

**ProStar (Gen 3)**  
Shown with optional meter

## PROSTAR™ SOLAR CHARGE CONTROLLER

THE LEADING MID-RANGE PULSE WIDTH MODULATION (PWM) CONTROLLER SINCE 1995

- High Reliability
- High Temperature Operation
- Auto-Battery-Select
- Data Logging
- Fanless Design for Long-Term Reliability
- Approved for use in hazardous locations around the globe

The ProStar solar charge controller has been the leading mid-range pulse width modulation (PWM) controller since 1995. With over 350,000 units installed in the harshest environments in over 100 countries, ProStar sets the standards in performance and reliability for the rest of the solar industry.

The Generation 3 ProStar shares the outstanding build quality and familiar form factor of its predecessors and adds data and lighting control capabilities, a graphical interface, and advanced protection features that meet the needs of today's most demanding off-grid solar applications. ProStar provides both "the legend and the latest" in a single new product.

### KEY FEATURES AND BENEFITS

- **Approved for use in hazardous locations: UL/CSA Class1, Division 2, Groups A-D and ATEX/IECEx Zone 2, Gas Group IIC**

- **High Reliability**

Latest electronic and environmental protections, quality control, and design considerations comply with IEC 62109 and promote longevity in the harshest environments

- **High Temperature Operation**

Full nameplate current rating, both solar and load up to 60°C continuous

- **Auto-Battery-Select**

12V and 24V systems

- **Data Logging**

Up to 256 days of solar charge and load consumption data

- **Self-diagnostics**

Continuous monitoring and reporting of any errors or system faults through its status LED's, optional display and communication port

- Longer battery life through 4-stage charging and temperature compensation. Constant voltage PWM series regulation. Voltage-sense terminals for more accurate battery monitoring
- More information with three battery-level LED indicators. Optional meter includes safety disconnect and displays amps, volts, temperature and self-test
- Extensive electronic protection against reverse polarity, reverse current at night, short circuits, overcurrent and excessive temperature. No mechanical fuses
- Detailed battery programming options allow for advanced battery support for the latest Lithium, Nickel Cadmium, and Lead Acid battery types
- **Meter**  
High resolution LCD, multi-lingual backlit graphical display of system voltage, current, temperature, lighting settings, etc
- **Custom Programming**  
Dip switches, meter interface, or connection with a computer can be used to adjust charging, load communications, and lighting control
- **Low Noise Design**  
Meets US Federal Communications Commission Class B specifications
- **Automatic Solar-Based Lighting Control**  
Field adjustable, multi-event load control enables powerful options for solar lighting systems
- **MODBUS Communications**  
Open standard MODBUS communications protocol allows for control and remote data access
- **SNMP (Simple Network Management Protocol)**  
Provides more detailed monitoring of all system data with existing IT management and architecture

## Technical Specifications

Versions	PS-15: 15 amps-no meter PS-15M: 15 amps with meter PS-30: 30 amps-no meter PS-30M: 30 amps with meter
<b>Electrical</b>	
Nominal Battery Voltage	12V or 24V
Battery Voltage Range	10-35V
Voltage Accuracy	$\leq 0.1\%$ +/- 50mV
Maximum Battery Current	15A or 30A
Maximum Solar Input Voltage	12V/24V bat: 60Voc
Max. PV Open Circuit Voltage (Voc)*	12V bat: 30Voc / 24V bat: 60Voc
Load Current Rating	15A or 30A
Self-Consumption	$<20\text{mA}^{**}$
LED Indications	(1) status, (3) Battery state of charge
Transient Surge Protection	1500 Watts (solar, battery, load)
<b>Environmental</b>	
Operating Temperature	-40°C to + 60°C
Meter Operating Temperature	-20°C to + 60°C
Storage Temperature	-40°C to + 80°C
Humidity	100% non-condensing
Tropicalization	conformal coating, marine-rated terminals

### Meter

- Resolution: 128 X 64 pixels
- Viewing Area: 5.0 cm x 2.5 cm
- Display Color: Blue on white
- Backlight: LED

### Battery Charging

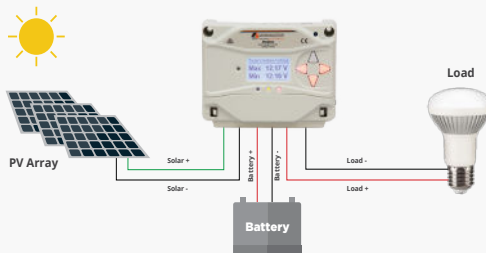
- Battery Types: 7 Standard Battery Settings + Custom
- 4-Stage Charging: Bulk, Absorption, Float, Equalize\*\*\*
- Temperature Compensation
  - Coefficient: -5 mV / °C / cell (25°C ref)
  - Range: -30°C to + 60°C
  - Set Points: Absorption, Float, Equalize

### Electronic Protections

- 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

### Mechanical

- Dimensions:
  - 15.3(W) x 10.5(L) x 5.5(D) cm
  - 6.0(W) x 4.1(L) x 2.2(D) in
- Weight:
  - 0.4 kg / 1.0 lbs
- Wire Size Range
  - Power terminals: 2.5 - 16 mm<sup>2</sup> / 14 - 6 AWG
  - Battery/Temp: Sense: 0.25 - 1.0 mm<sup>2</sup> / 24 - 16 AWG
- Enclosure: IP20, Type 1



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

### Data & Communications

- RJ-11 Communication Port
- Communication Protocols: Morningstar MeterBus, MOD-BUS, SNMP (enabled through EMC-1)
- Datalogging: Up to 256 days, daily records
- PC Software: MSView



### Accessories

- Remote Temperature Sensor (RTS)
- Remote Meter (RM-1)
- PC MeterBus Adapter (MSC)
- USB Communications Adapter (UMC-1)
- Ethernet Communications Adapter (EMC-1)
- Meter Hub (HUB-1)
- Ground Fault Protection Device (GFPD-150)

### Load & Lighting Control

- Low Voltage Disconnect, Low Voltage Reconnect Settings: 11.4 V / 12.6 V or Custom (x2 for 24 volt systems)
- Lighting Settings: Dusk to Dawn or Custom
- LVD Current Compensation: -20 mV per Amp @ 12 Volts / -40 mV per Amp @ 24 Volts
- LVD Warning Timer: 10 minutes
- Lighting Test Timer: 5 minutes

### Certifications

- Hazardous Locations:
  - UL121201/CSA C22.2 #213 Class I, Div. 2 Groups A-D T5
  - ATEX II 3G Ex ec ic IIC T5 Gc
  - IECEx Ex ec ic IIC T5 Gc
- CE; RoHS; TUV Listed: UL62109/CSA.107.1; IEC 62109; FCC Part-15 class B compliant
- Manufactured in a certified ISO 9001 facility



\*PV Voltage must be greater than Vbattery + 1 Volt to start charging

\*\* 35 mA for metered versions when meter is at 50% brightness; 50 mA when meter is at 100% brightness.

\*\*\*Lithium batteries require custom charge settings. The ProStar PWM includes custom programming settings that can support lithium batteries. See the [Morningstar Energy Storage Partner Program](#) webpage for more information.