

A-Core Container

Outdoor power supply operating temperature



Overview

What is the operating temperature range for power supplies?

Typically, the operating temperature range for power supplies is between 0°C and 40°C, with some products able to reach standards of 0°C to 50°C. In other words, the temperature inside the equipment must be maintained within this range to ensure stable operation.

Why should a power supply have a wide operating temperature range?

Depending on the application, a power supply with a wide operating temperature range may provide better reliability and a longer operating lifetime, prevent the need for a cooling fan or other special design consideration for thermal management, and reduce the overall cost of your system.

What is a wide temperature power supply?

Wide temperature power supplies usually operate within a range of -40 to -20°C up to 70-80°C, exceeding the range of conventional power supplies and meeting the needs of most applications. Although wide temperature power supplies utilize internal components with superior heat resistance, these materials still have thermal and efficiency limits.

What does it mean if a power supply exceeds standard operating temperatures?

Exceeding standard operating temperatures means running your power supply when the ambient temperature falls outside the operating temperatures for which it is rated. Sometimes this happens — you can't predict every possible usage scenario, and you can't always guarantee a stable environment.

What temperature should a commercial power supply be rated?

Typical commercial power supplies are specified to support their full rated

load over an ambient temperature range from zero or minus 25 degrees Celsius to around 50 degrees Celsius, and they may derate to 50% load at 70 degrees Celsius.

What is a good ambient temperature for a power supply?

Some applications may require ambient operating temperatures as low as -40 degrees Celsius and as high as +85 degrees Celsius, or an even wider range. A number of factors can influence the ambient temperature that a power supply is subjected to in a given application, including the following:

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