
Ground Fault Detection Improvement Study: What is the Blind Spot and why is it Important?

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What is the Blind Spot and why is it Important?

- The knowledge that a blind spot exists is now reasonably well known.
- What is not known is the likelihood it will be a problem and what to do about it.
- This project and report attempts to answer those questions in a way that the designer, installer, and owner can decide how to move forward.

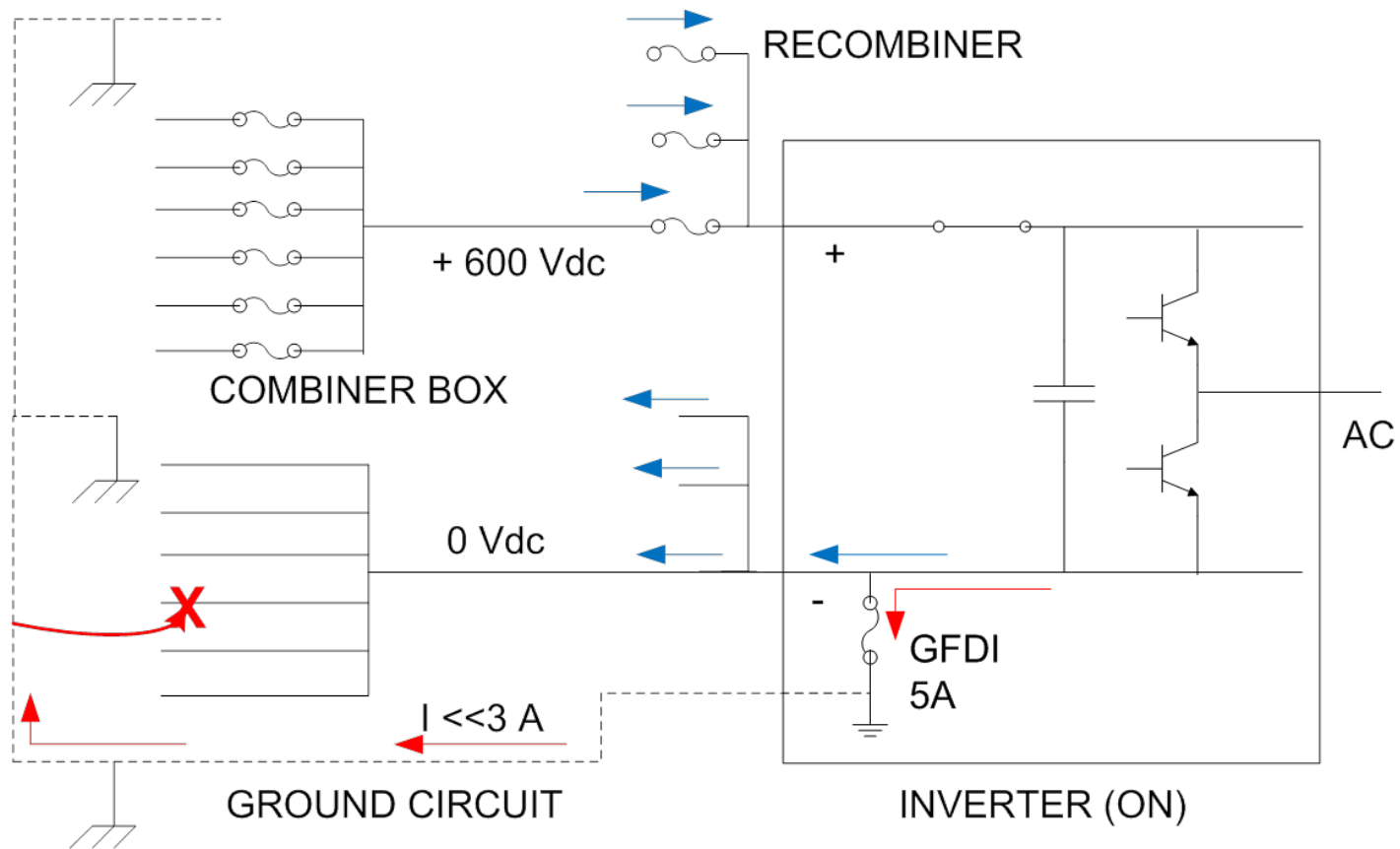
Purpose of Research Project

- Investigate the likelihood of undetected “blind spot” faults
- Demonstrate and characterize the fault current detection “blind spot” in several large, fielded PV inverters
- Measure the impedance of array wiring and the equipment grounding conductors in large, fielded PV systems
- Develop accurate simulation models of arrays and systems with high and low impedance faults

Purpose of Research Project

- Analyze the ground fault detection capabilities of three different PV system types installed in US residential, commercial and utility-scale PV installations
- Provide recommendations for: operational procedures that can reduce the risk of fire, and retrofit actions that can be taken to increase the sensitivity of electronic ground fault detection

Example Blindspot Scenario (Bakersfield)



Ground Faults are the Issue

- What systems are of greatest risk with a blind spot?
- How do we address the blind spot cost effectively with existing systems?
- How do we get the designer/builder/owner community to incorporate better detection measures for systems being installed now?