

POWER SUPPLY

A power supply unit (sometimes abbreviated power supply or PSU) is a device or system that supplies electrical or other types of energy to an output load or group of loads. The term is most commonly applied to electrical energy supplies.

Computer use

The power supply unit inside the computer is a small box; it is an important part of a computer because it provides power in a form that is suitable for every other component inside or attached to the computer in order for it to work. If only a small voltage is needed the main supply of power needs to be transformed to a suitable level in order for the component to work.

General description

The complete range of power supplies is very broad, and could be considered to include all forms of energy conversion from one form into another. Conventionally though, the term is usually confined to electrical or mechanical energy supplies. Constraints that commonly affect power supplies are the amount of power they can supply, how long they can supply it for without needing some kind of refueling or recharging, how stable their output voltage or current is under varying load conditions, and whether they provide continuous power or pulses.

Electrical power supplies

This term covers the mains power distribution system together with any other primary or secondary sources of energy such as:

Batteries

Chemical fuel cells and other forms of energy storage systems

Solar power

Conversion of one form of electrical power to another desired form and voltage. This typically involves converting 120 or 240 volt AC supplied by a utility company (see electricity generation) to a well-regulated lower voltage DC for electronic devices. For examples, see switched-mode power supply, linear regulator, rectifier and inverter (electrical).

Generators or alternators (particularly useful in vehicles of all shapes and sizes, where the engine has rotational power to spare, or in semi-portable units containing an internal combustion engine and a generator) (For large-scale power supplies, see electricity generation.) Low voltage, low power dc power supply units are commonly integrated with the devices they supply, such as computers and household electronics.

Power conversion

The term "power supply" is sometimes restricted to those devices that convert some other form of energy into electricity (such as solar power and fuel cells and generators). A more accurate term for devices that convert one form of electric power into another form of electric power (such as transformers and linear regulators) is power converter.

Domestic mains adaptors

A power supply (or in some cases just a transformer) that is built into the top of a plug is known as a wall wart, power brick, or just power adapter.

Mechanical power supplies

Flywheels coupled to generators or alternators

Compulsators

Explosively pumped flux compression generators

Source : http://engineering.wikia.com/wiki/Power_supply