MORNINGSTAR

World's Leading Solar Controllers & Inverters

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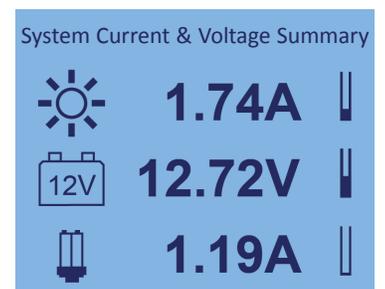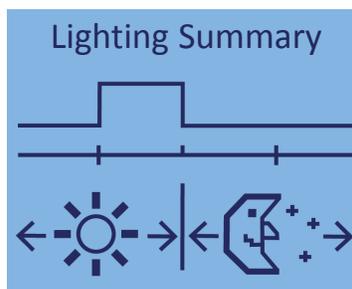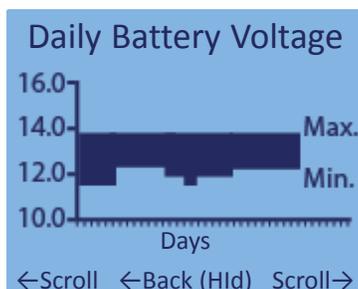
25 or 40 amp versions at up to 120 Voc shown with optional Meter

Lead Acid

Lithium

NiCD

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.

Daily Battery Voltage

16.0
14.0 — Max.
12.0 — Min.
10.0

Days

←Scroll   ←Back (HId)   Scroll→

Lighting Summary

System Current & Voltage Summary

☀ **1.74A**

12V **12.72V**

1.19A

TECHNICAL SPECIFICATIONS

Electrical	PS-MPPT-25, PS-MPPT-25M	PS-MPPT-40, PS-MPPT-40M
	Version	
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 mm^2 / 14 - 2 AWG**
- Battery/Temp. sense: 0.25 - 1.0 mm^2 / 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)

Certifications
- CE; RoHS; ETL Listed (UL1741, UL 62109); 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.