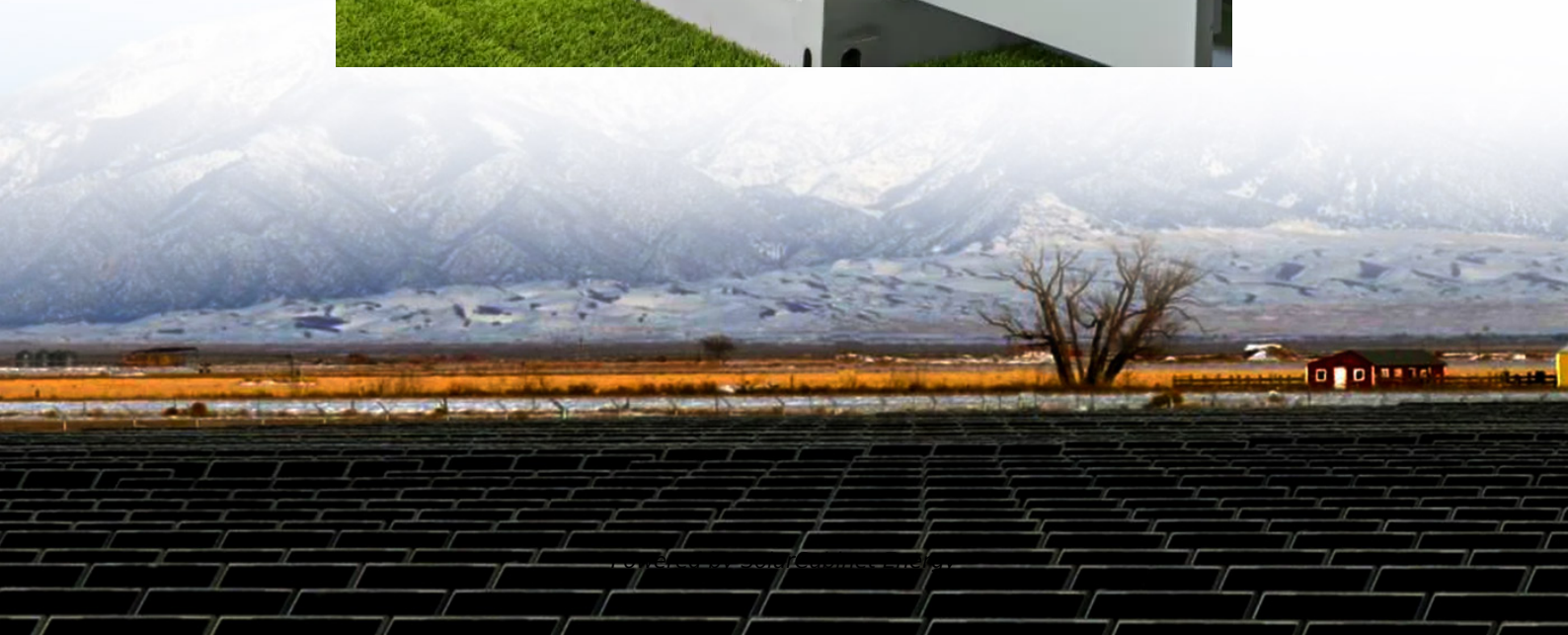


High-altitude outdoor power supply





Overview

Can a power supply operate at a high altitude?

In summary, whenever an application requires that a power supply must operate at altitudes above 2,000 meters (6,562 feet), always check with the manufacturer to determine if this is acceptable, or if an alternate model that is designed for higher altitudes is required.

What is a high voltage power supply?

Voltages, steady-state or repeated transients higher than 327V are referred as high voltages. Power supplies routinely have 240-265 VAC and 380 or more VDC internally, as well as high-frequency high voltage AC energy. Thus, considerations for breakdown and processing high voltage must be considered for use in the end application.

How does altitude affect power electronics design?

Let's review the physics involved in power electronics design. As altitude is increased, the air is less dense. The cooling capacity of the air decreases as altitude increases (decreased density) making heat removal via air less effective. Additionally, according to Paschen's Law the dielectric properties of air change with altitude.

What is the minimum storage altitude for industrial and medical supplies?

Storage (non-operational) altitude for industrial and medical supplies is generally limited by the lowest temperature rating of the product; in most cases 8000 meters is typical. In the case of equipment manufactured or sold in China, the standard GB 4943.1-2011 assumes your product must be suitable for use at altitudes up to 5000 m.

Does advanced energy offer a fanless power supply?

Advanced Energy's modular, fanless power supply, the CoolIX600 series, takes into account the specific needs for demanding applications that must maintain



high-reliability and efficiency at high altitudes.

Why does air at high altitude increase heat transfer capacity?

Air at high altitude is less dense than air at sea level, reducing its convective capability and overall heat transfer capacity. Therefore, all electronics that rely on natural or forced convection to dissipate heat will experience increased air and component temperature rise for the same amount of power at higher altitudes.



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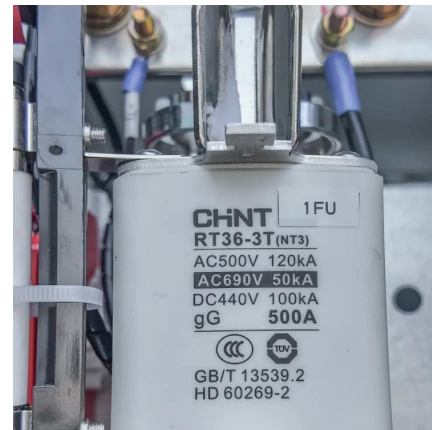


[Meeting High Altitude Requirements For Power Supplies: A ...](#)

It not only works at that altitude, it also meets medical and industrial standards with margin at a 5000-m altitude. This product has no fan so the thermal derating needed at altitude is less.

[How to Select Power Supplies for High-Altitude Applications](#)

Advanced Energy's modular, fanless power supply, the CoolX600 series, takes into account the specific needs for demanding applications that must maintain high-reliability and efficiency at ...



[High-Altitude Power: Portable Generator Performance Impact](#)

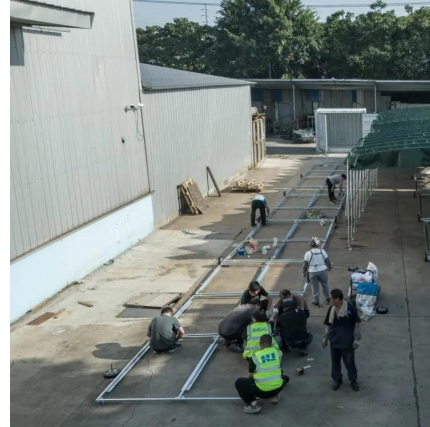
Maximizing your portable generator's performance at high altitudes is essential for reliable power supply during outdoor adventures. Here are a few tips to help optimize your generator's ...

[Make Sure You Have the Right Power Supply for the Altitude](#)

These universal input, 30-W AC/DC power supplies with a wide-input voltage range of 85 to 264V DC have been designed for an operating



altitude of 5,000 meters and provide 3,000V AC of ...



[How to Select Power Supplies for High-Altitude Applications](#)

For the design engineer, the main considerations when designing for applications where altitude is a factor is understanding how high altitude can negatively impact the electronics within, as well ...

[Oxygen supply device mobile oxygen supply for family outdoor at high](#)

Oxygen supply device mobile oxygen supply for family outdoor at high altitude Oxygen supply device is used for users with mobile oxygen supply needs to take oxygen, after filling oxygen, it ...



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