



INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

SL-MA1-HYB-1000634B1(-TAA) I-SERIES SOLAR AREA LIGHT

PRIOR TO INSTALLATION, PLEASE READ THE ENTIRE INSTALLATION INSTRUCTIONS

CAUTION –This manual contains important instructions that shall be followed during installation, operation and maintenance of the unit. Installation requires basic knowledge of solar lighting, if not qualified, do not attempt installation and contact qualified personnel.

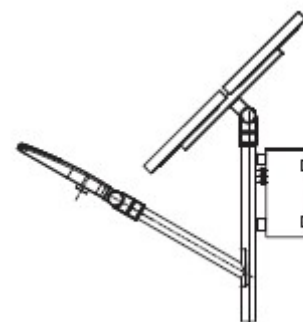
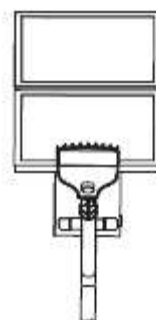
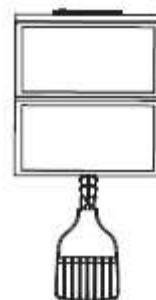
CAUTION – Installations shall comply with any local rules and regulations and be performed by qualified professional.

CAUTION – This equipment is mounted to the ground where failure to secure properly could lead to property damage or injury. Make sure to follow local and regional regulations regarding soil conditions, wind, snow loading and other mechanical or structural issues.



PRODUCT INFORMATION

ATTRIBUTE	VALUE
MODEL	SL-MA1-HYB-1000634B1(-TAA)
LIGHT OUTPUT	UP TO 10000 LUMENS
DIMENSIONS	55" X 50" X 32" (TYPICAL INSTALLATION)
LED RATED LIFE	>50,000 HRS
BATTERY	LiFePO4 12.8V / 46.9 AH / 600Wh
SOLAR PANEL	2 X 55W Monocrystalline
OPERATION	4G BI-DIRECTIONAL CELLULAR CONNECTIVITY FOR MONITORING AND CONTROL OF THE LIGHT. PROGRAMMABLE WITH MOTION SENSOR AND TIMER.
CCT	ADJUSTABLE 3000K / 4000K / 5000K
MATERIAL	MULTIPLE
CHARGING TIME	6 Hours of full sun
OPTICS	T3 OPTICS STANDARD.
INGRESS PROTECTION	IP65
WEIGHT / EPA	85 lbs / EPA 8.0
BATTERY TEMP	Charging -4°F – 140°F Discharging -40°F – 140°F





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SOLAR INSTALLATION NOTES

- 1) The performance of Solar Lights will depend on the Environment, Setup, Maintenance and other factors.
The output may have to be adjusted to lower levels under certain conditions.
Solar lights are generally not designed to operate at full power all night.
- 2) The Battery on Solar lights will deteriorate if the product is in storage for an extended period of time.
Typically, the battery will maintain good performance for 3-6 months after purchase. If the light is stored longer than 6 months, then the light will need to be recharged.
- 3) The Solar Panel on the light fixture also acts as a Photocell. If there is a light shining on the solar panel during night-time hours, the light will not operate.
- 4) Solar lights will operate under many conditions but may not operate as desired under adverse conditions.
In some cases, the power output may need to be reduced during winter months.
- 5) Generally, the solar panels are mounted facing South and inclined at a 45 degree angle. This will typically yield the best results and allow the rain to clean the Solar panels. However, if solar panels are not clean, they will not charge the system properly. For additional information, please see the Solar Best Practices Guide on the Solera Website under Resources / Marketing Materials.
In rare occasions, solar panels will need to be cleaned with water and a non-abrasive cloth.
- 6) It is necessary to check condition of the mounting pole or structure as well as the condition and tightness of all bolts, brackets etc. at routine intervals. This will depend on the type of installation and the conditions at the site and is the responsibility of the installer or site maintenance.
- 7) Solar lights may not be fully charged when first installed. Please allow 2-3 days of operation for the light to start operating normally.
- 8) Solar lights come programmed with the default program. This has 2 hours at 80% constant followed by Sensor mode for the rest of the night. In sensor mode, the fixture operates at 20% light output when no motion is detected. When motion is detected, the output increases to 80% and remains at that level until no motion is detected for 1 minute. If alternate settings are required, please contact tech support.
- 9) Solar lights are heavy and have a large Effective Projected Area (EPA). It is the responsibility of the contractor to ensure that the pole or selected mounting structure is appropriate for the light fixtures selected, wind zone and any other environmental and site-specific factors.

PRE-INSTALLATION CHECKLIST

- 1) Select a location that receives plenty of direct, unobstructed sunlight. Avoid areas with shading from buildings, trees or other objects.
- 2) Select a location where artificial light does not shine on the solar panel at night.
- 3) Check that the CCT selection is in the desired position. (See CCT Adjustment instructions)
- 4) Confirm that the pole or structure will support the weight and EPA of the light.
- 5) Confirm that the pole or structure has a 2 3/8" tenon to mount the light.
- 6) If any accessories such as shields or optional optics need to be installed, please install before mounting the light. (See instructions for shield or optic installation)
- 7) If using AC Power for Hybrid operation, ensure that appropriate cable is available. See page

FOR 4G MODULE OPERATION, SEE INSTRUCTIONS FOR SOLERA CONNECT

When the 4G option is selected, the area light will include a pre-configured module with SIM card installed.



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CONTENTS

This product is shipped in 5 cartons.

Carton 1: Area Light Head with 4G module

Carton 2: PTM

Carton 3: 2-Foot Arm

Carton 4: Battery Box (with battery)

Carton 5: Solar Panels with slip-fitter

TOOLS AND MATERIALS NEEDED

Note: Due to the size and weight of this product,

Two-person installation is recommended.

Lift or Bucket Truck is highly recommended for installation

3mm Metric Allen Wrench

6mm Metric Allen Wrench

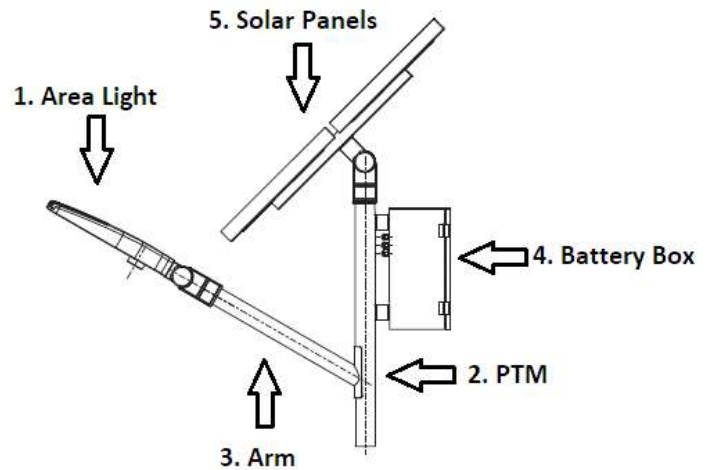
8mm Metric Allen Wrench

Wire Cutters / Strippers

#2 Philips Screwdriver

Electrical Tape

14/3 SJTW cable for AC connection to hybrid driver



MOUNTS TO 2-3/8" TENON

PRE-INSTALLATION PREPARATION

The SL-MA1 can easily be modified or adjusted to meet the specific site requirements.

Please adjust the CCT to the desired level prior to installation. See CCT ADJUSTMENT below.

The lenses can be changed from Type 3 to Type 2, 4, or 5 optics. See LENS CHANGE INSTRUCTIONS (next page)

Shielding can be added as well. See SHIELD INSTALLATION (next page)

CCT ADJUSTMENT

The SL-SAL-G3 is easily adjusted to 3000K, 4000K or 5000K output by a switch.

- 1) Perform this operation in a clean and dry environment (preferably on the bench, before installing the light)
- 2) Use a 3mm allen wrench to loosen 4 screws, and then open driver compartment (see Figure 1)
- 3) Adjust the 3-position switch to the desired CCT (See Figure 2)
- 4) Ensure that all wires and connectors are safely positioned to close the door.
- 5) Close driver compartment door and confirm that the gasket is in place all the way around the compartment
- 6) Tighten all 4 screws securely

Figure 1:



Figure 2:





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LENS CHANGE INSTRUCTIONS

The SL-MA1 is generally equipped with type 3 optic lenses when shipped. These lenses can be replaced with type 2, 3, 4 or 5 optic lenses. Lenses can be purchased separately.

- 1) Perform this operation in a clean and dry environment (preferably before installing the light)
- 2) Clean the lens and fixture with water and a soft cloth. (not necessary if installing on a new light)
- 3) Using a #2 Philips screwdriver, remove the 8 screws around the lens (see Figure 3)
- 4) Remove the old lens
- 5) Ensure that the gasket is correctly positioned (see Figure 4)
- 6) Install the new lens ensuring that the arrow is pointing away from the pole, and that the gasket is seated properly around the entire lens (see Figure 5)
- 7) Re-install the 8 screws.
- 8) Repeat these steps for the other side

Figure 3:



Figure 4:

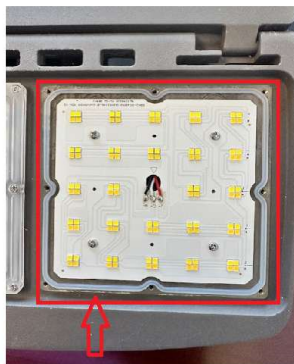


Figure 5:



SHIELD INSTALLATION

If desired, optional shields may be installed to control the light distribution. These can be purchased separately.

- 1) Perform this operation in a clean and dry environment
- 2) Clean the lens and fixture with water and a soft cloth. (not necessary if installing on a new light)
- 3) Using a #2 Philips screwdriver remove screws circled in red. See Figure 6 for full cutoff shield and Figure 7 for partial cutoff shield. Note: Partial cutoff shield can be installed in 2 orientations for back-light shield or visor.
- 4) Ensure that the gasket is correctly positioned
- 5) Install shield and reinstall screws, ensuring that the gasket remains in the correct position.

Figure 6: Full Cutoff Shield



Figure 7: Partial Cutoff Shield





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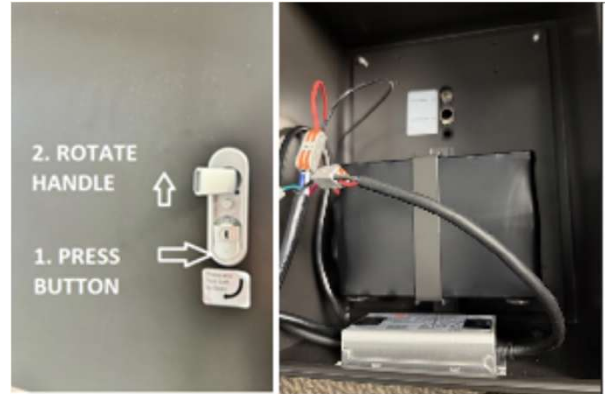
BATTERY REPLACEMENT

- 1) Open the Battery Box (Enclosure)
- 2) Disconnect battery (lever connector)
- 3) Remove battery retainer (2 screws)
- 4) Install new battery. See wiring diagram on page 7
- 5) Reinstall battery retainer
- 6) Re-connect battery

MAINTENANCE INSTRUCTIONS

The maintenance interval will depend on the environment and site-specific factors.

- 1) The lights should be checked and cleaned at least once per year.
- 2) The solar panel should be cleaned of dust and debris using water and a non-abrasive cloth.
- 3) Check all mounting bolts to ensure they are properly installed and tight.
- 4) Confirm that the pole, tenon adapter, and/or mounting structure are in good condition.
- 5) Ensure that the foundation or mounting surface is in good condition.





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INSTALLATION INSTRUCTIONS

Note: Due to the size and weight of this product, Two-person installation is recommended.

Preparation

- 1) Installation should only be carried out by qualified personnel under safe conditions.
- 2) Read entire instructions before installation. Ensure that all items listed on page 2 have been completed or accounted for.
- 3) Please confirm that the CCT is set, and that the appropriate lenses and/or shielding has been installed on the light fixture prior to installation.

Battery Box to PTM Installation

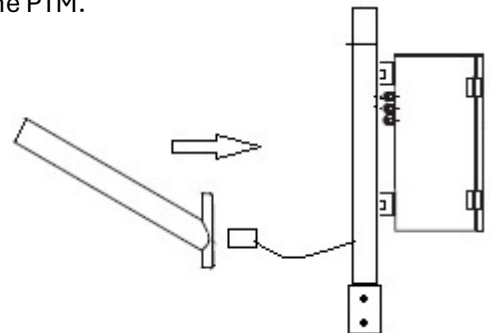
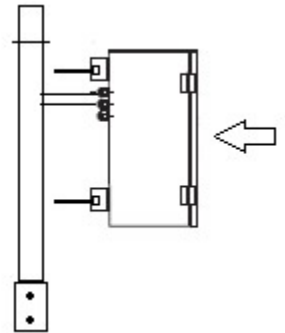
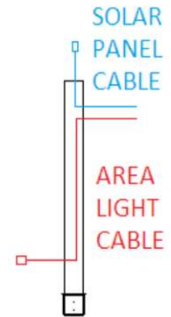
- 1) On the PTM, ensure that all 8 set screws are present and loosen them so that they will easily fit over the tenon.
- 2) Check that the cables for the solar panel and light head are present.
- 3) The Solar Panel cable has a short length with a connector coming out the top of the PTM and the other end exits the PTM where it will enter the battery box.
- 4) Area Light cable has a 2-foot length exiting the PTM where the Arm will be installed with a waterproof connector installed. The other end of the cable will exit the PTM where it will enter the battery box.
- 5) The AC Power cable (not provided) should be pulled through the lower cable gland.
- 6) Position the battery box close to the PTM in the proper orientation.
- 7) Loosen the cable gland nuts, remove and slide the nut and seal if necessary.
- 8) Feed the cables through the cable glands and into the battery box ensuring that the PTM grommets stay in place.
- 9) Align the mounting screws and mount the battery box to the PTM while pulling the cable slack into the battery box.
- 10) Use the provide washers and nuts to firmly secure the battery box to the PTM.
- 11) Tighten the nuts on the cable glands.

Arm to PTM Installation

- 1) Position the arm near the mounting location on the PTM.
- 2) Slide the connector into the arm and feed the cable into the arm.
- 3) Using the provided bolts, attach arm to PTM and firmly tighten bolts

Pole Top Mounting of sub-assembly

- 1) Confirm that the pole spec are appropriate for the light.
- 2) Confirm that the tenon adapter well secured and in good condition
- 3) Using a lift, raise the sub-assembly into position.
- 4) Place PTM onto tenon and adjust the orientation of the arm to the appropriate direction.
- 5) Firmly tighten the 8 mounting screws at the bottom of the PTM so that they firmly anchor the PTM to the tenon.





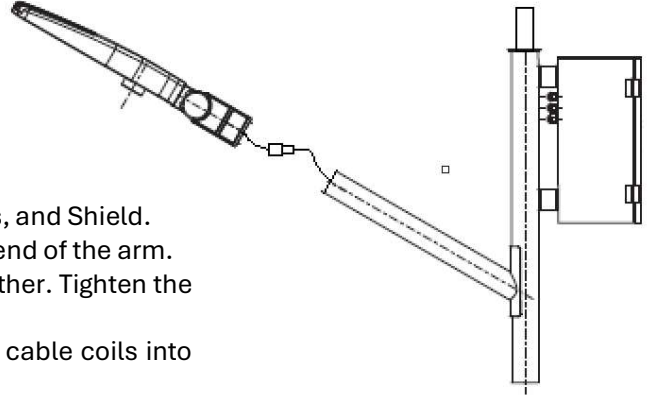
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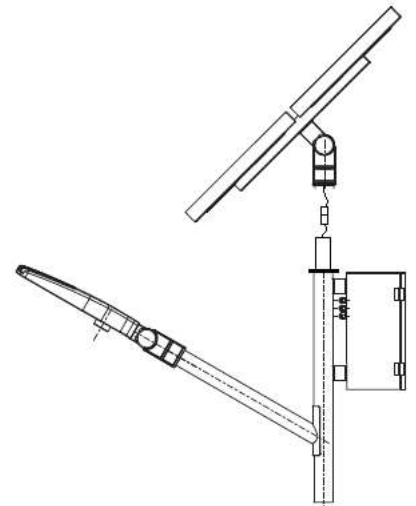
Area Light to Arm Installation

- 1) Ensure that Area light has the desired CCT setting, Lenses, and Shield.
- 2) Position the area light so that the slip fitter is close to the end of the arm.
- 3) Align the connectors and firmly push the connectors together. Tighten the lock nut firmly.
- 4) Place the area light onto the arm while ensuring that the cable coils into the arm and doesn't get pinched.
- 5) Ensure that the slip fitter is fully seated on the arm and bottoms out.
- 6) Align the area light head and tighten the 4 mounting bolts
- 7) Adjust the tilt of the area light using the large bolt in the center of the knuckle on the slip-fitter. Once adjusted, lock in place by firmly tightening the bolt.



Solar Panel Installation

- 1) Ensure that the Solar Panel Cable is exiting the top of the PTM.
- 2) Raise the solar panel into position.
- 3) Align the connectors and firmly push the connectors together. Tighten the lock nut firmly.
- 4) Lower the slip fitter onto the tenon while ensuring that the wire does not get pinched between the two components.
- 5) Adjust the orientation of the solar panel, then firmly tighten the 4 mounting bolts.
- 6) Adjust the tilt of the solar panels using the large bolt in the center of the knuckle on the slip-fitter. Once adjusted, lock in place by firmly tightening the bolt.





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INSTALLATION INSTRUCTIONS

Electrical Connections and Power-Up for Hybrid Operation

Note: Hybrid operation provides power to the LED panel.

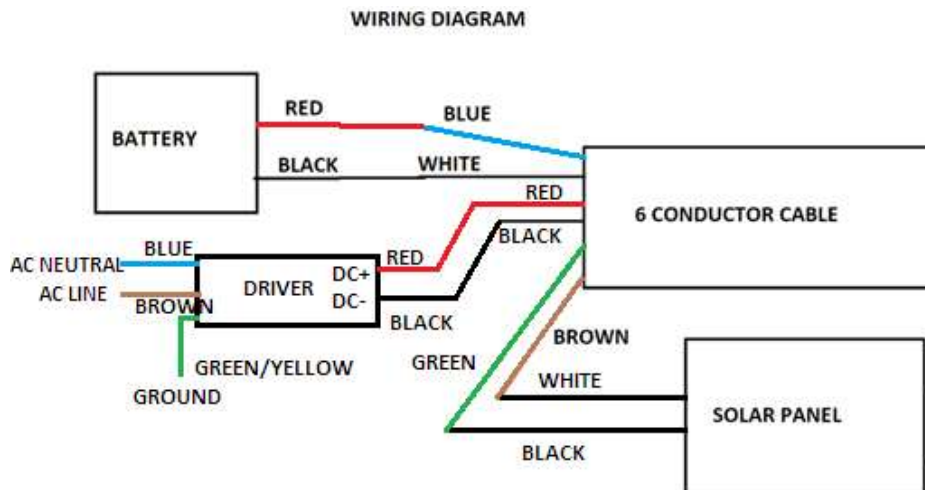
It does not power the 4G module or charge the battery from the AC power source.

Electrical Specifications of Hybrid Driver

Model: Meanwell XLG-100-12-A. **Input:** 100-240VAC 1.1A / 277VAC 0.5A **Output:** 12VDC

Installer to provide 3 conductor SJTW cable 0.20" to 0.39" diameter. 14/3 recommended.

- 1) Visually inspect the fixture and double check that all mounting bolts are tight.
- 2) Open the door to the battery box.
- 3) Use the provided connector to complete the wiring
 - 1) Red Battery Wire to Blue Wire on 6-conductor cable
 - 2) Black Battery Wire to White Wire on 6-conductor cable
 - 3) Solar Panel Black Wire to Green Wire on 6-conductor cable
 - 4) Solar Panel White Wire to Brown Wire on 6-conductor cable
- 4) Connect Driver wires
 - 1) Ensure that AC power for the pole/fixture is shut off
 - 2) Connect the DC power side of the driver to the 6-conductor cable
 - 1) Red Wire to Red Wire on 6-conductor cable
 - 2) Black Wire to Black Wire on 6-conductor cable
 - 3) Connect AC Power Side
 - 1) Pull AC Power cable through cord grip
 - 2) Connect Green/Yellow Driver Wire to Ground
 - 3) Connect Blue Driver Wire to AC Neutral
 - 4) Connect Brown Driver Wire to AC Line
- 5) Double Check all connections
- 6) Energize the AC power
- 7) Check operation of light





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OPERATING NOTES

- 1) Please see the image below in reference to the Charge LED and Sensor Window
- 2) The Charge LED will operate as follows
 - 1) Fast Blink – Boost Charging. Battery level is low, some functionality will be limited until battery recharges
 - 2) Slow Blink – Charging. Normal Charging State.
 - 3) Solid – Battery has reached maximum charge.
- 3) The lights will come on at dusk, based on the light level detected by the solar panels.
- 4) The LED panel will turn off at dawn, as the light level detected by the solar panels increases.
- 5) There is a standard 1-minute sensor dwell time when the light is operating in sensor mode.



CONTACT INFORMATION

SALES SUPPORT:

Please contact your Distributor, Rep, or LED Regional Sales Manager.

Light Efficient Design Sales can be reached at (847) 380-3540 and ask for sales or email: sales@led-llc.com

TECHNICAL SUPPORT:

Technical support is available, please email solera-ts@led-llc.com

Please include the model number, number of lights, installation date and any other pertinent information.