



Photovoltaic array support grounding requirements

What are the grounding requirements for PV array equipment?

This connection shall be in addition to any other equipment grounding conductor requirements in 690.43 (C). The PV array equipment grounding conductors shall be sized in accordance with 690.45. For specific PV system grounding configurations permitted in 690.41 (A), one of the following conditions shall apply:

What are the bonding and grounding requirements for PV systems?

The specific bonding and grounding requirements for PV systems in Article 690 are in Part V. Section 690.41 covers system grounding, allowing both grounded and ungrounded PV array conductors.

Does a PV array need a grounding conductor?

Since the PV array and other electrical equipment in PV system, e.g., inverters, are often located remotely from one another, 690.43 (B) requires that an equipment grounding conductor (EGC) be run from the array to other associated equipment.

Do I need a grounding electrode for a PV array?

While a separate grounding electrode system is still permitted to be installed for a PV array, per 690.47 (B), it is no longer required to be bonded to the premises grounding electrode system. In PV systems with string inverters, the equipment grounding conductor from the array terminates to the inverter's grounding bus bar.

Do PV modules need a grounding conductor?

Metal parts of PV module frames, PV equipment, and enclosures containing PV system ac and dc conductors must be connected to the circuit equipment grounding conductor per 690.43 (A) through (D). (A) Photovoltaic Module Mounting Systems and Devices.

Do PV systems need equipment grounding?

Regardless of system voltage, equipment grounding is required on all PV systems. Appropriate bonding and equipment grounding limits the voltage imposed on a system by lightning, line surges and unintentional contact with higher-voltage lines.

The typical electrical system of solar power plants consists of several PV panels forming an array size of capacity 1-2 MVA that are connected to a common DC collection point which is then inverted to low-voltage AC to be transformed via ...

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