Specifications:

	PS-MPPT-25	PS-MPPT-40
Nominal Battery Voltage	12/24 V	12/24 V
Max. PV Open-Circuit Voltage	120 V	120 V
Nominal Maximum Input Power	350 / 700 W	560 / 1120 W
Maximum Battery Charging Current	25 A	40 A
Rated Load Current	25 A	30 A

Warning: Shock Hazard

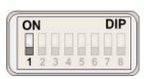
Test between all terminals and ground before touching.

Power or accessory terminals are **NOT** electrically isolated from DC input and **may be energized with hazardous solar voltage**.

Operational Configuration:

Switch 1: Load/Lighting

Mode	Switch 1
Normal	OFF
Lighting	ON

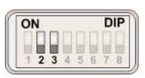


Normal

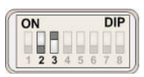
Lighting

Switches 2 & 3: System Voltage

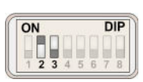
System Voltage	Switch 2	Switch 3
Auto	OFF	OFF
12	OFF	ON
24	ON	OFF



AUTO



12 V



24 V

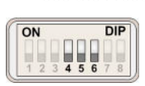
Switches 4, 5, & 6: Battery Type Selection

NOTE: *The ProStar MPPT can be programmed to accommodate a wide range of charging parameters. Consult the battery manufacturer for optimal battery charging settings.*

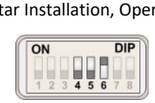
To Change Settings:

- *On metered models*, use the interface on the meter or use the software available at https://www.morningstarcorp.com/msview/.
- *On non-metered models*, use the software available at https://www.morningstarcorp.com/msview/.

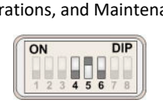
See the ProStar Installation, Operations, and Maintenance Manual for additional information/guidance.



1 – Sealed *



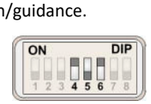
2 – Sealed *



3 – Sealed *

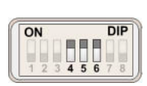
4 – AGM / Flooded *

5 – Flooded



6 – Flooded

7 – L-16



Custom**

DIP Switch Setting			Battery Type	Absorption Stage (Volts)	Float Stage (Volts)	Equalize Stage (Volts)	Absorption Time (Minutes)	Equalize Time (Minutes)	Equalize Timeout (Minutes)	Equalize Interval (days)	LVD (Volts)	LVR Volts)
4	5	6										
OFF	OFF	OFF	1 – Sealed*	14.00	13.50	---	150	---	---	---	11.5	12.6
OFF	OFF	ON	2 – Sealed*	14.15	13.50	14.40	150	60	120	28	11.5	12.6
OFF	ON	OFF	3 – Sealed*	14.30	13.50	14.60	150	60	120	28	11.5	12.6
OFF	ON	ON	4 – AGM/Flooded*	14.40	13.50	15.10	180	120	180	28	11.5	12.6
ON	OFF	OFF	5 – Flooded	14.60	13.50	15.30	180	120	180	28	11.5	12.6
ON	OFF	ON	6 – Flooded	14.70	13.50	15.40	180	180	240	28	11.5	12.6
ON	ON	OFF	7 – L-16	15.40	13.40	16.00	180	180	240	14	11.5	12.6
ON	ON	ON	8 – Custom**	Custom	Custom	Custom	Custom	Custom	Custom	Custom	Custom	Custom

*"Sealed" battery types include Gel and AGM Batteries

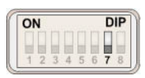
**Lithium-ion and some other battery types require custom programming. Morningstar provides downloadable settings for selected battery manufacturers here: https://www.morningstarcorp.com/energy-storage-partner-program/

Shared Settings	Set Point
Absorption Extension Voltage	12.50 Volts
Absorption Extension Time	Absorption Time +30 minutes
Float Exit Time-Out	60 minutes

Shared Settings	Set Point
Float Cancel Voltage	12.10 Volts
Equalize Time-Out	Equalize Time +60 minutes
Temperature Compensation Co-Efficient	–30 millivolts / °C / 12 Volts

Switch 7: Battery Equalization

Mode	Switch 7
Manual Equalization	OFF
Auto-Equalization	ON



Manual EQ

Auto EQ

Switch 8: Meterbus/MODBUS Settings

Mode	Switch 8
Meterbus	OFF
MODBUS	ON

Meterbus

MODBUS

Contact Information:

Technical Support: Support.morningstarcorp.com

Phone: 1-215-321-4457

MS-001538 rev.D

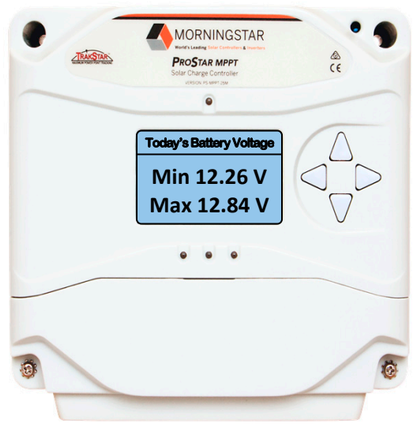
MORNINGSTAR
World's Leading Solar Controllers & Inverters

25+ years Since 1993 QUALITY EXCELLENCE

ProStar MPPT™

Solar Charging System Controller

Quick Start Guide



Scan QR Code to go directly to the ProStar MPPT Installation Manual and warranty information online.

Warranty Registration: https://www.morningstarcorp.com/product-registration/

Safety Information:

Warning: Shock Hazard

The ProStar MPPT controller must be installed by a **qualified** technician in accordance with the electrical regulations of the country of installation.

Warning: Shock Hazard

This unit is not provided with a GFDI device. This charge controller must be used with an external GFDI device as required by the Article 690 of the National Electrical Code for the installation location.

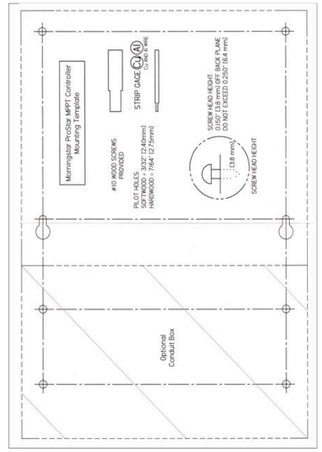
IMPORTANT: ***READ the ProStar Installation Manual for safety and regulatory information, instructions on configuration and operation, and warranty information.***

In the box:

ProStar Charge Controller


Mounting Screws (x4)


Ferrite Chokes



Mounting Template

**A Menu Map is also included with metered versions, but is not shown in this guide.*

Tools Required:

- ⊕ — #2 Philips Screwdriver
- ⊘ — 3/16 (5 mm) & 3/32" (2.5 mm) Flathead Screwdriver
- — Drill with a 1/8" (3 mm) bit

Optional Accessories:

Remote Meter (RM-1)


PV Ground Fault Protection (GFPD-150V)


Remote Temperature Sensor (RTS)

Ethernet MeterBus Converter (EMC-1)

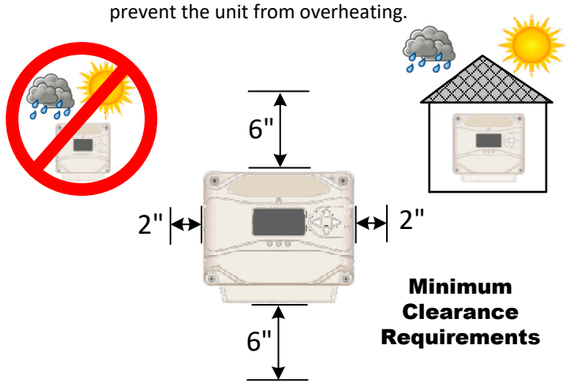

USB Communications Adapter (UMC-1)


PC MeterBus Adapter (MSC)

ProStar MPPT™ Charge Controller — Quick Start Guide

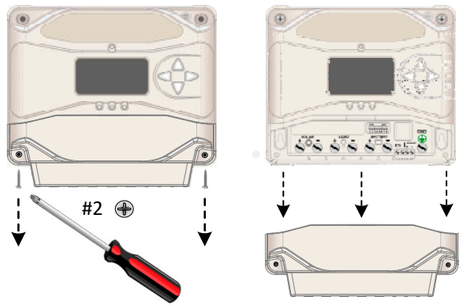
Caution: Equipment Damage

Do not expose the ProStar CC to weather. Locate in a dry, protected area to prevent equipment damage. Ensure the minimum clearance requirements are followed to provide adequate ventilation and prevent the unit from overheating.

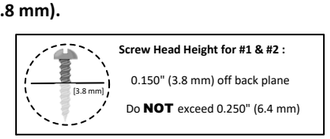


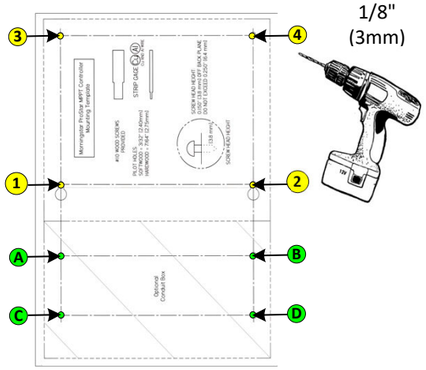
Minimum Clearance Requirements

Mounting:



1. Remove the front cover of the charge controller. Remove the front cover from the Wire Box, if included.
2. Use the Mounting Template to pre-drill the mounting holes.
   a. For the ProStar Charge Controller: Drill holes 1, 2, 3, & 4.
   b. To include the optional Wire Box: Drill the additional holes A, B, C, & D.
3. Place a screw on which to hang the controller in holes 1 & 2. Back the screw out to 0.150" or (3.8 mm).





Mounting Template

4. Place the controller onto the hanging screws. Secure the controller in place with the other 2 screws (3 & 4).
5. Place the Wire Box (if used) below the controller and secure in place using it's mounting screws in holes A, B, C & D.

Wiring and Torque Requirements

Component	Wire Size	Tool Required	Torque (Max)
Power Terminals	2.5 - 16 mm² / #14 - 6 AWG	3/16"(5 mm) Flathead Screwdriver	35 in-lbs. (3.9 Nm)
Battery Voltage Sense	0.25 - 1.0 mm² / #24 - 16 AWG	3/32" (2.5 mm) Flathead Screwdriver	5 in-lbs. (0.56 Nm)
Remote Temperature Sensor	(included)	3/32" (2.5 mm) Flathead Screwdriver	5 in-lbs. (0.56 Nm)
Optional Wire Box	#2 AWG (Max.)	3/16"(5 mm) Flathead Screwdriver	35 in-lbs. (3.9 Nm)
Cover Screws (ProStar or Wire Box)	---	#2 Philips Screwdriver	5 in-lbs. (0.56 Nm)

Photovoltaic (PV) Array

See the Morningstar PV String Calculator at:
http://string-calculator.morningstarcorp.com/

120 Voc Maximum

(–) (+) (–) (+)

DIP Switch Block (enlarged)
(See Page 4 for settings)

Solar Disconnect* (PV GFP required per NEC 690)

IMPORTANT: Example only. Actual wiring may vary. ***READ the ProStar Installation, Operations, and Maintenance Manual for mandatory safety requirements.*** All configuration must comply with local and national electric codes. Consult your local electric authority to ensure compliance.

This illustration represents a typical off-grid installation. For use with an inverter, refer to the inverter's installation manual for additional information.

Optional Accessories

Ethernet MeterBus Converter

Remote Meter

RJ-11 Cable

Ferrite Choke

NOTE: The optional wire box is not shown in this illustration as wiring does not change.

Chassis Ground

(—) Voltage Sense Conductor

Ferrite Choke

Battery (+)

DC Load Disconnect*

Remote Temperature Sensor Conductor

Battery (–)

Fuse

(+) Voltage Sense Conductor

Ferrite Choke

Battery Disconnect*

6" (15 cm) MAXIMUM Distance from Battery (+) Terminal

Securing hardware not shown.

(+) (–)

Battery / Battery Bank

Primary Ground Electrode Conductor (System Ground)

DC-to-Ground Bond

DC Load(s)

- Communications
- Lighting
- Security
- Industrial
- Residential

LEGEND

- Negative (–)
- Positive (+)
- Ground

*Fuse or breaker sizing based on required wire ampacity

Power UP Sequence:

1. Connect Battery/Battery Bank.
2. Connect Solar.

Power DOWN Sequence:

1. Disconnect Solar.
2. Disconnect Battery/Battery Bank.

IMPORTANT:
Ensure there is **only 1** DC Negative-to-Ground Bond in the entire system.