

[Manuals.plus](#) /

› [MidNite Solar](#) /

› MidNite Solar CLASSIC 150 MPPT Charge Controller User Manual

MidNite Solar Classic 150

MidNite Solar CLASSIC 150 MPPT Charge Controller

USER MANUAL

1. Introduction

The MidNite Solar CLASSIC 150 MPPT Charge Controller is a highly efficient device designed for solar, hydro, and wind power systems. It features Arc Fault and Ground Fault protection, free web monitoring, and a graphics panel for easy operation. This model supports 12 to 72 volt battery systems, with a maximum output current of 96 amps and an operating voltage of 150 volts. The Classic 150 incorporates MidNite's exclusive HyperVOC technology, which extends VOC limits when necessary.

Key Features:

- Supports 12-72V battery systems
- Built-in DC-GFP (Ground Fault Protection) and Arc Fault detection
- Two Auxiliary Ports
- Follow-Me function for coordinated charging
- Free web monitoring capability

2. Safety Information

Please read all safety instructions carefully before installation and operation to prevent injury or damage to the unit. Keep this manual for future reference.

- **Electrical Hazard:** Always disconnect power sources before working on the charge controller or its wiring.
- **Component Protection:** When removing or installing the front cover, be aware of the display cable connecting the cover to the electronics. **Do not pull hard or fast** as damage could occur.
- **Ventilation: IMPORTANT!** Do not mount the Classic in a zero-clearance compartment. Overheating may result, leading to shutdown. Ensure proper airflow around the unit, especially in hot environments.
- **Wiring: WARNING:** Reversed Follow-Me cables can damage the Classic if left in place for extended periods. Verify proper operation of Follow-Me on initial setup.
- **Qualified Personnel:** Installation and maintenance should only be performed by qualified personnel familiar with solar electrical systems and local electrical codes.

3. Specifications

Brand	MidNite Solar
Model	Classic 150
Color	Black
Material	Plastic
Item Weight	12 Pounds
Operating Voltage	150 Volts (Max)
Max Output Current	96 Amps
Battery Voltage	12-72V
Display Type	LCD
Operating Temperature	20 Degrees Celsius (Nominal)
Smart Home Compatibility	Not Smart Home Compatible
UPC	026190331236, 733556559615

Dimensions

Refer to the diagram below for detailed dimensions of the Classic 150 charge controller.



Figure 1: Dimensional drawing of the Classic 150 charge controller, illustrating its physical size and key measurement points.

4. Installation

4.1. Removing and Installing the Front Cover

Removing the front art deco cover is necessary to access the wiring compartment. Be cautious as this may not be the first removal of this cover, and a cable connects the cover to the electronics. Avoid pulling hard or fast to prevent damage.

1. To remove the front cover, unscrew the 4 Phillips head screws with a #2 Phillips screwdriver.
2. Lift the front half of the Classic casting off. The display cable functions like a phone cable.
3. When installing the cover, apply a small amount of Silicone grease (included in the parts bag) onto the metal pins of the male jacks on the Display cable before plugging them in.
4. To re-install the front cover, plug in the display cable and carefully route it around the components on the circuit board as you set the cover in place. Ensure the cover seats properly and check for any cables or wires that might interfere.
5. With the cover seated, install the four Phillips screws with a #2 Phillips screwdriver.



Figure 2: Internal view of the Classic 150, highlighting the display cable connection to the circuit board.

4.2. Mounting the Classic

The Classic is designed for direct mounting onto a MidNite Solar E-Panel, but other mounting methods are

available. The unit has four knock-outs for conduit and wiring, similar to other charge controllers, facilitating upgrades.

Mounting directly to the E-Panel:

- Remove the front cover of the Classic.
- Install the mounting bracket on the E-Panel. Start the upper mounting screw into the bracket, leaving it about halfway out to allow hanging the Classic on this screw.
- Install the 1-inch close nipple into the E-Panel as shown in the E-Panel directions. The 1-inch close nipple, 3 locknuts, and 2 plastic bushings are included with each E-Panel. One locknut acts as a spacer.
- Carefully hang the Classic on the screw in the bracket and slide it over the close nipple (see Figure 4).
- Install the lock nut and bushing on the close nipple and tighten the screw in the mounting bracket.
- Do not install the front cover until wiring is complete.



Figure 3: Classic mounted to the side of an E-Panel, with a warning about zero clearance compartments.



Figure 4: Detail of locknut installation and alternative mounting options.

Alternative Mounting:

To mount the Classic to a plywood surface, use 1 1/2-inch wood screws in the top keyhole slot and the holes in the wiring compartment. Ensure the Classic is plumb and level.

5. Operation

5.1. DC GFP (Ground Fault Protection)

The Classic includes internal ground fault protection (GFP). The NEC requires a DC-GFP on all PV systems in the USA. The built-in DC-GFP eliminates the need for an external DC-GFP. The internal grounding jumper must be installed in the Classic, and the battery negative and DC source negative must not be connected to the system ground conductor elsewhere in the system. Grounding these circuits will defeat the GFP function. In a network with multiple Classics connected in Follow Me, only one Classic should have its internal grounding jumper installed, and all should have GFP enabled. The factory setting connects DC negative to System Ground in the Classic charge controller. The GFP function is for positive ground or ungrounded DC systems.

The ground fault detection system identifies a fault between battery/PV negative and earth ground. When a ground fault is detected, the Classic turns off the charge ability and sounds an alarm. The Classic's system uses a PTC (Positive Temperature Coefficient) that is between the Negative and Ground internally. This PTC is a self-healing fuse that opens when current exceeds its rating, then recloses when current drops. The Classic monitors this PTC and disables charging if it opens, restoring charge when the fault clears.



Figure 5: Location of the GFP jumper on the terminal block.

To disable the internal Ground Fault Protection function, remove the jumper labeled GFP. The GFP function needs to be disabled in the Tweaks menu. Refer to "Disabling GFP" for instructions.

To reset the internal GFP function after detection, find the actual ground fault, then turn OFF the Classic and turn it back ON. This is done by turning the external battery breaker to OFF position and then to ON position.

5.2. Battery Temperature Compensation

The Classic features battery temperature compensation (BTS). This sensor adjusts charge voltage based on temperature. Connect the BTS to the BATT TEMP jack. The battery temperature menu appears as *T-Comp* in the BATTERY MENU. You can change the voltage compensation as needed. If the BTS is disconnected or shorted, the Classic automatically defaults to 25°C. The Classic also allows changing the neutral temperature (typically 25°C) in the WBJr setup.

5.3. Follow-Me Charging Coordination

Follow-Me allows multiple Classics to share charge stages, battery temperature information, and ground fault coordination. This feature also enables you to program a single Classic for Equalize charging and it will instruct all other Classics to equalize as well. You need to set the Equalize parameters in each Classic. For the Battery Temp sensor, only one needs to be connected to one of the Classics.

The Follow-Me function simply tells the Classic to do what the master Classic is doing, propagating the charge stage continuously. If the master goes to Float, the others will follow.

NOTE: Follow-Me coordinates charge stages but the Classics will still vary in the amount of power processed. Follow-Me is not intended to make all Classics produce the same amount of current simultaneously.

To enable Follow-Me, wire the Classics network cables as shown. Go to the Tweaks Menu. Press the "Main Menu" button repeatedly until "Charge" is highlighted. Scroll to the right until "Tweaks" is highlighted and press "Enter". Press the right soft key (Upper right button) 4 times until you see the screen with "Follow-Me" and "BTSNET" on it. Highlight Follow-Me and turn it on using the up arrow. You can also highlight BTSNET and turn it on if you want to share battery temperature data. After enabling these, press Enter to save data.

5.4. Ground Fault Sharing

To share Ground Fault, remove the GFP Jumpers on all Classics except one. You then need to ensure Ground Fault is Enabled in the Tweaks menu for any networked Classics you want to shut down on detection of ground fault. For example, if you have three solar Classics and one wind Classic and do not want the wind Classic to shut down for GFP, ensure it is disabled in the Tweaks menu of that Classic.

5.5. Naming the Classic

The Local Application software (available as a free download at www.midnitesolar.com) allows you to assign a name to the Classic using upper and lower case letters, as well as numbers. This name can be up to 8 characters. This name will appear on the display of the Classic instead of the word CLASSIC. Naming can be helpful for networked Classics that use one MNGP (Display) to view multiple Classics.

6. Maintenance

Regular maintenance ensures optimal performance and longevity of your Classic 150 charge controller.

- **Cleaning:** Keep the exterior of the unit clean and free from dust and debris. Use a soft, dry cloth.
- **Ventilation:** Periodically check that the ventilation openings are not obstructed to ensure proper airflow and prevent overheating.
- **Connections:** Annually inspect all wiring connections for tightness and signs of corrosion.
- **Cover Installation:** If the front cover is removed for maintenance or inspection, ensure it is re-installed correctly, paying attention to the display cable and screw torque, as detailed in Section 4.1.
- **Sealed or Vented:** The Classic is sealed for protection from salt air or dust. If you live in a dusty or salty environment, you may wish to seal the Classic. Sealing involves removing the water resistant seal, snapping the upper vent cover onto the Classic, and using a sealant kit (MNCLSEALKIT). Note that a sealed unit may have a slightly de-rated (lower power) capacity. Refer to the specifications page of this manual for ratings in the sealed mode.



Figure 6: Views of the Classic 150 exterior, demonstrating sealed and vented configurations.

7. Troubleshooting

- **Ground Fault Detected:** If a ground fault is detected, the Classic will stop charging and sound an alarm. Identify and fix the ground fault in your system. To reset, turn the external battery breaker OFF, then ON.
- **Overheating:** If the unit frequently shuts down due to overheating, check for proper ventilation. Ensure it is not mounted in a zero-clearance compartment.
- **Display Issues:** If the display is not functioning, check the display cable connection as described in Section 4.1.
- **Follow-Me Malfunction:** If Follow-Me is not coordinating correctly, verify that all firmware matches across all Classics and that cables are correctly connected and not reversed. Check the Tweaks menu settings for Follow-Me and BTSNET.

8. Warranty and Support

For technical assistance or warranty inquiries, please contact the MidNite Solar Technical Support Team. Refer to the official MidNite Solar website (www.midnitesolar.com) for additional resources, software downloads, and the most current warranty information.

WARNING: All firmware should match across all Classics. Reversed Follow-Me cables can damage the Classic if left in place for extended periods of time and will not be considered under warranty. Please verify the proper operation of Follow-Me on the initial setup.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

<https://manuals.plus/asin/B007PHMSN8>

More documents and user manuals: <https://manuals.plus/>