

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.**



ProStar MPPT™

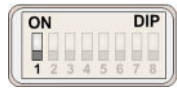
Solar Charging System Controller

Quick Start Guide

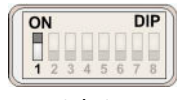
Operational Configuration:

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

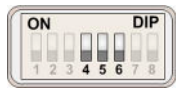
Switches 4, 5, & 6: Battery Type Selection

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

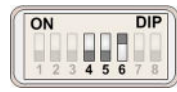
To Change Settings:

- 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/>.

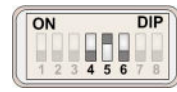
See the ProStar Installation, Operations, and Maintenance Manual for additional information/guidance.



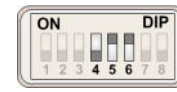
1 – Sealed *



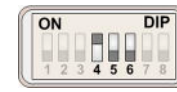
2 – Sealed *



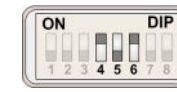
3 – Sealed *



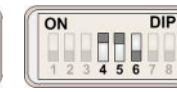
4 – AGM / Flooded *



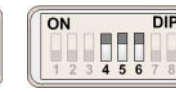
5 – Flooded



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

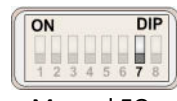
*"Sealed" battery types include Gel and AGM Batteries

**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	Shared Settings		Set Point
Absorption Extension Voltage		12.50 Volts	Float Cancel Voltage		12.10 Volts
Absorption Extension Time		Absorption Time +30 minutes	Equalize Time-Out		Equalize Time +60 minutes
Float Exit Time-Out		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



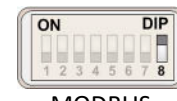
Auto EQ

Switch 8: Meterbus/MODBUS Settings

Mode	Switch 8
Meterbus	OFF
MODBUS	ON



Meterbus



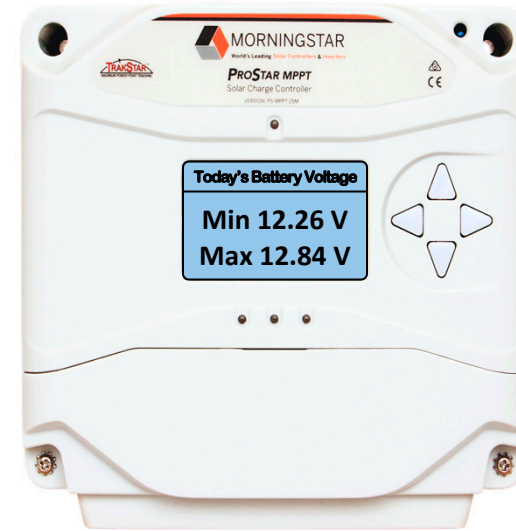
MODBUS

Contact Information:

Technical Support: Support.morningstarcorp.com
Phone: 1-215-321-4457



World's Leading Solar Controllers & Inverters

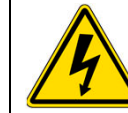


Scan QR Code to go directly to the ProStar MPPT Installation Manual and warranty information online.



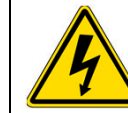
Warranty Registration: <https://www.morningstarcorp.com/product-registration/>

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:



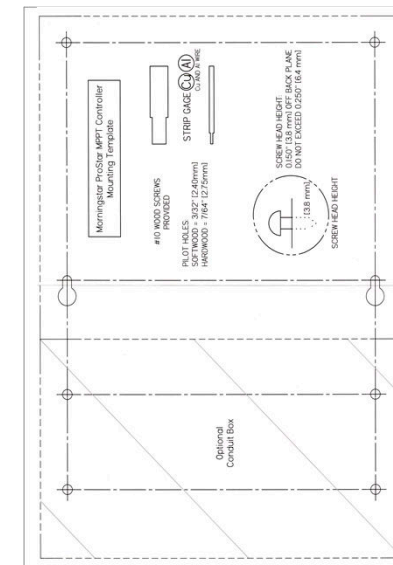
ProStar Charge Controller



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)

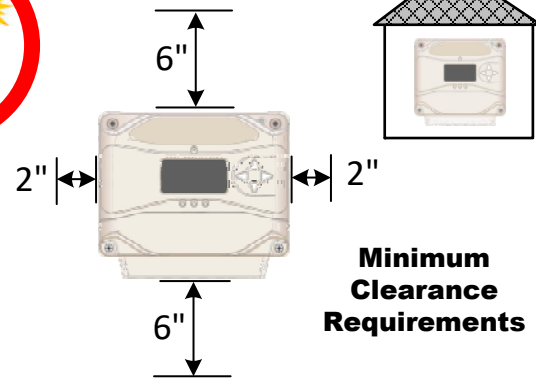


PC MeterBus Adapter (MSC)



Caution: Equipment Damage

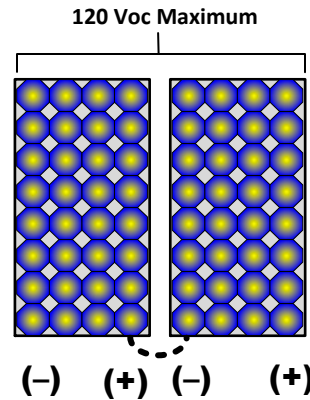
Do not expose the ProStar CC to weather. Locate in a dry, protected area to prevent equipment damage. Ensure the minimum clearance requirements are followed to provide adequate ventilation and prevent the unit from overheating.



Photovoltaic (PV) Array

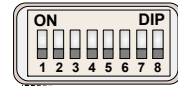


See the Morningstar PV String Calculator at: <http://string-calculator.morningstarcorp.com/>



DIP Switch Block (enlarged)

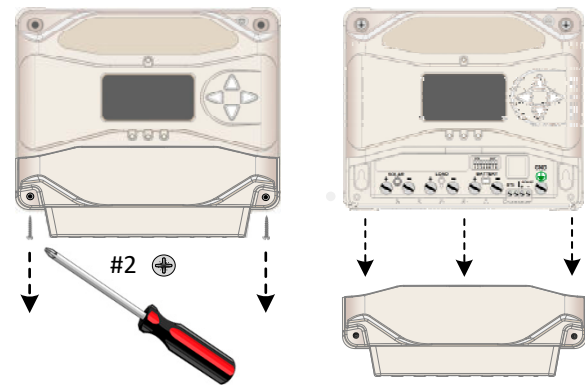
(See Page 4 for settings)



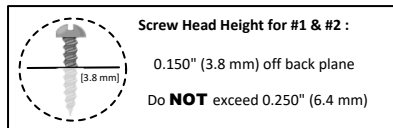
Solar Disconnect* (PV GFP required per NEC 690)

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

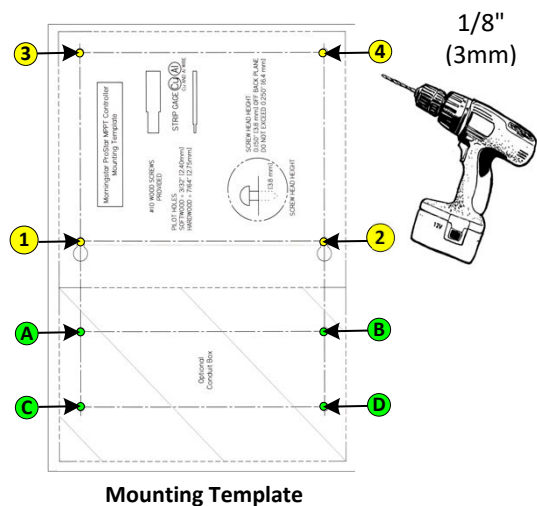
Mounting:



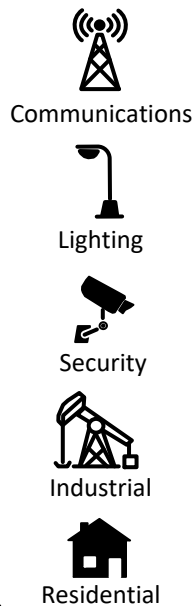
- Remove the front cover of the charge controller. Remove the front cover from the Wire Box, if included.
- Use the Mounting Template to pre-drill the mounting holes.
 - For the ProStar Charge Controller: Drill holes 1, 2, 3, & 4.
 - To include the optional Wire Box: Drill the additional holes A, B,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



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



DC Load(s)

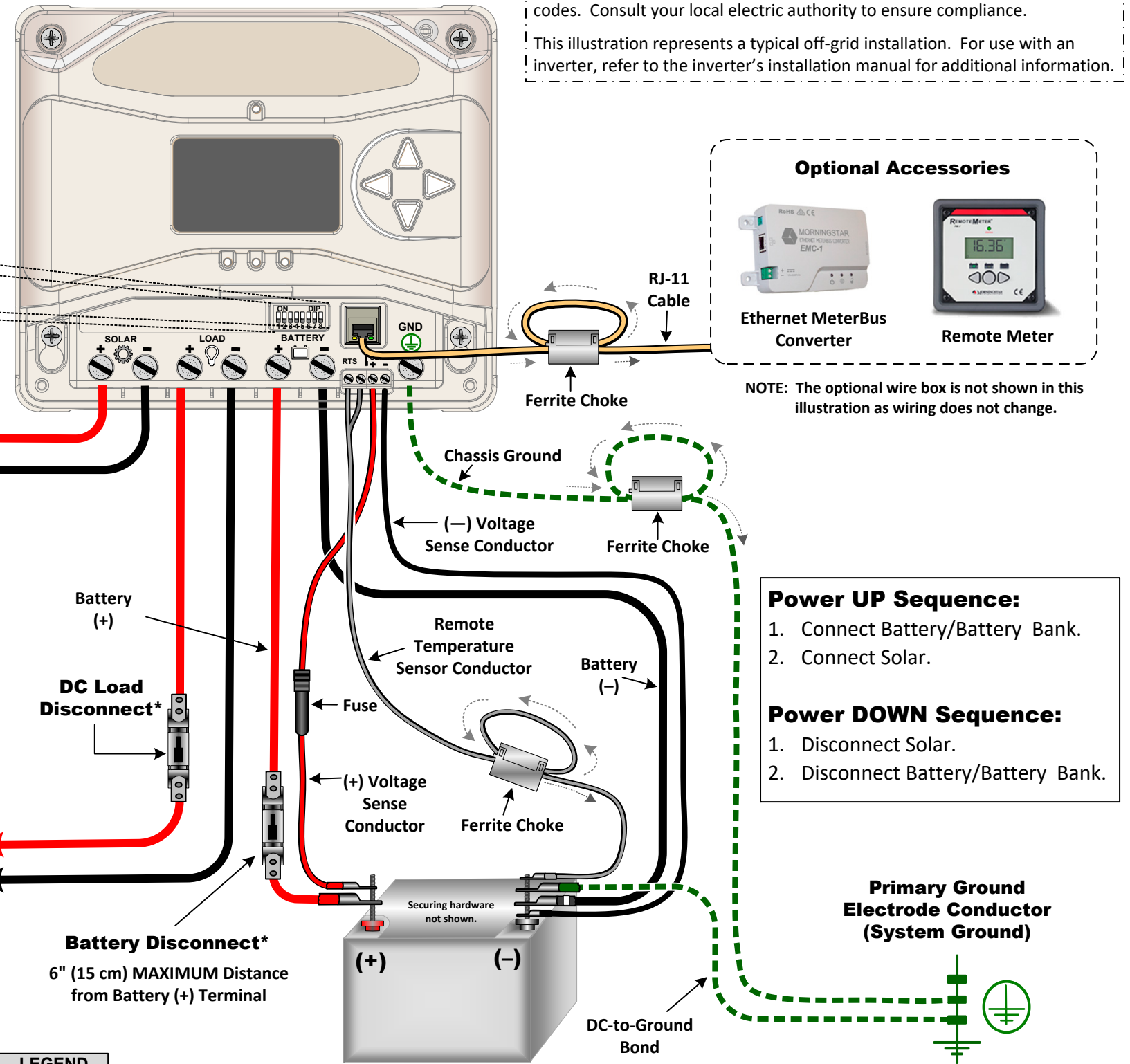


LEGEND	
	Negative (-)
	Positive (+)
	Ground

*Fuse or breaker sizing based on required wire ampacity

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



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

Power UP Sequence:

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

Power DOWN Sequence:

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

Primary Ground Electrode Conductor (System Ground)

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