SolarCabinet Energy

Outdoor power supply current is too large

Overview

What happens if a power supply draws too much?

The exact behavior beyond that basic statement depends on too many things. But for sure, if the load draws more than the supply can put out, the voltage will go down. That much is safe to say. Varies. Shuts down, foldback, hick-up or constant current limit. Do you have a datasheet for it or have you asked the manufacturer?

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Why does a load circuit draw more than a power supply can output?

A load circuit might, very briefly, draw more than the power supply can output when the load is first turned on. For instance if the load has a lot of capacitors that need to charge up, the charging current might flow in a large spike, which then settles down to much less than the supply's capacity once the capacitors are charged.

Can a theoretical power supply output infinite current?

As a little "information for the layman": Theoretical power supplies can output infinite current. Practical power supplies have an internal resistor that is the sum of all the wiring and other components. In the model of such a power supply, the resistor is what causes voltage to drop as current increases.

What happens if a load draws more current than a supply can manage?

If the load draws more current than the supply can manage, the voltage will dip or sag or collapse. The exact behavior beyond that basic statement depends on too many things. But for sure, if the load draws more than the supply can put out, the voltage will go down. That much is safe to say. Varies.

How do you know if a power supply is overloaded?

Modern switching supplies will detect the overload and "crowbar" - interrupt

power, take some time to reset, power up again, crowbar, rinse wash repeat. A few power supplies have high internal impedance - think, batteries.

Should a board designer build a power supply?

Many times it is cheaper to build a power supply that can provide less current, so the designer will minimize the cost as much as possible while still being safe. If there is some case that the board designer hasn't considered, then they might pull too much power.

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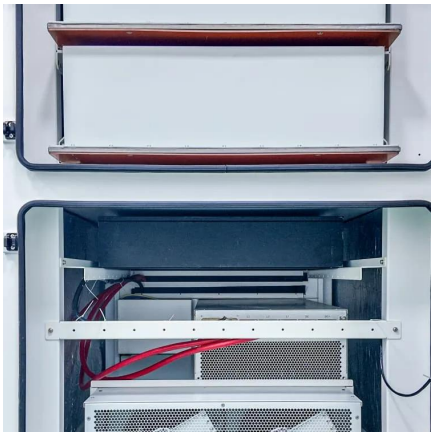

[LED Power Supply Sizing: Pros and Cons of Going Too Big or Small]

Choosing the right power supply is essential to avoid common problems like flickering lights, overheating, and premature failure. This article simplifies the key considerations--from ...

[Large-ish Hue outdoor installation -- power supply layout & 3rd ...]

My outdoor setup isn't that large currently - about 20 different lights - but I went through the same process and I'm still considering options to expand that. I'm using the 100/95 watt Hue power ...

[skill-my 100A AGU Holder Block for Car & Yacht Power with ...]

2. Provide comprehensive electrical protection. When the current is too large, it will automatically cut off the power. 3. Electronic fuse holder with high-quality ANL fuse protects the circuit. 4. ...

[Any disadvantage to over-sizing power supply? : r/buildapc]

He's said that this used to be the case with older power supplies, and newer power supplies have flatter efficiency curves. That's true that you can

buy PSUs with nice flat (and high) eff curves ...

What happens when a device draws more current than the power supply ...

What happens when a device draws more current than the power supply can provide? And under what circumstance can it happen - bad board design or not determining the worst case ...

[What happens when a source cannot supply enough current? : r]

With a big supply and a small current, the resistor is not an issue. With a big supply and a big current, the resistor begins to become an issue. Yet the load wont notice the resistor in front of ...

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