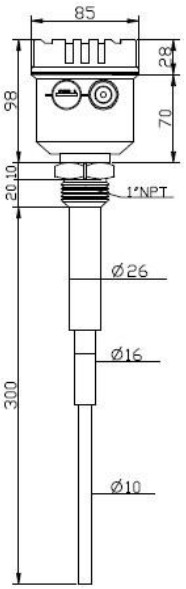
YWKG02 Radio Frequency Conductivity Level Switch



Technical Parameter

1. Power supply: 220VAC 50Hz or 24VDC
   (it is recommended to use 24VDC);
2. Relay contacts: 2 sets of DPDT, 5A 220VAC;
3. Material: Inductive rod: SUS304/316,
   insulation sheath: PP or Teflon;
4. Sensitivity: 0.5pf~750pf;
5. Working temperature: -10~80℃ or-10~230℃;
6. Connection thread: 1 "NPT or 1" PF;
7. Delay time: 0~30s adjustable;

Operational Principle

The RF capacitive level switch operates on the principle of RF capacitance technology. It applies radio frequency to the probe, which continuously analyzes the surrounding environment. Since all media have different dielectric constants and conductivity compared to air, the circuit detects and converts the slight changes in capacitance caused by the probe touching the medium into a switch signal output. Its unique anti-adhesion circuit only responds to changes in capacitance due to changes in material level, thus eliminating false signals caused by material accumulation.

Method Of Erection

1. When the probe is installed horizontally, it should be at an Angle of 20o to the horizontal plane to reduce the impact of drop and increase the sensitivity of induction;
2. When the probe is installed through the wall of the container, the protective cover (insulated part) should be 2" longer than the thickness of the accumulated material on the wall of the container;
3. In order to avoid rain water infiltration into the junction box in outdoor environment, the cable inlet must be vertical downward when installed horizontally;
4. When installing, the inclined Angle formed by the accumulation of the measured medium when it does not feed from the center of the silo should be fully considered;
5. Confirm that the power supply voltage is the same as the voltage of the selected product, and connect each cable according to the terminal plate marking and wiring diagram. After connecting, lock the junction box cover;
6. The load of the control circuit should not be used beyond the load (less than the capacity of the relay).
   Note: Do not use any lubricant at the threaded connection between the probe and the container wall. If necessary, seal with Teflon tape. In this case, the installer should check the circuit with a multimeter and ensure that the resistance between the container wall and the probe is less than 1 ohm

Debugging Operation

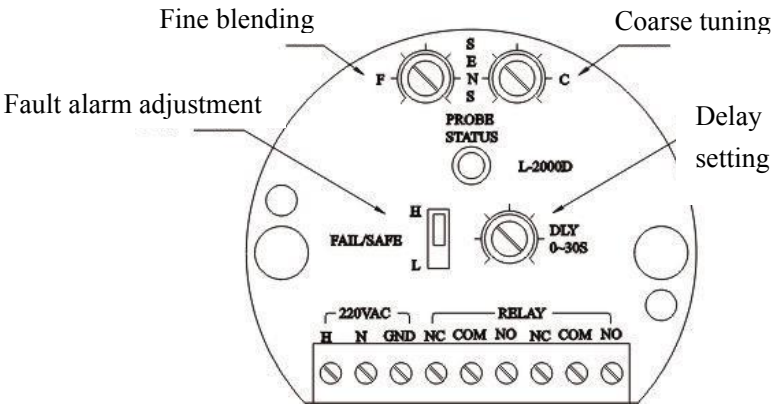
Adjust when the probe is not in contact with the material, pay attention to safety.

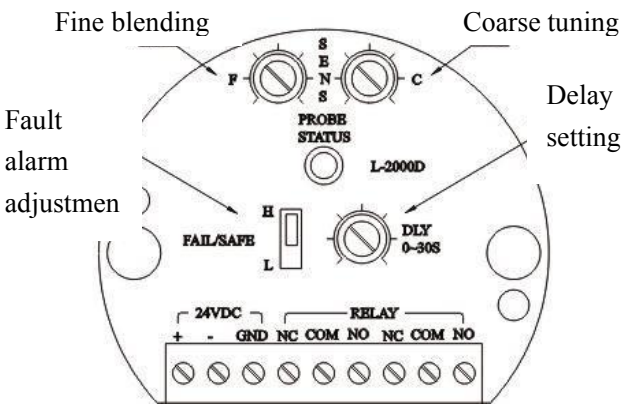
1. Turn the fine and coarse adjustments all the way counterclockwise.
2. C Coarse adjustment: turn clockwise to make the light "green", and turn counterclockwise to make the light just "change from green to red".
3. Keep the coarse adjustment of C unchanged, and turn the fine adjustment of F clockwise until the lamp just "changes from red to green".

   Do not adjust the knob on the panel too hard to avoid damaging the instrument;
4. High (H) and low (L) fault alarm:
   a. High position fault alarm: When the probe detects that there is no material in the bin, high position alarm will occur, COM/NO closes, COM/NC disconnects;
   b. Low (L) position fault alarm: when the probe detects that there is no material in the bin, the low position alarm will occur, COM/NO is disconnected, COM/NC is closed;

   Its high and low level alarm can be set by the jumper in the panel;
5. Delay Settings:

   The delay setting can avoid the "shaking" of the relay caused by the stirring of the material in the silo. The maximum delay time of ZPL2000 is 30 seconds (use a smaller delay as far as possible);





Matters Need Attention

8. Ensure the sealing of the junction box;
9. Check regularly whether the connection of each part is firm;
10. If the rod length is more than 500mm, the top mounting method should be used as far as possible to prevent bending failure;
11. GND is the ground wire.