Brochure

Power protection in today's retail industry

Safeguarding against power outages

Technological advancements such as digitalization, the Internet of Things (IoT), edge computing, and the rise in big data have transformed the retail industry. Not only is the in-store experience changing, but so too are the requirements to ensure that both data and electronic equipment are properly safeguarded against potentially devasting power quality issues and outages.

This is no small undertaking. From traditional point-of-sale (POS) systems and workstations to the cameras and motion sensors used to collect real-time shopper data, there is no shortage of devices to protect. What's more, the multitude of systems that interface with customers are all connected to analytics applications that generate a wealth of data, upon which retailers rely to help them make better business decisions, from optimizing store layouts to delivering promotions their customers care about.

Worryingly, the potential for blackouts is growing. An increasing demand for energy, extreme atmospheric phenomena caused by climate change, and the shift away from fossil fuels to less stable renewable energy sources all mean that problems in the global energy system will be felt by businesses everywhere.

With such a wide variety of devices and systems, all of which can be impacted by power outages, there has never been a greater need for retailers to employ well thought-out power protection across their entire IT infrastructure.

The potential cost of blackouts

The effect of power blackouts on retailers can be significant. They can lead to fresh produce being spoilt, customers being blocked from using debit or credit cards, vital data being lost, and, in some cases, stores being forced to close. Even a few minutes of downtime can lead to tens of thousands of dollars in lost revenue for larger retailers, with one report even suggesting that a 60-minute outage can cost retailers as much as $5 million or more.

When you consider that the 5.5 million retail companies across the European Union represent 11 percent of the region's GDP, the wider economic impacts of blackout are clear. And it's important to recognize that the effect of power outages in the retail industry can also extend beyond ruined goods or lost sales. A retailer's reputation can become tarnished if it is unable to effectively serve its customers, making them less likely to return.

Note: 1 - 2022 Hourly Cost of Downtime - ITIC
2 - Report of the Preparatory Working Group on Innovation – European Commission High Level Group on Retail Competitiveness

EATON
Powering Business Worldwide

In-store technology - the new frontier for retail

Integrating physical and digital commerce

Integrating customer and sales data across all touchpoints requires in-store POS systems and inventory to be digitally synchronized with e-commerce platforms. Not only does this provide a more complete and up-to-date view of the customer, but it also enables more efficient, integrated and effective operations behind the scenes, with key data like real-time stock status in all locations.

Personalizing in-store experiences

From the moment customers enter a store, beacons interact with mobile devices and collect information about customer movements to improve the in-store experience and create location-based offers and discounts. Automated systems like smart mirrors, virtual fitting rooms, and augmented reality apps supplement sales and customer service staff, increase customer engagement and influence buyers at the instant a purchasing decision is made. Bluetooth 5 and 5G will only accelerate these trends, providing low latency, greater range, and increased location accuracy.

Empowering employees and customers

Cutting-edge retailers empower employees with mobile devices and other network-connected digital tools to supplement their knowledge of customer preferences and product details, as well as providing mobile checkout for customer convenience. This not only improves the buyer's experience, but it also improves employee confidence and job satisfaction. For customers who prefer self-service, interactive apps, smart kiosks, and automated checkout systems provide a quick, convenient, and socially distanced shopping experience.

Converting supply chain to demand chain

The integration of physical locations, e-commerce, customer data, logistics and supply chain visibility enables a demand chain with increased accuracy, efficiency, sustainability and profitability. Innovations like 5G-connected smart shelves with wireless sensing combined with artificial intelligence and data mining keep demand forecasting up-to-date for tight integration between what the customer wants and what the retailer delivers. The improved speed and responsiveness of the demand chain reduces lead times and keeps retailers agile and ready to respond to changing market conditions.

Taking data processing to the edge

Supporting the devices, sensors, data, and real-time analysis required for forward-looking retail locations requires the robust data processing and low-latency network connections provided by edge computing. Edge computing relocates processing power and data storage from the cloud, which is typically too far away to handle interactive applications quickly enough, to servers and network equipment on premises. It is also more cost-efficient than paying for bandwidth to send large volumes of data back and forth to the cloud. The edge infrastructure of the retail location, including components like rack enclosures, backup power, and network cabling, is essential to its digital transformation.

Ensuring continuous uptime

While technological advancements undeniably provide many opportunities to create innovative and engaging experiences for shoppers, they also open the door to some considerable challenges.

The recent, rapid widespread adoption of online shopping means consumer expectations are rising around real-time access to merchandise, order information, and anytime/anywhere services. As a result, there is more pressure than ever for retailers to ensure continuous uptime and availability.

Checkouts, goods inward systems, and POS terminals must be protected from unexpected downtime and data loss in order to ensure business continuity. Systems such as inventory management, workforce management, supply chain management, and transaction processing are equally important. Effectively storing, managing, administering, and protecting the data within their shopping environments offers retailers the opportunity to maximize new technologies and optimize sales.

In addition, retailers are increasingly turning to edge computing. By allowing them to process, analyze, and take action closer to the customer – rather than in more traditional, centralized servers and system – edge applications help retailers capitalize on new trends while relying on the cloud for storage.

But modern technology is not without its risks. Potentially devasting downtime threats, intensifying security concerns, and essential remote management requirements are forcing retailers to rethink how they'll implement a strategic, end-to-end approach to power management in these new environments. Uninterruptible power supplies (UPSs) and other power management products provide a compelling value proposition to keep retail IT infrastructure up and running. Yet managing this environment requires careful planning and deployment of the proper solutions.

Reducing cybersecurity risks

It's worth noting, of course, that as retailers embrace digitalization, the proliferation of smart, connected devices and ever-expanding server-gateway connections has created an unprecedented opportunity for hackers and cyber criminals. Experts predict there will be some 27 billion connected devices by 2025, making cyberattacks a huge concern for retailers. As such, it is essential to ensure that power protection solutions remain secure and resilient, concerns that manufacturers are now addressing in their UPSs, network cards, software and power distribution units (PDUs).

Eaton is dedicated to establishing cyber-secure processes, and innovating technologies that make trusted connections work. That's why all of Eaton's technologies are certified to critical cybersecurity standards.

Eaton's range of power protection products for retail

Retailers need solutions that offer them visibility into their power protection infrastructure and proactively respond when needed; that keep operations up and running without interruption in stores; and that ensure salespeople can remain focused on selling, rather than on attempting to remedy power ailments.

Note: 3- State of IoT – Spring 2022 – IoT Analytics

POS & Edge Infrastructure solutions

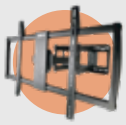
Point-of Sale solutions

Eaton's power management solutions keep operations up and running without interruption, and ensure salespeople can remain focused on selling

A **Eaton Ellipse ECO UPS** – a slimline UPS that's easy to integrate with POS solutions. With built-in high performance surge protection and efficient electrical design, it's the perfect solution to keep equipment
afe and running during a power outage.

B **Surge Protection** – The Eaton Protection Box safeguards against dangerous surges, spikes, and line noise

C **Tripp Lite by Eaton server racks and cabinets** – secure and organize up to 26U of IT hardware, rack-mount A/V equipment, and other devices while preserving back-office space.



F **Tripp Lite by Eaton monitor mounts** – conveniently wall-mount security displays of up to 80in.

D **Tripp Lite by Eaton A/V video cabling** – Audio Video cables up to 100m with Premium double-shielded, support Ultra High Definition (UHD) 4K or 8K video resultions

E **Tripp Lite by Eaton Charging stations** - charge up to ten tablets, smartphones and other devices at the same time.

E **Tripp Lite by Eaton Ethernet cabling** - U/UTP to S/FTP copper cables (Cat5e, Cat6/6a, Cat8) up to 61m with shielded, plenum-rated, and outdoor-rated options, as well as snagless connectors

Edge infrastructure solution

Eaton offers a range of solutions for the back of a retail shop that help retailers' visibility into their power protection infrastructure and proactively respond when needed

G **Eaton 5PX Gen2 UPS** – provides enterprise networks and edge IT equipment with best-in-class line-interactive power protection, maximizing IT space and service continuity. With extended runtime capabilities the 5PX Gen 2 can provide you with 2 hours backup time or more if needed.

H **Eaton 5P UPS** – the perfect UPS to protect IT and networking devices such as servers, switches, routers, and storage devices. Available in a tower or rack format.

I **VPM distributed infrastructure management** – provides IT managers of distributed IT environments with the tools to monitor their power devices – including all PDUs and UPSs.

J **'Connected' remote monitoring services of 1ph UPS** – includes features such as health reports and early anomaly detection that help to mitigate downtime risk associated with critical components.

K **Eaton Gigabit Network card M2** - the first network management card to be UL 2900-2-2 certified for cybersecurity, the Network-M2 improves business continuity by providing warnings of pending issues.

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