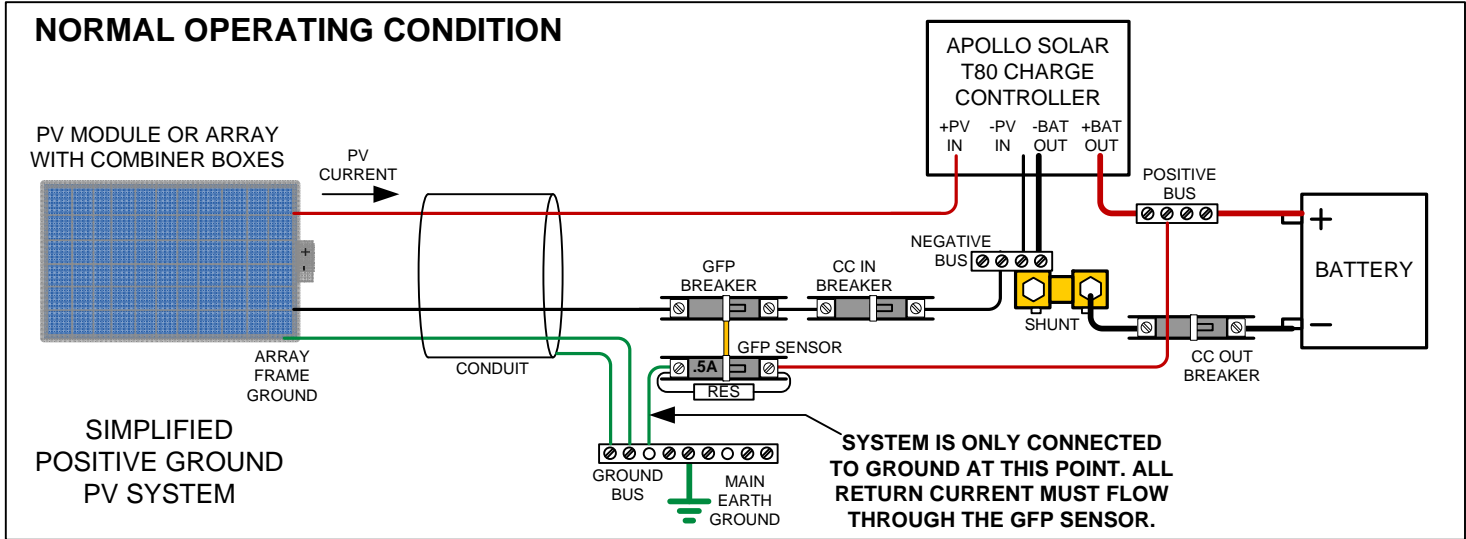


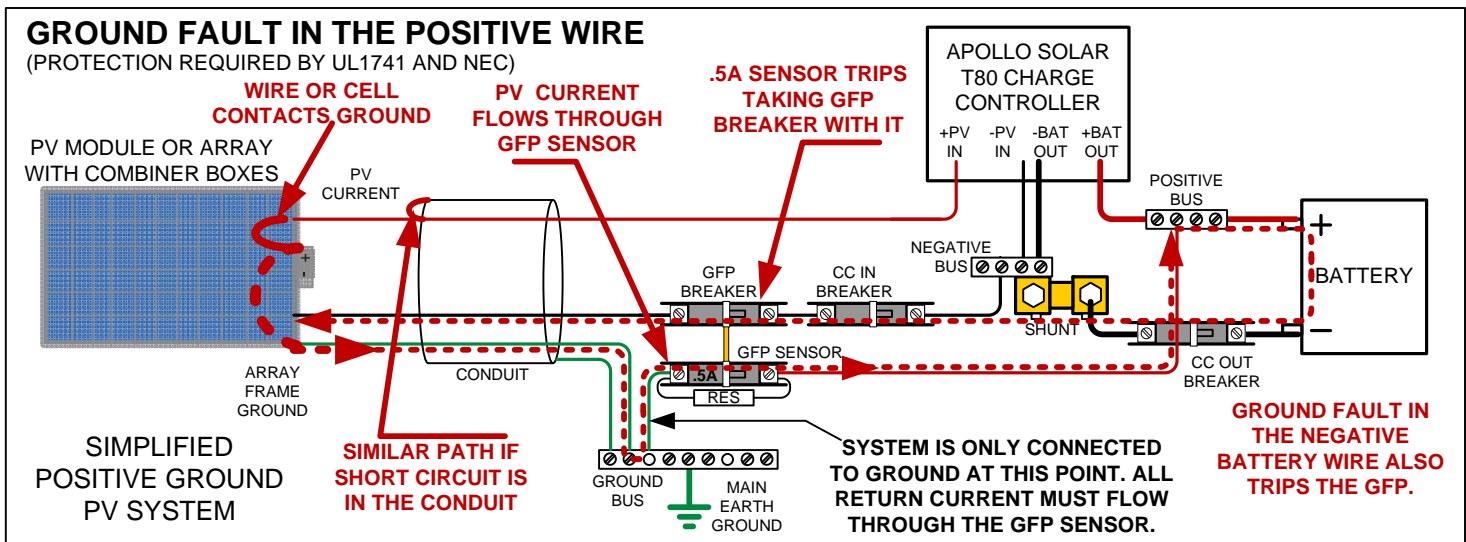
# GROUND FAULT PROTECTION – POSITIVE GROUND SYSTEMS – HOW IT WORKS

## NORMAL OPERATING CONDITION



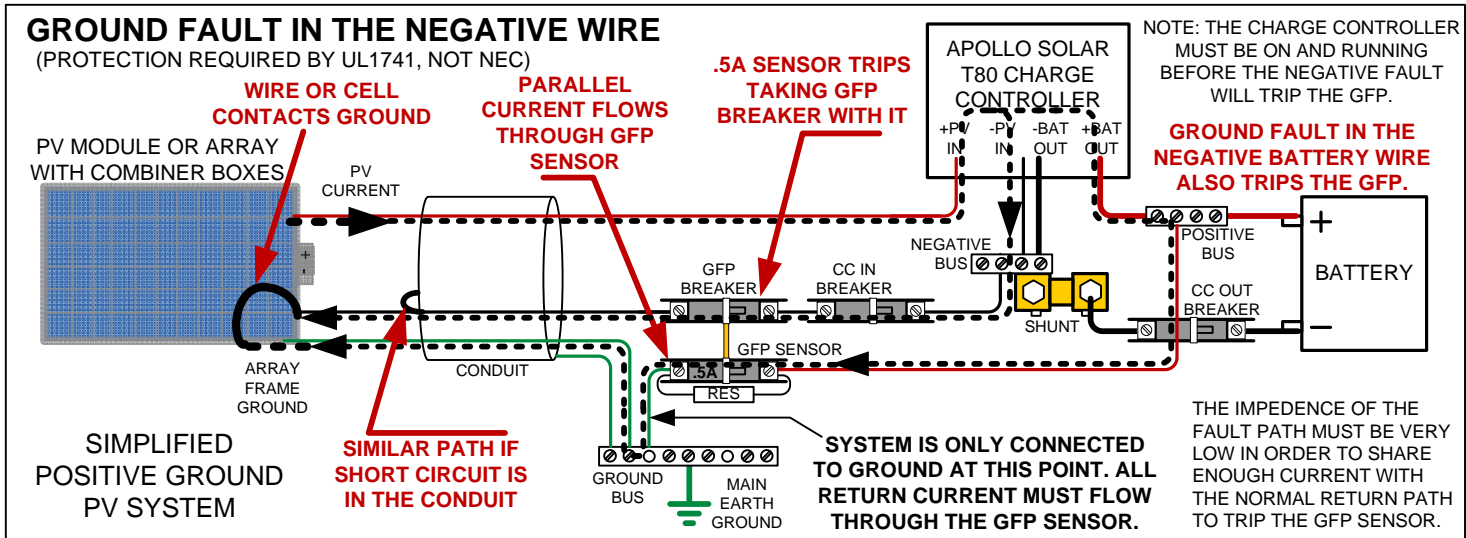
## GROUND FAULT IN THE POSITIVE WIRE

(PROTECTION REQUIRED BY UL1741 AND NEC)



## GROUND FAULT IN THE NEGATIVE WIRE

(PROTECTION REQUIRED BY UL1741, NOT NEC)




NEC 690.5 states that the Ground Fault Protection device must:

- 1) Detect a ground fault
- 2) Interrupt the fault current
- 3) Indicate that there was a ground fault
- 4) Open the ungrounded PV conductors

The drawing shows that each of the NEC requirements are satisfied with this GFP device.

The GFP may be tested by forcing a short to ground wire near the PV array. It is wise to use a current limiting resistor to create the short to limit damage to the wires. Be careful of high PV voltage.



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### POSITIVE GROUND SYSTEMS GROUND FAULT PROTECTION

9-JULY-10

J. PFEIFER