

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 two modules in series on a 12V battery system and two or three modules in series on a 24V battery system. Detailed battery programming options allow for advanced battery support for the latest Lithium, Nickel Cadmium, and Lead Acid battery types. Automatic PV based lighting load control is provided out of the box.

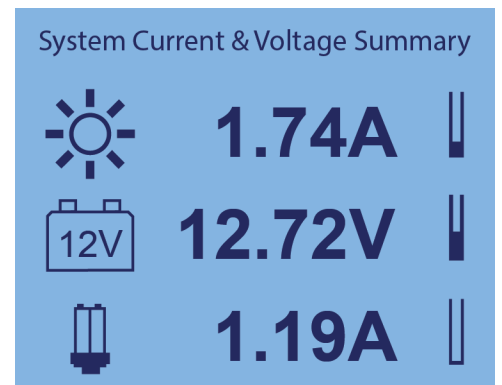
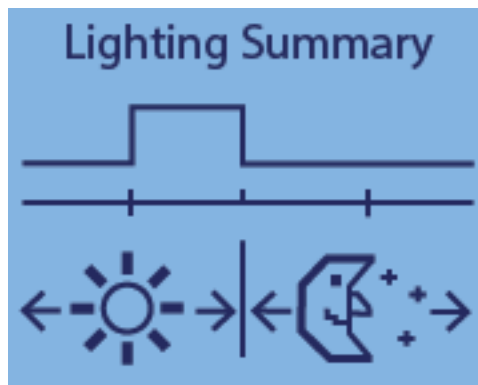
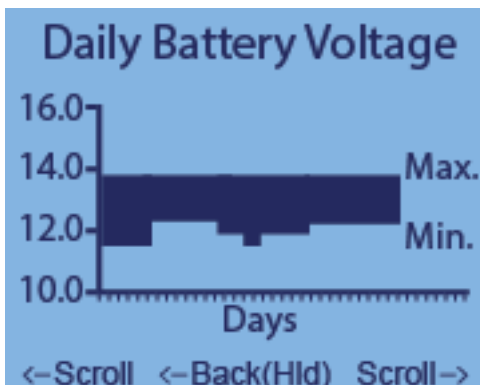


25 or 40 amp versions at up to 120 Voc shown with optional Meter



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 insolation changes throughout the day.
- High Efficiency across low, medium, and high power levels.
- Data Logging – detailed logging of power and load data confirms performance and helps isolate system inconsistencies.
- Low noise design – meets FCC Class B specifications.
- Automatic PV Based Lighting Control – multi-event load control enables powerful options for PV lighting systems and settings can easily be adjusted in the field.
- MODBUS Communications – Solar Industry Standard MODBUS communications protocol allows for easy programming, control, remote data access and charge synchronization with other system hardware.
- High Strength / Polycarbonate Case and extruded aluminum heatsink.
- Self Diagnostics – The ProStar MPPT continuously monitors and reports any internal hardware issues or system problems through its status LED's, optional display or communication port.



TECHNICAL SPECIFICATIONS

Electrical	Version	
	PS-MPPT-25	PS-MPPT-40
Max. Battery Current	25 Amps	40 Amps
Load Current Rating	25 Amps	30 Amps
Max. PV Open Circuit Voltage*	120 Volts (without damage to unit)	
Nominal Battery Voltage	12V or 24V	12V or 24V
Nominal Max. Operating Power**		
12 volt battery	350W	550W
24 volt battery	700W	1100W
Peak Efficiency	98%	98%
Battery Voltage Range	8-35V	8-35V
Voltage Accuracy	<= 0.1% +/- 50mV	
Self-Consumption	31mA	31mA
LED Indications	(1) status, (3) Battery S.O.C.	
Transient Surge Protection	4500 Watts (solar, battery, load)	

Environmental		
Operating Temperature	-40 C to +60 C	-40 C to +60 C
Storage Temperature	-40 C to +80 C	-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

- LVD, LVR Settings: 11.4V/12.6V or custom (x2 for 24 volt systems)
- Lighting Settings: Dusk-down or custom

Mechanical

- Dimensions
Standard: 200(W) x 170(L) x 70(D) mm
w/ Wire Box: 200(W) x 285(L) x 92(D) mm
- Weight
Standard: 1.4 kg
w/ Wire Box: 1.5 kg
- 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, reverse polarity, high temperature, nighttime reverse current
- Load Output: overload, short-circuit, high temperature, reverse polarity
- Battery: reverse polarity (no battery removal)

*Exceeding Maximum PV Open Circuit Voltage may damage the controller.

**Input power can exceed Nominal Maximum Operating Power, but controller will limit and provide its rated continuous maximum output current into batteries. This will not harm the controller (reminder: do not exceed Voc).

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

Battery Charging

- 4-stage charging: bulk, Absorption, Float, Equalize
- 7 standard Battery settings and customization
- Temperature Compensation
Coefficient: -5 mV / C /cell (25 C ref.)
Range: -30 C to +60 C
Setpoints: Absorption, Float, Equalize

Data & Communications

- Communication Port: MeterBus
- Protocols: Morningstar MeterBus, MODBUS
- Datalogging: 190 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)
- RS-232 Communications Adapter (MSC-1)
- USB Communications Adapter (UMC-1)
- Ethernet Communications Adapter (EMC-1)
- Meter Hub (HUB-1)
- Relay Driver (RD-1)

Certifications

- CE; RoHS; UL1741/CSA.107.1; IEC 62109; FCC Part-15 class B compliant
- Manufactured in a certified ISO 9001 facility