25 or 40 amp versions at up to 120 VOC
Shown with optional meter

PROSTAR MPPT™ SOLAR CONTROLLER

WITH MAXIMUM POWER POINT TRACKING

- High Reliability
- Maximizes Energy Harvest
- High Efficiency
- Low Noise Design

The ProStar MPPT solar controller is an advanced maximum power point tracking (MPPT) battery charger for off-grid photovoltaic (PV) systems up to 1100 watts. All versions have TrakStar™ Technology and include load control. The 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.

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

- **SNMP (Simple Network Management Protocol)**
  Provides more detailed monitoring of all system data with existing IT management and architecture

The ProStar design has been proven in over two decades of use in the world's most demanding installations—and ProStar today reflects Morningstar's policy of continuous improvement through regular upgrades and enhancements. Because Morningstar's employee-owned culture never "rests on success," ProStar customers can own both a legend and the latest in a single product.

Lead-Acid **Lithium** **NiCD**

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

- **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

- **Fanless Design**
  For long-term reliability

- **Meter**
  Allows adjustments to charging, lighting, and load control settings without a computer

16.0
14.0   Max.
12.0
10.0   Min.

1.74A
12V 12.72V
1.19A
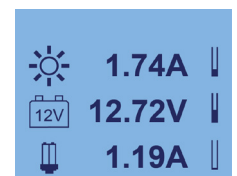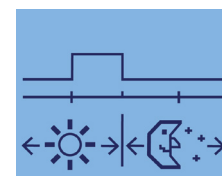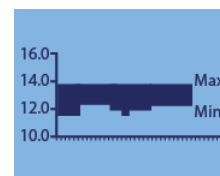
Technical Specifications

Versions	PS-MPPT-25, PS-MPPT-25M	PS-MPPT-40, PS-MPPT-40M
Electrical		
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.0.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

Data & Communications
- Communication Port: MeterBus
- Protocols: Morningstar MeterBus, MODBUS, SNMP (enabled through EMC-1)
- Data logging: 256 days, daily records
- PC Software: MSView

Simple Network Management Protocol
☑ SNMP™ COMPATIBLE

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
- Relay Driver (RD-1)
- Ethernet MeterBus Converter (EMC-1)

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 Specifications
- Dimensions:
  — Standard:
    20 x 17 x 7 cm / 7.9 x 7.6 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/Temperature:
  — 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
- Low temperature "foldback" (discontinues charging) in cold conditions to protect LI-ion and other batteries

Battery Charging
- 4-stage charging: Bulk, Absorption, Float, Equalize
- 7 standard battery settings and customization
- Temperature Compensation
  — Coefficient: -30mV / 12 volt / °C
  — Range: -30 C to +60 C / -22 F to +140 F
  — Setpoints: Absorption, Float, Equalize HVD and HVDR (solar)

Certifications
- CE;RoHS;TUV Listed (UL1741);cETL(CSA-C22.2No.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 16mm² or #6 AWG wire sizes.

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