

SolarTech Power Solutions

Minimum outdoor power supply temperature



Overview

What is a maximum operating temperature?

Maximum operating temperatures apply to components/materials including those that carry, support, or contain hazardous voltage or current. As an example, a plastic enclosure has two temperature ratings, maximum surface temperature and its own maximum operating ambient air temperature.

Where is critical temperature located in AC-DC power supply?

Caution! In internal power supplies the components with critical temperature are often located on primary side of AC-DC power supply! Use appropriate safety measures as these components are at hazardous voltage levels. Only qualified personnel should attempt to make these measurements.

What is a common power supply voltage tolerance?

Common power supplies support wide input voltage range to cover worldwide AC mains networks. The standard defines the supply voltage tolerance to be +6% and -10%, unless wider tolerance is declared by supplier.

What is the maximum temperature a transformer can keep?

It is strongly recommended to keep its temperature 5°C - 10°C below the maximum allowed value of 105°C under worst case condition especially without active air flow. Main Transformer Winding T1 is the main power element allowing maximum temperature up to 130°C.

What temperature should a UPS bulb be at?

There shall be at least a 1.8°F (1.0°C) difference between the dry bulb temperature and the wet bulb temperature, always, to maintain a non-condensing environment. Exceeding the maximum ambient temperature condition of the UPS (either 35 or 40°C) will result in over-temperature alarms, transfers to bypass, and possible power electronics damage.

How much clearance do I need for a modular power supply?

This will require clearance limit 1.48 times of IEC/UL 60950-1 unless your device marked as suitable for use only up to 2000 m New modular power supply has been designed to exceed regulatory safety requirements at 5000 M for creepage and clearance. The new product is fanless.

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