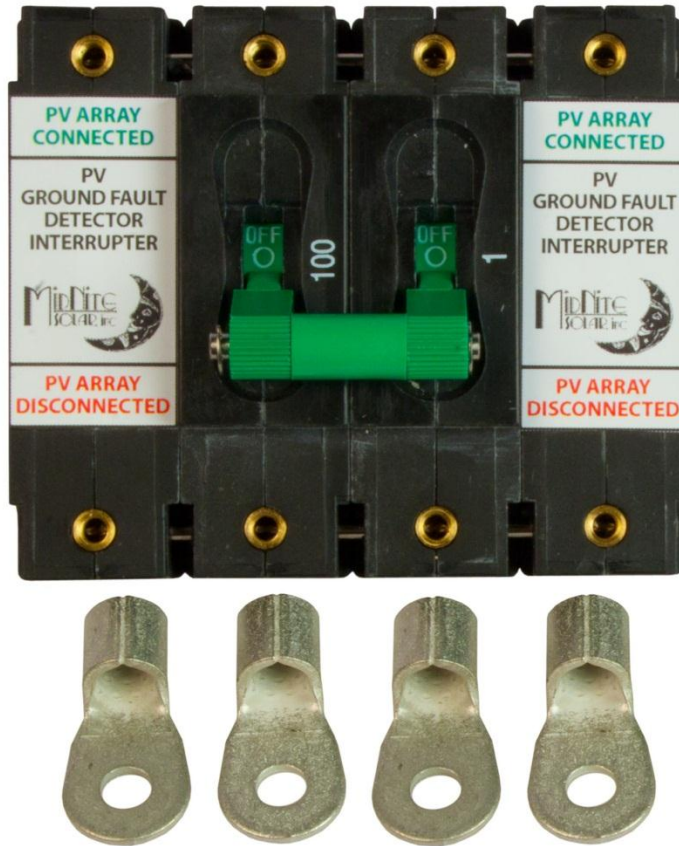




# DC-GFP 100 Instructions



## MNDC-GFP100 Ground Fault Protector

100 amp 150VDC panel mount Dual DC ground fault protector (NRTL listed breaker assy)

All MidNite circuit breakers can be used at 100% rated current when mounted in a MidNite enclosure.  
All MidNite circuit breakers hold 100% rated current independent of ambient temperature.

The MNDC-GFP100 can be used in the following ways.

- 1 pv array breaking pv - and + using the 1 amp pole as the trip source
- 1 pv array breaking pv – and + using the classic to shunt trip the device
- 2 pv arrays breaking just the + using the 1 amp pole as a trip source
- 2 pv arrays breaking just the + using the classic to shunt trip the device

**MIDNITE SOLAR INC. 17722 67<sup>TH</sup> AVE NE ARLINGTON, WA 98223**

**Email: [info@midnitesolar.com](mailto:info@midnitesolar.com)**

**PH: 360-403-7207 FAX: 360-691-6862**

## MNDC-GFP100 Instructions (continued)

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The MNDC-GFP100 Ground Fault Protector is a 4 position panel mount breaker that disconnects power in the event of a ground fault. The MNDG-GFP100 mounts easily in an E-Panel or other similar electrical box.

The MNDC-GFP100 can be wired to sense the ground fault directly or to be remotely tripped. The Classic Charge Controller can sense faults and send a signal to the MNDC-GFP100 to cause it to open the protected circuits. See wiring diagrams starting on the next page.

When installing a DC-GFP in the PV circuit, make sure there is no battery minus to ground connection. That would effectively short out the sense circuit on the DC-GFP.

MidNite solar offers other DC-GFP devices. One is a 63 amp single circuit din rail mount device another is an 80 amp single circuit panel mount device. There is also a 50 amp 300VDC device.

The Midnite Dual GFP-100 is ideal for dual arrays. DC-GFP's are a very misunderstood device. When looking at a wiring diagram you will notice that part of the DC-GFP is a high current breaker. Connected in series with the GFP is yet another high current DC breaker. It is a common mistake to think the second breaker is unnecessary.

**NEC2008 requires a DC-GFP on all systems** whether mounted on the roof top of a residence or not. The NEC also does not allow the DC-GFP to be the PV disconnect. When the DC-GFP is turned off, it leaves the battery negative ungrounded. The only time it is allowed that the system be ungrounded is during a fault condition. This requirement necessitates a PV disconnect in series with the DC-GFP. Some DC-GFP's such as the Midnite Solar MNDC-GFP100-Dual breaker break both the positive and negative circuits, this provides the highest level of protection.

If tripping occurs, check wiring carefully. More often than not, there is a wiring error.

**Important!** Torque connections to 30 In-Lbs (3.4NM)

POLE 1	POLE 2	POLE 3	POLE 4
100 AMP	1 AMP	100 AMP	12VDC SHUNT TRIP

Breaker Identification Label. This view is from the back of the breaker (near the connection studs). The breaker is silkscreened P1 through P4 on the top of the breaker near the connections.

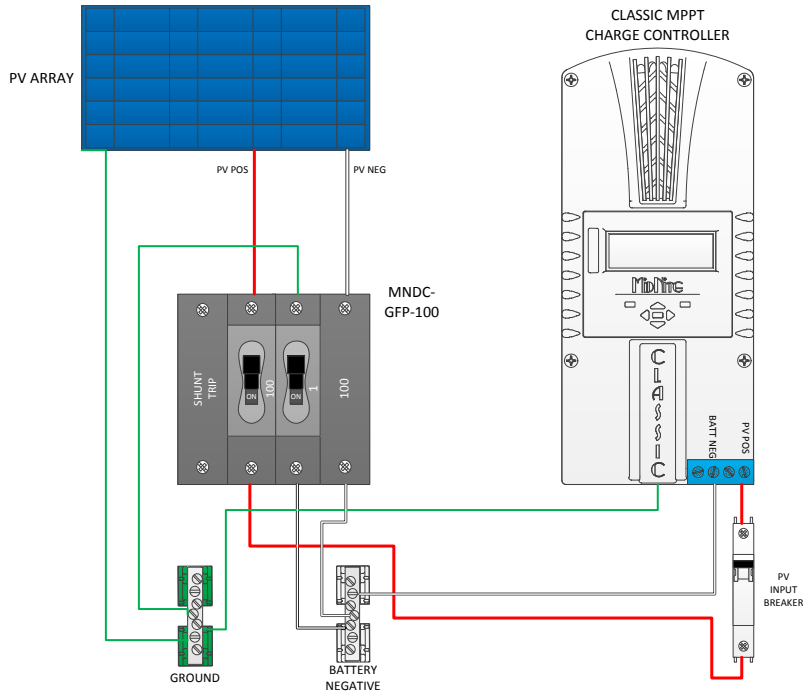
Note:

For Battery-less DC-GFP installations connect the white wire to PV negative rather than Battery negative.

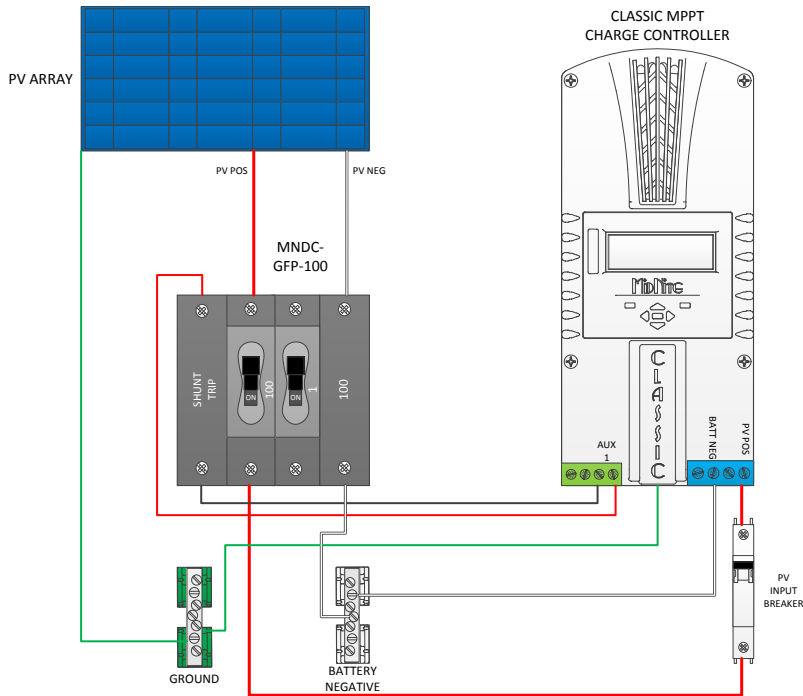
# MNDC-GFP100 Instructions (continued)



MNDC-GFP-100 SINGLE ARRAY, POSITIVE AND NEGATIVE P/V LINES DISCONNECTED UPON 1 AMP GROUND FAULT



MNDC-GFP-100 SINGLE ARRAY, POSITIVE AND NEGATIVE P/V LINES DISCONNECTED BY CLASIC'S BUILT IN GFP



# MNDC-GFP100 Instructions (continued)

