

EXTERNAL SENSOR USE AND APPLICATIONS



External Sensor Guide Rev N/C

## PURPOSE

The external sensor is an ideal way for extending the touch sensing capability of your capacitive switch beyond the switch itself. It's also useful for applications requiring a low profile touch sensing where there is no room to install the actual capacitive switch.

The sensor PCB thickness is  $\sim 0.035''$  (0.9mm)

There external sensor parameters are:

- Sensor diameter
- Sensor wire length.

The larger the sensor diameter, the more sensitive the switch will be (it will sense through thicker material)



**Overview** 



**Sensor diameter:** We offer sensor diameters of 0.5" and 1" however we could build a larger sensor for applications requiring a more sensitive switch.

**Sensor wire length:** We recommend a max wire length of 15" however you could certainly go with a longer wire to reach a further distance.



## **EXTERNAL SENSOR FOR CP100 & CP100H**

The external sensor can be installed by the user however soldering skills and soldering equipment is required. Both CP100 and CP100H will accept an external sensor. Solder the wire to the through hole as shown below in figure 2.

Since the hole is bigger than the wire, you could fill the hole with solder then while the solder is hot, dip the stripped wire in, hold it in place until it cools.External sensor for CP100 & CP100H



Figure.2. CP100/H External sensor installation.

**Applications** 



## **EXTERNAL SENSOR FOR CP500**

In order to install the external sensor on the CP500; start by de-soldering resistor Re and solder the same resistor to Rb as shown in figure.3.

Solder the external sensor wire to the SMD pad labeled  $\ensuremath{``S''}$  on the PCB.

**Please note**: When connecting the external sensor, you could either disconnect the internal sensor or leave the internal sensor connected.

IF you would like to disconnect the internal sensor and only keep the external sensor active, follow the procedure shown in figure 3.

To keep both internal and external sensors active, leave resistor Rb in place and solder a 603, zero ohm resistor for resistor Re or you can simply create a solder bridge across resistor Re pads. In this case both internal and external sensors will respond to the touch.



Figure.3. CP500 External sensor installation.

## **Applications**