



Thomas & Betts

ANALYSIS OF NEC ®

2017 Code Changes: Article Section 690.41 System Grounding
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(A) PV System Grounding Configurations. One or more of the following system grounding configurations shall be employed:

- (1) 2-Wire PV Arrays with one functional grounded conductor
- (2) Bipolar PV arrays according to 690.7(C) with functional ground reference (center tap)
- (3) PV arrays not isolated from a grounded inverter output circuit
- (4) Ungrounded PV arrays
- (5) Solidly grounded PV arrays as permitted in 690.41(B) Exception
- (6) PV systems that use other methods that accomplish equivalent system protection in accordance with 250.4(A) with equipment listed and identified for the use

(B) Ground Fault Protection. DC PV arrays shall be provided with dc ground-fault protection meeting the requirements of 690.41(B)(1) and (2) to reduce fire hazards.

Exception: PV arrays with not more than two PV source circuits and with all PV system dc circuits not on or in buildings shall be permitted without ground fault protection where solidly grounded.

(1) Ground-Fault Detection. The ground fault protective device or system shall detect ground fault(s) in the PV array dc current-carrying conductors and components, including any functional grounded conductors, and be listed for providing PV ground-fault protection.

(2) Isolating Faulted Circuits. The faulted circuits shall be isolated by one of the following methods:

- (1) The current-carrying conductors of the faulted circuit shall be automatically disconnected.
- (2) The inverter or charge controller fed by the faulted circuit shall automatically cease to supply power to output circuits and isolate the PV system dc circuits from the ground reference in a functional grounded system.

Analysis of the Change

The grounding requirements for PV systems in article 690 was re-written. The revision changes “reference grounded PV system” to “functional grounded PV system” as influenced by IEC standards.

Products

Blackburn PV Grounding Connectors



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Contact Us

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Disclaimer: This is not intended to be an iteration of all the changes, but a reference of a change that may affect the Thomas & Betts, ABB & Baldor product lines. For a more in-depth document, please contact the International Association of Electrical Inspectors at www.iaei.org.

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