

WEATHER MONITORING SYSTEM

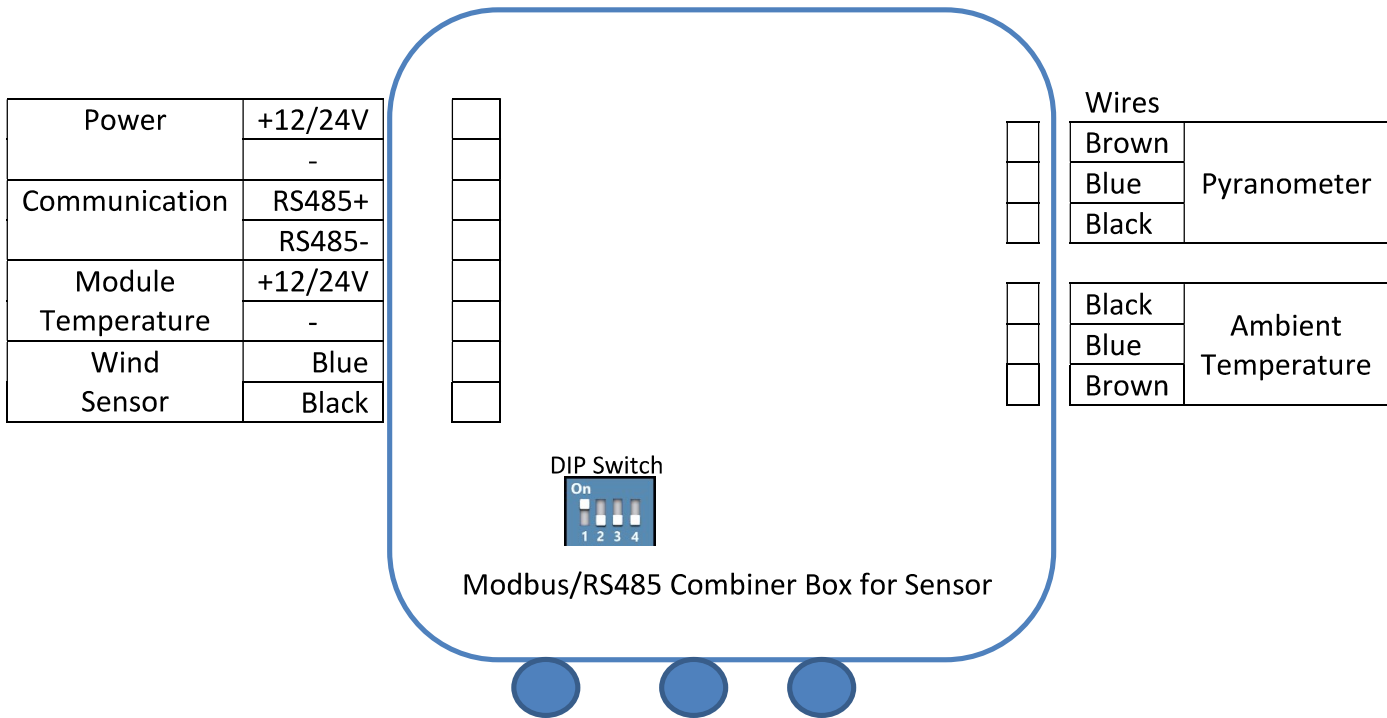
Sensors-

- Surface Module Temperature Transmitter-Mspt100v : Data Sheet- <https://goo.gl/qvG9Wh>
- Ambient Temperature Sensor -MPT 100v : Data Sheet- <https://goo.gl/a4Lb1L>
- Solar Radiation Sensor PYRA 300 V : Data Sheet- <https://goo.gl/jixen2>
- Wind Speed Sensor Ws102 : Data Sheet- <https://goo.gl/bGLA5o>



View all Datasheets

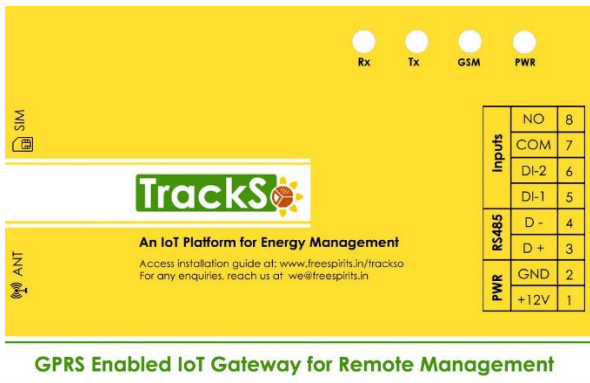
WIRING DIAGRAM



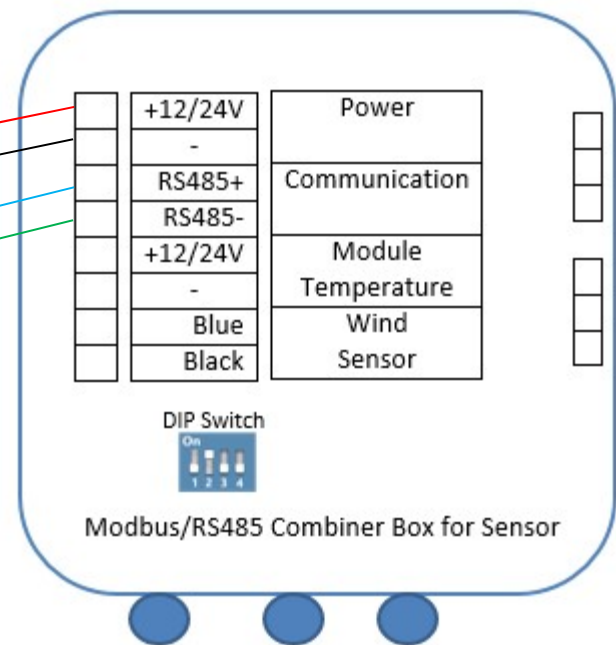
Wires to be connected	Power Communication
-----------------------	------------------------

Wires already connected in weather monitoring	Module Temperature Wind Sensor Pyranometer Ambient Temperature
---	---

Baud 9600 ,Parity-None				
Slave ID	DIP Switch Settings			
	1	2	3	4
1	1	0	0	0
2	0	1	0	0
3	1	1	0	0
4	0	0	1	0
5	1	0	1	0
6	0	1	1	0
7	1	1	1	0
8	0	0	0	1
9	1	0	0	1
10	0	1	0	1
11	1	1	0	1
12	0	0	1	1
13	1	0	1	1
14	0	1	1	1
15	1	1	1	1



Connect to
TrackSo Pin-1
TrackSo Pin-2
TrackSo Pin-3
TrackSo Pin-4



INSTALLATION

Surface Temperature Sensor- It is designed to attach directly to any solar panel. When placed on the center back side of the panel, it accurately measures the temperature of the panel. Peel off the protective adhesive tape on the temperature sensor and stick it onto the back of the panel. Firmly press the sensor into place.

Ambient Temperature Sensor – It comes factory-assembled inside the radiation shield. The radiation shield bracket can be mounted to a pipe (1.0 - 2.0 in. diameter), using the supplied U-bolt. The radiation shield can be installed anywhere in the vicinity of the PV array. It is recommended to place the Ambient Temperature Sensor on the north side (in the northern hemisphere) of the array, otherwise you must provide array shading setback.

Pyranometer- The sunlight sensor must be installed at the same azimuth and tilt angle than the PV array. It is to be located far from any kind of obstruction, which might reflect sunlight (or sun shadow) onto the pyranometer itself.

Wind speed sensor- It comes in three different parts. We have the sensor body, the anemometer cup wheel and an Allen key to mount the cup wheel on the sensor body. The goal of installing a wind speed meter (anemometer) is to position it in a location where the wind flows freely and is not influenced by nearby objects. For the most accurate wind speed readings, mount the sensor as the highest object for 50 feet in all directions.

TOOLS AND MATERIALS NEEDED

Read this manual before beginning the installation to be sure you have everything you need.

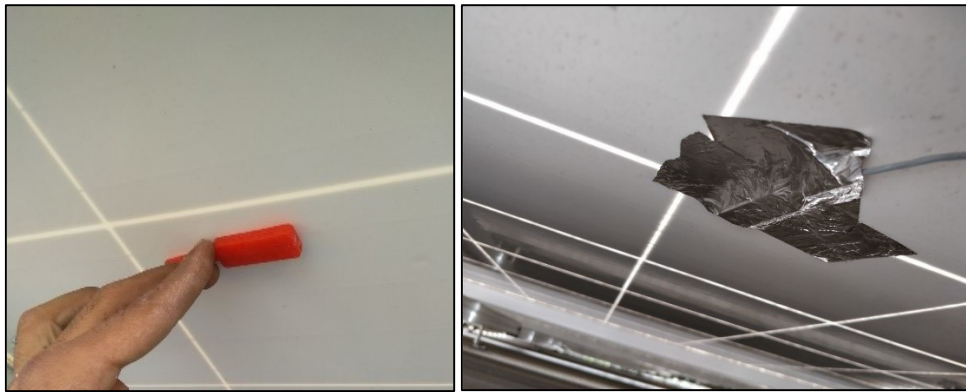
- Wrench or pliers
- Wire cutters and stripper
- Multimeter
- Electrical Tapes , Wire ties and tabs
- Hammer
- Drill with 3/16 in drill bit (4.7 mm) to drill pilot holes
- Adjustable wrench or 11/32 in. wrench and 7/16 in

LOCATION RECOMENDATION

Sensor	Recommendation
Ambient Temperature Sensor	<ul style="list-style-type: none"> -The Radiation Shield works best when in a location with a steady breeze. Mount away from fences, buildings, trees, or other obstructions. - Do not install over or near sprinklers. The Radiation Shield is not designed to protect the sensor from water sprayed upwards. -If attaching to a building, the preferred location is the north side in the northern hemisphere and the south side in the southern hemisphere.
Wind Speed Sensor	<ul style="list-style-type: none"> -Allow sufficient clearance for the wind sensor. Install the wind sensor away from buildings or any other objects that might affect the airflow -Try to make the anemometer the highest object around. 7 feet or more above the surrounding obstructions is best -The anemometer must be mounted in an upright position; otherwise, water can enter the anemometer and destroy it.
Surface Temperature Sensor	<ul style="list-style-type: none"> -Select a PV module that remains unshaded throughout the day. -For best operation, this heatsink should be mounted flat against the surface to be measured.
Solar Radiation Sensor	<ul style="list-style-type: none"> -The sunlight sensor must be installed at the same azimuth and tilt angle than the PV array. (Drill it on the top of the panel) -Pyranometer is to be located far from any kind of obstruction, which might reflect sunlight (or sun shadow) onto the pyranometer itself.



Example Installations



CALIBRATION

The weather monitoring station is factory calibrated.