



# Quick Guide WI-SOS 480 Wireless Solar Power

## 1. INTRODUCTION

The off-grid solar system for the WI-SOS 480 system consists of a solar panel, mounting frame and enclosure for a large deep cycle battery. The system is designed to power a single WI-SOS 480 Gateway throughout the year in remote locations where a mains power connection is not possible.

## 2. COMPONENTS

The solar system consists of the following major components:

Component	Key Specs	Quantity Included
Solar Panel	200W	1
Panel Frame	Aluminium Extrusion	1
Battery	12v 110Ah	1
Charge Controller	100V 20A MPPT	1
Enclosure	500 x 400 x 200mm IP66	1
Mounting Stand	Powder Coated Steel	1

### 3. SETUP

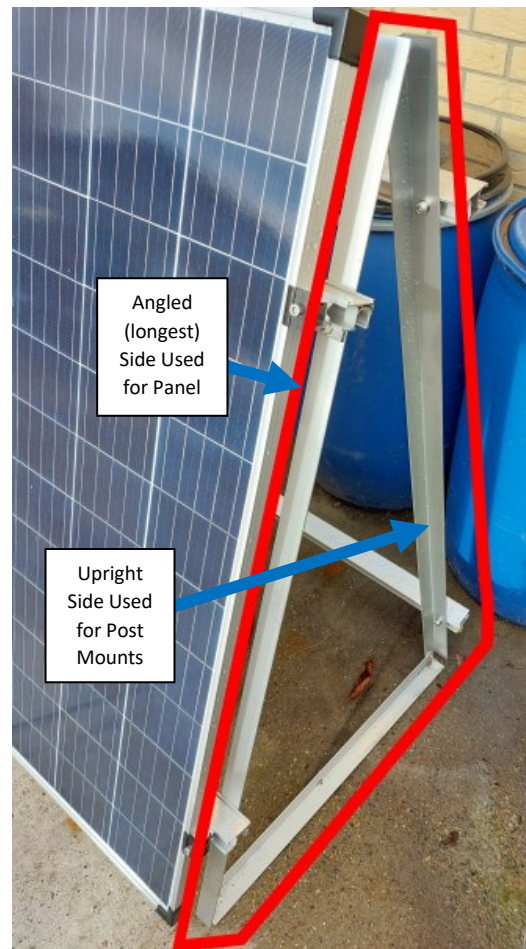
#### 3.1. Panel and Frame

##### STEP DESCRIPTION

- 1 The triangular frames will be shipped in a folded state, it will be necessary to unfold them and use the provided bolts to put them into the triangle formation.



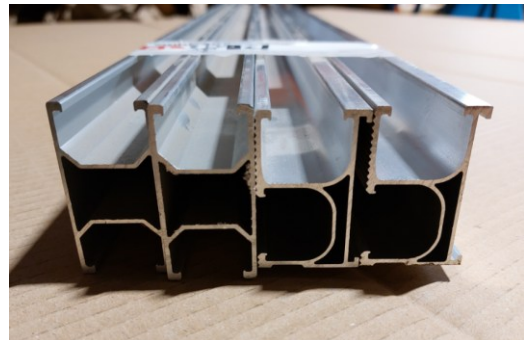
- 2 The triangular frames form the basis of the structure for angling the panel towards the sky.



- 3 Once the two triangle sections are assembled, the cross-members can be fitted.



- 4 There are two types of cross-members provided. Both have channels in them for captive nuts. Two of the members are offset by 180-degree (left) and two are offset by 90-degree (right).



- 5 The cross members are fitted to the triangular frame using the pre-drilled holes and the fittings shown.

- 6 The 90-degree offset cross-members and panel clips are fitted on the longest edge of the frame and will have the solar panel mounted to them. (See step 2 for side clarification)



- 7 The 180-degree cross-members can be fitted to the slightly shorter uprights (see step 2 for clarification) using the channel nuts and bolts and the predrilled holes in the frame.



- 8 The panel (or multiple panels depending on the kit used) can be affixed to the frame.



- 9** The clips are slotted into the rail and clamped down onto the side of the panel.



- 10** On the upright side to the panel of the frame, slide the plate with channel nuts along both rails. (see step 2 for clarification)

Slide the pole clamp along to the centre of the rails and tighten the channel nuts.



- 11** Fix the u-bolt clamp to the upright post



- 12** The T-frame and the post should be screwed together and then placed into an excavation



- 13** The mount should be securely fixed into the ground with concrete



- 14 Once the frame and post have been concreted into place and the concrete has cured, the solar panel should be slid onto the pole and fastened in place using the pipe clamps. The pipe clamps should be sufficiently tight to stop the frame rotating. The electronics enclosure should also be mounted to the base of the frame.



## 3.2. Electronics Enclosure

### STEP DESCRIPTION

### STEP

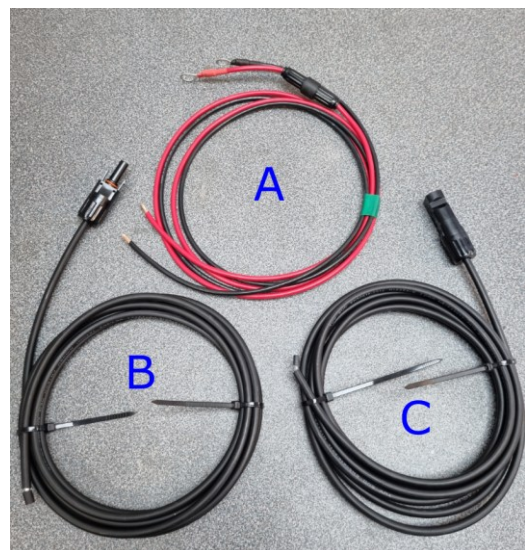
- 1 The electronics for the system are housed within the provided enclosure, which mounts on the post. The Solar Charge controller will be already be mounted to the metal backing plate of the enclosure on delivery, and the user will only need to place the battery in the enclosure and connect the wires.



- 2 Identify the cables required for the next step:

A = Fused battery connectors with ring terminals (positive red, negative black)

B and C = MC4 Solar connectors and cables (will be labelled "Positive" and "Negative")



- 3 Connect the red positive battery wire to the solar charge controller battery “+ port”, and the black negative to the “battery -“ port.

Also connect the USB A to USB C cable to the charge controller using the top port.



- 4 Connect the MC4 solar cables (leave disconnected from solar panel for now) to the solar charge controller, observing the correct polarity.



- 5 Place the battery into the enclosure and connect the ring terminals. Be very careful not to short the battery terminals.



- 6 Pass the solar MC4 cables and the USB-C through the cable glands provided (note, these must be done up tight and correctly to stop water ingress into the enclosure)



7 The USB-C cable will pass through the larger single connector.



8 Connect the positive and negative solar MC4 connectors to the matching connectors on the solar panel.



9 Connect the aerial to the gateway, along with inserting the SIM card and any configuration required, and then power the gateway by connecting the USB-C connector to the gateway. Make sure the weather-proof cable gland is properly installed, make sure the blanking plate is installed on the unused ethernet port.



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