

3m Bracket Weather Station Installation Instructions



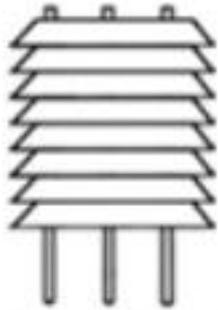
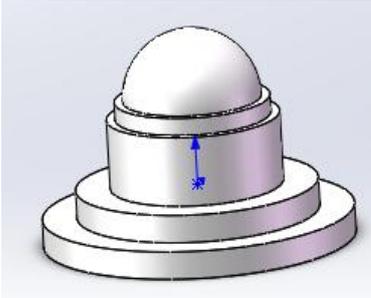
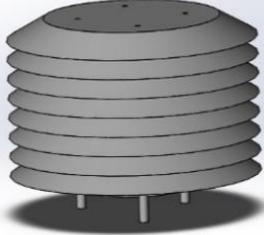
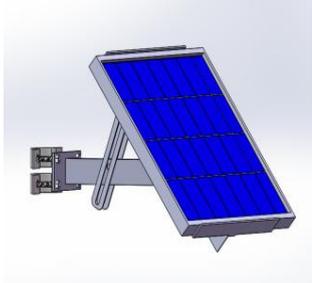
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一、Common Sensors and Devices

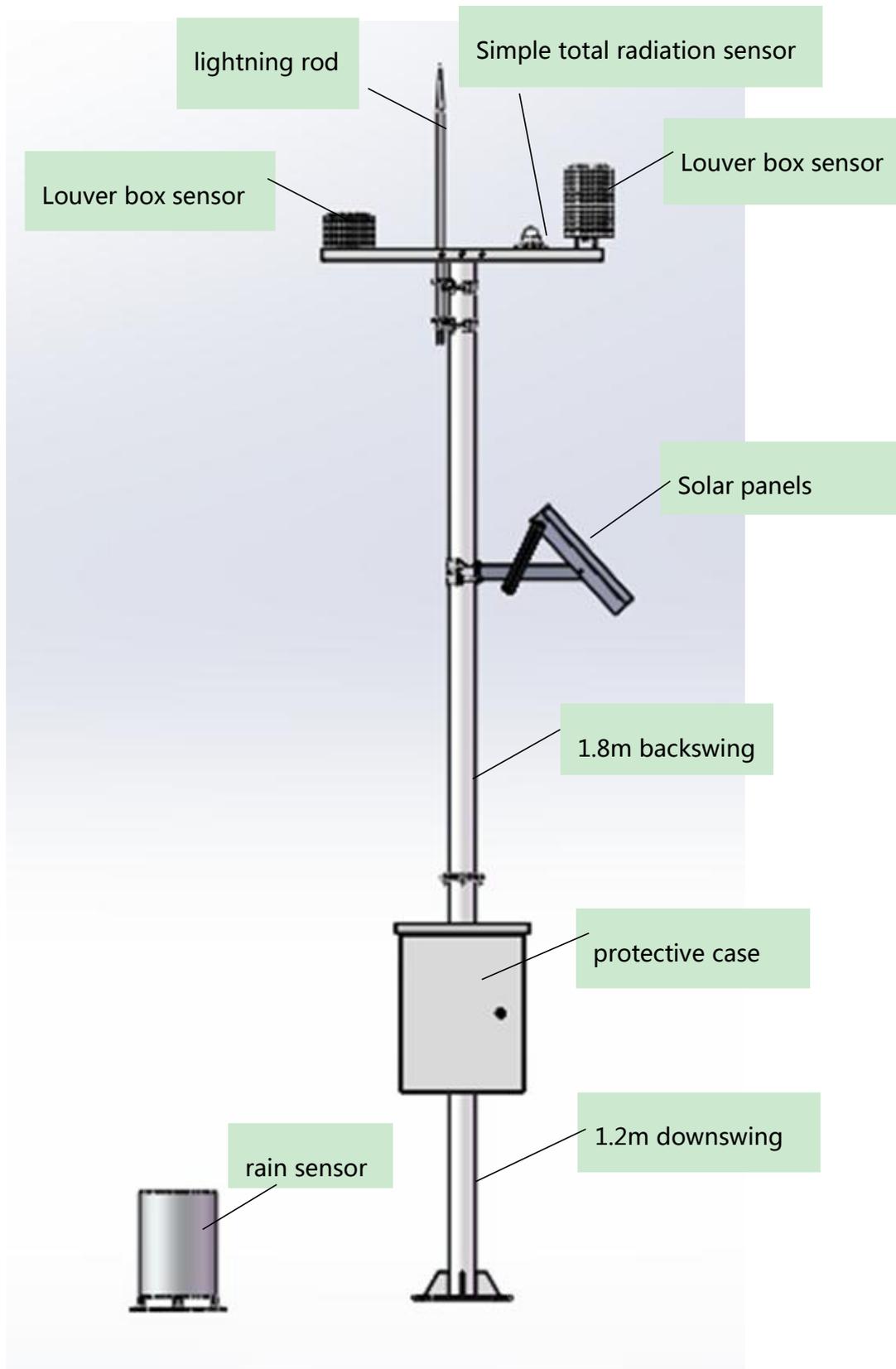
		
<p>Louver box sensor</p>	<p>Simple total radiation sensor</p>	<p>Louver box sensor</p>
		
<p>rain barrel</p>	<p>lightning rod</p>	<p>Solar panels</p>

Sensor list:

1. Small louver box
2. Simple total radiation
3. Large louver box
4. Rain sensor
5. Lightning rod
6. Solar panels

The above sensors are configured by customers according to their actual conditions. For the specific working principle of the sensors, please refer to the instruction manual of the weather station.

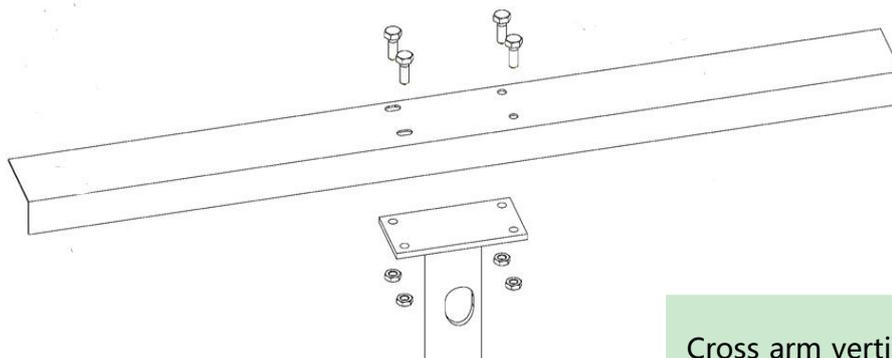
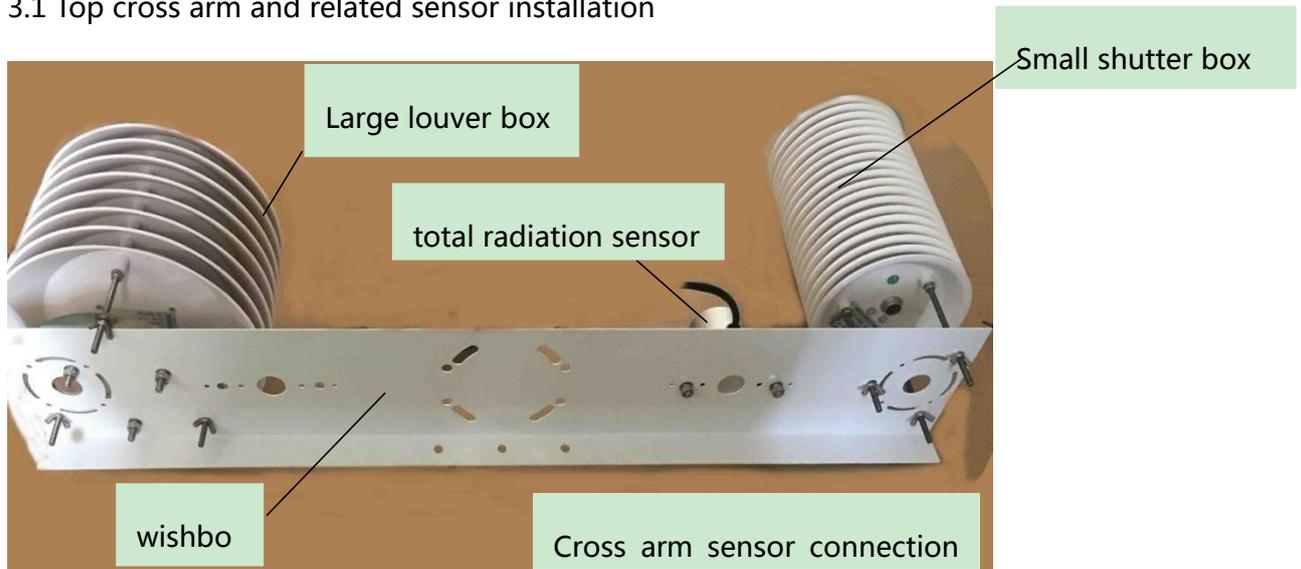
二、 Installation diagram



三、 Installation process

Have your installation tools ready: Flat and Phillips screwdrivers, wrenches, adjustable wrenches, sockets, vise, needle nose pliers, wire strippers, multimeter, soldering iron, impact drill

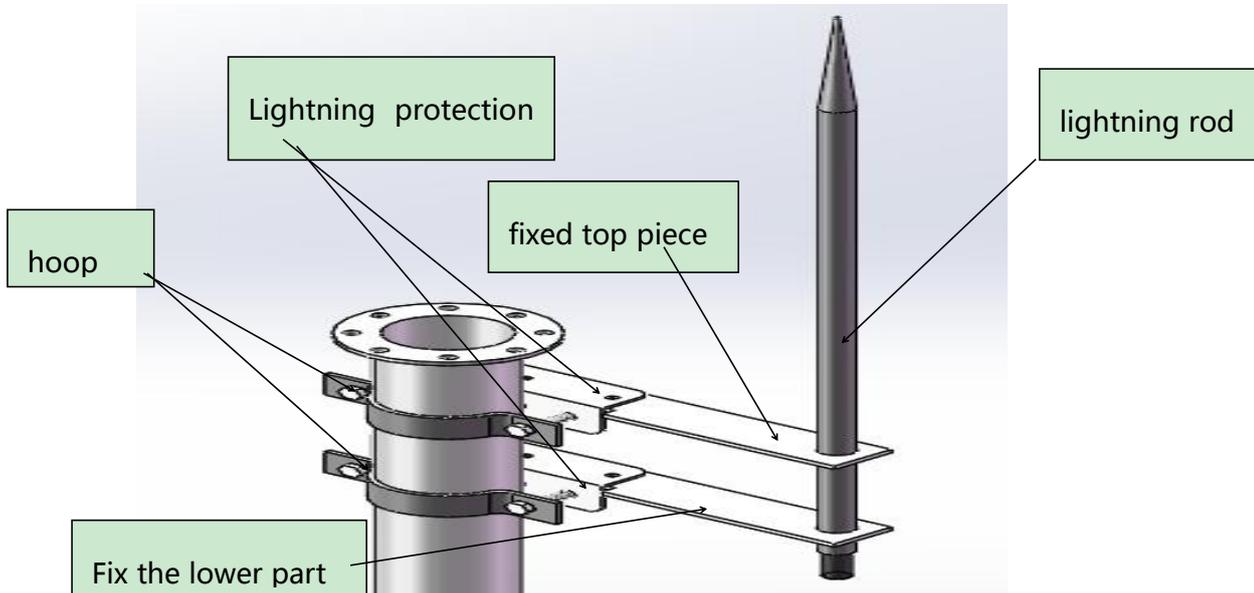
3.1 Top cross arm and related sensor installation



Cross arm vertical rod connection

- 1. Before installation, please check whether each sensor is normal;**
- 2. For the installation of the large louver box and the small louver box, the fastening nuts of the large louver box and the small louver box are on the sensor screw rod.**
- 3. For the installation of the simple radiant, the fastening nut of the simple radiant is on the cross arm. When installing, unscrew it and install it according to the installation position in the above figure.**
- 4. The cross arm is connected to the vertical pole. The bolts and nuts connecting the horizontal arm and the vertical pole are on the vertical pole. After disassembly, the horizontal arm can be connected and fixed.**
- 5. Tie the wires of the sensor from top to bottom and pass them into the extension rod through the threading hole.**

3.2 Lightning rod installation (optional)

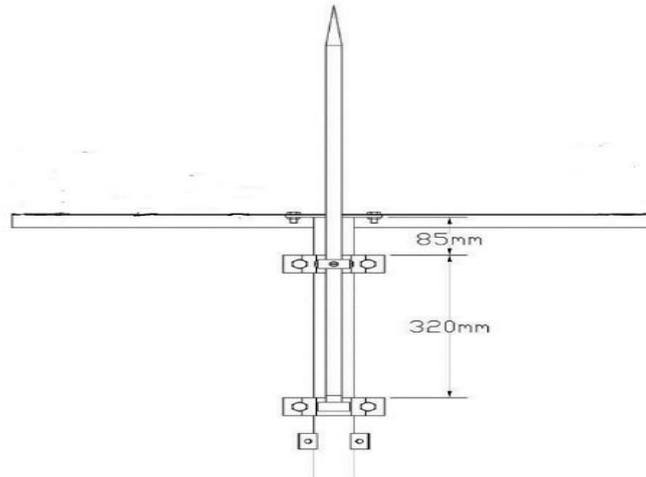


1. Pass the lightning rod through the upper fixing hole, and screw the threaded rod head of the lightning rod into the screw hole of the lower fixing piece to tighten;

2. The upper and lower fixed parts of the lightning protection arm are respectively fixed with the lightning protection arm with M6 nuts and bolts.

3. Attach steps ① and ② to the 1.8-meter upper pole after assembling. After adjusting the position, install it as shown in the figure. Use 4 M8*40 outer hexagon screws, 2 hoops, 4 Φ8 flat washers, and 4 spring washers. , 4 M8 nuts to fix;

Remarks: Refer to the following figure for the size of the installation position of the lightning rod.



Lightning cable installation:

1. Take out the M8*35 screw, 1 $\Phi 8$ spring washer and 1 $\Phi 8$ flat washer. After wrapping the lightning protection wire and the outer hexagon 8*35 screw for 2 turns, assemble the flat washer and spring washer in turn, and finally put the M8*35 Screw the screws into the M8 holes of the upper rod of the bracket.

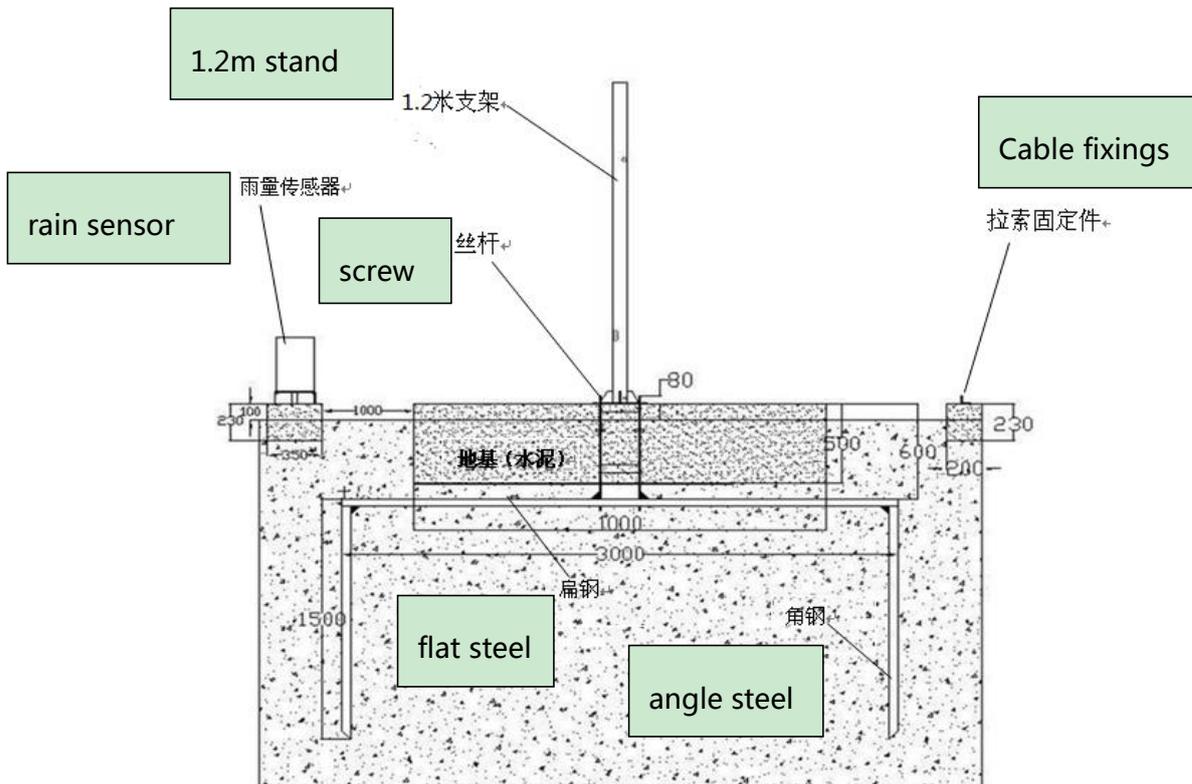
Note that it is necessary to ensure that the lightning protection wire is clamped by the screw, otherwise the lightning protection effect will be affected.

2. The other end of the lightning protection wire needs to be connected to the lightning rod. Finally, solder the lightning protection wire to the lightning rod to ensure that it is firmly connected. You can also use tape to wrap the lightning protection wire several times to avoid the copper wire falling off due to other factors.

Note: Please ensure that the main body of the bracket, the embedded parts of the bracket, the flat steel and the angle steel are connected, otherwise the

lightning protection effect will be affected, and the instrument on the bracket will be damaged in severe cases.

3.3 1.2m bracket installation



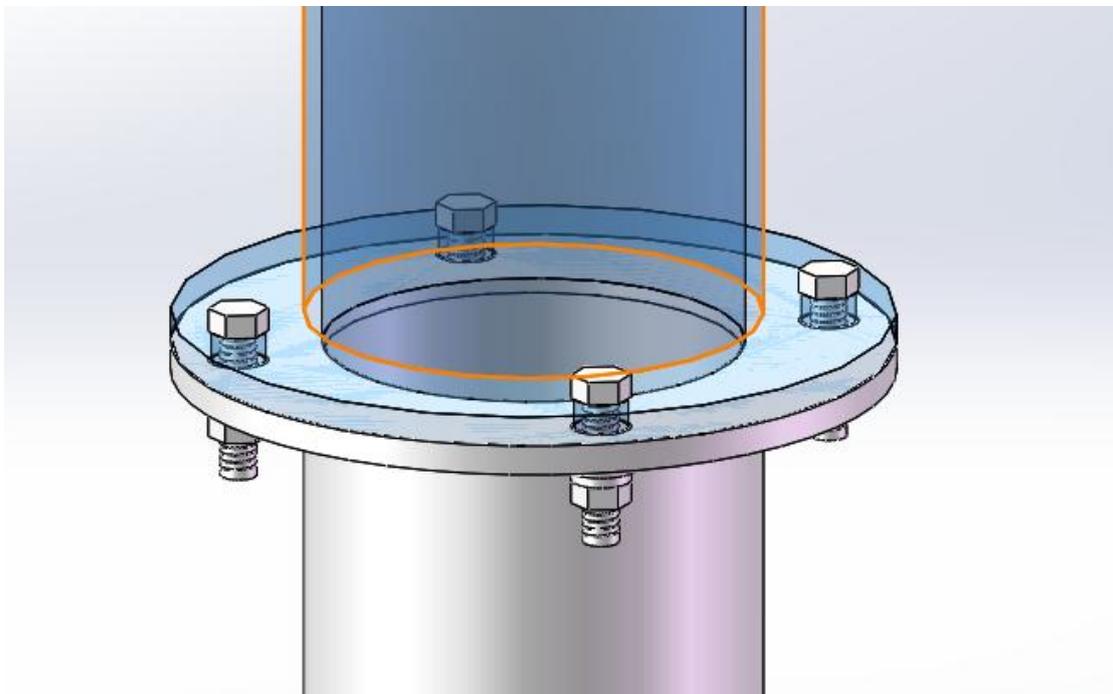
1. As shown in the figure, the lightning protection net made of welded flat steel and angle steel is installed at a depth of 600mm from the ground (see the next page for the top view of the lightning protection net structure).

2. After the lightning protection net is installed, one end of the screw rod is welded to the flat steel, and the other end passes through the soil layer and the foundation in turn to ensure that 80mm of the ground is exposed to the ground for fixing the base of

the bracket.

3. Install 3 embedded parts for fixing the cable in 360° equal parts at 3M from the center, for installing the windbreak cable (optional).

3.4 1.2m bracket and 1.8m bracket assembly (upper pole and lower pole assembly)



The assembly of the 1.5m upper rod and the lower rod is fixed together with four nuts and bolts. The nuts and bolts for connection are attached to the 1.2m pole when shipped

3.5 Solar bracket installation

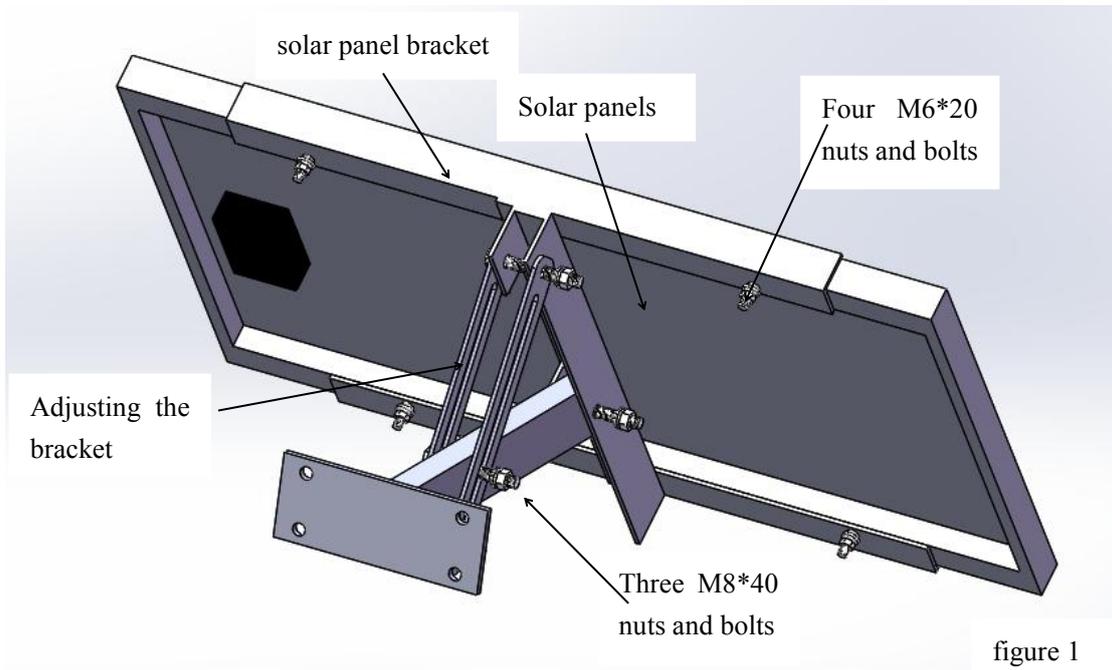


figure 1

Schematic diagram of 30W solar bracket assembly

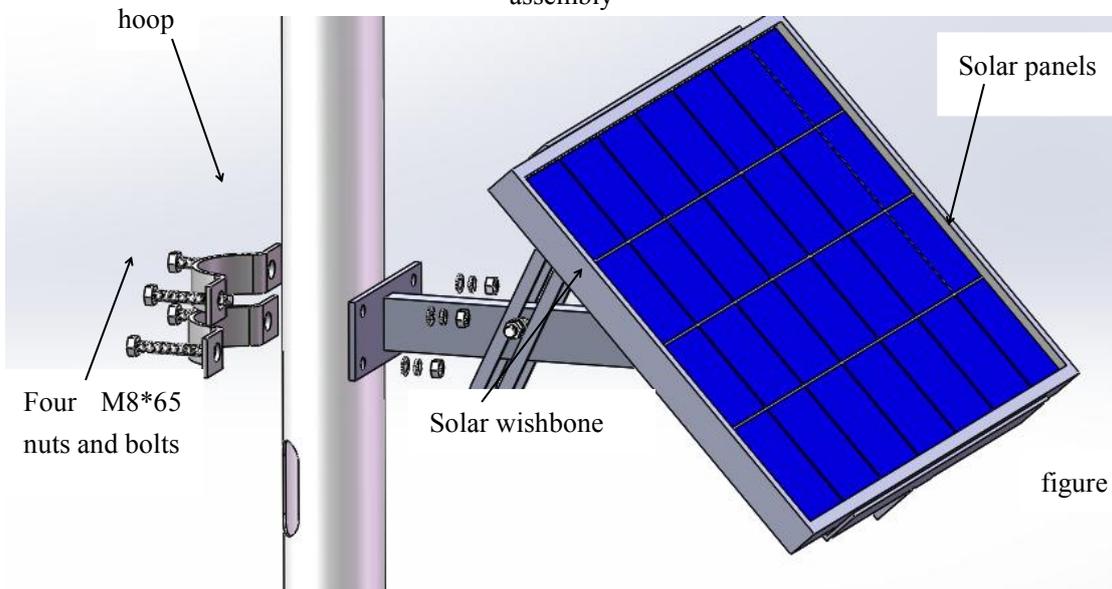
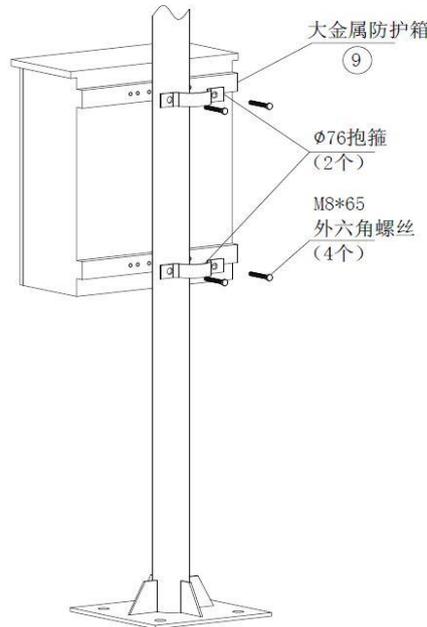


figure 2

1. Before installation, please check whether the accessories are complete and whether the solar panel is damaged.
2. For solar panel installation, use M6*20 bolts and nuts (including flat washers) to fix the solar panel and the solar panel bracket together, as shown in Figure 1.
3. For the overall assembly of the solar panel bracket, use three M8*40 bolts and nuts (including flat washers) to connect the solar panel bracket cross arm, adjustment bracket, and solar panel bracket together, as shown in Figure 1.
4. Fix the solar cross arm on the pole with two hoops, see Figure 2.
5. The wire of the solar panel enters through the second hole on the top of the pole, and goes out through the upper hole on the lower pole, and enters the protective box.

3.6 Large metal protective box installation



Metal protective case

Φ76 hoop*2

M8*65*4 outer hexagon screw

1. The square tube on the back of the protective box has been welded with the protective box before leaving the factory. When installing, just align the two hoop mounting holes with the square tube mounting holes of the protective box, and then use four 8*65 External hexagon screws, 4 Φ8 flat washers, and 4 Φ8 spring washers fix the protective box on the main pole.

2. Take out all sensor wires from the wire outlet holes at the lower end of the protective box, and connect them to the junction box in the next step.

Recommendation: The protective box is installed at a height of about 1 meter above the ground level.

四、Notes (General)

1. The selected installation site, if it is land, it is best to do a good cement foundation. Brackets and rain gauges need to be fixed with expansion screws. It is best to add the cement foundation after the expansion screws are installed.

2. In some coastal areas, a windbreak cable must be pulled on the tripod to ensure its wind resistance. In particular, the weather station installed on the roof has to take lightning protection measures and install lightning rods.

3. For the wiring problem of the mains, it is necessary to take into account the safety of electricity consumption and the appearance of the building where it is installed.

To be wired according to the buyer's requirements and the specific conditions of the site, the periphery of the wires should be covered with PVC pipes. In order to ensure safety, the wires should go as far as possible on the wall and at a high altitude. If you must go underground, the PVC pipe must be covered to prevent water leakage, and the air switch must be installed to prevent personal safety accidents.

4. During the installation process, it is very likely that the wires will be cut and reconnected or soldered.

(1) For the connection method of the sensor wire, if it is to re-solder the

aviation plug, the wiring method is that the red wire (source +5V) is connected to the position of the No. 1 core of the aviation plug, the green wire (signal wire) is connected to the position of the No. 2 core of the aviation plug, and the blue wire (power Ground wire) to the position of No. 3 core of aviation plug. For the case of wiring from the middle, it is much simpler, just connect the lines of the corresponding color to the lines of the same color.

(2) For the connection method of the communication line, when re-soldering the 9-pin plug, for the 485 communication line, the welding core numbers are 1, 2, and 5. For 232 communication lines, the welding core numbers are 2, 3, 5. When removing the wire, remember the core number corresponding to the corresponding color, and then connect it according to the original connection method. The method of connecting lines in the middle is also connecting lines of the same color. Be careful to wrap it with electrical tape. The most important point is that no short circuit occurs during the welding process, so as not to affect the quality of the entire collector.

5. For some sensors that do not display data correctly after being connected, we can use the replacement method and the voltage measurement method to judge the fault.

6. Please contact us if you are unclear about the above description.

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