

SolarTech Power Solutions

Can a 24V inverter be grounded



Overview

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I'm installing a 24v Hybrid inverter/controller which will be attached to periodic SP/Generator as well as 24v DC battery power. The inverter has 120v AC output. Because my RV is 12v, I'll be installing a 24/12 70 70 amp Victron DC reducer. My questions are in regard to grounding. The SP/generator.

An inverter can operate without being grounded and will thus be a potential hazard to users as it can cause a nasty, even fatal shock. An ungrounded inverter will contain live points, which, when touched, will send a current through your body to the earth. Your body has completed the loop to earth.

A control panel which has a 480 to 24VDC power source in it supplies 5 sub panels. The source is limited to 1000VA and the conductors used to feed the remote panels are Two #6's for DC+ and Two #6's for DC-. My question here is do I have to supply a grounding conductor to the sub panels?

And second.

Inverter generators need to be grounded with a separate ground wire, whether portable or not. It is important because it allows the engine to operate at its highest efficiency and prevents possible damage from lightning strikes. So that answers your question on do inverter generators need to be.

Our solar to inverter system is on top of the roof of a van and works perfectly charging a 24 v DC battery while providing 110 volt AC. There is no ground to the chassis. Now we want to add the Victron Energy Orion Tr Smart 12/24 15

amp DC-DC non-isolated charger so that the 24 v DC battery charges.

I would like to read the inverter installation instructions, but probably you need to ground the battery to chassis near the battery (DC ground) and ground the inverter to the chassis near the inverter (AC protective earth ground). But if you have a shore power input on the inverter, AC ground is.

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