

Power Supply Installations

Power supplies must have enough power and wattage to provide proper power to all the peripherals and board slots within a system. Overloading a power supply will cause it to fail eventually.

When upgrading a power supply or when trying to calculate how much wattage is needed for a power supply, some tools and websites can help estimate the required wattage, given the specs of a device.

Purpose

Upon completing this project, you will better understand power supply specs and types.

Steps for Completion

- For each territory, indicate the number of volts needed for a power supply:
 - North America: _____
 - Europe and Asia: _____
- How many pins are normally in a power connector to a system board?
 - _____
- What should a server have as a backup to its regular power supply?
 - _____
- Where are the connectors on a modular power supply?
 - _____
- Indicate the number of volts carried for each colored wire:
 - Orange: _____
 - Red: _____
 - Yellow: _____
- Navigate to this website: <https://www.newegg.com/tools/power-supply-calculator/>
- Experiment with the settings for a new device and notice the wattage needed for each configuration you set up on the webpage.

Project Details

Project file

N/A

Estimated completion time

10 minutes

Video reference

Domain 3

Topic: Power Supplies

Subtopics: Input Voltage; Output Voltage; 20-Pin to 24-Pin Connectors; Redundant Power Supply; Modular Power Supply; Wattage Rating

Objectives covered

3 Hardware

3.5 Given a scenario, install or replace the appropriate power supply

3.5.1 Input 115V vs. 220V

3.5.2 Output 3.3V vs. 5V vs. 12V

3.5.3 20-pin to 24-pin

motherboard adapter

3.5.4 Redundant power supply

3.5.5 Modular power supply

3.5.6 Wattage rating