

SolarInvert Energy Solutions

Portable product power supply design



Overview

Why is power supply design important?

Power supply design plays a very important role within an electronic and embedded system. In this paper, we will discuss the history of power supply, 3 types of power supply designs, power supply topologies and power supply design consideration.

Why do engineers choose a power supply module?

For the above reasons, most engineering teams opt to select a power supply module or unit they can quickly incorporate into the design. Electronics-based products and applications generally operate on low voltage DC supplies.

What are the characteristics of a power supply?

International standards exist that stipulate several key power supply attributes. These include power efficiency, no-load power consumption, safety parameters such as isolation voltages, and electromagnetic interference (EMI).

What are the different types of power supplies?

Power supplies are typically architected around topologies such as linear and switched mode. For reasons explained later, the switched mode topology, which includes isolated fly-back conversion, and non-isolated buck and boost, is the most popular.

How does a power supply work?

Power supplies appeared with tethered systems which are linked with electrical wire to a fixed electrical installation to transform, rectify and regulate the alternating current (AC) 110 volts/220 volts to another electrical form, +12 volts/+ 5 volts direct current (DC) which will be used by different system modules.

What are safety standards for power supplies?

Safety standards for power supplies relate to not only the power supply itself but the complete product, and there may be regional variations or adaptations of the standard's specification. Critical safety criteria include isolation techniques and leakage currents.

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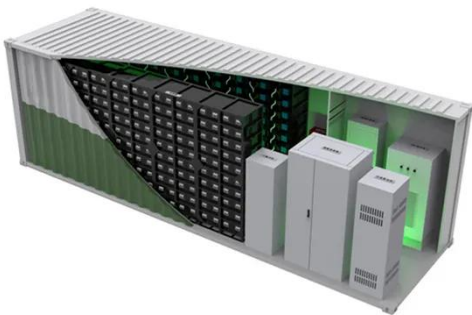
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51.2V 150AH, 7.68KWH

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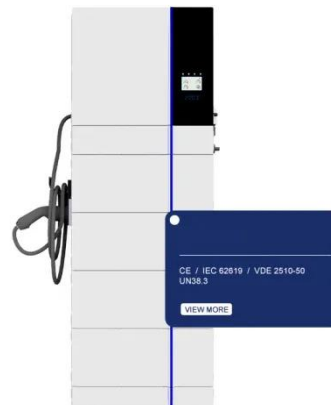

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