

Capacitance level switch for liquids and solids

Specification

Housing: Cast Aluminum, weather proof IP65

Connection: 3/4" NPT

Power Consumption: 3 VA approx.

Mains Voltage: 24VDC/220VAC

Output: DPDT 220VAC/5A

Fail-Safe Mode: Max. or Min. field selectable.

Response Time: 0.2 second typical.

Sensitivity: 0.5pF

Switching Delay: Adjustable from 0.2 to 90 second for probe covered or uncovered.

Switching Hysteresis: 0.3pF~800pF

Sensor Material: SS304



Working principle

Use the sensing rod to detect the capacitance between the sensing rod and the barrel wall with the object to be measured as the medium. When the sensing rod is covered by the material, the capacitance increases gradually. When the matching value of the circuit set inside the switch is reached, the circuit generates high-frequency resonance. Use this resonance signal to convert the switching action.

Adjustment method

The products are tested and calibrated before leaving the factory, and no adjustment is required for general use. However, there are products with lengthened induction rods, which must be re-calibrated before leaving the factory.



Sensitivity Calibrate

1. If it has been installed on the tank of the equipment, make sure that there is no material in the tank before calibration.
2. After selecting the correct power supply according to the nameplate, connect the wires.
3. Open the cover of the junction box, after the calibration in factory, the sensitivity adjustment button "SENS ADJ" is set to the 70, at this time, the LED does not light up, and there is no signal output. Slowly turn the knob between 0 and 10, the circuit board LED is on, and there is a signal output, indicating that the switch has been calibrated, and the following steps are not required.
4. If the LED does not light up, please rotate the "SENS ADJ" indicator arrow on the knob to 0, and use a small flat-blade screwdriver to rotate the coarse adjustment capacitor (COARSE) until the LED is just on. Slowly turn the indicator arrow of the knob to the 10, the LED light is off at this time, and there is no signal output. When the knob arrow is turned to the 0, the LED light will turn on again. Repeat the test.

Sensitivity adjustment

Adjustment "SENS ADJ" according to the sensitivity required to control the material, until the LED light turns on when the material touches the sensor rod, and turns off when the material has not touched the sensor rod.

Delay adjustment

1. When the LED is on, if the relay operates at the same time, it means that the delay time is 0; the user can set the delay according needs. Delay time is 0-12 seconds, SP-140 series (separate type) 0-8 seconds.
2. If the user needs to change the delay setting, please use a small flat-blade screwdriver to adjust the "DELEY" variable resistor on the circuit board. The delay is increased clockwise and decreased counterclockwise.
3. After the delay is set, the circuit action sequence is: when the switch action LED is on, after setting time, the relay action or NPN signal output.

