

# ALDERON – ALTRA™ PUMP SWITCHES

**Alderon–Altra™ Pump Switches** are used to turn a pump on and off in environments with temperatures up to 140 °F. This product can be used for a variety of applications, including but not limited to septic tanks, sump pits, holding tanks, pump chambers, water tanks, and any other liquid tanks.

The pump switches are mechanically operated using a microswitch and are activated by the ball inside the float housing. For use as empty tank (normally open) or filled tank (normally closed) configuration with multiple types of float attachments for mounting and various cable lengths.



## FEATURES

- **Polypropylene Housing:** Designed to resist harsh chemicals, withstand high impacts, and handle temperatures up to 140 °F.
- **Cable Type:** SJOOW (UL/CSA), 16 or 14 gauge, 2-conductor, flexible, and water/oil resistant.
- **Internal Wiring:** Solder-dipped wiring with an epoxy-filled chamber for protection from water intrusion (solder-dipped wiring on bare lead models only).
- **Ball:** Located inside the float housing and used to actuate the microswitch.
- **Microswitch:** Activated by the ball inside the float housing opening or closing the contacts.
- **Actuator Arm:** As the float tilts above/below horizontal, the ball inside the housing will activate or deactivate the actuator arm, causing the microswitch to turn on/off.
- **Switching Differential:** With narrow angle (20°) and wide angle (90°) models.

- **Innovative Mechanical Design:** Using mechanically activated snap action contacts eliminates hazardous mercury for an environmentally safe product.
- **Omni-Directional:** Not sensitive to either rotation or turbulence. The float switch will operate at the designed angle regardless of the direction of the tilt.

## OPERATIONS

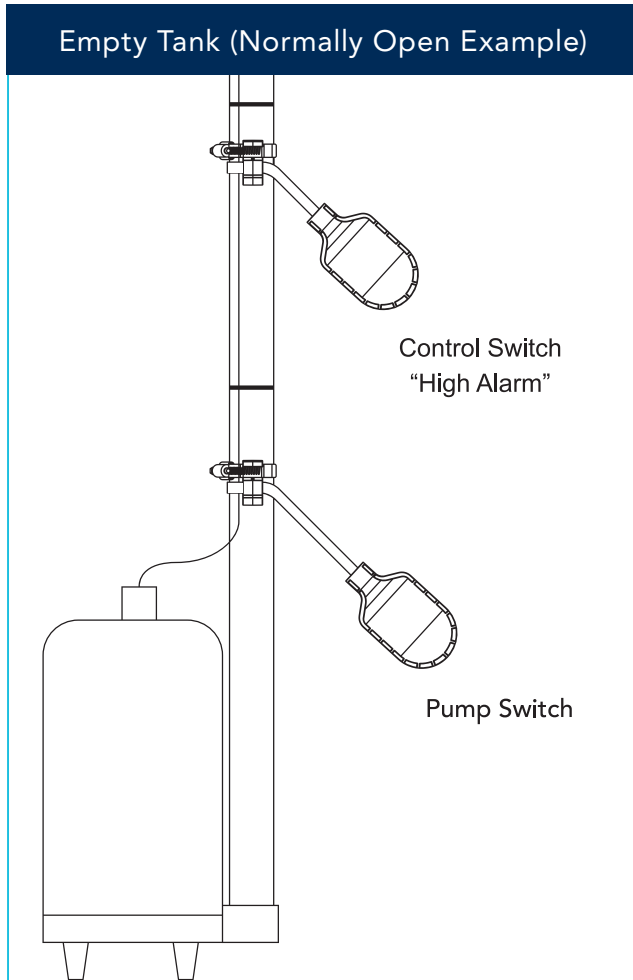
- **Normally Open:** Contacts are open while hanging down and will close when liquid levels rise. Typically used for empty tank applications.
- **Normally Closed:** Contacts are closed while hanging down and will open on a rising liquid level. Typically used for filled tank applications.

# SPECIFICATIONS

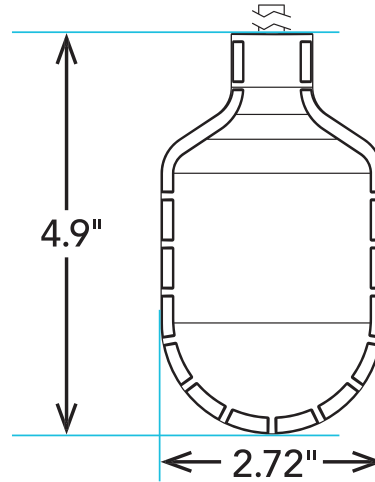
Primary Voltage	Amperage	Float Housing Material	Float Housing DxL (in / cm)	Cable Type	Connection Type	Temp. (°F)	Switching Differential	Switch Configuration
120VAC or 240VAC, 60 Hz	13 amps, 120VAC 0.5HP/240VAC 1.5HP	Polypropylene	2.72 x 4.9 / 6.9 x 12.45	SJOOW (UL/CSA), 16 or 14 gauge, 2-conductor	Bare lead (no plug; 120/240VAC)	0 - 140	20° total (narrow angle)	Single pole, single throw (NO/NC)
	Piggyback plug (120/240VAC)				90° total (wide angle)		Single pole, double throw (NO/NC <sup>A</sup> )	

A. 13A, bare lead models only

## APPLICATION EXAMPLE



## MECHANICAL DRAWING



Multiple float switches with pipe clamps are used for a variety of applications, such as emptying/filling a tank or high/low level alarms.

### Normally Open (Empty):

- Control switch/top float = high alarm
- Pump switch/bottom float = start/stop pump

### Normally Closed (Filled):

- Pump switch/top float = start/stop pump
- Control switch/bottom float = low alarm

## TETHER LENGTH GUIDE

Pump Switches—Minimum Recommended Tether of 3.5"									
Tether Length (in)	3.5	4.0	6.0	8.0	10.0	12.0	16.0	20.0	24.0
Activation Range (NR = Not Recommended)									
Narrow Angle (in)	2.5	3.0	4.0	4.6	5.6	7.0	10.0	18.0	NR
Wide Angle (in)	7.5	8.25	9.75	13.3	15.8	20.0	25.5	32.0	40.0

Caution: Use as guide only; actual ranges may vary (reference only—testing must be performed for actual ranges).