Features

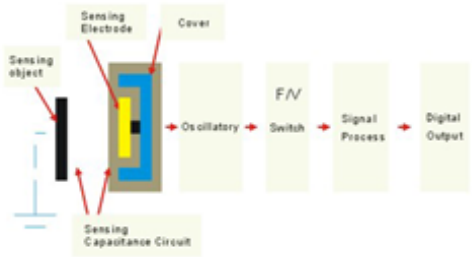
- Plastic thread type and cylinder type; Structure of sensors, durable working, and supply voltage AC/DC available
- Stable Operation: Without adjustable and mechanical components, proximity sensors don't be affected by the qualities of mediums and the variation of density, and it can work immediately after installation
- A variety of size and of outputs, easy installation, user-friendly handling .
- Operating temperature:-25~80(℃)Resistance to high temperature:-25~100(℃)
- Protection Classification:IP67
- Certification:CE and RoHS
- Sensing Objects: Solids and liquids
- Output：NPN、PNP、AC、DC、N/O、N/C
- Display：LED.
- Electric Protection: Overload, short-circuit, reverse polarity

Operating Principle

Capacitive proximity sensors belong to a sort of position sensors. Like the structure of a capacitor, the probe of sensor acts as one pole of capacitor and another pole is the sensing object. While the sensing object approaches a proximity sensor, the dielectric constant may change between object and sensor. Meanwhile, this causes the circuit to alter. The sensing objects of capacitive proximity sensors can be not only metals but also insulting solids, liquids, and powders. When detecting the low-k objects, proximity sensors can enhance the sensitivity by modifying clockwise the multipotentiometer behind the sensors; furthermore, a normal potentiometer makes a capacitive proximity sensor actuate in the position of sensing range by 70%~80%.

The sensing interface of capacitive proximity sensor is composed of two in-line metal electrodes, and it is similar to an open capacitors. These two electrodes constitute a capacitance with a series connection inside the RC oscillatory circuit. When the power is on, the RC oscillator stop working until a sensing object approaches the sensing interface due to the increasing volume of capacitance. Through the comparison between the signals handled by the post-circuit and the internal signals, a capacitive proximity sensor can detect the existence of objects. It can sense not only the metals but non-metals; moreover,the sensing range to the metals can acquire maximum value. The sensing range of the non-metals depends on the dielectric constants of the sensing materials. The higher dielectric constant, the longer sensing ranges.

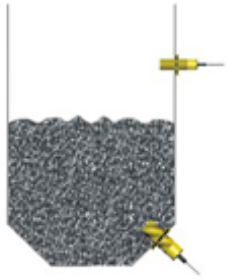
Operation Procedure of Capacitive Proximity Sensors



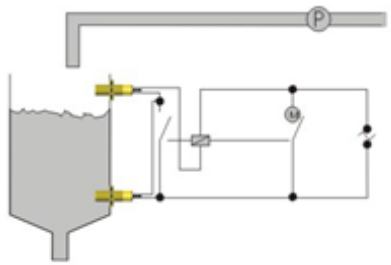
Application

Capacitive Proximity Sensors can sense metals and non-metals,such as liquids, solids in the funnels,the storage tanks, and the granaries. They are applied extensively in the industry; for example timbering, papermaking, glass, plastics, foods, cement, chemistry engineering, and etc.

Sensing Level of Solids

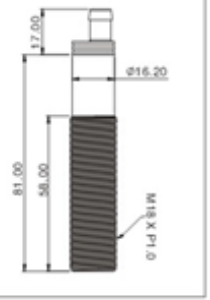


Sensing Level of Liquids

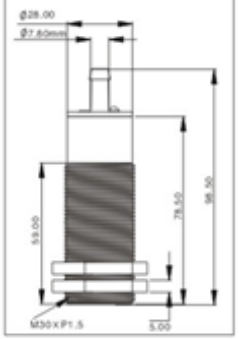


Dimensions (mm)

CA Type (M18)



CB Type (M30)



CC Type (Φ34)