



# Multifunction Float Switch

INSTALLATION INSTRUCTIONS



It is the installer's responsibility to read, understand, and comply with these instructions.

# A Guide to Your Multifunction Float Switch

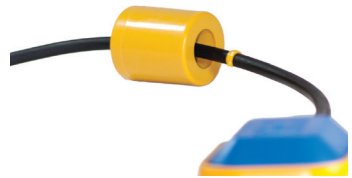
The RainFlo float switch provides versatile multifunction control for pump protection, pump control, 3-way valve control and tank water level management. Operating as a single-pole, double throw (SPDT) switch, the multifunction float switch is used to protect pumps from running dry, to add water from an outside source such as a well when the water reaches a minimum level, or to activate a pump or valve to drain the tank when the water level reaches a maximum level. The switch can also be used to control a 3-way valve for a backup water supply.

## PERFORMANCE SPECIFICATIONS

- Direct control: up to 1½ horsepower at 115V  
Indirect: 2 horsepower at 230V or any pump with the use of magnetic contactors
- 15 amps
- Suitable for low voltage (12-24VAC/VDC) circuits, valves and controls.
- The Normally Open (NO) and Normally Closed (NC) designations refer to the electrical contact state when the float is in the hanging position. The switch changes its state when it reaches approximately 45 degrees up or down.

## INSTALLATION

In installations where the float switch is lowered freely into the tank, a weight will be required. An optional cord weight is available for installations where the float switch is not secured to a fixed object such as a pump pressure line at the desired water level. The pump weight is installed by attaching the supplied clip onto the desired location on the cord and then the weight is pulled down the cord, tapered end first, until the clip is tightly embedded inside the plastic weight housing.



### The float switch will operate in three modes:

**1. Auto-fill mode** - The switch contacts will be closed, called a “pump up” or “normally closed” application. The float switch is used to activate a pump, relay or valve to add water to the tank from an auxiliary source. This ensures water availability while keeping the tank empty enough to capture rainwater.

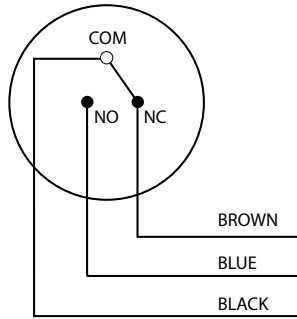
The float switch cord is secured at the desired low water level threshold. In auto-fill mode, the Black wire is connected to the AC neutral supply and the Blue wire is connected to the pump, relay or valve’s neutral

input. The Brown wire is unused.

## 2. Pump protection and auto-drain mode -

The switch contacts will open, called a “pump down” or “normally open” application. The float switch is used to disable power to the pump when the water level reaches a minimum threshold to protect the pump and/or to prevent extraction of the undesirable layer of water at the bottom of the tank.

Auto-drain application: In this application, the float switch is used to activate a continuous-duty relay or valve to drain a tank down to a desired water level. This can be used to drain an auxiliary “first flush” tank which is installed in-line prior to the main storage tank. The float switch cord is secured at the desired low water level threshold. In both of these applications, the Black wire is connected to the AC neutral supply and the Brown wire is connected to the pump, relay or valve neutral input. The Blue wire is unused.



## 3. 3-way valve control -

The multifunction capability of this float switch greatly simplifies the control of most electrically actuated 3-way valves. The float switch controls the valve, applying voltage to the valve’s “rainwater” terminal in the “Up” position, and applying voltage to the “backup supply” terminal in the “Down” position when the tank is empty. Voltage is only applied to one terminal at a time.

In this application, the power supply’s common wire is directly wired to the 3-way valve’s “common” input. The power supply’s other wire is connected to the float switch’s Black wire. The float switch’s Blue wire is connected to the valve’s “rainwater” terminal and the Brown wire is connected to the valve’s “backup supply” terminal. The float switch applies voltage to the Brown wire when the float is hanging (the tank is empty) and applies voltage to the Blue wire when the float is floating (the tank is full). Most 3-way valves have internal limit switches which cut the power once the valve reaches the intended position.

## TROUBLESHOOTING

Issue	Solution
Switch does not work as expected	<ul style="list-style-type: none"><li>• Check for incorrect wiring, try switching the brown and blue wires</li></ul>
Switching does not occur at desired level or time	<ul style="list-style-type: none"><li>• Raise or lower the float switch OR adjust the location of the cord weight</li></ul>

