

Capacitive Liquid Level Sensors

How They Work

The sensing means is based on our capacitive proximity sensing technology. Electrodes embedded in the front of the sensor detect changes in the capacitance as the fluid nears the sensor face. Once the trigger point is reached (either calibrated at Gems or set by the user once after installation) the sensor switches creating the desired output. Because they are adjustable they can be used to sense aqueous and non-aqueous fluids, regardless of color.

Special for OEM's

Once the trigger point is determined in your application these sensors can be delivered with a factory PRESET sensitivity. This allows for quick installation. Ask us how.

Pick the type to suit your application

You can sense through plastic, glass and fiberglass walls with our FlatPack sensor line, or install our threaded sensors directly into 1/2 NPT fittings. Use the PRODUCT SELECTION DECISION TREE to pick the best sensor for your application.

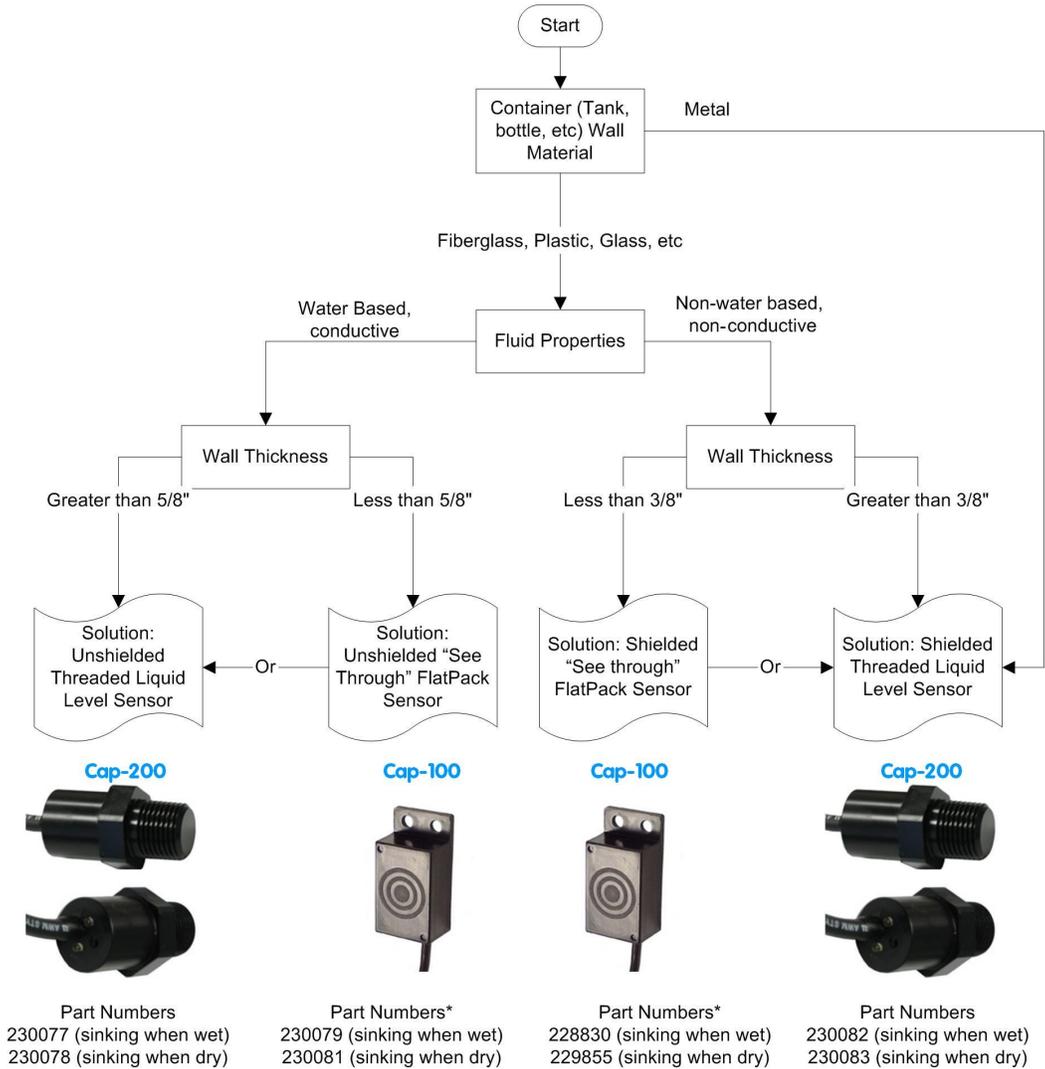


1/2 NPT threaded sensors for point level detection in fittings and tanks



FlatPack sensors for point level detection through plastic, glass and fiberglass walls

Product Selection Decision Tree

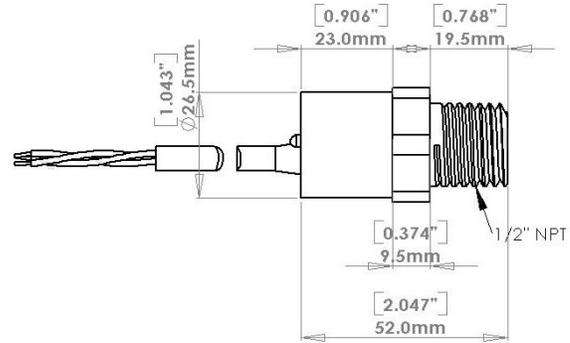
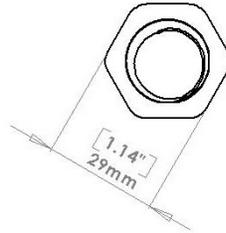


* These part numbers are also excellent for proximity detection applications

Dimensions and Specs

Supply Voltage Range:	10-48 VDC
Continuous Switching Current:	300 mA
Voltage Drop:	<2 VDC
Current Consumption:	<10 mA
Switching Frequency:	100 Hz
Power Indicator:	Green LED
Signal Indicator:	Yellow LED
Overload Protection:	Yes
Short Circuit Protection:	Yes
Reverse Polarity Protection:	Yes
Adjustable Sensitivity:	Yes*

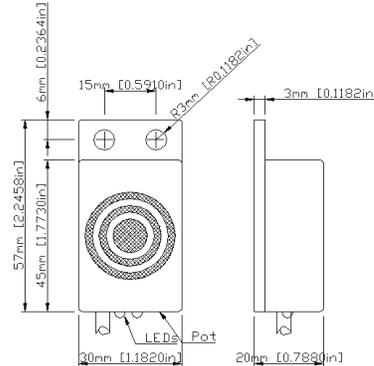
PT Threaded Style - Material: Dupont Delrin™



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FlatPack Housing Style - Material: glass filled nylon



Cap-200

Part Numbers

230082 (metal tanks and fittings* sinking when wet)
230083 (metal tanks and fittings* sinking when dry)
230077 (nonmetal tanks and fittings sinking when wet)
230078 (nonmetal tanks and fittings sinking when dry)

*also for non aqueous liquids



Cap-100

Part Numbers**

228830 (non aqueous liquids sinking when wet)
229855 (non aqueous liquids sinking when dry)
230079 (aqueous liquids sinking when wet)
230081 (aqueous liquids sinking when dry)

**cannot detect through metal

Installation

Care must be taken to assure that the sensor is located so that the liquid can come into contact with the sensing face at the desired level, and also, so that the liquid may drain away from the sensing face when empty. In general, standard Teflon(TM) plumbers tape or Loctite(TM) or equivalent should be applied and the sensor inserted hand tight into the fitting. Wrench turning the sensor no more than one turn should result in a sufficient seal. Care must be taken when installing the sensors into metal and stainless fittings to avoid over torquing and damaging the threads which voids any warranties. Trained personnel should connect the wiring adhering to the appropriate local codes and regulations.

Installation

For best results the sensor should be mounted touching the plastic, glass, fiberglass or other non-metal container wall. The sensor cannot detect through a metal container. The target indicator located on the sensor face should be approximately at the desired sense location. The sensor may be mounted in a horizontal or vertical or even angled orientation. Trained personnel should connect the wiring adhering to the appropriate local codes and regulations. The CAP-100 should be attached with 2-sided tape, brackets or with the mounting holes.

Adjustment

Be sure to simulate actual liquid cycles before adjusting the sensors. This assures that the liquid has coated the container walls which makes the adjustment procedure more accurate. Apply power and verify that the green power-on LED is illuminated. If not, remove the power and investigate. Place the target fluid at the desired detection level. If the sensor is already detecting the fluid, turn the potentiometer counter-clockwise until the sensor no longer detects. Turn the potentiometer slowly clockwise, until the sensor switches. To add a safety factor, turn the potentiometer further clockwise (the amount of safety factor depends on the application). Remove the liquid and verify that the sensor no longer detects.