



Earthing PV module frame ...

It is especially important that PV frame earthing is provided when using NON-ISOLATED

'transformer-less' INVERTERS

Non-isolated inverters operate at high frequency. There will be an a.c. component on the d.c. supply. This is capacitively coupled to the module frames producing an a.c. voltage. While not likely to be lethal, this electrostatic charge, if not depleted by earthing, could be enough to frighten and possibly cause a person to fall off the roof e.g. the system owner, while cleaning modules.

Earth wires must be run so that the removal of one component (e.g. module) does not interrupt the earthing of other parts of a system.

In other words daisy chaining earth connections is not permitted.

Minimum recommended CSA - 4mm²

The PV earth connection is direct to the earth link not via the inverter earth connection.

Refer to the CEC GC Installation guideline.

AS/NZS 3000:2007

SECTION 5 EARTHING ARRANGEMENTS AND EARTHING CONDUCTORS

5.1.2 Selection and installation requires that earthing arrangements shall be selected and installed to ...

- (c) Mitigate voltage differences appearing between exposed conductive parts of equipment and extraneous conductive parts through equipotential bonding arrangements.

5.6 EQUIPOTENTIAL BONDING

5.6.1 General

Equipotential bonding is intended to minimize the risks associated with the occurrence of voltage differences between exposed conductive parts of electrical equipment and extraneous conductive parts.

NOTE: Additional equipotential bonding requirements apply for ...
(e) photovoltaic arrays,
in accordance with AS/NZS 5033

