CAPACITIVE PROXIMITY SENSOR INFLUENCES

Many of the same factors that influence the sensing range of inductive proximity sensors, also influence the sensing range of capacitive proximity sensors.

Typically, capacitive sensors have a greater sensing range than inductive sensors.

Sensor with a Tubular Diameter of:	Inductive Extended Range Sensor	Capacitive Extended Range Sensor
18 mm	8 mm	10 mm
30 mm	15 mm	20 mm
34 mm	—	40 mm

Sensing distance for capacitive proximity sensors is dependent on plate diameter. With inductive proximity sensors, the size of the coil is the determining factor.

Sensitivity Adjustment

Most capacitive proximity sensors are equipped with sensitivity adjustment potentiometers. Because the sensor measures a dielectric gap, it is important to be able to compensate for target and application conditions and adjust the sensing range.

Target Material and Size

A capacitive sensor should not be hand-held during set up. Because your hand has a dielectric constant greater than air, the sensor may detect your hand rather than the intended target.

Capacitive sensors can detect both ferrous and non-ferrous materials equally well. **There is no derating factor to be applied when sensing metal targets**. But, other materials do affect the sensing range. Because they can be used to detect liquid through a non-metallic material such as glass or plastic, you need to ensure that the sensor detects just the liquid, not the container. **The transparency of the container has no effect on the sensing**.

For all practical purposes, the target size can be determined in the same manner as was discussed on page 30 for inductive proximity sensors.