

MGPD-SP-1800W-48VDC-SOL-TM

Mobile Solar Power Trailer, 1800W Continuous, 48VDC

Product ID: 342609

Please see last page for supporting documentation for this product (certificates, CAD files & drawings, IES files, wiring diagrams, etc).



Image: MGPD-SP-1800W-48VDC-SOL-TM

Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

MGPD-SP-1800W-48VDC-SOL-TM Mobile Solar Power Trailer

Unit Type: Solar-Charged, Battery-Storage, Trailer-Mounted Power Station

System Voltage: 48VDC Nominal

Rated Continuous AC Output: 1800W (Pure Sine Wave Inverter)

Peak/Surge Output: 3600W (Short Duration)

AC Outputs: Multiple Industrial CEE-Style Sockets

DC Outputs: 12V Ports, USB-A/C

Battery Storage

Battery Chemistry: Modular LiFePO₄ (Lithium Iron Phosphate)

Configuration: 4-6 Removable Modular Packs, Nominal Capacity 5-6kWh

Usable Capacity: Approx. 4.5-5.4kWh (at 90% DoD)

Integrated BMS per Module: Over/Under-Voltage, Temperature, and Short-Circuit Protection

Made in the USA

Features of Every Assembly

Dual-Axle Trailer Chassis with Tow Hitch and Parking Brake

Hydraulic-Assisted, Adjustable Tilttable Solar Array (0° Transport to 35-60° Deployment)

Quick-Release Modular Battery Trays for Rapid Removal/Reinstallation

Digital LCD Display (Voltage, Power, Battery SOC, Faults), Status LEDs, Main Breaker

Dedicated Grounding Point with Visible Strap

Ratings & Approvals

Battery Modules: UN 38.3 Tested, IATA-Compliant for Air Transport

Battery Modules Classified UN 3481 for Air Shipment (Shipped Separately at ≤30% SoC)

Enclosures Rated IP54-IP65



Solar Array

Total Installed Solar Capacity: 2000-2200W, Monocrystalline High-Efficiency Panels

Charge Controller: High-Efficiency MPPT (60-100A)

Expected Daily Energy Production: 6-12kWh (Location/Sun-Hour Dependent)

Physical & Mechanical

Chassis: Heavy-Duty Dual-Axle Trailer, Rugged Tires

Protection: IP54-IP65 Rated Enclosures, Safety Markings, Hazard Striping

Cable Management: Corrugated Conduit with Glands into Control Box

Optional / Additional Information

Overall System Efficiency: Approximately 85-92%

Additional Protections: Overload, Short-Circuit, Over-Temperature, Reverse Polarity, RCD Options

Expansion Provisions: Ports for Additional Solar or Future Battery Modules

Runtime Example (Light Load, 500W): 8-10+ Hours (Battery Only, No Solar Input)

Runtime Example (Full 1800W Load): Approx. 2.5-3 Hours (Battery Only, Extended by Solar Input)

Alternative Battery Option: Sealed AGM (Absorbed Glass Mat), Not Air-Transport-Restricted in Most Regions, Adds Approx. 100-200kg, Lower Cycle Life

Dimensions & Shipping

Overall Dimensions (Stowed): 118 in L × 69 in W × 53 in H (estimated)

Deployed Height: Up to 98 in (estimated)

Approximate Weight (with batteries installed): 950 lbs (estimated)

Approximate Weight (trailer only, batteries removed): 650 lbs (estimated)

Shipping Dimensions: TBD

Shipping Weight: TBD

Shipping

Trailer (batteries removed) ships as standard equipment, no lithium hazmat restriction

Battery modules ship separately under dangerous-goods documentation when air freight is used

Final shipping configuration subject to approved design

Special Features

Air-Transport-Optimized Modular Battery Design, Rapid-Deployment Solar Array, Quick-Disconnect Battery Trays, Multi-Output Electrical Panel

Special Orders – Special Requirements

Contact us for special requirements

Toll Free: 1-800-369-6671

Intl: 1-903-270-1187

Fax: 1-903-765-7664

E-mail: sales@larsonelectronics.com

Customer Compliance

Final arrangements, sizes, ratings, settings, configuration, and installation details will be finalized during detailed engineering review and customer approval prior to release for manufacture.

Larson Electronics manufactures a wide variety of custom power distribution systems. The pictures displayed for this unit are a general representation of form factor and may not accurately represent this exact configuration in every detail due to being custom builds. The specifics for this configuration are listed in the specification table and applicable drawings.

Made in the USA

The MGPD-SP-1800W-48VDC-SOL-TM Mobile Solar Power Trailer from Larson Electronics is a solar-charged, battery-storage power unit mounted on a dual-axle trailer, purpose-built for rapid-deployment field operations, construction sites, disaster response, remote events, and off-grid applications where air transport of the equipment

is required.

PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO POWER DISTRIBUTION PANELS, TRANSFORMERS, OR SUBSTATIONS

This trailer combines a tiltable solar array, modular lithium battery storage, and an integrated inverter and control panel into a single towable unit, delivering 1800W of continuous AC power (3600W surge) from a 48VDC nominal system, with the ability to be fully de-energized of its battery modules for lightweight, non-hazmat air transport.

Solar Array

The unit carries a total installed solar capacity of 2000-2200W using high-efficiency monocrystalline panels, arranged as a single large tiltable array. The array uses a hydraulic-assisted tilt mechanism, adjustable from 0 degrees for transport to 35-60 degrees for deployment, with gas/hydraulic struts and locking pins. Charging is managed by a high-efficiency MPPT controller (60-100A), with expected daily energy production of 6-12kWh depending on location and available sun hours.

Battery Storage

Energy storage is provided by 4-6 removable, modular LiFePO4 battery packs, totaling a nominal capacity of 5-6kWh with a usable capacity of approximately 4.5-5.4kWh at 90% depth of discharge. Each module includes quick-release slide-out trays, dedicated quick-disconnect power cables, protective covers, and an integrated battery management system providing over/under-voltage, temperature, and short-circuit protection. As an alternative in regions with stricter lithium transport restrictions, sealed AGM (Absorbed Glass Mat) batteries are available; AGM batteries are not classified as dangerous goods for air transport in most cases, though they add approximately 100-200kg of total weight and offer a lower cycle life than the standard LiFePO4 configuration.

Inverter & Electrical Outputs

The unit is equipped with a pure sine wave inverter rated 1800W continuous and 3600W surge, feeding multiple industrial AC sockets along with 12V DC ports and USB-A/C outputs. A digital LCD display provides real-time voltage, power, battery state of charge, and fault status, supported by status LEDs and a main breaker. A dedicated grounding point with visible strap is provided.

Physical & Mechanical

The trailer uses a heavy-duty dual-axle chassis with rugged tires, tow hitch, and parking brake. Enclosures are rated IP54-IP65 with appropriate safety markings and hazard striping, and wiring is managed through professional corrugated conduit with glands entering the control box.

Air Transport Compliance

With its battery modules removed, the trailer is treated as standard equipment with no lithium hazmat restrictions, allowing it to be airlifted normally. Battery modules are shipped separately, classified under UN 3481 for lithium-ion batteries packed with or contained in equipment, with each module individually UN 38.3 tested and shipped at or below 30% state of charge. The quick-connect modular design allows battery modules to be removed prior to flight, shipped via certified cargo channels, and reinstalled on arrival, along with the applicable UN 38.3 test

summaries, dangerous goods declarations, and handling instructions.

Performance & Runtime

At a light load of 500W, the unit provides 8-10 or more hours of runtime on battery alone. At the full rated 1800W continuous load, runtime is approximately 2.5-3 hours on battery alone, extended significantly with solar input. Overall system efficiency is approximately 85-92%. Additional protections include overload, short-circuit, over-temperature, and reverse polarity protection, with RCD options available, along with expansion provisions for additional solar capacity or future battery modules.

Special Features

This unit incorporates an air-transport-optimized modular battery design, a rapid-deployment solar array, quick-disconnect battery trays, and a multi-output electrical panel suited for field and remote-site power needs.

Ratings & Approvals

Battery modules are UN 38.3 tested and IATA-compliant for air transport, classified UN 3481 for shipment when packed with or contained in equipment. Enclosures are rated IP54-IP65.

Customer Compliance

The final arrangements, sizes, ratings, settings, configuration, and installation details of this equipment will be established in accordance with detailed engineering review, applicable project documentation, and customer approval prior to manufacture.

The standard painted square steel tubing mounting frame can be replaced with stainless steel, hot dip galvanized steel or aluminum depending on the customers needs. This unit is of heavy duty construction and ideal for use in applications including but not limited to, plant maintenance, hazardous location operations, shows, exhibits and marine applications.

Larson Electronics is a manufacturer and as such can build transformers to your specifications. Although we carry several models of power distribution transformers, we can deliver custom ordered units almost as quickly as our prebuilt units. If this model does not meet your needs, please contact us at 1-800-369-6671 or sales@larsonelectronics.com.



Frequently Asked Questions (FAQ)

There are no Faqs



Export Control Classification Number (ECCN): EAR99



Links (Click on the below items to view):

- **ISO 9001 Certification**(<http://larsonelectronics.com/images/pdfdocs/ISO9001.PDF>)
- **Business Certificate**(<https://www.larsonelectronics.com/images/pdfdocs/w9.PDF>)
- **Shipping Time Map**(<https://www.larsonelectronics.com/images/product/ShippingTimeMap/ShippingTimeMap.pdf>)