

## GRID CONTROLS, LLC

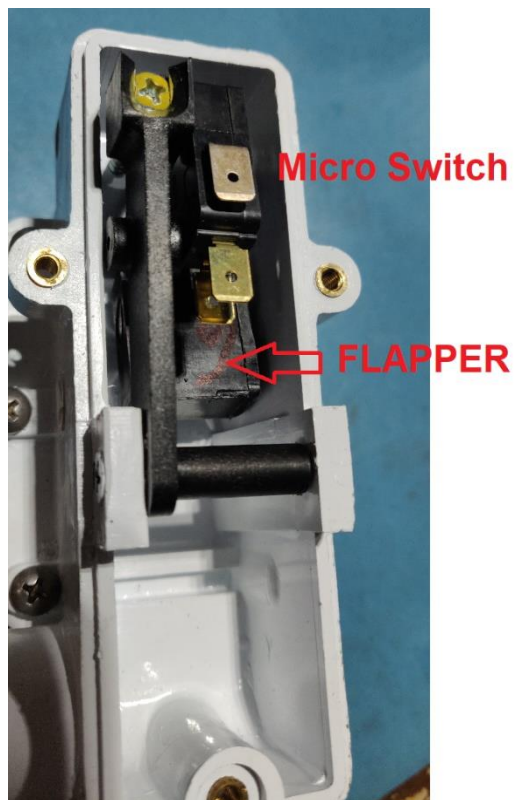
### M210 Troubleshooting Instructions



To prevent damage to personnel and property, use the help of certified electrician/technician to carry out troubleshooting steps as listed below.

#### STEP 1: Check Flapper Operation

1. Open the top cover by removing three screws.



2. Once the cover is open the microswitch and the flapper is visible as shown in the photo.

3. Using nonconductive material (plastic spoon or fork), lift the flapper up slowly until you hear the click from the microswitch. If you don't hear the click, the microswitch may be damaged.
4. Let the flapper fall back in place. While flapper is going down, the microswitch again. If you don't hear the click, the microswitch may be damaged.
5. These steps can be used to check the wiring to the chemical pump with live power with extreme caution and by an experienced person only.

#### STEP 2: Checking the microswitch contact

1. This step requires a resistance meter or a multimeter.
2. If you have not used multimeter before, please read the article showing how to test continuity using multimeter on "<https://www.wikihow.com/Test-Continuity-with-a-Multimeter>"



3. This step may require two people. One to hold the meter probes and another person to move the flapper up and down.
4. Connect two probes of multimeter to top two terminals (COM and NO) of the microswitch as shown in the photo above.
5. When the flapper goes up and microswitch clicks, the multimeter should show continuity (or close circuit) and when the flapper goes down and microswitch clicks again, the multimeter should show open circuit.
6. If Multimeter shows close and open circuits with flapper going up and down, the flapper and microswitch are working ok.

#### STEP 3: Checking the flow.

Model 210 1" requires around 1.1 Gallons per minute (66 Gallons per hour) or higher flow to operate. What it means is, you should be able to fill up 5-gallon bucket within 4 and half minutes.

#### **STEP 5: Checking clear path**

**Make sure that there is no foreign obstruction within the flow switch's water flowing area. Many times, obstructive items like cotton ball or piece of cloth or mud comes with water and gets stuck inside the flow switch, preventing the flow switch to function properly.**

**In such cases, cleaning the pipe and flow switch body is required.**

#### **STEP 4: Adjusting Calibration Screw, Switch is not turning on.**

**This step is suggested to do the fine calibration. However please note that the flow must be sufficient to do the calibration.**

**In most applications, the water flow is high enough to cross the flow switch's turn on point. However, in some cases the water flow barely reaches 1.1 GPM. If it comes down to the point, it requires calibration.**

**Another case, where calibration is required is when microswitch spring tension changes due to settlement during shipment, installation, and other mechanical impact events.**

- 1. Turn on the water flow and ensure it is 1.1 GPM or higher and all water is flowing through the flow switch. There is no leakage or water bypass.**
- 2. As shown in the photo earlier, take a photo of the yellow screw showing its position.**
- 3. Now use the + screwdriver and rotate the screw with yellow paint on it in the clockwise direction. 1/8<sup>th</sup> turn at a time. Maximum ¾ turn only. Stop rotating the screw when the microswitch clicks or turns on.**
- 4. Shut off the water and ensure that microswitch turns off.**