

UPS backup power 10 tips to follow



Important considerations when buying and installing a UPS

All uninterruptible power supply (UPS) models are not created equal, nor are their installation requirements. Large, mid-range modular and smaller plug-and-play models may all have individual considerations. Requirements can also differ among UPS backup topologies and deployment methods. If you need more help understanding the differences between UPSs and determining the optimal model for your particular environment or application, [read our FAQ](#).

If you've already selected your battery backup and are preparing for installation, the following 10 tips will help ensure that the process goes smoothly:

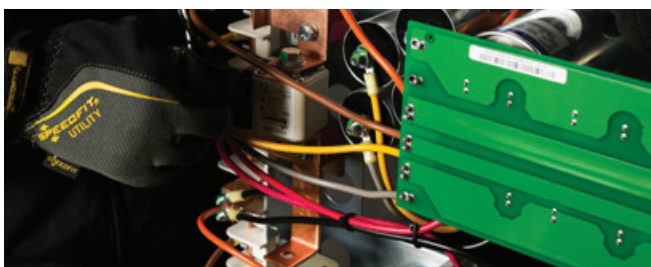
1 Engage an electrician

Any hardwired UPS should be installed by a licensed electrician, preferably one who is familiar with the particular model. While smaller plug-and-play UPSs enable installation by users, in these instances it is still wise to have a second set of eyes review the work.



2 Check your connections

During shipment, it is not uncommon for some connections to shift within the UPS. Although often not visible, loose connections can lead to sparking of equipment following installation, which in turn can cause charring or even fires. This is another reason why electricians are recommended for UPS installation, as they can quickly identify and correct any loose connections. Post-installation, proper monitoring and preventive care will help detect and resolve any potentially problematic electrical connections within the UPS.



3 Be environmentally aware

- It is important to carefully consider the location and environment where a UPS will be installed, always avoiding potential triggers such as heat, humidity and dust. Proper air flow is essential, so it is critical to never block UPS vents.
- Keep in mind that the optimal operating temperature for a UPS with lead acid batteries is 25°C / 77°F. To avoid overheating, never place a UPS in direct sunlight.
- The ability to receive advanced notification of a pending problem such as overheating equipment can represent the difference between prompt resolution and complete disaster. The [Eaton Environmental Probe](#) (EMP) collects temperature and humidity readings in a rack enclosure, enabling you to monitor environmental data remotely using a standard web browser.



Helpful hints

Don't stack items on top of a UPS as this can cause overheating.

4 Limited UPS access

- While you may think your UPS is secure if installed in an out-of-the-way location, don't leave that conclusion up to chance. From employees attaching additional devices to cleaning staff plugging in a vacuum cleaner, these and other incidents can quickly cause a UPS to overload. For that reason, it is essential to properly secure the UPS and prevent unauthorized access.
- For smaller UPSs, consider a wallmount enclosure for a secure installation, such as the [MiniRaQ](#) by Eaton, which offers a 50 percent smaller footprint than competitive solutions.



Helpful hints

UPSs are heavy. Remember to lift them using your legs, not your back.

5 Don't skimp on a warranty/service plan

- Depending on the UPS model, a standard warranty of two to five years will generally be included. But it is wise—and potentially quite cost-effective—to consider purchasing an extended warranty. In addition to providing expedited replacement parts and batteries, [extended warranties](#) can save time and money by minimizing business interruption and the cost of downtime.
- Performing factory-recommended preventive maintenance is essential for optimal performance and continued reliability of a UPS. To minimize the risks of downtime and extend the life of your unit, Eaton offers a wide variety of UPS [service plans](#). In addition, don't forget these [everyday IT housekeeping tips on keeping your battery backup in good health](#).



6 Batteries need love too

- Batteries represent the heart of any UPS system—but also the most vulnerable. The leading cause of UPS failure and load loss, [valve-regulated lead acid \(VRLA\) batteries](#) require replacement every three to five years on average. Knowing how to properly maintain and manage batteries is key to extending their service life.
- A preventive maintenance plan is among the most successful and cost-effective means of safeguarding UPS batteries. Regularly scheduled service allows trained technicians to inspect, test, calibrate and upgrade battery components, ensuring factory-specified performance and longevity.



Helpful hints

Replace all batteries at the same time—both internal and extended battery modules (EBMs)—and be sure to keep a detailed record of when replacement was done.



Batteries left in storage without periodic charging will die. Batteries in storage should be charged every three to four months to avoid permanent loss of capacity, which occurs between 18 and 30 months.

7 Let's hear it for lithium-ion

While valve-regulated lead acid (VRLA) batteries have long been the industry standard for UPSs, [lithium-ion batteries](#) are poised to become the preferred choice in IT applications, offering 2–3x longer lifespan, 3x faster recharge and up to 40% less weight. Lithium-ion UPSs such as the [Eaton 5P](#) save time and money while reducing risk throughout the lifecycle of the UPS.



Coming soon:

Look for the upcoming [Eaton 9PX UPS](#) with lithium-ion batteries! Eaton is the first major UPS manufacturer to offer a global, double-conversion lithium-ion UPS in the 1–3 kVA range.

8 Invest in a network card

- A UPS network management card can improve business continuity by providing warnings of pending issues and helping to perform orderly shutdown of servers and storage. Using a network card is the best way to manage a single UPS. An Eaton network card is essentially its own server, so it records event history, sends emails and text message alerts, and provides remote access to real-time status.
- With better speed and cybersecurity, the [Eaton Gigabit Network Card](#) is the first network card to meet UL and IEC cybersecurity standards, providing a Gigabit Ethernet connection and enabling secure UPS monitoring over HTTPS web browser interface, SNMP v1/v3 protocol and email alarms.
- Explore the benefits of a UPS network card in this [StorageReview.com review](#).



9 Integrate a maintenance bypass

Providing a simple and effective means for bypassing a UPS while maintaining power to the load, a [maintenance bypass](#) allows you to service or replace the unit without shutting down connected equipment.



10 Avoid surprises with PredictPulse

- Organizations managing multiple UPSs can reap significant advantages from a remote monitoring service such as [PredictPulse](#). Mitigate downtime risks associated with battery and [capacitor](#) failure, proactively replace components before failure, and extend asset life using real-time data. PredictPulse monitors your power devices and alerts Eaton personnel if an issue is detected. Eaton then automatically dispatches a field technician to the affected site when needed.
- See how [a global retailer](#) with more than 300 stores used PredictPulse to overcome its routine battery and service issues.



Learn more about Eaton solutions at [Eaton.com/PQD](#)

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