Frequently asked Questions (FAQ)?

What's the difference between a surge protector and a UPS?

A surge protector provides just that—surge protection. In addition to surge protection, a UPS continually regulates incoming voltage and provides battery backup in the event of a power failure. You'll often see surge protectors plugged into a UPS for added surge protection and additional output receptacles.

How much capacity of a UPS should I use?

To allow for future expansion, we recommend that you install a UPS at approximately 75 percent capacity. In addition, the batteries degrade over time; by oversizing, you provide room for error.

How much UPS battery runtime do I need?

During an outage, you need enough battery runtime to gracefully shut down systems or switch to backup generators. You may add an optional external battery module (EBM) to increase runtime. For a UPS battery overview and factors affecting battery life, request a UPS Fundamentals Handbook.

How is battery runtime impacted if I reduce the load on the UPS?

There can be a significant increase in runtime. Generally speaking, a UPS that provides five minutes at full load will provide 15 minutes at half load.

My business is too small for protective measures. Do I really need a UPS?

Power problems are equal-opportunity threats. Your PCs, servers and network are just as critical to your business as a data center is to a large enterprise. Downtime is costly in terms of hardware and potential loss of goodwill, reputation and sales. Also add in the delays that inevitably occur when rebooting locked-up equipment, restoring damaged files and re-running processes that were interrupted. A sound power protection strategy is cost-effective insurance.

Why is power quality such a problem today?

Today's high-tech IT equipment and control units are much more sensitive to electrical disturbances and are more important to the critical functions of many businesses than in the past. As a result, power quality problems today are more frequent and more costly than ever. Check out the nine power problems here.

Are power quality problems always noticeable?

No. In many cases, disturbances can cause imperceptible damage to circuits and other components, a major cause of premature equipment failure and problems like computer lockups. Many power quality problems go unresolved, resulting in lost revenue and data.

How is reliability measured?

Power reliability is usually stated as a percent of time the power is available. For example, the power grid system in the U.S. provides three nines of reliability—the power is available for 99.9 percent of the time. Because those 8.8 hours of downtime translate into significant downtime and expense, IT and telephone network services require at least five nines of reliability.

A generator will NOT protect your equipment against power problems. You need a UPS to guarantee that the equipment stays up until the generator kicks on and stabilizes—which often requires several minutes.

How much UPS capacity do I need?

Determine the total load (in watts) of the equipment you want to protect. Add 10–20 percent for future growth and decide the minimum amount of runtime you need. Use the online sizing tool to identify the right solution for your application

What are the different levels of surge protection?

There are three typical levels:

Lightning arrestors. Big and mean, usually found in large facilities located in high-risk areas. Takes an extremely high voltage and clamps it down.

Surge Protective Devices (SPD or TVSS). Mounted on your panel board or load center; sometimes larger UPS models may have some level of this, but typically not a great amount. Clamps voltage down two even lower tolerances (~1 kV or less).

Local outlet level surge protector. A simple surge strip; small plug-and-play UPSs often have this as well. Brings voltage down to levels that will not permanently damage connected equipment (typically ~380V).

Lightning strikes have such an incredible amount of energy that only an expensive lightning arrestor would protect you from a direct hit and they often don't guarantee complete protection. For the best protection against lightning strikes, you want to develop a two-stage defense with something at your panel and something at the outlet level. Visit the Surge Protection Devices page for some informative videos and additional information.

What happens if the UPS is overloaded, for example, if the protected equipment and/or load draws more current than it can provide.The UPS transfers the load to bypass (for a few minutes) until the overload condition is reversed. If the overload condition continues, some UPS models automatically shut down. Some models can run at 110V indefinitely in bypass.

What causes a UPS to be overloaded?

There are two possible answers: (1) the UPS was undersized (e.g., the load is rated at 1200 VA, but a 1000 VA UPS was provided), or (2) you plugged more equipment into the UPS than it was designed to handle.

I have a 3000 VA UPS. Can I just plug the unit into a standard 15A wall outlet?

Only UPSs with power ratings up to 1500 VA plug into a standard 15A wall outlet. All others require a larger receptacle, which must be installed by an electrician.

Why is power management software important?

Although UPSs are typically rugged and reliable, they do require ongoing monitoring and support. Power management software continuously monitors and diagnoses the state of the grid, batteries and power sources, together with the condition of the UPS's internal electronics. Our UPS software and connectivity cards enable remote monitoring and management capability, including graceful shutdown and load segment control.

My data center only went down for a couple of minutes. What's the big deal?

When a data center goes down and then back up during a power outage without a managed shut down, it doesn't come up nicely. Storage arrays initialize after servers that try to mount their shares, while some servers boot without access to DNS servers that are also booting and thus have other problems. Although the outage was short, it can take hours to get everything back online. In addition, data corruption is a serious concern.