

Know Your DC Power Supply

Power Supply

A device or system that supplies electrical or other types of energy to an output load or group of loads is called a power supply unit or PSU. The term is most commonly applied to electrical energy supplies, less often to mechanical ones, and rarely to others.

A power supply could be something as simple as a 9V batter or it could be as complex as a precision laboratory power supply.

Power

Supply

AC Power

Supply

UPS

Un-Regulated

Single

Generators

Multiple

Grid

Classification of Power Supply

DC Power

Supply

Linear

Power

Supplies

SMPS

Regulated

Variable

Energizei

Batteries

Fixed

Single Output DC Power Supply

Programmable DC Power Supply

0.00F

Key Specifications

3 O/P On/Off

6 V/I Set

9 Cursor

Select

2 1

5

8

() Cancel

7

LINE REGULATION: The regulation is the capability to maintain a constant output voltage level on the output of a power supply despite changes to the input voltage level. Line regulation is expressed as percent of change in the output voltage relative to the change in the input line voltage.

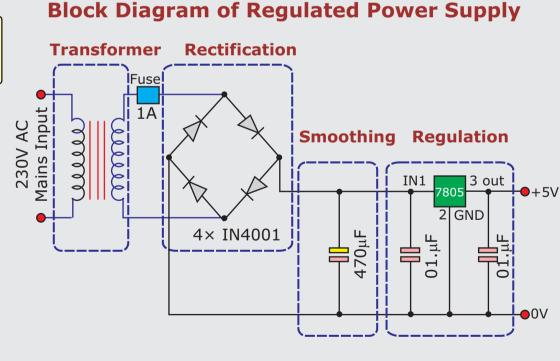
LOAD REGULATION: Load regulation is the capability to maintain a constant voltage (or current) level on the output channel of a power supply despite changes in load.

RIPPLE: The small unwanted residual periodic variation of the direct current (DC) output of a power supply which has been derived from an alternating current (AC) source. This ripple is due to incomplete suppression of the alternating waveform within the power supply.

OVER VOLTAGE PROTECTION: In addition to specifying a normal maximum voltage level, good power supplies will include protection against the output voltage exceeding a certain critical level.



Multiple Output DC Power Supply





Output Voltage and Output Current: The voltage and Current rating capacity that can de delivered to load.

PEAK INRUSH CURRENT/INPUT SURGE **CURRENT:** The absolute maximum amount of current that the power supply will draw in the moment after it is initially turned on. This is sometime used to indicate how much "shock" the power supply is subjected to when it is turned on. Lower values are better.

OVER CURRENT PROTECTION: If the power supply's output exceed their maximum ratings, some power supplies will detect this condition and reset the unit. The supply will specify what percentage over the maximum rating for each voltage output over the maximum rating for each voltage output will cause this to occur.