

## SolarMax Energy Systems

# Portable adjustable power supply design



## Overview

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What is an adjustable power supply?

An adjustable power supply is a device that provides a variable output voltage and current to power electronic circuits and devices. It is an essential tool for electronics enthusiasts and professionals who need to test and troubleshoot different types of electrical and electronic systems.

What is a PD adjustable DC power supply?

This project was created on 06/01/2025 and last updated 3 months ago. The PD Adjustable DC Power Supply is a compact, USB-C-powered device designed to provide adjustable voltage output like a traditional lab bench power supply, but using the USB Power Delivery (PD) 60W as power input.

How to build an adjustable power supply circuit?

Before building the adjustable power supply circuit, make sure you have all the necessary components. These include a LM317 voltage regulator, resistors, capacitors, diode, potentiometer, heatsink, and wires. Start by preparing the circuit board. Cut it to the desired size and make sure it is clean and free from any dust or debris.

Can a potentiometer be used as an adjustable power supply?

Use a multimeter to check the voltage output and adjust the potentiometer to vary the voltage. Make sure there are no short circuits or loose connections. Once the circuit is built and tested, it is ready to be used as an adjustable power supply. It can provide a regulated voltage output that can be adjusted according to your needs.

How to set current limit on PD power supply?

Here are the steps to set the current limit on the PD power supply Short the output positive and negative terminal. Now, the power supply should automatically switch into CC mode. Release the shorted terminal, now the

power supply should automatically switch back to CV mode. Increase the voltage until the target voltage output is reached.

What components do you need for a power supply?

Here is a list of the key components you will need: Transformer: This is used to convert the high voltage AC from the mains power supply to a lower AC voltage. Rectifier: The rectifier is responsible for converting the AC voltage to DC voltage. This can be done using diodes or a bridge rectifier.

## Portable adjustable power supply design

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### Portable Adjustable Mini Powersupply

As most of my project involve electronics of some sort, having a good power supply is essential to be able to meet the demand of different power requirements. So I built me a bench-top power ...

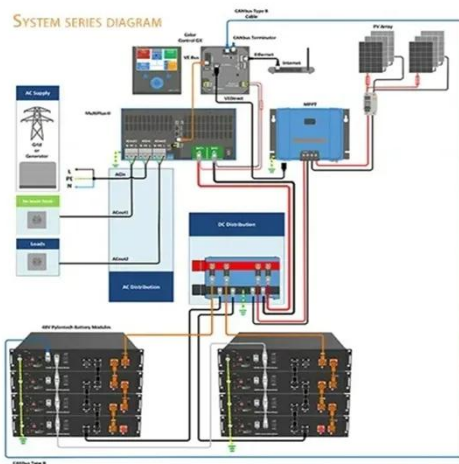
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## Design of Switching Regulated Power Supply Based on Flyback

Therefore, this paper combines the principles of flyback switch-mode power supplies to design a multi-output adjustable DC-regulated switch-mode power supply. By calculating the theoretical ...



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### I Tested the Best Bench Top Power Supply and Here's Why it ...

I tested the versatile Bench Top Power Supply and was impressed by its reliability and precision. See why it's a must-have for any electronics enthusiast.

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## Make an Adjustable DC Power Supply - Simple and Useful

We'll guide you step-by-step through the build process--from choosing components to assembling and testing your adjustable power supply.

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## DIY Portable Power Supply : 7 Steps

This is the newly designed portable power supply, I followed the 5v boosting approach in this design. So that I can charge the power supply anytime with a standard USB C/A charger. ...

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## Bench Power Supply Tutorials

Bench Power Supply Tutorials: (Variable voltage) power to the people! A good power supply is useful when working with electronics, but it can be pricey. If ...

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>6000 cycles (100%DOD)

Rated battery capacity:  
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4G/CAN/RS485

LED Display, High-Speed Turbo Engine, USB Charging, Ergonomic Design For Travel & ...

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## Simple Bench Power Supply that Anyone Can Build!

Build a safe and simple Bench Power Supply with a fixed and variable output, digital display, and memory! A perfect project for beginners and experts alike.

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## PD Adjustable DC Power Supply

These two pocket size devices have the same footprint so they can be stacked in your portable tool box! Here are the steps to set the current limit on the PD power supply. Short the output ...

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## How to Build an Adjustable Power Supply: Circuit Diagram and ...

Explore various adjustable power supply circuit diagrams to meet your specific

voltage and current requirements. Find detailed schematics, components, and instructions to build your ...

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## DIY Portable Power Supply : 7 Steps

This is the newly designed portable power supply, I followed the 5v boosting approach in this design. So that I can charge the power supply anytime with a ...

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## Portable Adjustable Power Supply

The next thing, in my opinion, a young engineer needs a good adjustable power supply. Since power supplies on the market are mainly big and bulky, but also non user ...

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## Portable Adjustable Power Supply

As you haven't finalised the case design, you can still easily add the ganging interface in as an optional





daughterboard. It would carry a 4P4C modular socket, an ...

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## How to Build an Adjustable Power Supply: Circuit ...

Explore various adjustable power supply circuit diagrams to meet your specific voltage and current requirements. Find detailed schematics, components, and ...

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**1mwh** (500kw/1mw)

AIR COOLING  
ENERGY STORAGE CONTAINER



## PD Adjustable DC Power Supply

A DIY, USB PD powered, pocket sized adjustable DC / lab bench power supply for electronic makers I also made a pocket size reflow hotplate for automatically reflowing SMD ...

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## Design of Portable Multiple Outputs Adjustable DC Power Supply

This paper presents the design of a portable, multiple-output, adjustable DC



power supply based on synchronous Buck and Buck-Boost converter topologies. Powered by a Li-ion battery pack ...

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## DC Power Supply Design in Portable Systems , SpringerLink

In portable systems, a number of low-voltage, low-power DC voltage supplies are needed. To provide these from a single battery source, some form of voltage conversion is necessary. To ...

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## Amazon : Adjustable Power Supply

DC Power Supply Variable, Bench Power Supply with Encoder Adjustment Knob, Output Enable/Disable Button, Adjustable Power Supplies with USB Quick-Charge, Short Circuit Alarm ...

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## Power Tips: How to Create an Adjustable Output Power Supply



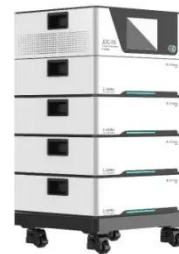
The output voltage of a power supply is usually a fixed voltage, but sometimes it may be necessary to adjust that output voltage. For example, you may be able to reduce the power ...

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## **Diy Simple 0-40V 0-20A DC Voltage & Current ...**

Making a DIY adjustable power supply using LM317 and TIP3055 Transistors can be a fun and rewarding project. Below, I'll outline a basic ...



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## **PD Portable Bench Power Supply**

Traditional bench power supplies are often bulky and expensive, while off-the-shelf PD modules lack flexibility or transparency. This inspired me to design a custom solution that ...

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## **DIY Pocket Sized PD Powered Power Supply**

High tech, fancy PD power supply that every time you want to change something, you need to navigate

through layer of menus and apply the new settings ...

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## Building an Adjustable DC Power Supply: A Schematic Guide

Looking for an adjustable DC power supply schematic? Find a detailed guide on building your own adjustable DC power supply and learn how to customize the voltage and current settings.

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## Building an Adjustable DC Power Supply: A ...

Looking for an adjustable DC power supply schematic? Find a detailed guide on building your own adjustable DC power supply and learn how to customize the ...

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## PocketPD: a portable USB C bench power supply that fits in your ...



PocketPD is a portable USB C bench power supply that can fit in your pocket. Combine with a USB C PD 3.0/3.1 power source and you can utilize the PPS profile to create ...

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