

Instruction Manual

DIY Automatic Weather Station (Sensor Box)

[Ho Koon Model v2.5 \(July 2024\)](#)

Case Setting

Case A – Miscellaneous items*



*The battery is intentionally removed from the box. It will be redistributed after the completion of the sensor box in the class.

Case B – Sensors, cables and tools



Case C – Screws, Nuts and Bolts



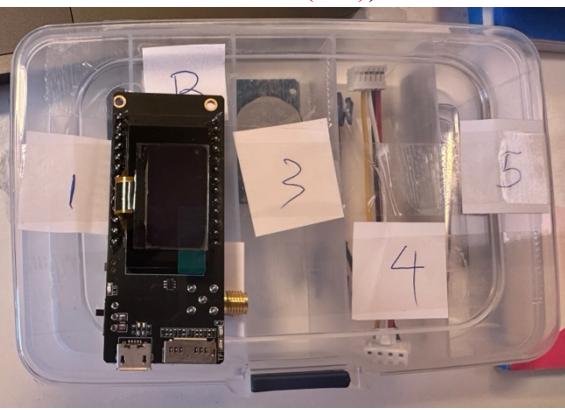
Case D – Threaded rods



Component Details

Case B – Sensors, cables and tools

- B1: Arduino; Antenna
- B2: Solar voltage converter (blue-bottom); Clock (blue-top)
- B3: Fuel gauge (black-top); BME280 (blue-bottom)
- B4: Internal cables (4 – blue, white [4pin], black and yellow)
- B5: Tools (Hex keys (1.5, 2, 2.5 mm) and crosshead screwdriver (M2))



Case C - Screws, nuts and bolts

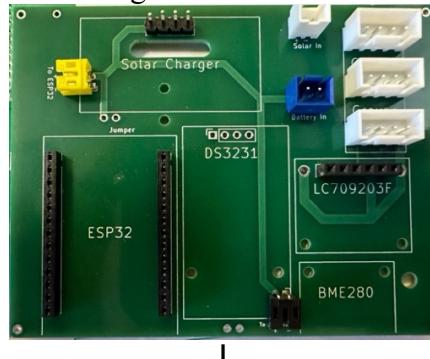
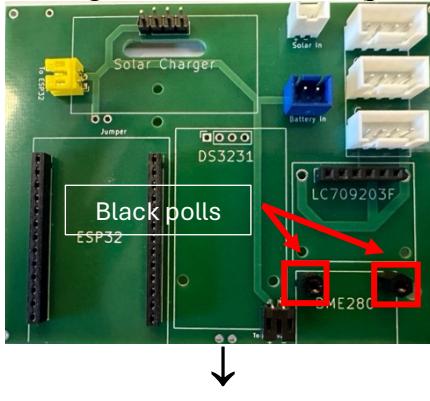
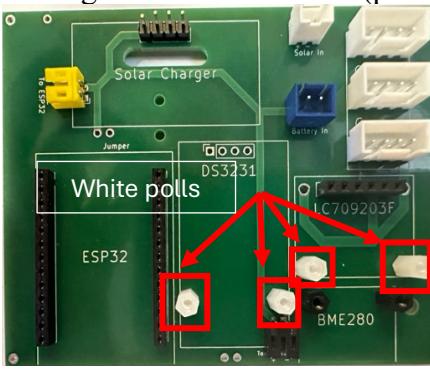
- C1: White (4) and black (2) plastic polls and nuts for **PCB board**
 C2: Metal Hex blot screw and nut (1) (**silver**) for **solar voltage converter**
 C3: Metal crosshead screws (6) (**silver**) **for sensor mounting**
 C4: M2 Plate Nuts (2) (**silver**) for **sensor house**
 C5: M3 Hex screw – short (2) (**silver**) for **battery case**
 C6: M3 Plate Nuts and blind nuts - high head (4) (**silver**) for **main house**
 C7: M3 Hex screws – long (2) (**black**) for **USB cables**



Box D – Threaded rods (2 short – no thread in the midsection, 4 long – full thread)



Section 1

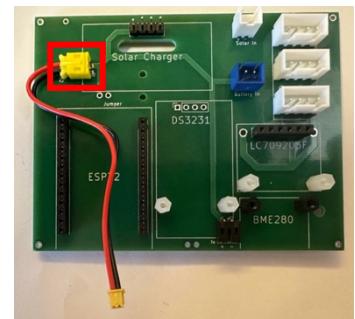
Step	Part	Procedure
1	<p>PCB</p>  <p>2 black and 4 white polls (plastic)</p> 	<p>Begin with the PCB</p>  <p>Place 2 black polls to the holes and fastening the nut in the back (plastic)</p>  <p>Place 4 white polls to the holes and fastening the nuts in the back (plastic)</p> 
2	Cable with yellow heads	Plug in the large yellow head to PCB



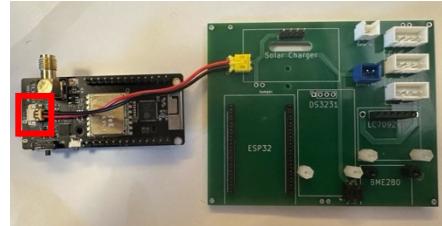
Arduino board



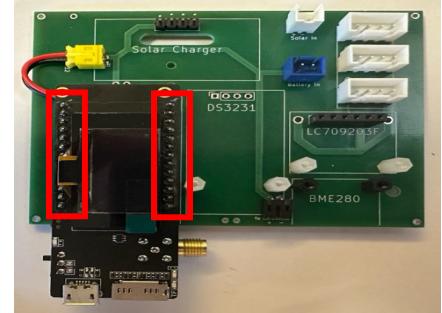
Antenna



↓
Plug in the yellow small head
to Arduino board



↓
Plug in the Arduino board to PCB

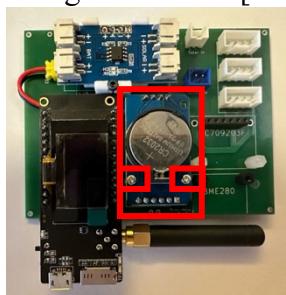
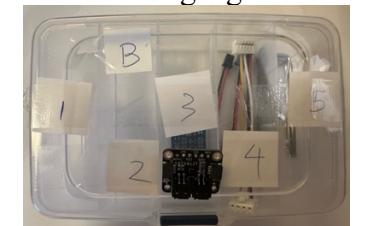
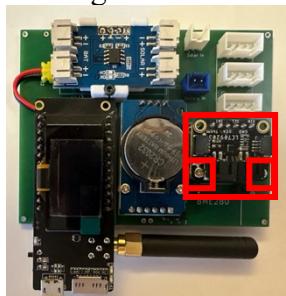


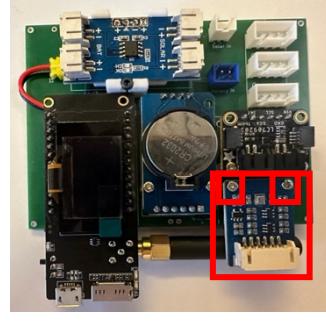
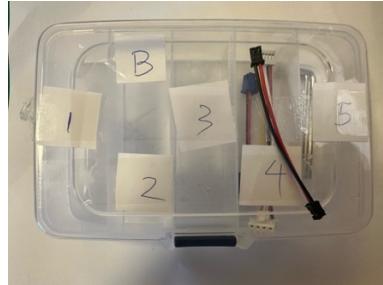
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Fastening the Antenna to Arduino board



3 Solar voltage regulator

Plug in voltage regulator

	 <p>Bolt and nut (metal)</p>  <p>Hex key [M1.5]</p> 	 <p>Screw the bolt and fastening the nut in the back (metal, black)</p> 
4	<p>Clock</p>  <p>Screwdriver</p>  <p>Screw x2</p> 	<p>Plug in the clock and fastening two screws [M2.0]</p> 
5	<p>Fuel gauge</p>  <p>Screw x 2</p> 	<p>Fastening two M2 screws</p> 
6	<p>BME280</p>	<p>Fastening two M2 Screws</p>

	 	
7	Black head cable	
8	White head 4 pins to 6 pins	
9	Blue head 2 pins	