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# 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.

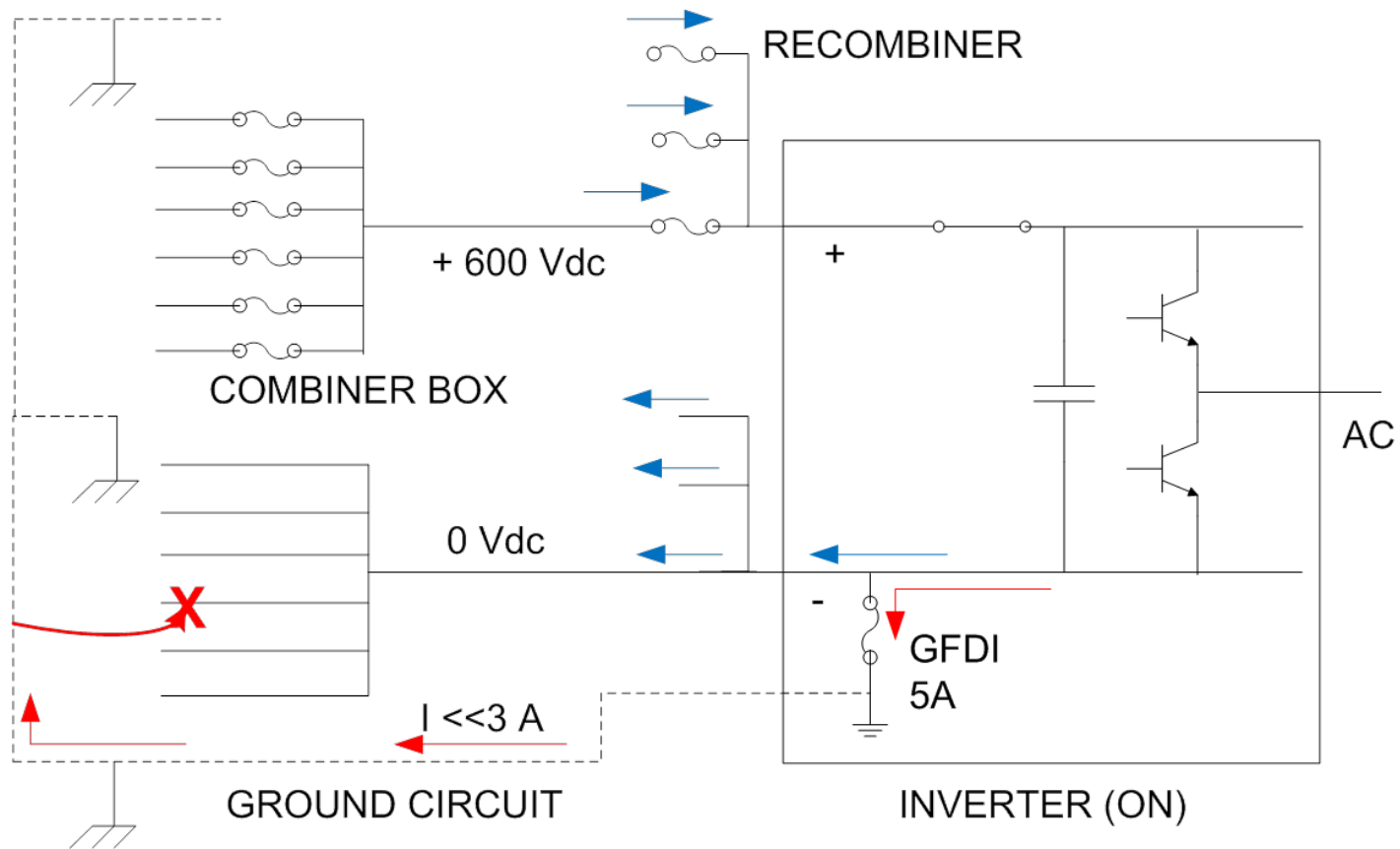
# Purpose of Research Project

- 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?