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Sensor Dome, Sensor PCB

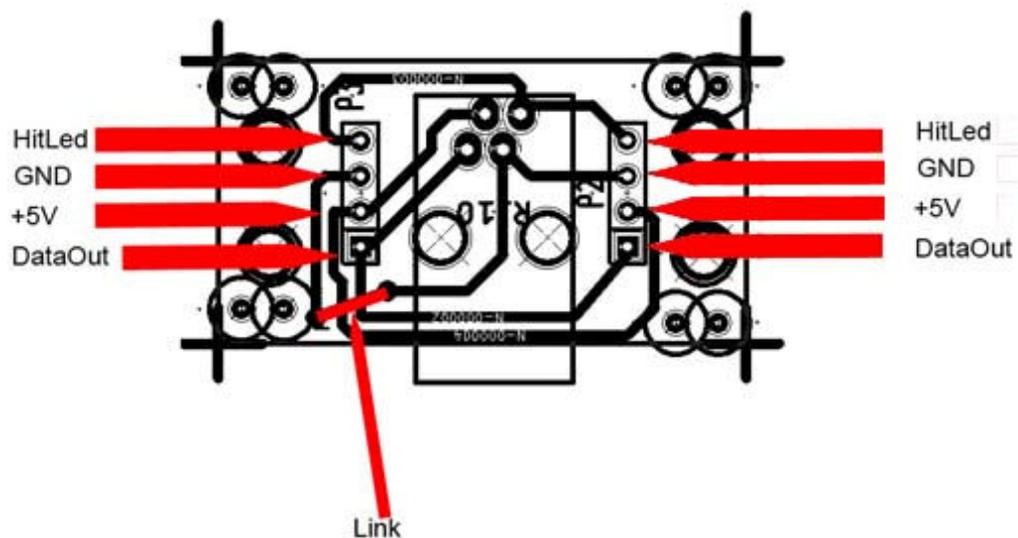# and Sensor Distribution Assembly Manual

v1.0

This manual describes the assembly of the Tagbits sensor PCB, sensor dome and sensor distribution board.

Distribution PCB and box

Fit RJ10 connector single and wire link. Fasten sensor cables with tie-wrap.
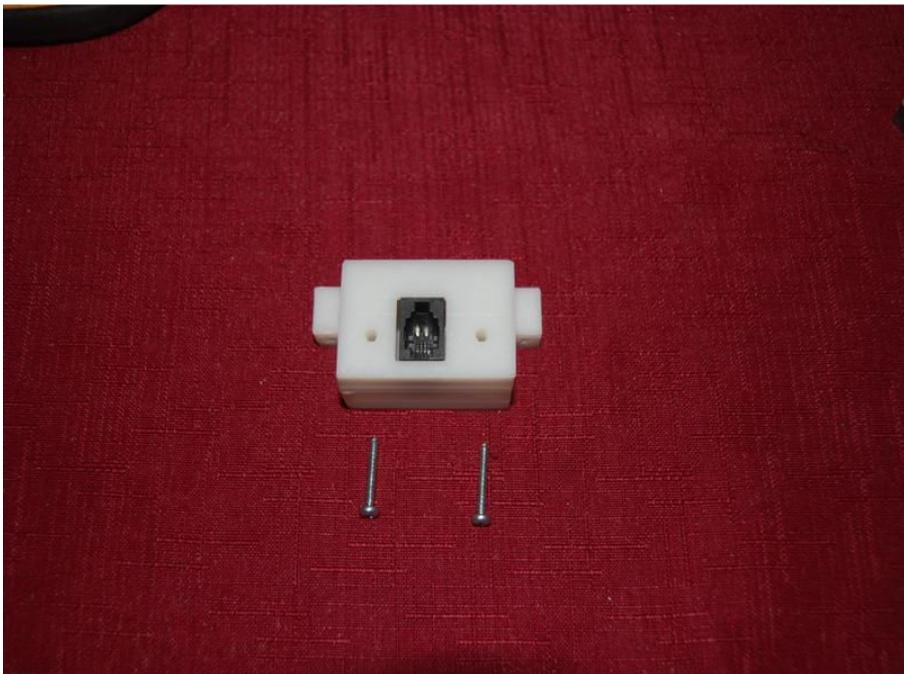
Top view with connector the top:

HitLed
GND
+5V
DataOut

HitLed
GND
+5V
DataOut

Link

Install in distribution box, place wires in box cutouts:

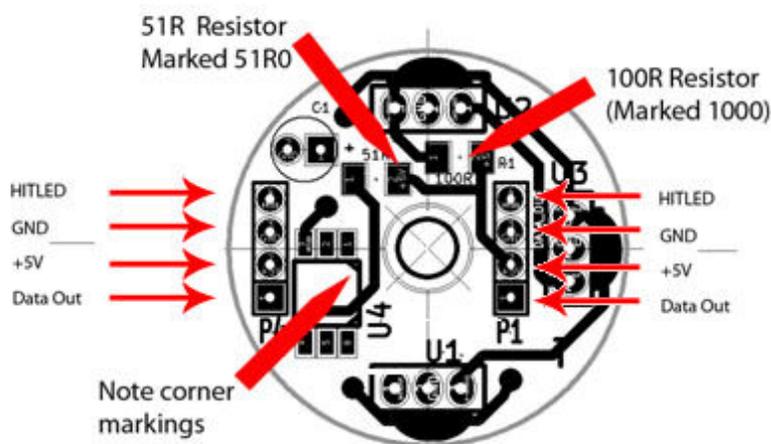Fit box top and fasten with 2 x #4 x 19mm self tap screws:

Sensor PCB

The Tagbits sensor PCB uses surface mount components to minimise space. Solder the electrolytic capacitor C1 and two surface mount resistors onto the PCB. Observe the polarity of the capacitor.

Fit the surface mount LED to the PCB, note the position of the polarisation corners on the LED.

Fit the Vishay sensors, bend the sensors to ensure maximum coverage. Check that the PCB will fit on the dome base with the acrylic dome fitted.

Top view of PCB (Component side):
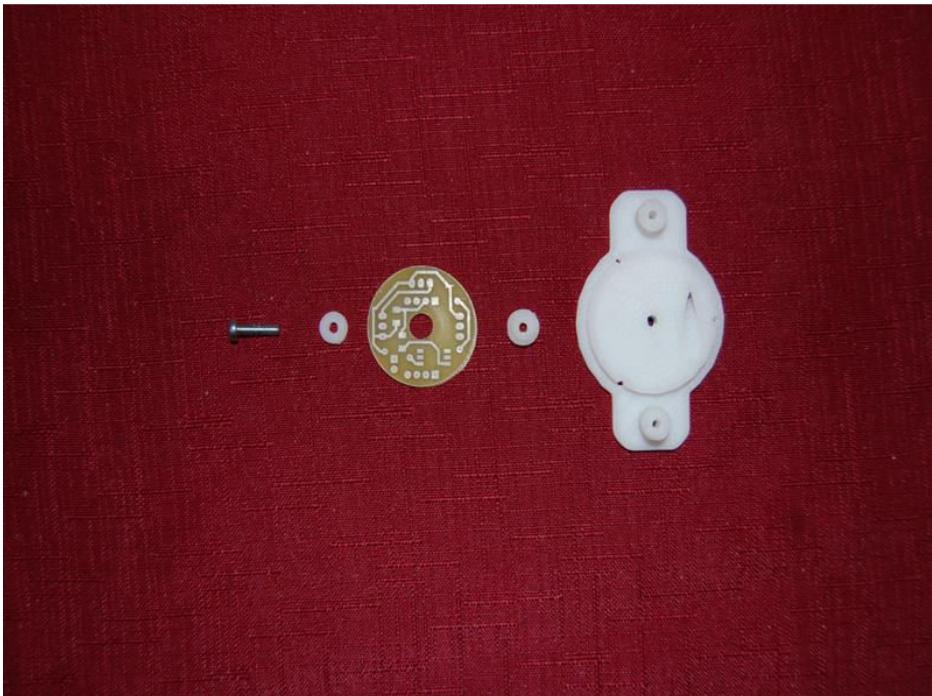

Sensor Dome

Pre-wire the sensor PCB. Leave enough cable to reach destination + about 10cm.

Insert the M3 x 12MM bolt through the dome base with the thread protruding through the hexagonal hole on the dome base bottom.

Screw M3 nylock nut onto the bolt until it come into contact with the dome base. Hold the nut with pliers and tighten the bolt to draw the nut into the hexagonal hole in the base. Use the pliers to align the nut with the hole flats:

Feed PCB cable through cable exit duct on dome base. Use M3 bolt and plastic washers to fasten PCB to dome base.

Place the sensor dome over the base and screw into place with 3 x #2 x 6.4mm self tap screws. Ensure that the screws are at right angles to the dome base as the dome may crack if the screws are not in line with the holes.

Fasten female studs with 2 x #6 x 6.4mm self tap screws.