

## SolarInnovate Energy Solutions

# Outdoor power supply voltage adjustment



## Overview

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How do you adjust the output voltage of a power supply?

The output voltage of a power supply is usually a fixed voltage, but sometimes it may be necessary to adjust that output voltage. For example, you may be able to reduce the power dissipation in a low-voltage high-current processor – while still keeping performance high – by adjusting the voltage fed to the core.

Does an AC-DC power supply have an output voltage adjustment?

AC-DC power supplies and DC-DC converters often feature an output voltage adjustment, the range of which is stated in the datasheet. An AC-DC power supply may have a potentiometer accessible to set the output voltage from the original factory set point. (See Figure 1).

Can a power supply be adapted on-the-fly?

Power supplies are usually set to a fixed output voltage to supply an electrical load with energy. Certain applications, however, require a variable generated voltage. This article will show how output voltages of a power supply may be adapted on-the-fly using dedicated digital-to-analog converters (DACs) developed for such purposes.

How do I stabilize the output voltage?

The stabilization of the output voltage is done using a TL431. This is a shunt regulator with a reference voltage and an input pin to adjust the output voltage. The data sheet of this device can be found on the internet. I located the resistors that are responsible to set the output voltage. They are named R10 and R14 on the pcb.

What is an adjustable output power supply (AVS)?

Using AVS allows the processor to optimize the core voltage, thus improving performance and reducing power dissipation. This is just one example of how

to create an adjustable-output power supply. For more information, see my latest Power Tips post on EETimes.

Why do I need to adjust my PSU input voltage?

**Moving to a Different Country:** If you are relocating to a different country or traveling to a region with a different voltage standard, you will need to adjust the PSU input voltage to match the local electrical system. This ensures that your PSU can effectively convert the incoming AC power into the appropriate DC voltage required by your devices.

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### How to design an adjustable voltage regulated power supply ...

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### Is it possible to increase voltage from a power supply ...

Apr 23, 2013 · I have a 24V 4.5 amp (108 Watt) power supply. I know most Voltage regulators take a higher voltage and regulate it to a lower voltage. Is there a way to increase the voltage ...



### Ensuring a Stable Electricity Supply with Outdoor Stabilizers

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