



MODEL 9R ALTERNATOR FLOAT SWITCH ASSEMBLY

NEMA 1, 4, 7, 9

DESCRIPTION

Float switches are used for the automatic control of pump motors, to start the motor at a preset high level and stop the motor at a preset lower level. For applications where the pump motor H.P. is greater than the specified electrical rating or 3 phase, the float switch is used for pilot duty on a magnetic or manual starter which controls the pump motor for start and stop.

VOLTAGE	MOTOR, HORSEPOWER RATING	
	SINGLE ph	MODEL 9R (2 POLE)
115V	2 H.P.	3
230V	3 H.P.	5
460-575	-	1

WARNING: TO AVOID SHOCK HAZARD, DISCONNECT ALL POWER BEFORE INSTALLING OR SERVICING DEVICE.

MODEL 9R ALTERNATOR FLOAT SWITCH ASSEMBLY (for independent mounting)

Double pole mechanical alternator switch to provide means of alternating the operation of two pumps installed in duplex pump system in a common tank or sump. Assembly consists of a polypropylene float, titanium float guide rod, CPVC float guide brackets and adjustable CPVC collars. Mounted onto support plate independently of pumps. Standard length is 24". If one pump cannot handle the flow demand, the second pump automatically is placed into operation and will continue to function until one pump can handle the load. A high level alarm circuit is available, 1½ H.P. @ 115V or 2 H.P. 230V and can be used as a pilot device for single or three phase magnetic motor starters.

NEMA 1	Mechanical alternator	66-0730A
NEMA 4	Mechanical alternator	66-0961A
NEMA 4	Mechanical alternator with high level alarm circuit	66-0962A
NEMA 7 & 9	Mechanical alternator	66-0963A
NEMA 7 & 9	Mechanical alternator with high level alarm circuit (Class I, group C, D, & Class I, Group E, F, G)	66-0964A

MODEL 9R FLOAT SWITCH WIRING

If the float switch is purchased with the pump and motor, the float switch is wired to either the motor or starter as required. If the float switch is purchased separately, then the customer wires the float switch to his pump and motor. Wire motor according to local or national electrical codes.

ADJUSTMENTS

1. Upper collar on titanium rod determines the upper level of the solution (pump on level). Adjust by loosening set screw on side of collar and lock at desired position.
2. Lower collar on titanium rod determines the low shutoff of pump and motor. Adjust collar for liquid level desired.
3. Allow the pump to go through several cycles to be sure that liquid levels are correct.

4. Each float switch has a compensating spring which can be adjusted for different weights of float. This should be adjusted (via nut) if there is a problem with float weight, due to liquid specific gravity.

NOTE:

The titanium rod must be free to travel entire activation length. It can not hit bottom of sump. Also, the guide bracket must be at least 1½" above the bottom of the titanium rod low level point so that at high level point the guide rod does not become free of the guide bracket. this is a particular point to check on #7R assembly.

INSTRUCTIONS NEMA 1, 4, 7, 9

WARNING

To avoid shock hazard, disconnect all power before installing or servicing device.

APPLICATION

A means of mechanically alternating the operation of two pumps installed in a duplex system with a common tank. Under peak conditions, both pumping units are automatically placed in operation.

STANDARD ACTION

Contacts close on liquid rise.

REVERSE ACTION

Contacts open on liquid rise. IT IS NOT RECOMMENDED THAT A CHANGE BE MADE IN THE FIELD FROM STANDARD TO REVERSE ACTION OR VICE VERSA.

ADJUSTMENT

The alternators are pre-set at the factory for proper operation. Adjustments should not be attempted.

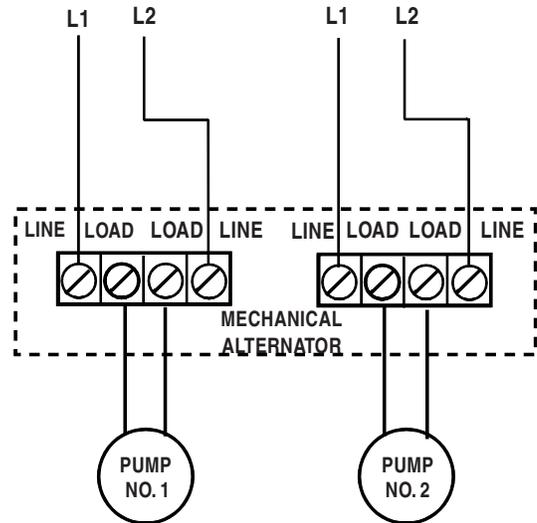
COMPENSATING SPRING ADJUSTMENT

1. Mount the rod complete with stop collars, (less float) on the arm.
2. Place the lever arm in the downward position. Adjust the tension so the lever remains in this position.
3. Place the lever arm in the downward position. Adjust the tension so the level remains in this position.
4. Check 2 and 3.

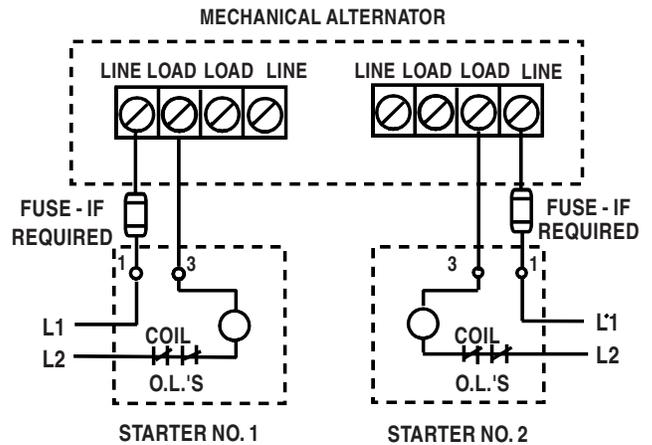
Results - The float must be buoyant enough to trip the switch up and have weight enough to trip the switch down.

ITEM NUMBER	DESCRIPTION
1	Switch mechanism
2	Comp. spring assembly
3	Bracket for comp. spring
4	Set of movable and stationary contacts
5	Gasket (AW) NEMA 4 only
6	Operation lever assembly

MECHANICAL ALTERNATOR - WIRING DIAGRAMS * (2 methods)



SINGLE PHASE DIRECT MOTOR CONTROL



CONTROL OF MOTOR STARTERS

*Where separate power supplies are provided the disconnect means for each motor must be grouped together and provided with suitable warnings in accordance with the national electrical code and all other applicable codes and standards.

APPROXIMATE DIMENSIONS

NEMA 4, 7 & 9

NEMA 1