

# Stedham Electronics Corporation

## Application Bulletin – Sensor Wells



### How they work

A sensor well and sensor combo may be used in existing fittings on metal and non-metal tanks and vessels. This combo may be a desirable alternative when considering future maintenance of the tank installation. The sensors can be removed without draining the tank, for example.

Once the sensor well is installed into the tank a standard Stedham Electronics 18mm diameter Capacitive Prox sensor (sold separately) slides into the sensor well and is secured with a worm clamp. The sensor is then adjusted (discussed below) to detect the fluid through the sensor well.

Selection of the proper sensor (discussed below) depends on the fluid characteristics, and the desired voltage and output type.

The sensor well and sensor combo is used to detect liquid level at a given point. More than one can be used on the same tank to allow complete control of the liquid level. When used with a latching circuit, one combo can begin a pumping process and the other can be used to end it, for example.

The sensor wells are machined to yield a very strong and rugged assembly. The material is DuPont Delrin(TM), which is resistant to a wide variety of chemicals and temperature stable within the useful range of the sensor in use or in storage conditions. The worm clamp is stainless.

### Sensor Selection

The customary decisions regarding whether AC or DC sensors, and which output combination is to be used, apply to this product family. Should you have questions concerning this, please contact us and a friendly engineer will help you select the right sensor.

For detecting water based fluids, unshielded (L-Type) sensors are recommended. For detecting non-water based fluids, shielded (D-Type) sensors are recommended.

If the tank is metal, shielded (D-Type) sensors are recommended.

### 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 well inserted hand tight into the fitting. Wrench turning the sensor well no more than one turn should result in a sufficient seal. Care must be taken when installing the sensor wells into metal and stainless fittings to avoid over torquing and damaging the threads which voids any warranties.

Slide the selected 18mm sensor into the sensor well until it contacts the end of well, and secure it with the worm clamp.

Trained personnel should connect the wiring adhering to the appropriate local codes and regulations.



### Adjustment

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 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.

**Contact us if you have any difficulties. A friendly engineer is standing by to assist you! Thanks for buying our products!**