SOLIGHT

SLT-1200 / SLT-1200S / SLT-1200M

OWNER'S MANUAL

Solar LED Light Tower / Solar Security Tower / Solar-Wind Hybrid Tower



Rev. 2026-11, November 2026

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Introduction

Solight prides itself on providing innovative solar products designed to be energy efficient, environmentally friendly, and cost effective.

The SLT-1200 Solar Light Tower is built for flexibility, portability, durability and dependability, allowing performance levels to reach their maximum potential. Top priority was given in the design of this product to ease of use and operation.

FEATURES

- Portable
- Long-life LED lights
- Built for extreme environments

IDEAL USES

- Construction and work sites
- Mining and industrial sites
- Road work

- Adjustable illumination heights
- Lower maintenance cost
- Reduced energy consumption
- Reduced greenhouse gas
- Reduced pollution
- Reduced fossil fuel usage
- Parking lots
- Golf courses and facilities
- Government and state agencies
- Outdoor events

Contact Solight

Solight
419 E Juanita Ave #102
Mesa, AZ 85204
Phone: 480-626-2044
Web: https://solight.com
Email: support@solight.com

When contacting Solight about service, parts or warranty, please have the model and serial number of your unit available (see Section 4).

Models Covered

This manual covers three models built on the same trailer, mast, solar array, battery system and control panel:

Model	Description
SLT-1200	Base solar light tower with four LED floodlights.
SLT-1200S	Adds the camera package (if equipped): 2 PTZ cameras, NVR, router and inverter. Uses two LED floodlights (two of the four are removed). The cameras, NVR and router all run off the inverter, and the inverter connects directly to the batteries.
SLT-1200M	Adds the wind turbine package (if equipped), including a 450 W wind turbine. Details: see the wind turbine section.

Information in this manual applies to all three models unless marked SLT-1200S: or SLT-1200M:. Camera-package content applies only to units with the camera package (typically SLT-1200S). Wind-turbine content applies only to units with the wind turbine package (typically SLT-1200M).

About This Manual

This manual covers the Solight SLT-1200 Solar LED Light Tower, the SLT-1200S Solar Security Tower (camera package, if equipped) and the SLT-1200M Solar-Wind Hybrid Tower (wind turbine package, if equipped). See Models Covered. Specifications are in Section 5. This is Rev. 2026-11 (November 2026).

Safety First

Safety is essential in the use and maintenance of Solight light towers. This instruction manual and any markings on the light tower provide information for avoiding hazards and unsafe practices related to its use. Observe all of the safety information provided.

Warning Labels

Safety warning labels are found on the product for your safety. ALWAYS keep the machine clean and the labels legible. Replace all missing and hard-to-read labels. Labels provide important operating instructions and warn of dangers and hazards.

Safety Alert Symbol and Signal Words

The safety alert symbol is used to call your attention to hazards or unsafe practices that could result in injury or property damage. The three signal words, defined below, indicate the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

DANGER	Immediate hazards that, if not avoided, WILL result in severe injury or death.
WARNING	Hazards that, if not avoided, COULD result in severe injury or death.
CAUTION	Hazards or unsafe practices that, if not avoided, MAY result in injury or property damage.

1. Important Safety Information

⚠ WARNING – GENERAL AND PERSONAL SAFETY	
WARNING	Read and understand all instructions and safety information in this manual before operating or servicing this light tower.
WARNING	Safety warning labels are found on the product for your safety. ALWAYS keep the machine clean and labels legible. Replace all missing and hard-to-read labels. Labels provide important operating instructions and warn of dangers and hazards.
WARNING	Use this light tower for the manufacturer's intended purpose only. Use other than that which is described in this manual can result in injury or property damage.
WARNING	Only qualified persons should operate the Solight light tower.
WARNING	Do not use the light tower while tired or under the influence of drugs, alcohol or medication.
WARNING	Always follow operating procedures.
WARNING	Wear eye protection, a hard hat and gloves when using this light tower.
WARNING	Keep all body parts, loose clothing and long hair clear of the winch, cable and cooling fans during operation.
WARNING	Beware of pinching hazards when deploying solar panels, opening and closing doors on the main housing, and extending jacks and mast.
WARNING	The area immediately surrounding the light tower should be dry, clean, and free of debris. Keep the area behind the trailer clear of people when raising/lowering the mast.
WARNING	Make sure the area above the light tower is open and clear of overhead wires and obstructions.
WARNING	Keep the unit away from anything flammable. Do not smoke near the unit.

⚠ WARNING – TOWING, TRANSPORT AND TRAILER	
WARNING	Maximum recommended speed for highway towing is 55 mph.
WARNING	ALWAYS inspect the hitch and coupling for wear or damage. DO NOT tow the trailer using defective parts. Check trailer tires for tread wear, loose lug nuts, inflation, and condition.
WARNING	ALWAYS ensure safety chains and brake lights are properly connected.

⚠ WARNING – TOWING, TRANSPORT AND TRAILER	
WARNING	Check that the hitch and coupling on the towing vehicle are rated equal to, or greater than, the trailer's Gross Vehicle Weight Rating (GVWR). Make sure the coupling is securely fastened to the vehicle.
WARNING	When towing, maintain extra space between vehicles and avoid soft shoulders, curbs and sudden lane changes. NEVER tow anything behind the trailer. If you have not pulled a trailer before, practice turning, stopping, and backing up in an area away from heavy traffic.
WARNING	Light towers should always be in the retracted position for transport/towing, even if simply moving around a job site.
WARNING	Contact your local Department of Transportation office to check license requirements for your particular unit. Refer to Department of Transportation regulations before towing.
WARNING	DO NOT modify the trailer. Even something as small as driving a nail or screw can damage an electrical circuit or other features in the trailer. Unauthorized modifications will void the warranty.
WARNING	NEVER climb on top of the main housing unit of the trailer.
WARNING	NEVER store any items in the control or battery housing.

⚠ WARNING – STABILIZATION, MAST, LIFTING AND SOLAR PANELS	
WARNING	ALWAYS be sure the machine is on a firm, level surface and will not tip, roll, slide, or fall while operating.
WARNING	NEVER attempt to move the trailer while the jacks are down. Serious machine damage will result.
WARNING	The jacks are not designed to lift the tires off the ground. Ensure that all jacks are down to prevent the tower from tipping over when raised.
WARNING	Before raising the mast, properly deploy the unit's extensions and jacks to ensure the machine is level, and ensure all pins are fastened securely. The jacks must remain in place while the mast is extended.
CAUTION	Continuing to wind the manual winch backwards after the lift has been completely lowered can result in cable damage or erratic operation.
WARNING	DO NOT raise the mast unless extensions and jacks are properly deployed, level on the ground and pinned. Jacks are used for stabilization only and should not lift the tires off the ground.
WARNING	DO NOT stand, step, sit, lean, or walk on the light tower when the mast is raised.
WARNING	DO NOT attempt to move the light tower while the jacks are deployed or when the mast is raised.
WARNING	NEVER remove the safety pin or pull the mast-locking pin while the tower is in the extended/raised position.
WARNING	When lifting the unit using a forklift, make sure the forks are inserted a minimum of 24 inches into the fork pockets. Long forks may be required to lift safely and avoid damage. Ensure the forklift has the proper lifting rating to handle the weight of the unit; check the label for specific weight specifications.
WARNING	Make sure wiring on the tower is not tangled while raising and/or lowering the mast. When lowering the mast, ensure the mast wiring is not pinched.
WARNING	Make sure the trailer is free from obstructions before raising the mast: tree branches, power lines, and building overhangs.
WARNING	Lower the mast when not in use, or if high winds or electrical storms are expected in the area.
WARNING	DO NOT drop objects, allow objects to fall, or rest heavy objects on solar panels.
WARNING	DO NOT keep solar panels deployed in wind over 15 mph.
WARNING	ALWAYS ensure jacks are locked into place before deploying solar panels, for safety and wind support.
WARNING	Be careful not to pierce or damage panels when lifting with a forklift or crane. Place a barrier such as blankets, cardboard or plywood between the lift and the panels to protect them from surface damage.
WARNING	Solar panels must be properly deployed and in the locked position to achieve proper charging and safety.
WARNING	Avoid working on the unit with panels deployed. Avoid walking, working or sitting underneath deployed panels.

⚠ WARNING – ELECTRICAL AND CONTROLLER	
WARNING	DO NOT operate the light tower in electrical storms or in the presence of lightning.
WARNING	NEVER use excessive force when moving lights.
WARNING	NEVER use the tower if the insulation on an electrical cord is cut or worn through.
WARNING	The battery bank stores a large amount of energy. Keep hands, tools and metal objects away from the battery terminals.
WARNING	Ensure all lighting cables, wires and connections are in place and not tangled.
WARNING	Before servicing the light tower, ensure the circuit breakers are switched off and the negative battery terminal is disconnected. NEVER perform even routine service (cleaning, etc.) unless all electrical components are off.
CAUTION	Improper use or sequence of disconnecting or reconnecting the controller can damage the unit and destroy the controller. Follow the disconnect/reconnect sequence in Section 12 to prevent injury or damage. Consult the Morningstar ProStar MPPT manual for electrical wiring.
WARNING	The unit uses low-voltage DC circuits. Always turn breakers off in the proper sequence (Section 12) before servicing electrical components, including the solar charge controller and batteries.

⚠ WARNING – ELECTRICAL AND CONTROLLER	
WARNING	Keep the controller dry. The control door is not waterproof; make sure the door is shut tight and secure to avoid damage and injury.
WARNING	Disconnect all power sources to the controller before servicing; hazardous voltage can exist on the controller's power connections (Morningstar ProStar MPPT manual).

⚠ WARNING – BATTERIES	
WARNING	The lithium iron phosphate ($LiFePO_4$) batteries store a large amount of energy. A short circuit across the terminals can cause burns, fire or equipment damage. Keep sparks, flames and lit cigarettes away from the batteries and protect your eyes. Do not open, puncture or modify a battery. DO NOT change batteries without proper instruction.
WARNING	Failure to properly charge the unit prior to use, or to turn off the lights when battery charge is low, will deplete the battery, reduce battery life and void the battery warranty.
WARNING	To prevent sparks, unplug any charger before connecting or disconnecting the battery.
WARNING	Charge the batteries only within their charge temperature range of -4°F to 113°F (-20°C to 45°C); the discharge range is -4°F to 131°F (-20°C to 55°C). The batteries have a built-in self-heating function (Husky 2 spec sheet).
WARNING	Allow for ventilation. Do not block vents on the unit.
WARNING	Check all connections, including batteries and breakers, for tightness. Do not over-tighten battery connections.
WARNING	Keep the batteries and terminals clean and dry.
WARNING	The BigBattery Husky 2 24 V $LiFePO_4$ batteries must NOT be connected in series. They may be connected in parallel only, up to 16 batteries in total. Before connecting batteries in parallel, make sure their voltages are within 1 V of each other.
WARNING	$LiFePO_4$ batteries are sealed. They need no watering and must never be equalized; the instructions for gel or flooded lead-acid batteries do not apply.
FAILURE TO OBSERVE THESE WARNINGS CAN RESULT IN SEVERE INJURY OR DEATH.	

2. Description of Operation

Before operating the SLT-1200 Solar Light Tower, conduct an inspection to ensure the unit and its components are functioning properly and meet all safety guidelines. Check the following five components for proper operation:

1. Towing equipment
2. Light tower/mast (cable systems, pulley, and winch)
3. Extensions and jacks
4. Light fixtures (for damage)
5. Safety decals are present and visible

⚠ ***The five-step checklist should not be considered as, or replace, a full inspection. Inspect the unit and its components routinely. For expanded inspection/maintenance information, see Section 17, Maintenance.***

3. Parts Identification



Figure 3.1 – Rear/curb view, with solar panels deployed and lights raised



Figure 3.2 – Front/side view, showing the tongue, jacks, and a sliding panel



Figure 3.3 – Front view from the tongue: mast, light bar with four floods, winch, tongue jack, leveling jacks, and deployed panels



Figure 3.4 – Rear bumper: LED taillights, square receiver, and rear leveling jack

Exterior View



Figure 3.5 – SLT-1200 Solar Light Tower (product photo, solight.com)

4. Serial Number Location

The Solight unit serial number sticker is on the control panel (Figure 4.1). Each BigBattery Husky 2 battery has its serial sticker on one side of the battery; duplicates are on the inside of the control panel door (Figure 4.2). When inquiring about product information or troubleshooting, please have this information nearby. The serial number and date of delivery must also accompany any warranty claim or returned parts (see Warranty).



Figure 4.1 – Solight unit serial number sticker on the control panel (example shown: 0001)



Figure 4.2 – Duplicate battery serial number stickers on the inside of the control panel door, one per battery.

Record Your Unit Information

Model	
Serial number	
Date of purchase / delivery	
Purchased or rented from	

5. Specifications and Dimensions

Values marked "spec sheet" are from the Solight SLT-1200 Spec Sheet (September 2026).

TRAILER/TOWING	
Length	11′ 10″
Width	4′ 5″
Height	6′ 3″ to top of panels
Tongue	Removable tongue (spec sheet); coupler connection
Frame / chassis	Powder-coated steel chassis (spec sheet); heavy-gauge steel tubing and structural channel
Hitch	Adjustable height, 2″
Tongue jack	(1) H.D. tongue jack
Leveling / outrigger jacks	Four outrigger jacks (spec sheet)
Tie-downs and lifting	4 D-rings; forklift pockets (spec sheet)
Safety chains	24″ x ¼″ proof coil plated chains with hooks
Tires	14″
Towing weight	Approx. 1,460 lbs.
STABILIZATION	
Panel extensions	Stainless steel locking rail slides, 500 pound weight capacity
Stabilization	Outrigger jacks for wide-base stabilization

MAST/LIGHTS	
Height	30 ft telescoping mast (spec sheet).
Material	H.D. powder-coated steel and steel tubing
Raise/ lower	2,000 lb. hand winch
Lights	Four independent, adjustable Solight LED floodlights (100 W, 24 V DC driver): 170 lm/W ±5%, approx. 68,000 lm total; IP66 (see Light Specifications below) **SLT-1200S: two Solight LED floodlights; the other two positions carry two 4K PTZ cameras, plus an NVR with 2 TB of storage and a Pepwave 4G router on Verizon (Starlink upgrade available).**
Light circuits	Two separate circuits for 2-light or 4-light operation, each controlled by its own digital timer (Section 9) **SLT-1200S:** two Solight LED floodlights, each controlled by its own CN304 timer and rocker switch (two separate circuits).
SOLAR UNIT	
Solar array	1,230 W total: three Jinko Cheetah 410 W mono PERC half-cell panels, five-busbar, 20.38% module efficiency (see Solar Panel Specifications below)
Charge controller	Morningstar ProStar MPPT-40M (PS-MPPT-40M) with meter display: 40 A max. continuous battery current, 30 A max. continuous load current, 12/24 V systems (Morningstar manual)

POWER SUPPLY/BATTERY	
Batteries	Two BigBattery Husky 2 24 V $LiFePO_4$ batteries (FHSKY-24051-G2) connected in parallel: 200 Ah / 5.12 kWh each, 400 Ah / 10.24 kWh total. Rated for 80% depth of discharge. Smart BMS with automatic cell balancing, self-heating, IP65 / NEMA 4X (see Battery System below)
Battery weight	95 lb (43.1 kg) each; 190 lb (86.2 kg) total
System voltage	24 V DC (two 24 V batteries in parallel; 25.6 V nominal)
Lighting control	Green three-position rocker switches: toward the timers = CN304 automatic timer control (including dusk-to-dawn schedules); CENTER = OFF; away from the timers = manual on. The ProStar ships in Normal/manual load mode, not Lighting mode.
AC charging	Optional, if equipped: 110V charging port with NOCO GENIUSPRO25 plug-in battery charger (Section 11)

Standard and Optional Equipment

Standard equipment	Optional equipment
Trailer with removable tongue, forklift pockets, 4 D-rings and four outrigger jacks	BigBattery battery capacity meter (MTR105-CBL079, 350 A) — if equipped (Section 9)
30 ft telescoping mast	Plug-in wall charger: 110V charging port with NOCO GENIUSPRO25 — if equipped (Section 11)
Four Solight LED floodlights (100 W, 24 V DC) on SLT-1200 / SLT-1200M; SLT-1200S has two LED floodlights and 2 PTZ cameras when the camera package is fitted	Communications package (EMC-1 + Pepwave 4G router) for remote monitoring/control over Verizon cellular service — if equipped (Section 10, DIP switch 8 / SW8). When the camera package is fitted, the cameras also connect through the Pepwave router. The EMC-1 provides a web page for remote monitoring that shows solar panel input voltage, panel input amps and watts, battery voltage, amp-hours of load and charge, and GPS location. From that web page the lights can be turned on and off remotely and the controller can be rebooted remotely.
1,230 W extendable solar array (three Jinko Cheetah 410 W panels, model JKM410M-72HL-V)	Generator shelf for solar/gas hybrid — optional, if equipped (no wiring or setup steps in this manual)
Two BigBattery Husky 2 24 V $LiFePO_4$ batteries (10.24 kWh total)	Camera package (SLT-1200S): inverter, router, NVR and 2 PTZ cameras — if equipped (unit has 2 LED floodlights). Cameras, NVR and router all run off the inverter; the inverter connects directly to the batteries.
Morningstar ProStar MPPT-40M charge controller	NATO slave: optional 24 V jump-start/slave port — if equipped
Two CN304 digital light timers with green three-position rocker switches	Wind turbine package (SLT-1200M), including a 450 W wind turbine — if equipped
DIN-rail breakers (Battery 60 A, Cooling fan 1 A, Solar panels 15 A ×3, Lights 10 A ×4) and fan thermostat	

Source: Solight SLT-1200 Spec Sheet (September 2026) and Solight-confirmed standard/optional split. The Communications package (EMC-1 + Pepwave 4G router) provides remote monitoring/control over Verizon cellular service. When the camera package is fitted, the cameras also connect through the Pepwave router. The EMC-1 provides a web page for remote monitoring that shows solar panel input voltage, panel input amps and watts, battery voltage, amp-hours of load and charge, and GPS location. From that web page the lights can be turned on and off remotely and the controller can be rebooted remotely. This package replaces the earlier "wireless communication (4G)" optional line. All dimensions and weights are subject to a tolerance of ±10%. Specifications are subject to change without notice (see Section 16).

NATO slave (optional, if equipped): a 24 V jump-start/slave port. Generator shelf (optional, if equipped): a shelf for a solar/gas hybrid generator setup. No wiring or setup steps for the NATO slave or generator shelf are included in this manual.

Solar Panel Specifications

The array uses three Jinko Cheetah HC 72M 410 W panels (model JKM410M-72HL-V), for 1,230 W total. Ratings per panel at standard test conditions (STC):

Rating (STC, each panel)	Value
Maximum power (Pmax)	410 W
Maximum power voltage (Vmp)	40.68 V
Maximum power current (Imp)	10.08 A
Open-circuit voltage (Voc)	49.60 V
Short-circuit current (Isc)	10.76 A
Module efficiency	20.38%
Dimensions	2008 × 1002 × 40 mm (79.06 × 39.45 × 1.57 in)
Weight	22.5 kg (49.6 lb)
Total array power	1,230 W (3 × 410 W)

Source: panel label on installed SLT-1200 units (Jinko JKM410M-72HL-V; photo on file). Electrical ratings match the Jinko Cheetah HC 72M A4 datasheet table; frame depth and weight match the A3 mechanical table. The panel type, Jinko Cheetah 410 W, is from the Solight SLT-1200 parts list.

Panel version resolved from the installed-unit label: JKM410M-72HL-V (410 W ±3%; Vmp 40.68 V; Imp 10.08 A; Voc 49.60 V ±3%; Isc 10.76 A ±4%; max system voltage 1,500 V DC; series fuse 20 A; operating −40 to 85 °C; 22.5 kg; 2008 × 1002 × 40 mm; assembled in USA).

Battery System

The SLT-1200 uses two BigBattery Husky 2 24 V $LiFePO_4$ batteries (FHSKY-24051-G2) connected in parallel. Each battery is 200 Ah / 5.12 kWh, for 400 Ah / 10.24 kWh total. The batteries are rated for 80% depth of discharge.

Specification (each battery)	Value
Model	BigBattery Husky 2, FHSKY-24051-G2
Chemistry / nominal voltage	$LiFePO_4$ (8S) / 25.6 V
Capacity	200 Ah / 5.12 kWh
Weight	95 lb (43.1 kg)
Dimensions (D × W × H)	12.6 × 18.1 × 9.8 in (320 × 460 × 249 mm)
Charge temperature range	-4°F to 113°F (-20°C to 45°C)
Discharge temperature range	-4°F to 131°F (-20°C to 55°C)
Connections	Parallel only, up to 16 batteries; not series-capable
Protection / features	IP65 / NEMA 4X; smart BMS with automatic cell balancing; self-heating; CANBus / RS485

- The batteries are sealed $LiFePO_4$. They need no watering or equalization.

- The Husky 2 cannot be wired in series. Parallel connections are limited to 16 batteries, and batteries must be within 1 V of each other before they are connected in parallel.

Source: Husky 2 spec sheet, rev. 3/29/2024.

Battery Bluetooth Monitoring

Each of the two Husky 2 batteries can be monitored from a smartphone with the BigBattery Husky 2 app (free on the Apple App Store and Google Play), over Bluetooth. The app is for monitoring only. Do not change module ID or other communication settings unless Solight directs you to do so.

The app typically shows state of charge (remaining capacity), pack voltage, current, power, temperature, individual cell voltages, cycle count, state of health, and fault or alarm alerts.

To download and pair:

1. On an iPhone or Android phone, search for the BigBattery Husky 2 app in the Apple App Store or Google Play Store and install it. Allow Bluetooth when the phone asks.

2. Open the app and make sure the Husky 2 battery you want to check is turned on (On/Off button on the battery).

3. In the app, search for batteries. Each battery has a Bluetooth name on a label on the left side of the battery. Select the matching name and tap Connect. The app then shows that battery's information.

4. The SLT-1200 has two batteries. Connect to each one separately, using its own Bluetooth label, if you need to check both.

Stay within Bluetooth range of the batteries. The manufacturer's app listing states a range of up to about 100 ft. If the signal is weak, open the battery compartment door and move closer. If a battery does not appear in the app, confirm it is turned on and try again.

Light Specifications

The SLT-1200 has four **Solight LED floodlights (100 W, 24 V DC)**.

SLT-1200S: has two of these floodlights and two PTZ cameras (34,000 lm total from the two lights).

Specification (each light)	Value
Model	Solight LED floodlight, 100 W, 24 V DC
Power / driver	100 W; 24 V DC driver (operating range 22–29.2 V DC)
Efficacy	170 lm/W ±5%
Light output	17,000 lm per light; 68,000 lm total (4 lights) at ~170 lm/W ±5%
LEDs	Lumileds
Color temperature	5000K standard
Color rendering	TBD (CRI not stated for Solight's ordered units)
Beam angle	90°
Ingress protection	IP66
Housing	All-aluminum housing
Dimensions	291 × 102 × 266 mm
Weight	2.9 kg ±5% (≈ 6.4 lb) each
Warranty	Two-year parts-only warranty (parts only, no labor).

Source: manufacturer data for the 100 W, 24 V DC LED floodlights used on the SLT-1200 (90° beam; 5000K standard; IP66). CRI for Solight's ordered units is TBD.

6. Initial Set-up

Light Set-up

The light tower is shipped with the lights folded down. Bolt them into place before operation.

CAUTION: Pay special attention to the polarity labels on the wires. Verify positive (+) and negative (−) markings match before connecting. Reversed polarity can damage the lights, solar panels, or charge controller.

1. Remove the zip tie that holds the lights in their shipping position.
2. Remove the two light fastening bolts.
3. Unfold the lights on their hinge to the vertical position.
4. Install the two light fastening bolts through the bottom of the swivel head.



Figure 6.1 – SLT-1200 light bar with four LED floods (from the solight.com product photo)

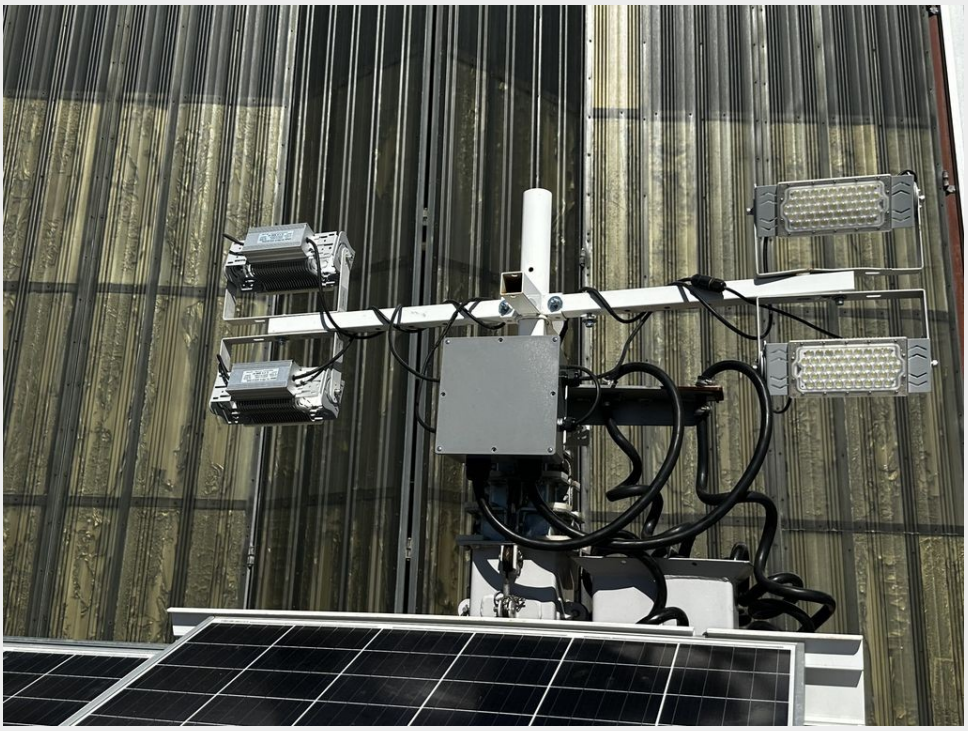


Figure 6.2 – Lights in the operating position

7. Transporting and Towing

Coupling the Trailer

1. Slowly back up the tow vehicle so the hitch ball is near or aligned under the coupler.
2. Using the front leveling jack, rotate the handle counter-clockwise to lower the trailer.
3. Lower the trailer tongue until the coupler fully connects to the hitch ball, and secure the trailer to the towing vehicle.
4. Attach the safety chains so they crisscross underneath the coupler. Allow for adequate slack.
5. Fasten the brake light quick connects to the towing vehicle.

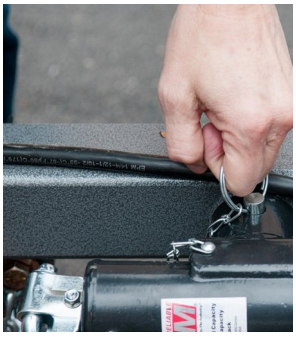
6. Store the tongue jack in the locked position. To store the tongue jack:
   a. Raise the jack by turning the jack handle.
   b. Pull the lock pin out.
   c. Rotate the jack to the horizontal position, parallel to the tongue.
   d. Replace the lock pin. (Make sure all lock pins are properly installed.)
7. The following components should be retracted/closed and properly stowed while towing:
   - Extensions and jack stands (see Step 6)
   - Solar panels closed and locked (see Section 8, Storing Panels)
   - Door to the battery and control housing closed and locked

BEFORE TOWING THE TRAILER, CHECK:

- Tires: pressure, tread, wear patterns, and tight lug nuts
- Coupler is secured and locked
- Safety chains are properly attached to the towing vehicle
- Brake lights and turn signals are functioning
- License plate is attached and current (according to local laws)

Uncoupling the Trailer

1. Before jacking the trailer up, it is recommended to place wheel chocks under the tires to prevent the trailer from rolling.
2. Disconnect the following from the tow vehicle:
   - Safety chains
   - Brake/light quick connect
3. Remove the clevis pin and rotate the tongue jack to the vertical position. (Figure 7.1)
4. Unhitch the trailer from the ball hitch by removing the coupler pin and sliding the coupler back, then take out the hitch pin and position the tongue off the towing vehicle. (Figure 7.2)
5. Raise the tongue jack using the handle until the coupler is clear of the ball hitch.
6. Remove the cotter and clevis pins, pull out the extensions and replace the pins. Remove the pin from each jack, rotate the jack 90 degrees and replace the pin. Using the handle, lower the jacks until they level the unit. Use all jack stands to level the trailer. (Figures 7.3, 7.4)


Figure 7.1

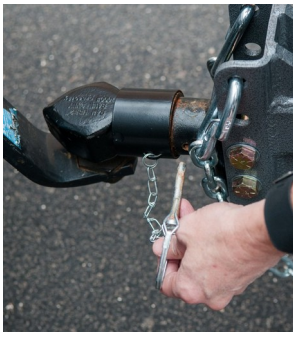

Figure 7.2


Figure 7.3


Figure 7.4

8. Solar Light Operation

Stabilization

1. Make sure the area around the trailer is clear. Remove any obstructions that might cause serious injury or property damage.
2. Position the trailer on level ground.
3. Adjust the trailer so the solar panels face south to optimize solar absorption. For the best results, the sun should shine directly onto the solar panels without obstructions or shadows.
4. Adjust the LED floodlights before raising the mast.
    a. Loosen only the outside pivot bolt on the flood being aimed. A sticker on the pivot reads “ONLY LOOSE THIS M8 SCREW TO ADJUST.”
    b. Use the degree scale on the pivot to set and match angles.
    c. Retighten the pivot bolt firmly after adjusting.



Figure 8.1 – Adjusting flood tilt at the side pivot bolt



Figure 8.2 – Pivot with degree scale for repeatable aiming

⚠ ***Make sure the light bar is properly seated on its mount after the initial set-up (Section 6). Adjust and tighten the bolts if needed.***

Raising the Mast

⚠ ***Before raising the mast, make sure the trailer is free from all obstructions.***

1. Make sure the LED lights are secured and all adjustments have been made.
2. Raise the light tower using the manual hand winch, rotating clockwise. (Figure 8.3)
3. Make sure the mast is rising vertically and the winch is extending it smoothly. Stop if the mast begins to bind.
    a. If binding occurs, lower the mast by rotating the hand winch counter-clockwise. Inspect the winch cable for kinks or wear. Check the lighting cable for snags or binding. If problems persist, contact Solight for additional support.
4. The crank is fitted with an automatic braking system. If the mast is coming down on its own, bring the mast slowly down with the crank and check that the crank mechanism is working properly before trying again to raise the mast.

a. If the automatic braking system is not working properly, DO NOT raise the mast. Contact Solight for additional support.

5. Raise the light tower to the desired height.
6. If raising the tower to its maximum 30 ft height, insert the mast locking pin through the hole in the top of the mast when the hole becomes visible. (This applies only when extending the mast to maximum height.) The pin must be removed prior to lowering the mast. (Figure 8.4)



Figure 8.3

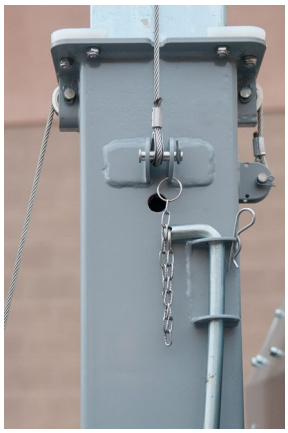


Figure 8.4

Deploying Solar Panels

Three solar panels come standard. The top panel is fixed in position. The other two panels are mounted on stainless steel locking rail slides, 500 pound weight capacity, so they can be pulled out and locked in the deployed position, then pushed back in and locked for travel. One panel deploys to the left and one to the right.

CAUTION: Pay special attention to the polarity labels on the wires. Verify positive (+) and negative (−) markings match before connecting. Reversed polarity can damage the lights, solar panels, or charge controller.

1. Each sliding panel has two yellow knobs, one at the top and one at the bottom, that release it from the locked position. Turn the top or bottom knob upward and pull outward on the panel with light pressure until you feel the lock release. (Figure 8.5)
2. Keeping light pressure on the panel, turn the other knob upward until you feel the second lock release. Make sure the first knob is still in the unlocked position.
3. Pull the panel out from its center so the rail slides move evenly and the panel does not bind. If a knob did not release, hold the panel outward while you turn that knob. (Figure 8.6)
4. Continue pulling slowly from the center until the panel locks into place. Check that both knobs are locked and the panel is evenly deployed. Never pull on a panel unless both knobs are turned up and released. If it does not slide, a lock is still engaged; do not force it.
5. Repeat these steps for the panel on the other side of the unit.

NOTE: Panels will not overlap when fully deployed.



Figure 8.5



Figure 8.6

Storing Panels

To store the panels for travel or bad weather, reverse the deployment procedure:

1. Turn the top or bottom yellow knob upward to free the lock.
2. Push the panel inward slightly at that knob until you feel the lock release.
3. Repeat at the other knob.
4. With both locks released, push the panel slowly inward from its center until both knobs lock it in place.
5. Repeat for the panel on the other side.

Never force a panel in or out if it binds. Release the knobs again; they may have rolled back into the locked position.

9. Light Timer Operation (Digital Timers)

The SLT-1200 has two CN304 digital timers, mounted one above the other on the left side of the control panel. Each timer has its own green illuminated three-position rocker switch (marked I / 0 / II) to its right: toward the timers = automatic timer control, CENTER = OFF, away from the timers = manual on. The upper timer controls the top two lights and the lower timer controls the bottom two, so the tower can run two lights for lower power use or all four for full output.

Control panel layout: the two CN304 timers are on the left, each with its rocker switch to its right, and the ProStar MPPT-40M charge controller is on the right. The round opening below the two timers is for the BigBattery battery capacity meter (optional, if equipped), part MTR105-CBL079 (350A). The meter is not installed on the unit shown in Figure 9.1.

SLT-1200S (camera package, if equipped): the unit has two Solight LED floodlights and 2 PTZ cameras. Each floodlight has its own CN304 timer and its own rocker switch (one light circuit per floodlight). The camera package includes an inverter, router, NVR and 2 PTZ cameras. The cameras, NVR and router all run off the inverter, and the inverter connects directly to the batteries.



Figure 9.1 – Control panel (unshaded): upper timer, lower timer, rocker switches, ProStar MPPT, battery status meter opening (not installed on this unit; for the battery capacity meter, MTR105-CBL079, 350A, if equipped)

Timer	Rocker switch	Controls
Upper timer	Green rocker switch to the right of the upper timer	Top two LED flood lights
Lower timer	Green rocker switch to the right of the lower timer	Bottom two LED flood lights

Rocker Switch Positions

Switch position	Result
Toward the timers (LEFT)	The lights run automatically on the CN304 timer. The timer's clock and programs must be set, and the timer must be in AUTO.
CENTER	OFF — lights off.
Away from the timers (RIGHT)	The lights are on manually, bypassing the timer. They stay on day or night until the switch is moved to CENTER (OFF) or toward the timers.

The ProStar MPPT-40M has preset low-voltage disconnect and reconnect levels. If the batteries fall to the disconnect level, the controller keeps the lights off in both timer and manual modes. It turns them back on automatically once solar charging brings the batteries up to the reconnect level. If the lights won't come on in either switch position, the LVD has most likely turned them off (see Section 10). Because the controller is set to Normal (manual) load mode at the factory, the lights do not turn off automatically at dawn. In the manual-on position (away from the timers), the lights stay on day or night until the switch is moved to CENTER (OFF) or toward the timers.

> ⚠ ***CAUTION: The charge controller ships in Normal (manual) load mode. The lights are controlled only by the CN304 timers and the panel rocker switches—not by an automatic dusk-to-dawn function in the controller. In the manual-on position (away from the timers), the lights stay on, day or night, until the switch is moved to CENTER (OFF) or toward the timers. Do not leave the lights on manually longer than needed; this can drain the batteries and may void the battery warranty.***

Sources for the timer steps: CN304 (TM-619 type) programming instructions on the Guangzhou Golden Electric CN304 product sheet (chinagoldene.com), the HUIMU Instruments CN-series instructions (which use the same D+, H+ and M+ keys), and Solight's photo of the installed timers. A copy of the instructions is kept on file with this manual.

Timer Keys and Display



Figure 9.2 – CN304 timer keys, as installed

Key / indicator	Function
P (program key)	Steps through the on/off programs (1ON, 1OFF, 2ON …) to set or review them.
Clock key (clock symbol)	Hold, together with D+, H+ and M+, to set the current day and time. Press to finish programming and return to the clock display.
D+	Sets the day of the week (clock) or the day group (programs).
H+	Sets the hour.
M+	Sets the minute.
MANUAL	Selects ON, AUTO or OFF mode.
Red indicator (above the display)	Lit when the timer output is on.
Small hole left of the MANUAL key	Recessed "C" reset button (press with a pen tip to clear all settings: clock and programs)

Display: the LCD shows the days of the week (MO–SU) and the time, with markers for ON, AUTO and OFF along the bottom. While programming, it shows the program number and type (for example 1ON or 1OFF).

Capacity: up to 17 on/off programs, set to the minute; clock accuracy about ±1 second per day.

Setting the Clock and Day

1. Press and hold the **clock key**.
2. While holding it, press **D+** until the correct day of the week is shown.
3. While still holding the clock key, press **H+** and then **M+** to set the current time.
4. Release the clock key. Repeat on the other timer.

Day Groups

Each program applies to one of 15 day groups. Press **D+** while programming to step through them:

1	MO TU WE TH FR SA SU (every day)	**9**	MO
2	MO TU WE TH FR SA	**10**	TU
3	MO TU WE TH FR	**11**	WE
4	SA SU	**12**	TH
5	MO WE FR	**13**	FR
6	TU TH SA	**14**	SA
7	MO TU WE	**15**	SU
8	TH FR SA		

⚠ ***The ON and OFF times of each program must use the same day group.***

Programming On/Off Events

1. Press **P**. The display shows **1ON** with the time blank (--:--).
2. Press **D+** to choose the day group for this program.
3. Press **H+** and **M+** to set the on time.
4. Press **P** again. The display shows **1OFF**.
5. Press **D+** to choose the same day group, then **H+** and **M+** to set the off time.
6. Press **P** to move to **2ON** and repeat for any more programs (up to 17).
7. When finished, press the **clock key**. The timer returns to the clock display and starts running the programs.
8. Press MANUAL until the marker is under AUTO, and set the rocker switch for that timer toward the timers (LEFT).

Example: Dusk-to-Dawn Program

To run a pair of lights every night from 6:00 pm to 6:00 am:

Program	Day group	Time
1ON	1 (MO TU WE TH FR SA SU)	18:00
1OFF	1 (MO TU WE TH FR SA SU)	06:00

- For 4-light operation, program the same times on both timers, set both to AUTO and both rocker switches toward the timers (LEFT).
- For 2-light operation, program the upper timer (top lights) and set the lower timer's rocker switch to CENTER (OFF).
- Move the times as the seasons change, so the lights follow local dusk and dawn and don't run longer than needed.
- Other examples: a parking lot could use 1ON 19:00 / 1OFF 23:00 plus 2ON 05:00 / 2OFF 07:00. A Monday–Friday job site could use day group 3 (MO TU WE TH FR), ON 20:00 and OFF 05:00.

Reviewing, Changing and Clearing Programs

- **Review:** press P repeatedly to show each program (1ON, 1OFF, 2ON …) in turn. Press the clock key to return to the clock display.
- **Change:** step to the program with P, then press D+, H+ and M+ to enter the new day group and time. Press the clock key when finished.
- **Clear all:** press the recessed "C" reset button (small hole left of the MANUAL key) with a pen tip. All settings are cleared; set the clock and programs again afterwards.

> ⚠ ***A program is cleared only when both its ON and OFF steps show --:--. 00:00 is a real time (midnight), not a blank program.***

Deleting a single program

1. Press **P** until the program's ON step appears (for example, **2ON**).
2. Press MANUAL once; the time shows --:--.
3. Press P to move to that program's OFF step (for example, 2OFF) and press MANUAL once so it also shows --:--.
4. A program is deleted only when both its ON and OFF steps show --:--. 00:00 is a real time (midnight), not a blank.
5. Press the clock key to exit.

Source: HUIMU CN-series instructions and similar CN304 manuals.

Timer MANUAL Mode (ON / AUTO / OFF)

With the rocker switch toward the timers (LEFT), press MANUAL on the timer to move the marker under ON, AUTO or OFF:

- **ON:** the lights stay on and the programs will not turn them off.
- **AUTO:** the lights switch on and off according to the programs. Use this for normal operation.
- **OFF:** the lights stay off and the programs will not turn them on.

After using ON or OFF, return the timer to **AUTO** so the programs work again.

Countdown and Random Functions

The CN304 does not have countdown or random (security) functions; the CN304 instructions list only weekly on/off programs and manual ON/AUTO/OFF. For one-off use, set the rocker switch away from the timers (RIGHT) and back toward the timers (LEFT) afterwards.

Backup Battery

Each CN304 has a built-in rechargeable 1.2 V, 40 mAh lithium backup cell. It keeps the clock and programs for up to about 60 days without power, has a rated life of about 3 years, and recharges while the timer is powered. If a unit has been disconnected or stored for a long time, check the clock and programs before use, and reprogram if the display is blank or wrong.

If the Timer Does Not Switch the Lights

- Check that the rocker switch is toward the timers (LEFT) for timer control.
- Check that the clock shows the correct **day** and time.
- Check the programs for an unwanted extra program, or a day group that doesn't include today.
- Check that the timer is in **AUTO**, not ON or OFF.
- If the lights won't come on in either switch position, the LVD has most likely turned them off because the batteries are low (see Section 10).

Battery Status Meter (Optional, if equipped — BigBattery MTR105-CBL079, 350A)

If equipped, a BigBattery 350A battery capacity meter (MTR105-CBL079) is mounted in the round opening below the two timers (Figure 9.1). It measures the current flowing into and out of the battery bank through a shunt, and shows the battery voltage, current, amp-hours remaining and state of charge. Skip this section on units without the meter.

Specification	Value
Operating voltage range	8 V to 120 V
Shunt rating	350 A continuous / 500 A peak
Accuracy	±1% (voltage, current and capacity)
Preset capacity range	0.1 Ah to 999 Ah
Cable	4 m
Panel cut-out	54.5 mm round hole

The meter is wired through its included shunt (350 A continuous, 500 A peak). The shunt ships with the meter and has no separate part number.

> ***All battery current must pass through the shunt. Otherwise the meter cannot read the state of charge correctly.***

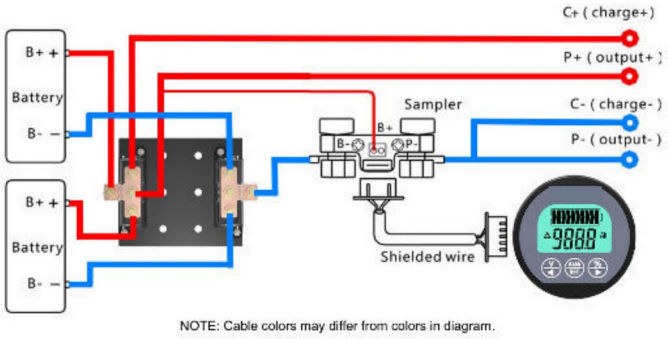


Figure 9.3 – Shunt and meter wiring (source: meter manufacturer's instruction guide)

Photo of installed shunt to be supplied by Solight; may replace or supplement this diagram.

Key	Function
Voltage key	Shows voltage (V). While setting a value, decreases it.
Current/capacity key	Shows current (A), then amp-hours (Ah). Also enters and saves settings.
Percentage key	Shows state of charge (%). While setting a value, increases it.

Setting the battery capacity

1. Hold the **current/capacity key** for 3 seconds until the value flashes.
2. Adjust the value with the **percentage key** (up) and the **voltage key** (down).
3. Press the **current/capacity key** to save.

The meter manufacturer recommends setting the capacity 10% below the rated capacity. For the SLT-1200's 400 Ah bank, set **360 Ah**.

Calibrating the percentage reading

1. When the battery bank is fully charged (or fully discharged), press the **percentage key**.
2. Hold the **current/capacity key** for 3 seconds to set the reading to 100% (or 0%).

Source: 350A battery capacity meter manual.

10. Solar Charge Controller (Morningstar ProStar MPPT-40M)

The SLT-1200 uses a **Morningstar ProStar MPPT-40M** (PS-MPPT-40M) solar charge controller, mounted in the control panel. It is a maximum power point tracking (MPPT) controller that charges the battery bank from the solar array and protects the batteries from over- and undercharging. The "M" model includes a built-in digital meter display. It is rated for a maximum of 40 A continuous battery current and 30 A continuous load current, on 12 V or 24 V systems.

Source for this section: Morningstar ProStar MPPT Installation, Operation and Maintenance Manual (morningstarcorp.com). Refer to that manual for wiring and full programming instructions.

The four LED flood lights are powered from the ProStar's **load output**, switched by the two timers and rocker switches (Section 9). This lets the controller's Low Voltage Disconnect protect the batteries.



Figure 10.1 – Morningstar ProStar MPPT-40M (meter version) in the control panel

Meter Display

- The display is navigated with **four lighted triangular directional keys**.
- The meter map has two axes: **horizontal top-level daily monitoring screens** (scroll left/right) and the **vertical Main Menu** screens (scroll down), which include faults, alarms, settings and Custom Programming.
- Use the monitoring screens to check battery voltage, charging status and solar input. The display also shows active faults and alarms.

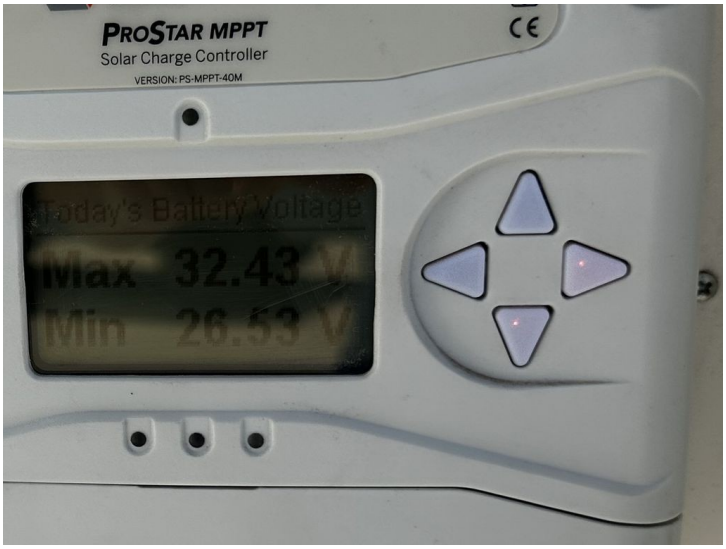


Figure 10.2 – ProStar display showing today's battery voltage

- Operators should mainly check battery voltage and charge state.

LED Status Indicators

The controller has one **Charging Status LED** and three **Battery State-of-Charge (SOC) LEDs** (green, yellow, red). On normal power-up the Status LED flashes green, then the SOC LEDs flash green-yellow-red in sequence, then show battery status.

Charging Status LED	Meaning
Off (brief flicker on every 5 seconds)	Night (no solar charging)
Green, solid	Charging
Red, flashing	Error – generally a user-addressable fault (see Faults below)
Red, solid (flickers off every 5 seconds)	Critical error – generally requires service

Battery State of Charge

The SOC LEDs show battery charge status. The voltages below are for the SLT-1200's 24 V system (Morningstar publishes them on a 12 V basis; the controller doubles them for 24 V).

SOC LED indication	Condition (24 V system)
Green flash, every second	Absorption charging
Green flash, every 2 seconds	Float charging
Green flash, 2 per second	Equalize
Green, solid	Battery above 27.0 V
Green + yellow, solid	26.0 V to 27.0 V
Yellow, solid	25.0 V to 26.0 V
Yellow + red, solid	Below 25.0 V
Red flash, every second	Low-voltage disconnect (LVD) warning: load will disconnect soon
Red, solid	Low-voltage disconnect: load disconnected

For the SLT-1200 LVD and LVR settings, see Low Voltage Disconnect (LVD) and Reconnect (LVR) below.

Turn the lights off when battery charge is low and recharge before further use. Failure to do so will deplete the battery, reduce battery life and void the battery warranty.

Low Voltage Disconnect (LVD) and Reconnect (LVR)

Because the lights run through the controller's load output, the ProStar turns them off when the batteries get too low. This is the most common reason the lights won't come on, by timer or manually.

- **Warning:** as the battery discharges, the SOC LEDs move from green to yellow, then flash red. Flashing red is a warning that a low-voltage disconnect will happen soon.
- Disconnect (LVD): when battery voltage drops to the LVD set-point, the controller disconnects the load. The lights go off whether the rocker switches are toward the timers (timer) or away from the timers (manual), and the battery SOC LED shows solid red. This keeps the batteries from being run completely flat.
- Reconnect (LVR): the load reconnects automatically once battery voltage rises to the reconnect (LVR) level. This usually happens after the solar array recharges the batteries during the day, or after charging with the NOCO GENIUSPRO25 charger if equipped (Section 11). No reset is needed.
- LVD and LVR set-points are current-compensated by the controller, so the actual disconnect voltage is slightly lower under heavy load.

Settings: units ship with the ProStar custom-programmed for the 24 V $LiFePO_4$ battery bank. Load disconnect (LVD) is 25.4 V and reconnect (LVR) is 26.5 V on the 24 V bank (entered on the meter as 12.70 V and 13.25 V on the 12 V basis). Settings are entered on a 12 V basis, and the controller doubles them for 24 V. These LVD/LVR values sit above the battery BMS cut-off so the batteries never shut themselves off first. Under full lighting load, the controller's current compensation lowers the actual disconnect point by about 0.5 V.

Custom settings require DIP switches 4, 5 and 6 ON. They are programmed with Morningstar MSView software or from the meter (Morningstar manual, Sections 4.7.2 and 4.7.4).

Settings

- **DIP switches (factory reference):** eight settings switches set operation. ON = up. Handle gently with a small plastic tool—the switches are fragile. Factory positions on standard SLT-1200 units: SW1 OFF = Normal / manual load (not Lighting mode); SW2 ON and SW3 OFF = fixed 24 V (recommended); SW4–SW6 ON-ON-ON = Custom (required for $LiFePO_4$); SW7 OFF = equalization disabled (required for $LiFePO_4$); SW8 = factory default on standard units. SW8 ON (MODBUS) applies only if equipped with the optional Communications package (EMC-1 + Pepwave 4G router) for remote monitoring/control over Verizon cellular service; leave SW8 at the factory default when that package is not installed. Because SW1 is Normal, automatic dusk-to-dawn is done with the CN304 timers and rocker switches, not by the controller's Lighting mode.
- **Battery charging settings (factory-programmed; service reference only):** units ship with the controller already programmed—do not treat these as customer setup steps. With DIP switches 4–5–6 ON (Custom): absorption 27.8 V for 20 minutes, float 27.0 V, equalize OFF, absorption extension OFF, temperature compensation OFF (0 mV/°C), battery high-voltage disconnect 28.8 V / reconnect 27.2 V. On the meter and in MSView these are entered on a 12 V basis (13.90 / 13.50 / 14.40 / 13.60 V). Never equalize $LiFePO_4$ batteries.
- **Equalization:** keep battery equalization (DIP switch 7) OFF. $LiFePO_4$ batteries must not be equalized.
- **Custom settings:** custom charging, load and lighting settings can be programmed from the meter (Main Menu > Custom Programming, with DIP switches 4, 5 and 6 ON) or with Morningstar MSView PC software. Charging set-points are entered as if for a 12 V system.
- **Lithium batteries: charging in freezing weather relies on the BigBattery Husky 2 batteries' built-in self-heating, not on charge-controller foldback or cutback. The batteries heat themselves before accepting charge. Do not change controller temperature settings in the field.**
- **Do not change settings in the field.** Changing a DIP switch while the controller is powered causes a fault and disconnects solar input until the controller is restarted. Factory DIP positions and custom $LiFePO_4$ charge/load values are listed above for service reference. Only Solight or a Solight-authorized technician should change DIP switches or custom programming.

Common Faults

Fault	LED indication	What to do
Load over-current	Status: red flashing; SOC: R/Y–G sequencing	Load is disconnected; the controller retries twice. Remove the overload, then remove and re-apply power.
Load short circuit	Status: red flashing; SOC: R/G–Y sequencing	Clear the short; the load reconnects automatically.
Solar short circuit	Status: off	Check solar wiring; charging resumes when the short is cleared.
High solar input voltage	Status: red flashing	Array open-circuit voltage is above 120 V; the array stays disconnected until it falls below the limit.
Battery high-voltage disconnect	Status: red flashing; SOC: R–G sequencing	Battery voltage is above limits (often another charging source). Clears automatically.
High heatsink temperature	Status: red flashing; SOC: R–Y sequencing	Load disconnects until the controller cools. Check airflow and vents.
Remote temperature sensor (RTS) error	Status: red flashing; SOC: R/Y–G/Y sequencing	Check the RTS connection and wire.
DIP switch changed / custom settings edited	Status: red flashing; SOC: R–Y–G sequencing	Restart the controller (remove and restore power).
Critical (internal) fault	Status: red solid; SOC: R–Y–G sequencing	Check for mis-wiring. If none, contact Solight for service.
Battery reverse polarity	No LEDs	Correct the wiring (qualified technician only).

If the Controller Is Not Charging

1. Make sure the solar panels are deployed and locked, facing south, and free of shade and obstructions (Section 8), and that they are clean (Section 17).
2. Check the Charging Status LED and SOC LEDs. If the SOC LEDs are flashing in a sequence, find the fault in the table above. The meter display shows active faults and alarms.
3. If there are no LEDs at all, the controller may not be powered: check the battery and solar breakers (Section 12). A qualified technician can check that battery voltage at the controller's battery terminals is at least 20 V DC.
4. With all breakers off, check battery and controller connections for tightness and corrosion. Do not over-tighten battery connections.
5. If solar charging is not possible and the unit has the NOCO GENIUSPRO25 charger (if equipped), recharge using the 110V charging port (Section 11).
6. If the controller still is not charging, contact Solight customer service with the model and serial number.

11. Charging Port (NOCO GENIUSPRO25 — Optional, if equipped)

The NOCO GENIUSPRO25 plug-in charger is optional, if equipped—not standard equipment. This section applies only to units equipped with it; units without it are charged by the solar array only.

The solar array supplies most of the power for the light tower. If equipped, the NOCO GENIUSPRO25 plug-in charger is a backup for periods of bad weather, unusually heavy use or limited sun. It is wired to an external 110V charging port.

1. Plug a grounded, outdoor-rated (SJTW or similar) extension cord from a 110–120 V AC outlet into the 110V charging port. The trailer inlet is a NOCO GCP AC Port Plug rated 15 A / 125 V. The GENIUSPRO25 draws about 4 A at 120 V, so a 16 AWG (13 A) outdoor cord is sufficient for runs up to 100 ft; use 14 AWG for longer runs. Do not use indoor or 2-wire cords.
2. Check the NOCO GENIUSPRO25 indicator lights to confirm it is charging. Refer to the NOCO owner's manual for the meaning of each indicator.
3. Charge until the charger shows a full charge, then unplug the extension cord.

Charge mode: select 24V LITHIUM ($LiFePO_4$ with BMS) on the GENIUSPRO25. From standby, hold Mode for 3 seconds to reach the 6 V/24 V modes, then step to 24V Lithium (29.2 V peak, up to 12.5 A). The charger does not select this mode automatically. Never use REPAIR (lead-acid only) or SUPPLY (fixed 27.2 V) on the $LiFePO_4$ bank.

⚠ ***Charge the batteries only between -4°F and 113°F (-20°C and 45°C) (Husky 2 spec sheet).***

Wind Turbine Package (SLT-1200M — Optional, if equipped)

If equipped (typically on SLT-1200M), the wind turbine package adds a 450 W wind turbine to the solar light tower for hybrid charging. Contact Solight for wind turbine installation, wiring and operating details.

12. Breaker Sequence

Before servicing the trailer or working on the batteries, controller or lights, turn off all breakers in the order below and check that they are off. Switch them back on in the reverse order.

Breakers that connect the lights, the solar array and the battery to the charge controller must be switched in the correct order to avoid damaging the controller:

- Shutdown (turn off): turn off the Lights breakers (10 A ×4) first, then the Solar panels breakers (15 A ×3), then the Battery breaker (60 A).
- Start-up (turn on): reverse order — Battery breaker (60 A) first, then the Solar panels breakers (15 A ×3), then the Lights breakers (10 A ×4).
- Solar panels must be disconnected from the controller before any work is done on the controller or batteries.

Note: the Cooling fan breaker (1 A) can be switched at any point in the shutdown or start-up sequence; order does not matter for this breaker.

Shutdown sequence:

Order	Breaker / label	Rating
1	Lights	10 A ×4 — turn off first
2	Solar panels	15 A ×3 — turn off second
3	Battery	60 A — turn off last

Start-up sequence (reverse order):

Order	Breaker / label	Rating
1	Battery	60 A — turn on first
2	Solar panels	15 A ×3 — turn on second
3	Lights	10 A ×4 — turn on last

See Section 13 and Figure 13.1 for breaker labels, ratings and left-to-right layout on the DIN rail.

13. Breaker Identification

The breakers, a fan thermostat and terminal blocks are mounted on a DIN rail inside the control panel. From left to right the rail holds: a 60 A breaker labeled Battery, a 1 A breaker labeled Cooling fan, a fan thermostat that controls the cooling fan, three 15 A breakers labeled Solar panels, and four 10 A breakers labeled Lights. Use the table below and Figure 13.1 to identify each device.

Position (left to right)	Label	Function	Rating
1	Battery	Battery bank (main battery disconnect)	60 A breaker
2	Cooling fan	Cooling fan circuit	1 A breaker
3	—	Fan thermostat (controls the cooling fan)	Thermostat (not a breaker)
4	Solar panels	Solar array	15 A breaker
5	Solar panels	Solar array	15 A breaker
6	Solar panels	Solar array	15 A breaker
7	Lights	LED floodlight circuit	10 A breaker
8	Lights	LED floodlight circuit	10 A breaker
9	Lights	LED floodlight circuit	10 A breaker
10	Lights	LED floodlight circuit	10 A breaker

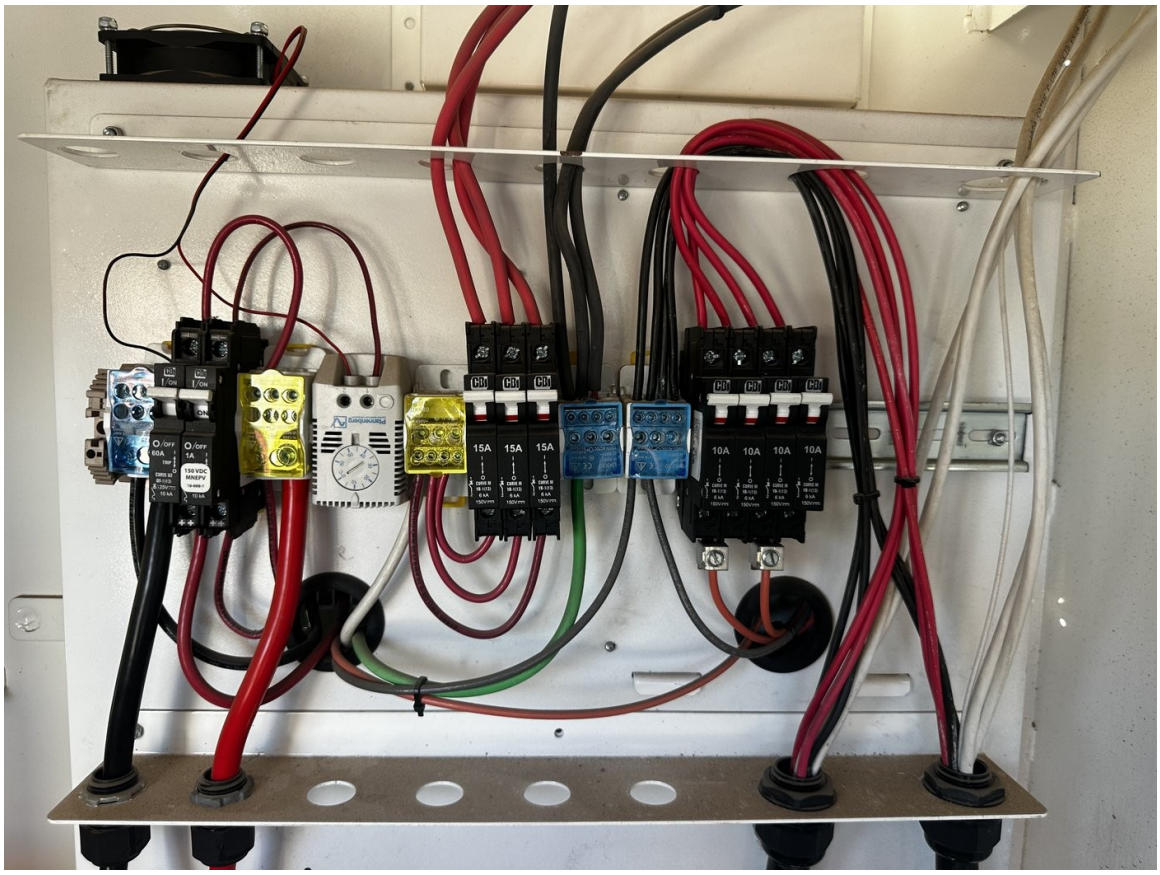


Figure 13.1 – DIN-rail breaker panel (left to right): 60 A Battery, 1 A Cooling fan, fan thermostat, three 15 A Solar panels, four 10 A Lights.

14. Testing Batteries

If you suspect a battery is not working at full capacity, test the two BigBattery Husky 2 batteries one at a time to find the one with the problem. You can first check each battery with the BigBattery Husky 2 app (see Battery Bluetooth Monitoring in Section 5) without disconnecting cables. If you then need a voltmeter test, follow the steps below.

⚠ ***Batteries must not be dropped, slid, or placed on rough or uneven surfaces. Mishandling of batteries could result in equipment damage or personal injury.***

1. Turn off all breakers before working on the batteries (Section 12).
2. Disconnect the main negative cable (black cable with a yellow head) at the blue battery-negative terminal block on the far left of the DIN rail. (See Figure 13.1.)
3. Disconnect the main positive cable (red cable) at the yellow terminal block to the right of the 1 A breaker on the DIN rail.
4. Measure the voltage across the positive and negative terminals of each battery with a voltmeter. The BigBattery Husky 2 operating range is 24 V to 28.8 V.

5. The two batteries should read about the same. They must be within 1 V of each other before they are reconnected in parallel. If they differ by more than that, contact Solight. Never connect the batteries in series.

15. Storing the Light Tower

Store the light tower properly when it is not in use to protect the batteries and other components. Store it outside with the panels facing the sun or, if equipped with the NOCO GENIUSPRO25 charger, inside and plugged in to the 110V charging port.

Stored Outside

1. Face the light tower south so the top panel faces the sun. The slide-out panels can be deployed if desired.
2. Set both rocker switches to CENTER (OFF) (Section 9).
3. Check that the controller shows charging during daylight (Section 10).

Stored Inside (Units with the NOCO GENIUSPRO25 — if equipped)

1. Plug a grounded, outdoor-rated 16 AWG (or heavier) extension cord into the 110V charging port (see Section 11).
2. Check the NOCO GENIUSPRO25 indicator lights to confirm it is charging (Section 11).

If the unit is stored indoors, turn off all breakers (see Section 12). If stored outdoors, leave the breakers on.

Storing the batteries (no charger connected): Store the batteries above 50% charge; never store them fully discharged. Store between −4 °F and 113 °F (−20 °C and 45 °C); cooler is better. Recharge at least once every 9 months if stored at 68 °F (20 °C) or below, every 6 months at 68–86 °F (20–30 °C), and every 3 months at 86–104 °F (30–40 °C). (Source: BigBattery Husky 2 User Manual.)

Storage temperature	Recharge at least once every
68 °F (20 °C) or below	9 months
68–86 °F (20–30 °C)	6 months
86–104 °F (30–40 °C)	3 months

Failure to keep the batteries charged will deplete them, significantly reduce battery life, and may void the battery warranty.

16. Customer Service and Disclaimer

Solight takes pride in providing a quality product. If an issue arises that needs Solight's attention, we will provide the information needed to resolve it. The following sections cover maintenance, troubleshooting and warranty information.

Solight Customer Service: 419 E Juanita Ave #102, Mesa, AZ 85204 | 480-626-2044 | https://solight.com | support@solight.com

Disclaimer

The contents of this manual are current as of the date of publication. Product specifications and information in this manual are subject to change without notice and without incurring any obligation to incorporate new

features on products previously sold. Standard features and options may vary in some models. All dimensions and weights are subject to a tolerance of ±10%. Information is provided assuming ideal conditions of use.

17. Maintenance

Regular maintenance keeps the light tower working properly and at full capacity. Inspect the unit routinely, clean it often and check the electrical wiring.

Regular maintenance (Solight)

1. Keep the solar panels clean.
2. Power wash the rails and lubricate them as needed. Dry PTFE lubricants are preferred over wet greases or oils because they don't let dust and dirt gum up the mechanism.
3. Lubricate the pulleys on the mast so it raises and lowers more easily.

No service intervals are specified for the three items above. The solar-panel cleaning steps below expand on item 1.

Solar Panels

Dirty panels produce less energy, so the most important part of panel care is keeping them clean. Clean them regularly with the same materials used for house or car windows, and do not let dirt build up.

A solar panel cleaning kit (liquid soap, a wiper and a small brush) works well; a car-washing kit can also be used.

1. Mix soap with water in a bucket.
2. Dip the brush into the soap and water mixture and gently rub it over the panels.
3. Wipe the panels with the wiper while they are still wet. Do not let soap dry on the panels; dried soap blocks sunlight and reduces output.

Panel Rails and Mast Pulleys

Use a dry PTFE lubricant on the panel rails and mast pulleys as needed (see items 2 and 3 above). Prefer dry PTFE over wet greases or oils so dust and dirt do not gum up the mechanism.

Batteries

The BigBattery Husky 2 24 V $LiFePO_4$ batteries are sealed. They need no watering, equalization or terminal neutralizing. With all breakers off (Section 12), keep the battery cases clean and dry, check that the terminal connections are tight (do not over-tighten), and check the cables for damage. Never use solvents on the batteries. You can also check state of charge and battery health with the BigBattery Husky 2 app (see Battery Bluetooth Monitoring in Section 5).

Charge Controller

With power disconnected, periodically check that the controller's terminals are tight and that there are no broken, loose or charred wires; keep the area around the controller clean, dry and free of debris so air can flow around its heatsink; and check the LED indicators for correct operation.

18. Troubleshooting

Before troubleshooting any electrical component, turn off all breakers (Section 12). If a problem persists after the checks below, contact Solight customer service and have the model and serial number ready.

Problem	Check / Corrective Action
Lights won't come on (manual or timer)	1. Check the rocker switch for that pair of lights: toward the timers = timer (timer set and in AUTO); CENTER = OFF; away from the timers = manual on. 2. Check whether the ProStar shows a low-voltage disconnect (battery SOC LED solid red / load disconnected on the meter). If so, recharge the batteries (Sections 10–11). 3. Check the Lights breakers (Section 12–13) and the light wiring.
MAST	
Mast will not rise to the vertical position	Check that the mast lock pin has been removed and that the manual winch is in proper working order. Have a qualified mechanic inspect any broken cable or pulley.
Mast binds while being raised	Stop. Lower the mast by rotating the hand winch counter-clockwise. Inspect the winch cable for kinks or wear and check the lighting cable for snags or binding. If the problem persists, contact Solight.
Mast comes down on its own	Bring the mast down slowly with the crank and check the crank's automatic braking system. If the brake is not working properly, DO NOT raise the mast; contact Solight.
Mast extension will not deploy	Have a qualified mechanic inspect and fix any defective cables, pulleys, or cranks on the manual mast winch.
LIGHTING	
Lights did not come on automatically	Check that the timer's clock and on/off times are set correctly and that it is in AUTO, not manual OFF (Section 9). Check both timers if only two lights are working.
Lights do not turn on or off	Check the timer settings, the light breakers, and the controller (load disconnected by an LVD or fault, Section 10). Reconnect any loose connections.
Lights are burnt out or damaged	Check the date of purchase (warranty). Check connections to the LED fixture; replace a damaged or defective fixture.
Lights shut off early or batteries run down quickly	The lights may have been left on manually, or charging has been insufficient. Check that the panels are deployed, clean and facing south, and check the SOC LEDs (Section 10). Recharge with the NOCO GENIUSPRO25 (optional) charger if equipped (Section 11).

Problem	Check / Corrective Action
BATTERY/CHARGING	
Battery is not charging	Check the breakers and the battery connections, and make sure the panels have clear access to the sun. See Section 10, If the Controller Is Not Charging.
Cannot tell if the panels are charging	During daylight, a solid green Charging Status LED on the controller means the panels are charging (Section 10).
Controller LEDs flashing in a sequence	A fault is present. Identify it from the Common Faults table (Section 10).
Significant voltage difference between batteries	Contact Solight (Section 14).
SOLAR PANELS/TRAILER	
Slide-out panel will not move in or out	Both knobs must be released. Re-release the knobs, as they may have rolled back into the locked position. Never force the panel.
Trailer lights do not work when towing	Check that the brake light quick connects are fastened to the towing vehicle.

Limited Warranty – SLT-1200 Light Tower

Solight warrants all new SLT-1200 Light Towers covered by this agreement, when properly used, to be free from defects in material and workmanship under normal use and service for which they are intended. Warranty periods include:

- Two-year parts-only warranty (parts only, no labor).
- Other electrical and solar components not manufactured by Solight may carry additional limited warranties from their respective manufacturers.
- The BigBattery Husky 2 batteries carry their own manufacturer warranty (12 years, BigBattery terms).
- Solight agrees to repair or replace, at Solight's sole discretion, any defective Solight-covered items. Customers must obtain a return authorization before returning parts (see Warranty Claim Procedure).

WARRANTY DOES NOT COVER NORMAL WEAR AND TEAR FROM USE, MISUSE, ABUSE, NEGLECT, MODIFICATIONS TO PRODUCT OR DAMAGES CAUSED BY CORROSIVE ENVIRONMENTS AND MATERIALS OR NATURAL DISASTERS.

This Limited Warranty is extended to the original user only and is not transferable to, nor enforceable by, any other person. Solight will replace free of charge any part(s) of the product found to be defective when such part(s) is returned to Solight at the address shown below, freight prepaid. If the part(s) is found to be defective, Solight will refund freight charges paid by you in returning the defective part(s) and prepay replacement part(s) freight charges. Solight will not be responsible for more than replacement of any defective part(s) and standard freight charges (parcel post or UPS Ground rate) of any part(s) found to be defective.

THIS IS THE EXCLUSIVE REMEDY. SOLIGHT SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECTS COVERED BY THIS WARRANTY OR ANY IMPLIED WARRANTY APPLICABLE TO THE PRODUCT INCLUDING, BUT NOT LIMITED TO, PROPERTY DAMAGE, LOSS OF USE OF PRODUCT, LOSS OF TIME, LOSS OF PROFITS, INCONVENIENCE, COMMERCIAL LOSS, LABOR COSTS, SERVICE TRIPS AND MILEAGE.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty shall not apply to any product or part of any product which has been altered elsewhere than at the place of manufacture.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Warranty Claim Procedure

1. All warranty claims must be pre-approved by Solight's Warranty Department PRIOR to starting any warranty work. Warranty work performed without prior approval will not be considered.
2. All claims must be handled through Solight.
3. Written approval must be received from Solight before return of merchandise. A Return Authorization must be included with the returned merchandise.
4. All parts must be returned to Solight at the address shown below, freight prepaid.
5. The serial number of the product and the date of delivery must accompany the parts being returned.
6. If the part is found to have failed because of a defect in material or workmanship, replacement will be made on a no-charge basis and the part returned, freight prepaid. Standard freight charges (parcel post or UPS Ground rate) incurred in returning the defective part will be refunded.
7. All parts found to be defective shall be retained by and shall become the property of Solight.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Warranty Claims: Solight
419 E Juanita Ave #102
Mesa, AZ 85204
Phone: 480-626-2044
https://solight.com
support@solight.com

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480-626-2044
https://solight.com
support@solight.com

SLT-1200 Owner's Manual | Rev. 2026-11, November 2026