

Service capabilities overview

# Eaton's professional assessment and testing services

Proactively detect and help  
resolve backup power issues

**EATON**

*Powering Business Worldwide*

# When you're responsible for keeping a data center online 24/7, being proactive is the name of the game.

One way to do that is through regular preventive maintenance on your backup power devices to make sure they're in tip-top shape. Another is by identifying internal problems with those devices—beyond what the eye can see—before they put your facility at risk. Eaton's professional assessment and testing services do just that by monitoring your UPS (uninterruptible power supply) and battery runtime at increasing levels up to full load, scanning for hot spots and checking output power for signs of any irregular waveforms. This proactive approach helps find issues that could otherwise go undetected using traditional methods.

## Load bank testing

This is the only way to ensure that your UPS is functioning correctly before connecting it to a critical load. How? By using a load bank to simulate maximum load conditions so you can check performance and runtime at increasing load levels. This is particularly important for redundant N+1 systems that may sit idle for extended periods of time or if you're planning to increase the load on an existing UPS that's only lightly used. Bottom line: Stressing your UPS to full capacity allows you to verify that it's ready for action and can handle higher-than-normal load levels.

## Infrared (IR) scanning

With an infrared camera, technicians can easily detect temperature variations in electrical wiring and components—something not possible with the naked eye. (These hot spots can occur gradually over time as the resistance of a component changes, causing its temperature to increase until the component eventually fails.) The resulting thermograph shows any excess heat from resistance so problems can be detected and resolved before a failure occurs.

The IR scan can also detect hot spots caused by loose or deteriorated connections, imbalanced or open circuits, defective components and a range of other unwanted electrical conditions.

## Power quality (PQ) metering

Typically installed downstream of the UPS, a PQ meter monitors the output waveform feeding your data center devices for any irregularities. Regular metering allows harmonics and other electrical issues to be identified so a plan can be determined to resolve them.

## What this means for you

Detecting problems and resolving them proactively ultimately gives you peace of mind that you're:

- Avoiding data center downtime and emergency repair costs
- Reducing the potential for safety hazards and lost productivity
- Verifying that your UPS can handle increased load requirements
- Extending the life of your equipment



A load bank test simulates maximum load conditions so you can check performance and runtime at increasing load levels.



An infrared camera detects temperature variations—or hot spots—that can occur over time in electrical wiring and components.



A power quality meter records voltages, currents, and harmonic content at the output of a UPS to identify irregularities in the waveform caused by electrical issues.



Upon arriving at your site, the Eaton® field technician will assess the status of your UPS.

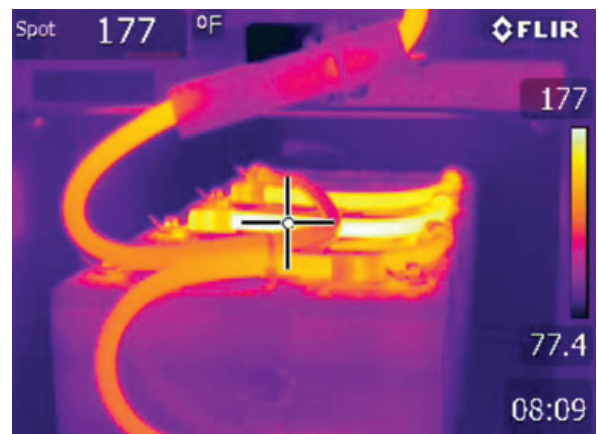
### What is your risk of UPS failure?

UPSs are complex devices that perform several critical power conditioning and backup supply functions, which makes them all subject to failure. Without proper maintenance, many UPSs will fail prematurely.

Based on Eaton service records, more than 25 percent of preventive maintenance visits result in corrective actions or upgrades. Studies also show that mean time before failure for UPSs that receive preventive maintenance twice a year is more than 20 times better than for UPSs that receive no maintenance.

### Downtime is costly

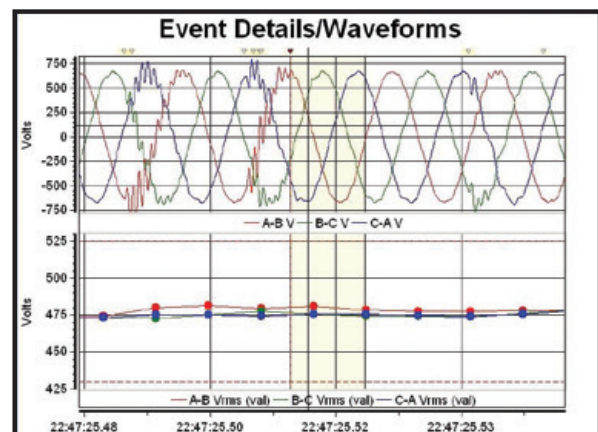
Want to know just how costly it could be for you? Then check out **Eaton's Downtime Cost Calculator**. It estimates the cost to you in terms of lost sales revenue, employee productivity and mission-critical data, as well as other intangible costs like the impact to your brand or service level agreement penalties.



This infrared thermograph shows a 177°F hot spot on a UPS battery. After your IR scanning service, you'll receive a report with the thermographs captured, explanations of our findings and recommended actions to take.

## Why choose Eaton?

- Our technicians are factory-trained on advanced troubleshooting, calibration and configuration technologies
- We're committed to safety and follow all OSHA and NFPA guidelines
- We have detailed procedures and protocols using up-to-date documentation
- You always get a comprehensive report detailing test results and recommended corrective actions

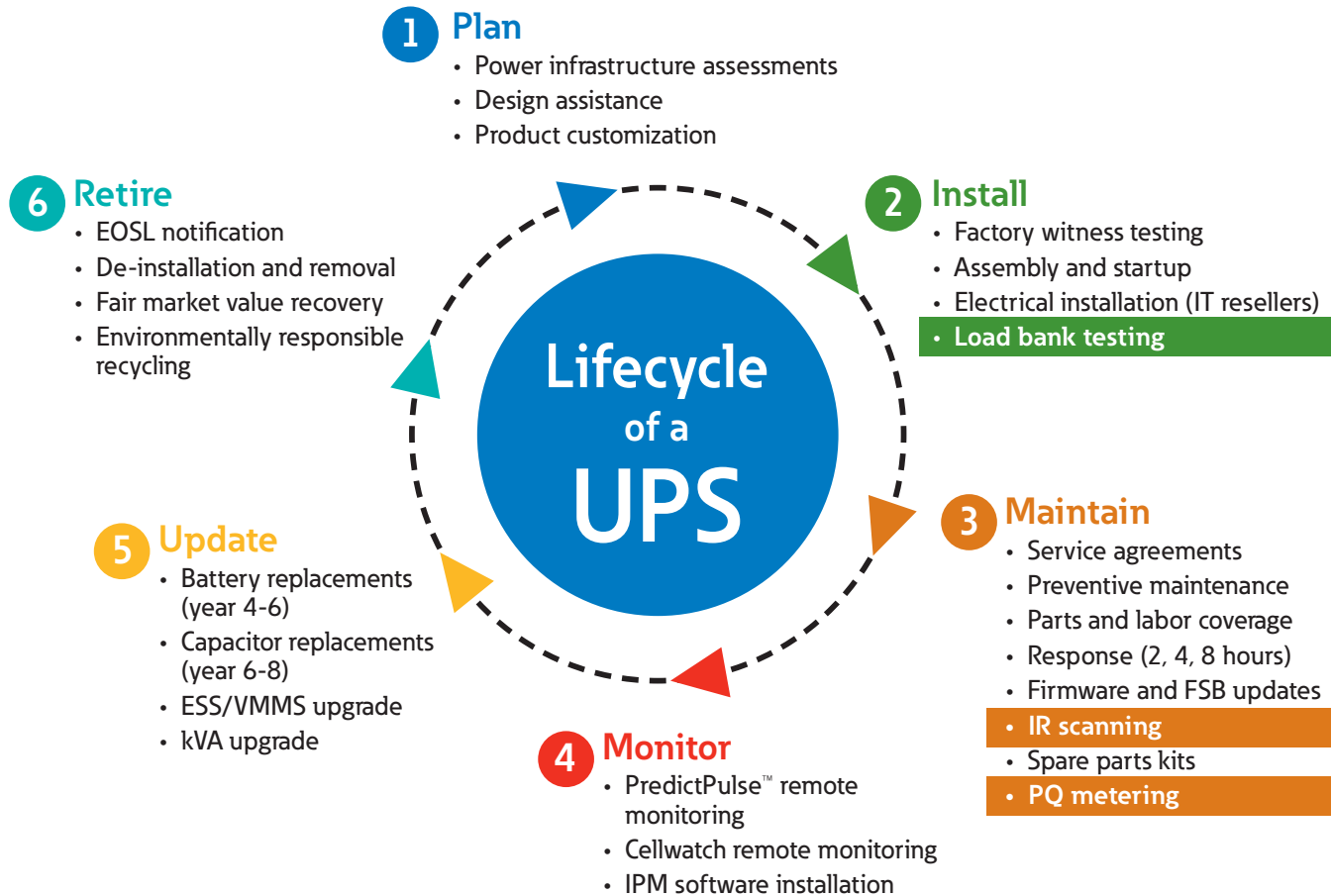


This power quality meter reading, which would be included in a written report following the service visit, shows an irregular waveform with harmonics.

# World-class service to support your mission-critical devices

Eaton has a comprehensive suite of services that span the full UPS lifecycle.

Load bank testing, IR scanning and PQ meter reading are just three ways to make the most of your UPS investment.



To learn more about Eaton's UPS services, visit: [Eaton.com/UPSservices](http://Eaton.com/UPSservices)

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