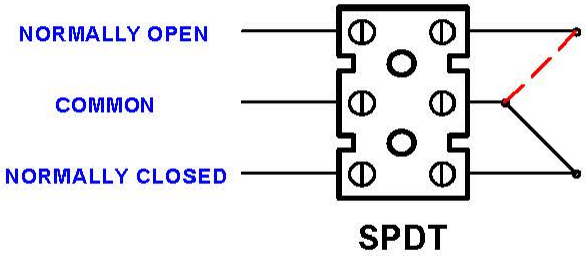
Confirm that all wiring is in accordance with all National and Local Electrical Codes. The switch field wiring should be brought through the conduit connection to the appropriate terminal. Excess wiring should be removed to avoid interference with the switch mechanism and care taken to ensure the wiring is not touching the housing cover.

"NEMA" classification requires all electrical switch housings to be sealed at the conduit connection. The appropriate conduit seal should be used for the area classification.

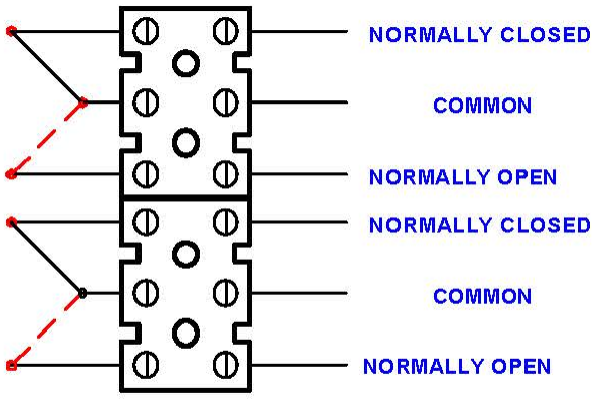
WARNING: POWER TO THE LEVEL SWITCH MUST BE DISCONNECTED BEFORE REMOVING THE SWITCH HOUSING COVER.

"MLS" ELECTRICAL WIRING INSTRUCTIONS
CAUTION: DO NOT MOVE THE SWITCHES FROM THEIR FACTORY SET POSITION OR
ATTEMPT TO MAKE ANY CALIBRATION ADJUSTMENTS TO THE SWITCH. THE SWITCH IS FACTORY CALIBRATED.

Wiring Diagrams



SPDT



DPDT

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Maintenance

There is no internal maintenance required on this switch.

General Specifications

Temperature Code	Process Temperature
T6	-50°C to 90°C
T5	91°C to 140°C
T4A	141°C to 200°C
T4	201°C to 250°C
T3A	251°C to 375°C

MODEL GUIDE

MAGNETIC LEVEL SWITCH

JMLS	CODE	WETTED MATERIAL	ENCLOSURE MATERIAL
	2	T-316 SST	EPOXY COATED ALUMINUM

CODE	SWITCH FORM AND FUNCTION	MAX. AMBIENT	MAX. RECOMMENDED PROCESS TEMP	SWITCH RATING
1	SPDT STANDARD SWITCH	122F / 50C	705F / 375C	5A @ 120/240 VAC 3(5)A @ 24 VDC[1]
2	DPDT STANDARD SWITCH			
3	SPDT HIGH AMP RATING	122F / 50C	705F / 375C	11A @ 120/240 VAC 1(2)A @ 24 VDC[1]
4	DPDT HIGH AMP RATING			
7	SPDT HERMETICALLY SEALED	122F / 50C	705F / 375C	3(5)A @ 24 VDC[1]
8	DPDT HERMETICALLY SEALED			
9	SPDT GOLD PLATED	122F / 50C	705F / 375C	1A @ 125VAC .5(1)A @ 24 VDC
0	DPDT GOLD PLATED			

CODE	MAX. PRESSURE	CONNECTION
00	1500 PSIG @ 100°F	1 1/2" MNPT
70	1500 PSIG @ 100°F	2" MNPT

CARBON STEEL	316SS		
11	13	285 PSIG @ 100°F	2 1/2" 150#RF THREADED
21	23	740 PSIG @ 100°F	2 1/2" 300#RF THREADED
31	33	1480 PSIG @ 100°F	2 1/2" 600#RF THREADED
41	43	285 PSIG @ 100°F	3" 150#RF THREADED
51	53	740 PSIG @ 100°F	3" 300#RF THREADED
61	63	1480 PSIG @ 100°F	3" 600#RF THREADED

CODE		MIN. SG SS FLOAT	MIN. SG POLY FLOAT
FExxx[2]	FLOAT EXTENSION (INCHES)	VARIES	VARIES
FE 0800	FLOAT EXTENSION 8.00"	0.89	0.82
FE 0600	FLOAT EXTENSION 6.00"	0.85	0.78
FE 0400	FLOAT EXTENSION 4.00"	0.79	0.73
FE 0300	FLOAT EXTENSION 3.00"	0.73	0.69
P	POLYPROPYLENE FLOAT	MIN SG = 0.40 (NO FLOAT EXT): MAX PROCESS TEMP = 250°F	
BW	BACK WELDED FLANGE		

JMLS	2	1	00	TYPICAL MODEL NUMBER

[1]DC Rating = Inductive Listed before Resistive EX: 3(5) = 3A Inductive or 5A Resistive @ 24 VDC
[2]NOTE: EX. FE0225 = 2-1/4" Extension

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