

PROSTAR MPPT™ SOLAR CHARGE CONTROLLER

WITH MAXIMUM POWER POINT TRACKING

The Prostar MPPT™ solar charge controller with TrakStar Technology™ is an advanced maximum power point tracking (MPPT) battery charger for off-grid photovoltaic (PV) systems up to 1100 watts.

This controller allows multiple modules in series for 12V and 24V battery systems. Detailed battery programming options allow for advanced battery support for the latest Lithium, Nickel Cadmium, and Lead Acid battery types.



25 or 40 amp versions at up to 120 Voc shown with optional Meter

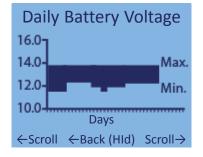


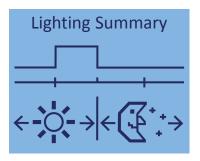
Note: some battery types require a compatible battery management system.

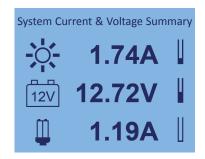
KEY FEATURES AND BENEFITS

- High Reliability conformally coated circuit board and corrosion resistant terminals.
- Maximizes Energy Harvest using TrakStar MPPT Technology to determine and adjust to the true maximum power point as solar insolation changes throughout the day.
- ➤ High Efficiency at low, medium, and high power levels.
- Data Logging up to 256 days of detailed power and load data.
- Low Noise Design meets US Federal
 Communications Commission Class B specifications.

- Automatic PV Based Lighting Control field adjustable, multi-event load control enables powerful options for PV lighting systems.
- MODBUS Communications Solar Industry Standard MODBUS communications protocol allows for easy programming, control, remote data access and charge synchronization.
- High Strength polycarbonate case and extruded aluminum heatsink.
- Self Diagnostics continuous monitoring and reporting of any errors through its status LED's, optional display or communication port.
- Meter allows adjustments to charging, lighting, and load control settings without a computer.











TECHNICAL SPECIFICATIONS

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Electrical	PS-MPPT-25, PS-MPPT-25M	PS-MPPT-40, PS-MPPT-40M	
Max. Battery Current	25 Amps	40 Amps	
Load Current Rating	25 Amps	30 Amps	
Max. PV Open Circuit Voltage (Voc)	120 Volts (without damage to unit)		
Nominal Battery Voltage	12V or 24V		
Nominal Max. Operating Power*			
12 volt battery	350W @45C	550W @45C	
24 volt battery	700W @60C	1100W @60C	
Peak Efficiency	98%		
Battery Voltage Range	10-35V		
Voltage Accuracy	<= 0.1% +/- 50mV		
Self-Consumption	normal: 0.6W; maximum: 1W		
LED Indications	(1) status, (3) Battery S.O.C.		
Transient Surge Protection	solar, battery, load		

Environmental		
Operating Temperature Range	-40 C to +60 C	
Meter Operating Temperature Range	-20 C to +60 C	
Storage Temperature	-40 C to +80 C	
Humidity	100% non-condensing	
Tropicalization	Conformal coating, marine-rated terminals	



Shown with optional Meter and Wire Box

Load & Lighting Control

- Low Voltage Disconnect, Low Voltage Reconnect Settings: 11.4V/12.6V or custom (x2 for 24 volt systems)
- Lighting Settings: Dusk-dawn or custom

Mechanical

Dimensions

Standard: 20 x 17 x 7 cm / 7.9 x 6.7 x 2.8 in w/ Wire Box: 20 x 28.5 x 9.2 cm / 7.9 x 11.2 x 3.6 in

Weight

Standard: 1.4 kg / 3.1 lbs w/ Wire Box: 1.8 kg / 4.0 lbs

• Wire Size Range

Power terminals: 2.5 - 35 mm² / 14 - 2 AWG**
• Battery/Temp. sense: 0.25 - 1.0 mm² / 24 - 16 AWG

Knockouts (wiring box option): M20, 1/2", 1" (trade sizes)

• Enclosure: IP20, Type 1

Electronic Protections

- Automatic recovery without fuses
- Solar Input: overload, short-circuit, high voltage warning, reverse polarity, high temperature, nighttime reverse current
- Load Output: overload, short-circuit, high temperature, reverse polarity
- Battery: reverse polarity (no battery removal)

Battery Charging

- 4-stage charging: Bulk, Absorption, Float, Equalize
- 7 standard battery settings and customization
- Temperature Compensation

Coefficient: -5 mV / C /cell (25 C / 77 F ref.) Range: -30 C to +60 C / -22 F to +140 F Setpoints: Absorption, Float, Equalize

Data & Communications

- Communication Port: MeterBus
- Protocols: Morningstar MeterBus, MODBUS
- Datalogging: 256 days, daily records
- PC Software: MSView

Accessories

- Ground Fault Protection Device (GFPD-150)
- Remote Temperature Sensor (RTS)
- Remote Meter (RM-1)
- Wire Box (PS-MPPT-WB)
- PC MeterBus Adapter (MSC)
- USB Communications Adapter (UMC-1)
- Meter Hub (HUB-1)
- Relay Driver (RD-1)
- Ethernet MeterBus Converter (EMC-1)

Certifications

- CE; RoHS; TUV Listed (UL1741); cETL (CSA-C22.2 No. 107.1)
- TUV (IEC 62109-1); FCC Part-15 Class B compliant
- Manufactured in a certified ISO 9001 facility

*Input power can exceed Nominal Operating Power. Controller will limit and provide its rated continuous maximum output current into batteries.

**Standard wire cover accepts up to #6 AWG wire size.

WARRANTY: Five year warranty period. Contact Morningstar or your authorized distributor for complete terms.

Revision: 4/2017.EN Control no. MS-001724 Copyright 2017 www.morningstarcorp.com