

systems are far more common for home or small business because they tend to cost about half as much as a continuous system. Continuous systems provide extremely clean, stable power, so they tend to be used in server rooms and mission-critical applications.

The standby UPS runs the computer off the normal hydro power until it detects a problem. At that point, it very quickly (in five milliseconds or less) turns on a power inverter and runs the computer off the UPS' battery.

It's called standby because the battery and inverter are normally not supplying power to your computer. The battery charger is using line power to charge the battery, and the battery and inverter are waiting "on standby" until they are needed. When the AC power goes out, the transfer switch changes to the secondary power source. When line power is restored, the UPS switches back.

The continuous UPS runs the computer completely off battery power and the battery is continuously being recharged. There is no switchover time in a continuous UPS, making it a very stable source of power.

The hydro power feeds a large bank of batteries inside the UPS, keeping them constantly at full charge. Your computer then draws constant, even energy from the batteries, not from the wall outlet. A computer powered by an online UPS shows no response to a power failure. It keeps running without interruption, and all that happens is that the battery starts to run down because there is no line power to charge it.

An online UPS is more expensive and is typically used only for large servers and for backing up multiple pieces of equipment in data centers. Aside from the initial purchase cost, the online UPS is also somewhat inefficient. All the power going through it is converted from AC to DC and back to AC, which means much of the power is dissipated as heat. (Let's add more heat to the server room!)

## USE SOMETHING!

A well rated surge protector can greatly extend the life span of your computer (or any valuable electronic component) and is the bare minimum. But if you live in an environment with temperamental electricity supply, consider investing in a UPS.

Either model of UPS can give you the time to correctly shut down your system, even in a complete power failure. If you consider your time valuable, a UPS can pay for itself the first time the power flickers or goes out.



Locally we went through two major storms in the space of one week – the same week that the electricians converted the main power feed in our old building to 'modern' standards. When the hydro surged and crashed, it was hard to say who was to blame. But the end result was just two dead UPS boxes, not six mission-critical servers. ■

<sup>1</sup>How Surge Protectors Work, Tom Harris. <http://www.PCGuide.com>