

Charge Controller Installation in Negative-Grounded Systems

Application Note

XW MPPT60-150 Solar Charge Controller

976-0178-01-01 Rev A

Overview

This application note provides procedures for installing the XW MPPT60-150 Solar Charge Controller in an existing system with negative-ground bonded battery or PV terminals.

To enable the internal XW MPPT60-150 PV Ground Fault Detection (PVGFP) capability the PV negative and battery negative lines must be floating with respect to ground, so that the single point of ground for the DC system is made within the charge controller through its internal 1 A PVGFP fuse. Bonding the negative battery or PV terminal in any location will defeat the internal protection circuit, and may cause erratic operation of your charge controller.

Disabling the Charge Controller Internal PVGFP Circuit

To install the charge controller in a system where an external negative-ground bond is to be maintained, the unit's internal PVGFP circuit must be disabled. To disable the charge controller PVGFP circuit, remove the small jumper connector located on the circuit board within the wiring compartment of the unit. See Figure 1 and Figure 2 for the jumper location of both CE-marked and non-CE versions of the XW MPPT60-150.

⚠ Warning: Shock Hazard

Disconnect PV and battery circuits before accessing the charge controller wiring compartment.

After removal, the jumper may be stored on a single pin of the 2 pin connector, or moved into the location marked for units with a 3-pin connector.

Disabling the PVGFP circuit in this way opens the negative-to-ground bond within the unit so that a single negative-ground connection can be made elsewhere in the system, either at the battery terminal, or through an external PVGFP circuit connected to the PV wiring.

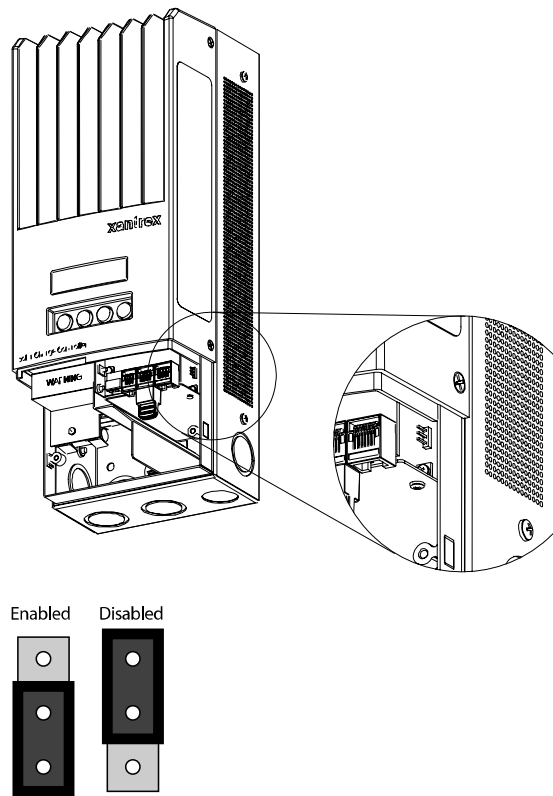


Figure 1: MPPT60-150 Jumper Location (CE Marked Model)

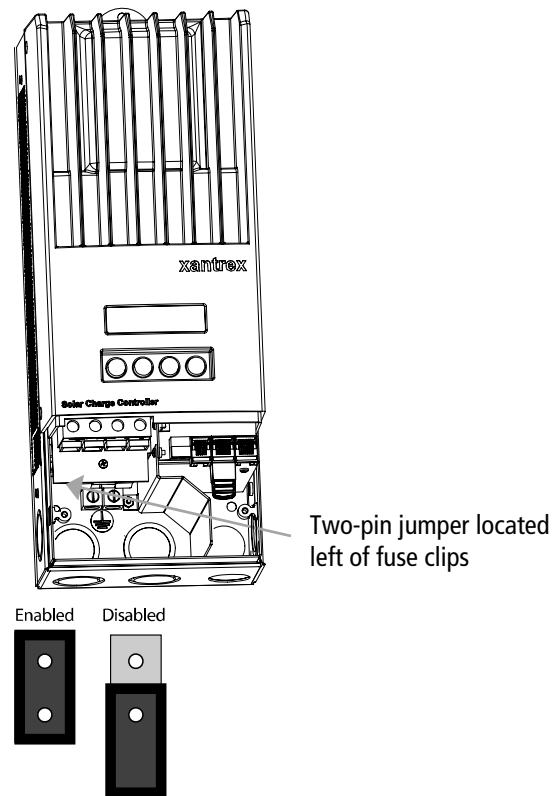


Figure 2: MPPT60-150 Jumper Location (non-CE Model)

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