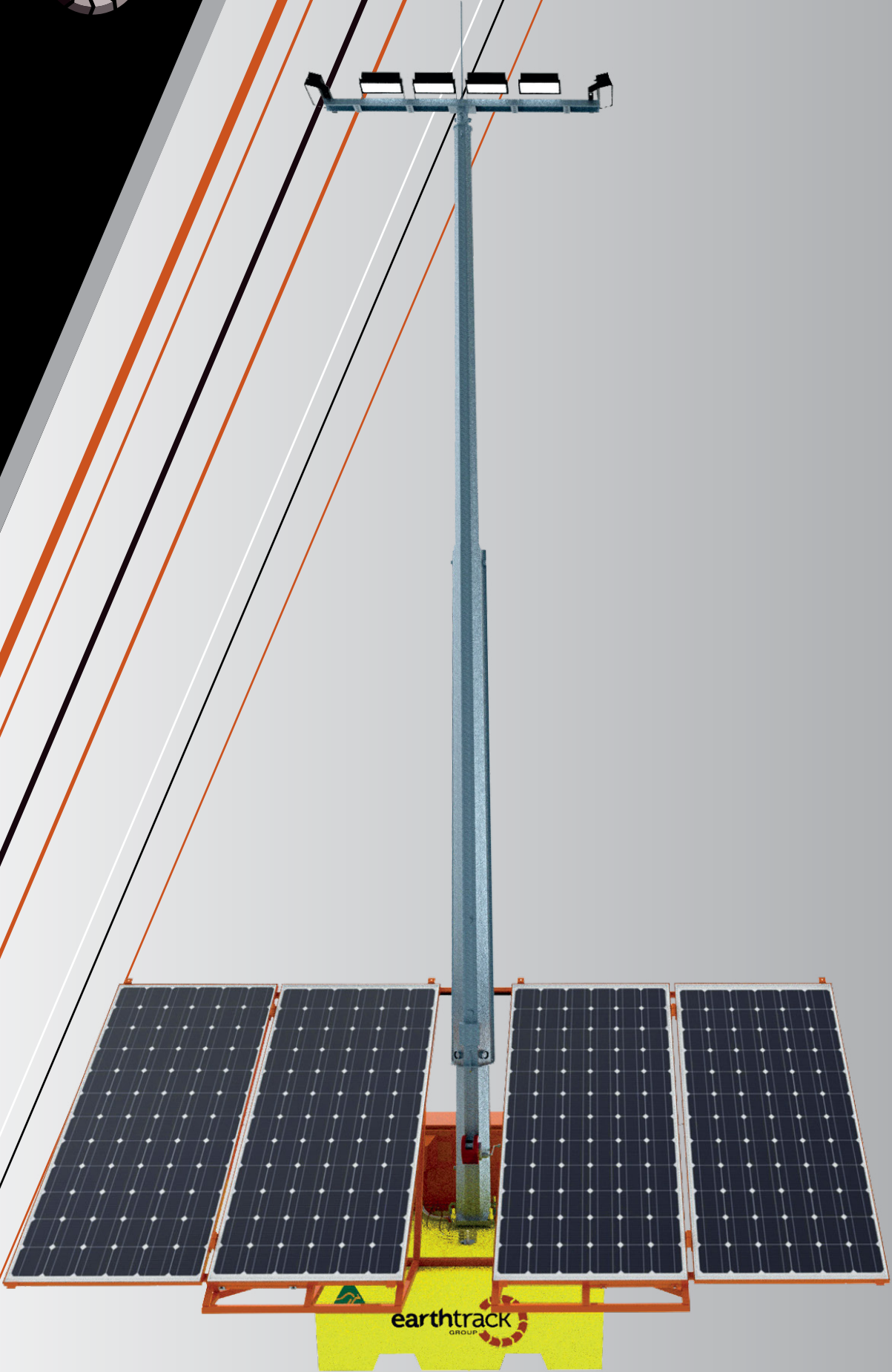




# **MEGA G3**

INSTALLATION MANUAL







## ***Contents***

Specifications	4
Installation	6
Troubleshooting	11
Servicing	12
Warranty	14
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**4 Tonne Concrete Base with Forklift Pockets**



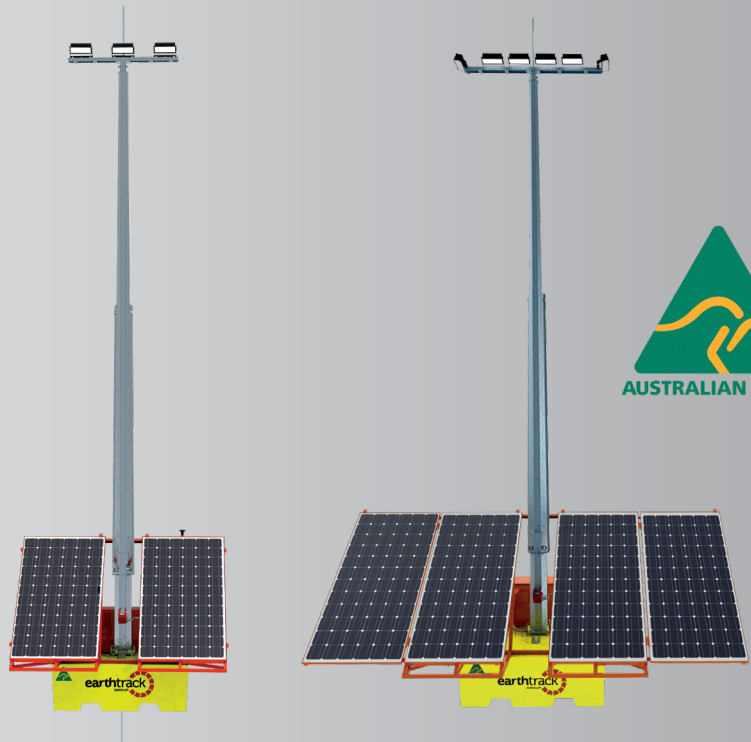
**Industry Leading Autonomy**



**8m Breakback Galvanised Pole**



**Lithium Battery**



\*3 year battery warranty

### Specifications

Code	ETG-SLMT300-G3	ETG-SLMT600-G3
Luminaire	3 x Veva Sirius Pro - ETG-VFLPRO50-DC	6 x Veva Sirius Pro - ETG-VFLPRO50-DC
Total Lumen Output (Lm)	27000	54000
Luminaire Warranty	7 years	
Solar Panel Quantity x Wattage	2 x 500W	4 x 500W
MPPT Controller	Smart MPPT controller	
Lighting Control	Fully programmable to operate 13 Hours per day at 100% brightness	
Battery Autonomy	4 Days	
Luminaire Height (m)	8.8	
Pole	8m Galvanised steel hinged pole	
Total Height (m)	9.5	
Electrical Box	Powder coated aluminium lockable with hinged lid and gas struts	
Winch	Rock break winch	
Base Dimensions (mm)	1770(w) x 1770(d) x 600(h)	
Footprint (m)	2.3 x 2.8	2.3 x 5
Total Weight (Tonne)	4.5	4.8
Battery Quantity	2	4
Battery Part No.	ETG-14TB014	
Battery Chemistry	LiFePO4 - Lithium ion phosphate	
Battery System	8.45kWh	16.9kWh
Battery Warranty	36 months	

The performance of this product may vary due to climate or seasonal factors that affect the available daylight hours or intensity of sunlight (ie. persistent cloudy or inclement weather). This product requires at least 6-8 hours of full sunlight, over 2-3 days when first installed to achieve full brightness. If this is not achieved, the product may produce substantially lower lux levels than specified, even when at 100% operation. Customers are advised to discuss this with their Earthtrack representative when selecting solar products for their site location.

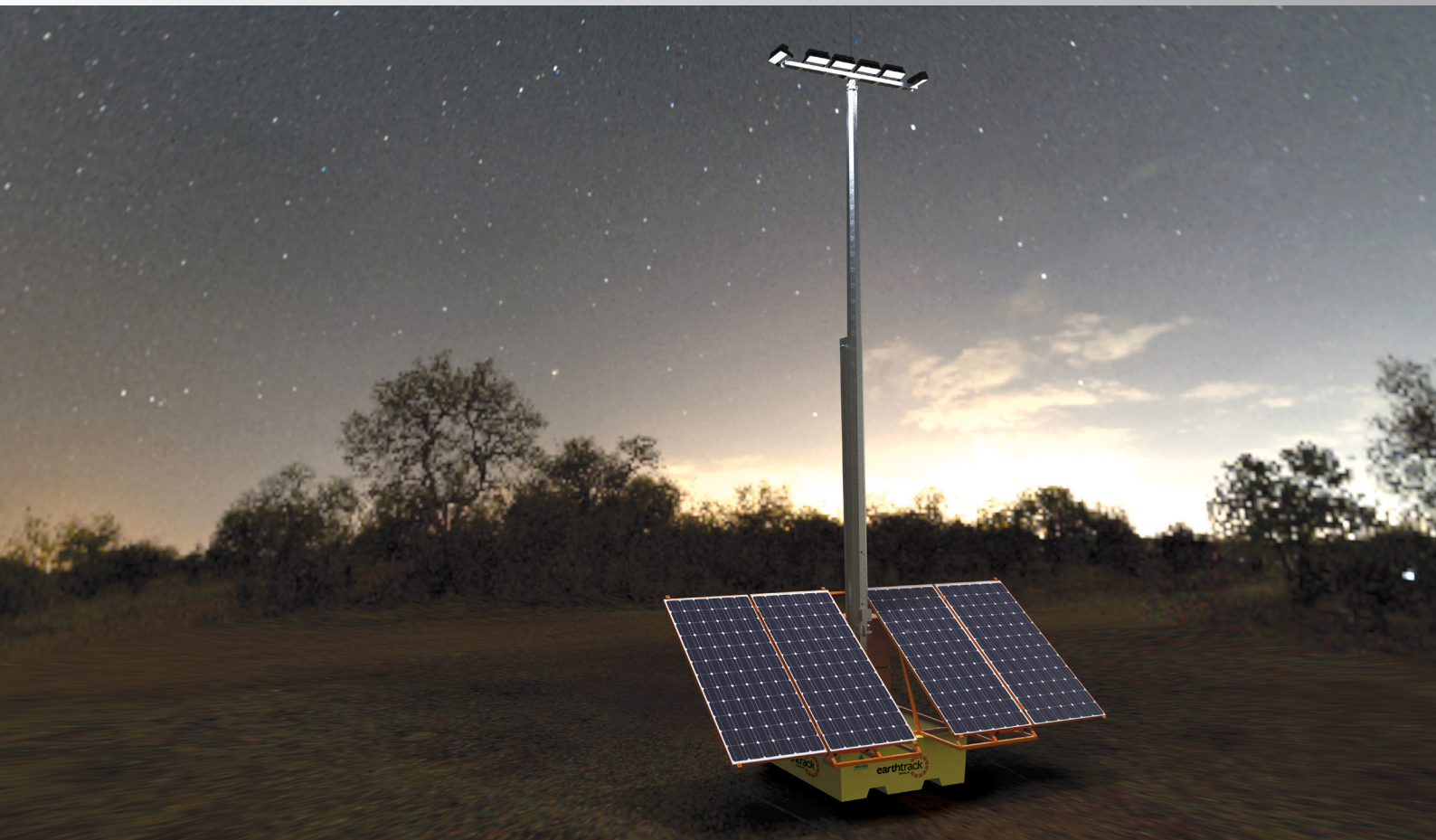
\*The heights parameter is slightly lower than what is stated in the table.  
\*Model shown may differ from the actual model due to changes since publication date.



## ***Important information***

### EarthTrack Solar Mega G3 Series

- » To ensure safe installation, isolate power by the lockout switches located on outside of box.
- » 24V DC System (Refer to owner's manual).
- » For access to the battery and solar controller and when the pole is to be tilted into the maintenance position make sure the battery is isolated.
- » As this operation will expose pinch points, safe work procedures must be adhered to per site specific for maintenance.
- » For Category D Wind Regions, please discuss any additional requirements with Earthtrack.
- » **IMPORTANT NOTE:** The current Solar Tower Model Controller Parameters are now factory set in compliance to the Client's Functionality Requirements – NO CHANGES need to be made to the parameters of the controller on site. If changes are made by the Client, this may void service warranty, resulting in Earthtrack Team attendance cost.



# Installation Guide

EarthTrack Solar Mega G3 Series

## IMPORTANT

To ensure safe installation, isolate power by the lockout switches located the outside the battery box.

## Before you begin you will need;

- Franna Crane, Telehandler **OR** Forklift  
5 Tonne minimum with Jib attachment of 1500kg
- Crane-Cable Attachment / Forklift Jib
- Basic Socket Set / Shifters / Basic Tools

### 1 CLEAR AREA



Clear an area that is suitable and level for the safe installation of the Earthtrack Solar Light Tower.

*\*Avoid positioning near trees or objects that will cast a shadow over the solar panels at any time of the day.*

### 2 POSITION CONCRETE BASE



### 3 FOLD OUT & SECURE PANELS

#### 3.1 UNBOLT THE SUPPORT ARMS

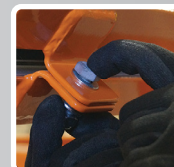


#### 3.2 MOUNT SUPPORT ARMS TO MAIN FRAME



Use the M10X110 bolts to mount the support arm at the bottom and top of the frame on both sides.

#### 3.3 UNBOLT THE FOLDED SOLAR PANEL FRAME



Unbolt the folded solar panel frame, rotate the panels and rest them on the support arms.



### 3.4 BOLT PANELS TO SUPPORT ARMS



Bolt panels to the support arms, checking the tension of each bolt to ensure it is secure.

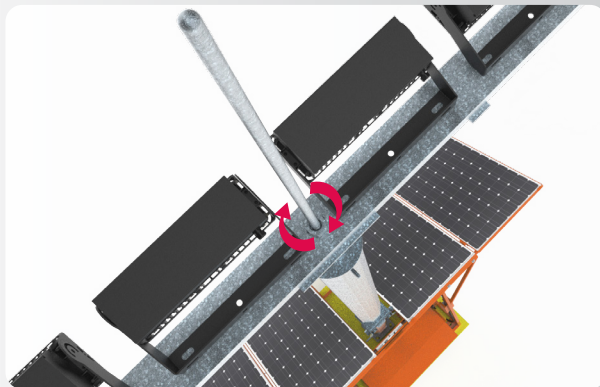
## 4 ATTACH LIGHTS, LIGHTNING ROD & CROSSARM TO POLE

### 4.1 ADD LIGHTS TO FRAME



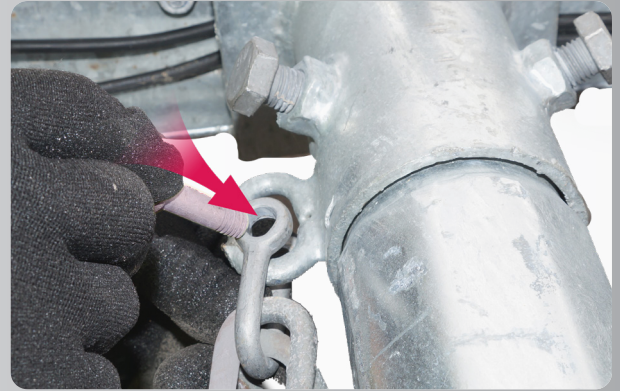
- a. Remove lights from box & bolt them to the light crossarm.
- b. Remove the tape from the end of the pole and pull the 6 light cables through.

### 4.2 ATTACH THE LIGHTNING ROD



Mount the lightning rod to the centre hole on the top of the crossarm and secure.

### 4.3 ATTACH CROSSARM TO SAFETY CHAIN

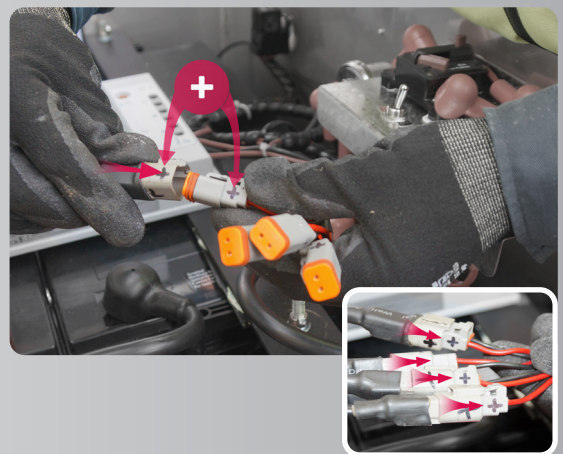


### 4.4 CABLING



- a. Feed the cables through the hole in the bottom of the crossarm.

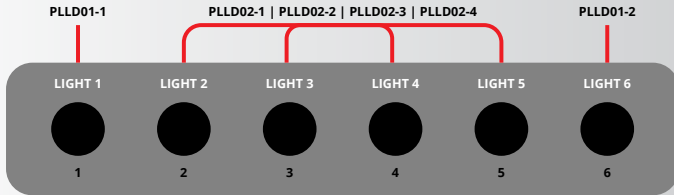
### 4.5 CONNECT ELECTRICALS



- a. Connect the cables to the lights using the Deutsch plugs in the exact sequence shown on the next page.



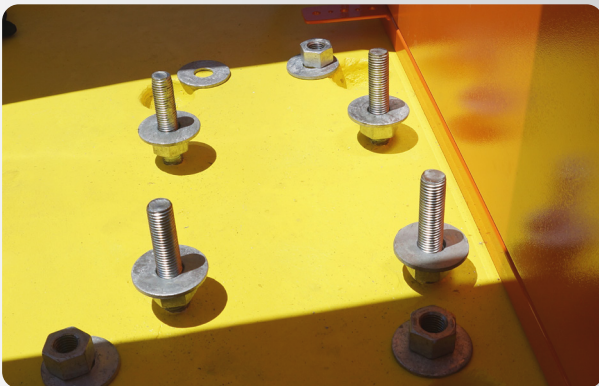
## ELECTRICAL CONNECTION CONT.



- a. i. Cable labelled PLLD01-1 connects to light 1 on the left side of the crossarm
- b. ii. Cables labelled PLLD02-1, PLLD02-2, PLLD02-3 & PLLD02-4 connect to lights No. 2, No. 3, No. 4 & No. 5.
- c. iii. Cable labelled PLLD01-2 connects to light No. 6 on the right side of the crossarm
- d. Once all wires have been connected attach the crossarm to pole & tighten locating bolts evenly

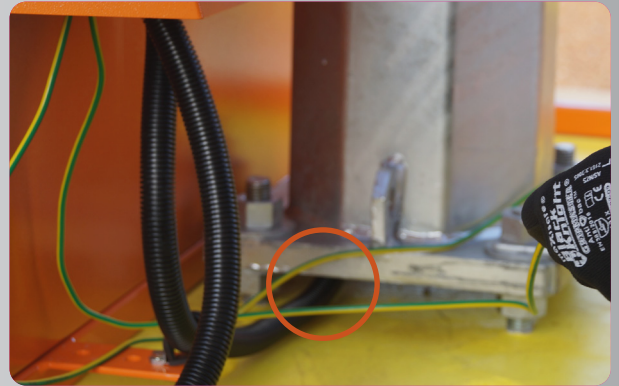
## 5 INSTALL THE POLE TO BLOCK

### 5.1 PREPARE MOUNTING BOLTS



Remove top nut and washer from mounting bolts. Set height of each nut, so there is a minimum 42mm clearance between block and the top of the washer. The nuts then need to be levelled to ensure the pole will mount flat. This can be checked with a spirit level on the top of the washers.

## 5.2 CABLING CONDUIT POSITIONING



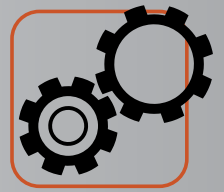
- a. Remove wrapping & tape from the bottom of the pole and pull the conduit & plug out the end. When the pole is installed, the light cable (in conduit) must come under the left side of the pole towards the connection point on the back of the electrical enclosure.
- b. Use suitable lifting machinery and qualified riggers to install the pole onto the mounting bolts on the block.
- c. Re-install top washers, nuts onto the pole bolts & tighten.
- d. Connect light cable plug into socket under shroud on the back of electrical enclosure.

## 6 BREAK POLE AND RE-AIM LIGHTS

*\*IF NECESSARY*

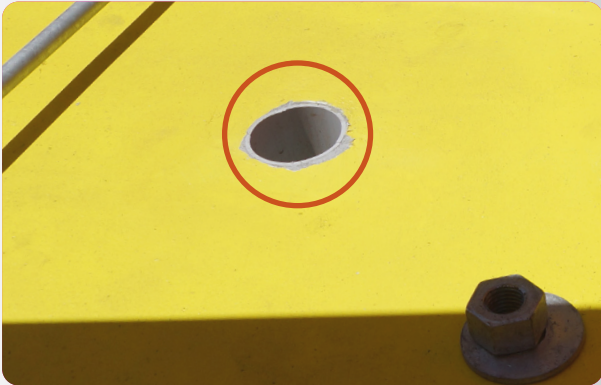


- a. Remove securing bolts at front of pole and wind pole down using the winch
- b. Loosen mounting bolts for lights and adjust to the desired angle/tilt
- c. Tighten the mounting bolts, raise pole and install the securing bolts.



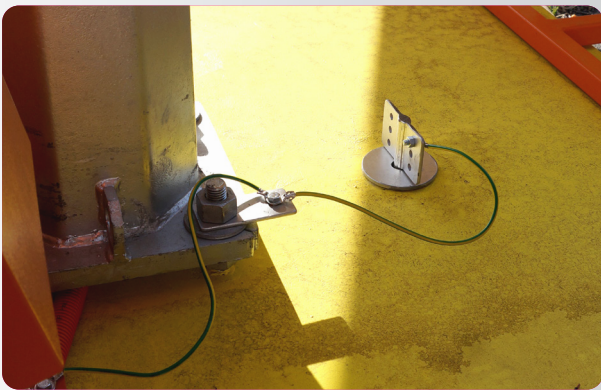
## 7 EARTHING STAKE

### 7.1 INSTALL EARTHING STAKE



- Place earth stake guide in the hole in the centre of the block.
- Place earth stake in the guide.
- Use a sledgehammer to drive the stake into the ground.

### 7.2 ATTACH EARTH CABLE TO POLE



- Using supplied earth cable, attach an earth cable from the solar panel frame to the earthing lug on the pole, and another earth cable from the solar panel frame to the earth stake.
- Ensure that the earth cable connectors between the solar panel frames are secured to ensure proper grounding of the entire tower.

## 8 POWER UP SYSTEM



- Begin by opening the lid of the electrical enclosure, then the lid of the circuit breaker box.
- Close the DC battery circuit breaker, followed by closing the external DC Battery Isolator located on the outside of the enclosure.
- Close the PV-1 & PV-2 circuit breakers, followed by closing the external PV Isolator located on the frame.
- Close the Load-1 & Load-2 circuit breakers.





## 9 TEST LIGHTS ARE FUNCTIONING

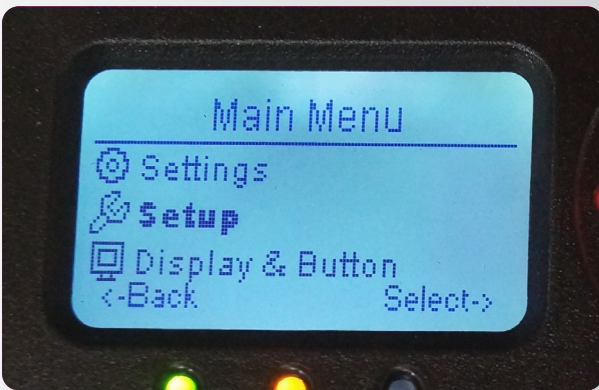
**PLEASE NOTE:** The controller has a load schedule pre-installed which allows the lights to operate for 13 hours each night from 17:30 to 06:30.

**TESTING LIGHTS DURING THE DAY:** To test the function of the lights during the day, please follow these steps:

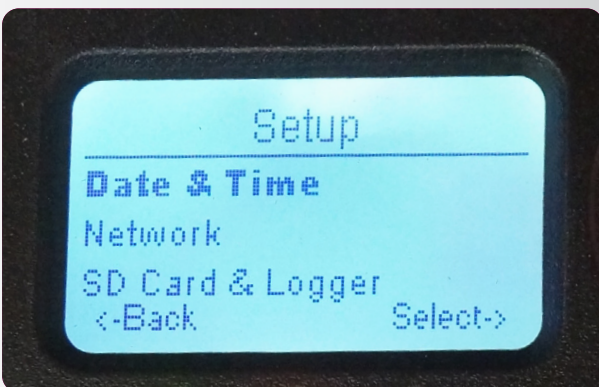
- a. At the MPPT Controller press down to enter the **MAIN MENU**.



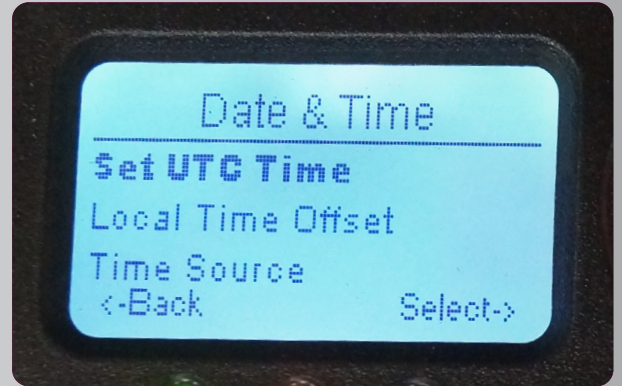
- b. Scroll down to **SETUP** & press right arrow to enter.



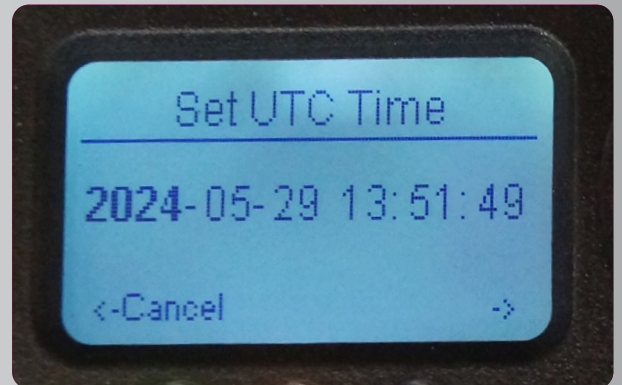
- c. Select **DATE & TIME**



- d. Select **SET UTC TIME**.



- e. Adjust **UTC** to 00:00:00 using arrows & save settings.



- f. Check that the lights are all functioning correctly  
g. Reset the time to the current Date/Time of your location using the process above

## 11 FINAL INSPECTION



### FINAL CHECKLIST

- ENSURE ALL ELECTRICAL CONNECTIONS AND BOLTS ARE TENSIONED. NO SHADING OVER PANELS
- ENSURE SOLAR SOLAR PANELS ARE CLEAN (CLEAN WITH A BROOM & WATER AS THEY MAY HAVE GOT DUSTY DURING TRANSIT)
- CLOSE AND LOCK ELECTRICAL ENCLOSURE
- KEEP THE KEY IN A SAFE PLACE





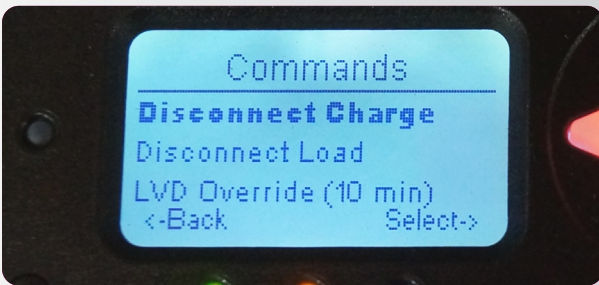
## TROUBLE SHOOTING

### LIGHTS NOT TURNING ON

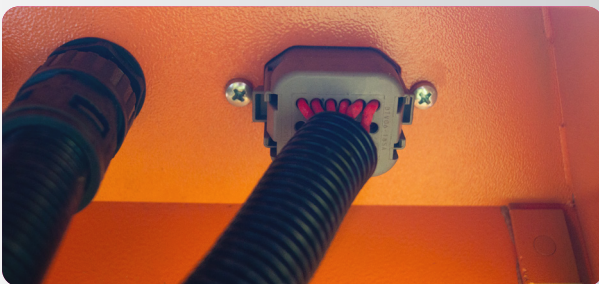
- a. Open the circuit breaker box, & ensure that all circuit breakers are closed (pointing up).



- b. Enter the **MAIN MENU** on the Genstar MPPT & select **COMMANDS**. Ensure that the load & the charge is connected. (If load and charge is connected, it will show **DISCONNECT CHARGE & DISCONNECT LOAD**).



- c. Check that the load plug is connected correctly. If loose, disconnect plug and reconnect.



- d. Follow the Manual Light Test as per the instructions in the Installation Manual.  
e. If the lights are still not functioning, contact Earthtrack Group.

### LIGHTS NOT TURNING OFF

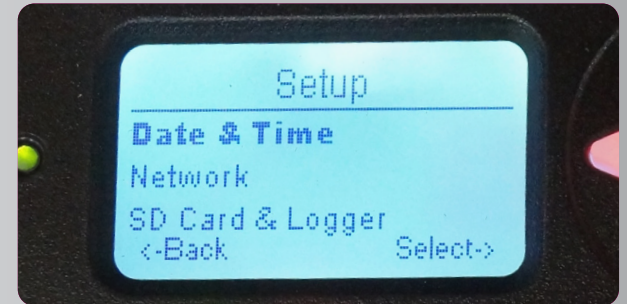
Complete the following steps to ensure the lights operate at the correct time

- a. On the Genstar MPPT Controller press down to enter the **MAIN MENU**.

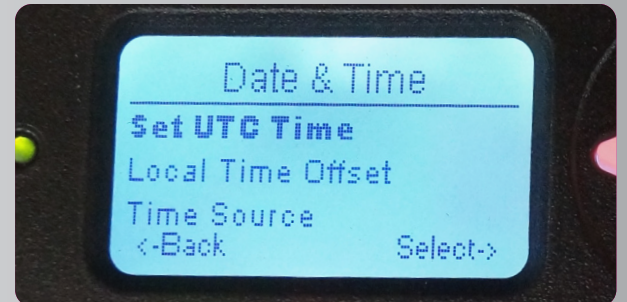
- b. Scroll down to **SETUP** & press right arrow to enter.



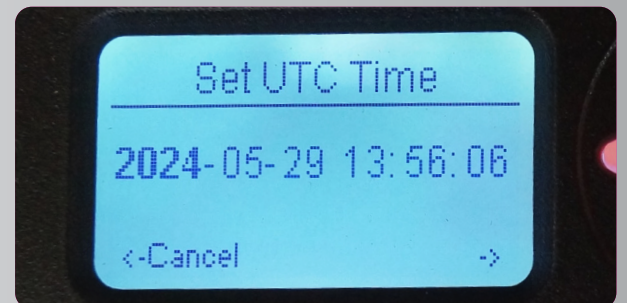
- c. Select **DATE & TIME**.

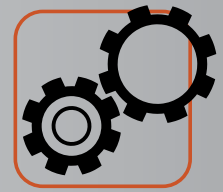


- d. Select Set **UTC TIME**.



- e. Adjust **UTC** to your local time using the arrows & save settings.





## ***Servicing Guide***

EarthTrack Solar Mega G3 Series

### **Visual Inspection**

- Check for any visible damage to the solar panels, batteries, and lighting fixtures.
- Inspect the wiring for signs of wear, corrosion, or loose connections.

### **Clean Panels**

- Use a broom and water to wash the dust/dirt from the solar panels.
- Use long handled squeegee to remove any dirty water left on the panels to avoid leaving a film.
- Repeat this process until panel is clean.

### **Reset Time Clock**

- Follow instructions in troubleshooting guide under "**Lights are not turning on at night**" to reset time clock to your current local time.

### **Check Function of Lights**

- Follow instructions in **Installation Manual** under the **Test the function of the lights** section.

### **Check that panels are producing charge.**

- This function must be checked during the daytime when it is getting sufficient sunlight.
- First, go to the home page of the Genstar.
- Navigate to the left to **Today's Energy**. Beside the sun symbol, there should be a value representing the amount of solar power produced today.
- If this 0Ah and the sun has been shining on it for some time, check that the external PV Isolator and the PV Breakers are in the ON position.
- Next, go back to the Main Menu on the Genstar, and select Commands. Ensure that the charge is connected. The display must show **Disconnect Charge**
- If the panels aren't producing any charge in the daytime after completing the above steps, contact Earthtrack.

### **Change Vent Filter**

- The vent filters will get clogged in dusty conditions and should be replaced every 6 months if the lighting tower is in a dusty environment.
- The vent is located on the of the electrical enclosure behind a shroud.
- Reach underneath the shroud and unclip the latch of the Vent. Swing the hinged vent upwards and remove the dusty filter. Discard the old filter and replace with a new filter (purchase from Earthtrack Group) and close the vent.

## Check fan operation.

- The fan will operate only when the lights are not running.
- Check whether the fan is operating. The fan should be spinning and pushing the warm air out of the electrical enclosure.
- If the fan is not operating correctly, contact Earthtrack Group

## Check Real Time Clock:

- This MPPT charge controller uses a backup battery for the Real Time Clock, to hold its time even when the system is isolated.
- To check whether this is operating correctly, navigate to **Settings** on the MPPT controller and select the **Date & Time**. Take note of the time listed on the controller.
- Next isolate the external Battery & PV Isolator.
- Leave isolated for 2 minutes, and then power the system up.
- Navigate back to the **Settings** page and check whether the date and time has continued to keep time whilst the system was powered down.
- If the clock does not keep time, contact Earthtrack for a replacement RTC Backup Battery.
- The RTC time is used to calculate the Light ON/OFF time, so it is essential to keep the RTC powered at all times for the lights to operate at the correct time of day.

## Battery Test

- Use a multimeter to check each battery individually.
- Prepare your multimeter: Set the multimeter to measure DC Voltage at 20-200V
- Identify positive and negative battery terminals. Positive terminals are marked with a plus sign (+) and negative terminals are marked with a minus sign (-)
- Connect red multimeter probe to the positive terminal of the battery and the black probe to the negative terminal of the battery
- Read & record the voltage displayed on the multimeter in the tables listed at the back of the service guide
- Repeat this for each battery
- All batteries should be balanced. If there is more than 0.1V variance between the batteries, contact Earthtrack



### Components

Code	Component
ETG-21SP054	500W Solar Panel
ETG-21FL061	LED Light
ETG-21BS003	Isolator
ETG-21EC167	Solar Controller 80A
ETG-14TB014	165Ah Battery - Lithium 24VDC
ETG-21VF048	Filter Vent
ETG-21VF047	Filter Vent with Fan
ETG-21GW076	Winch

### Maintenance Checklist



#### 3 MONTHLY

- Visual inspection
- Clean Panels
- Reset Time Clock
- Check Function of Lights
- Check that panels are producing charge



#### 6 MONTHLY

- Visual inspection
- Clean Panels
- Reset Time Clock
- Check Function of Lights
- Check that panels are producing charge
- Change Vent Filter
- Check Fan Operation
- Check RTC



#### 12 MONTHLY

- Visual inspection
- Clean Panels
- Reset Time Clock
- Check Function of Lights
- Check that panels are producing charge
- Change Vent Filter
- Check Fan Operation
- Check RTC
- Battery Test

### Battery Test Record - Year 1

Battery No	Location (Rear/Front, Left/Right)	Voltage
1		
2		
3		
4		

### Battery Test Record - Year 2

Battery No	Location (Rear/Front, Left/Right)	Voltage
1		
2		
3		
4		

### Battery Test Record - Year 3

Battery No	Location (Rear/Front, Left/Right)	Voltage
1		
2		
3		
4		

### Battery Test Record - Year 4

Battery No	Location (Rear/Front, Left/Right)	Voltage
1		
2		
3		
4		

### Battery Test Record - Year 5

Battery No	Location (Rear/Front, Left/Right)	Voltage
1		
2		
3		
4		



# Warranty Information

EarthTrack Solar Mega G3 Series



1. Earthtrack Manufacturer's Warranty
  - a. Earthtrack Group Pty Ltd (EarthLight™, EarthSolar™), warrants to the original buyer ("Buyer") that all Earthlight products will be free of significant defects in materials or workmanship, provided that the Products are installed in accordance with the Earthlight installation and operation instructions and any electrical work is carried out by a licensed electrical contractor, for a period specified from the date of purchase from Earthtrack or an authorized reseller or wholesaler.
  - b. Solar Towers: Five (5) year warranty applies to concrete block and structure / Solar Panel and Controller. Seven (7) year warranty on specified LED light fitting; Three (3) year warranty for batteries.
2. Full Warranty Terms and Conditions are available from [www.earthtrackgroup.com.au](http://www.earthtrackgroup.com.au)

## WARRANTY CONTACT DETAILS - AUSTRALIA

By Post: 34 Remisko Drive, Forrestdale WA 6112  
PO BOX 551, Kelmscott WA 6991

By Email: [sales@etms.com.au](mailto:sales@etms.com.au)

Telephone: 1300 410 485 (Australia)

Enquiries: +61 8 8399 8485 (outside Australia)

## WARRANTY REGISTRATION

Warranty is pre-registered by Earthtrack for every lighting tower purchased with Certification Plate details.

When reporting a Warranty job, please record the Serial Number and this information will be used to track the specifications and date of purchase.

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Warranty is pre-registered by Earthtrack for every lighting tower purchased with Certification Plate details.

When reporting a Warranty job, please record the Serial Number and this information will be used to track the specifications and date of purchase.

## WARRANTY REGISTRATION DATE

..... / ..... /20 .....

## INSTALLATION DATE

..... / ..... /20 .....

## BATTERY CHECK DATE

PASS  REPLACE

..... / ..... /20 .....

..... / ..... /20 .....

..... / ..... /20 .....

..... / ..... /20 .....

..... / ..... /20 .....

*It is recommended that the battery be checked annually for optimal performance.*

## FOR SERVICING INFORMATION / REQUESTS PLEASE CONTACT EARTHTRACK GROUP:

By Email: [sales@etms.com.au](mailto:sales@etms.com.au)

Telephone: 1300 410 485 (Australia)

Enquiries: +61 8 8399 8485 (outside Australia)



[www.earthtrackgroup.com.au](http://www.earthtrackgroup.com.au)

1300 410 485

[sales@etms.com.au](mailto:sales@etms.com.au)

34 Remisko Drive, Forrestdale, WA 6112

