Altronix®

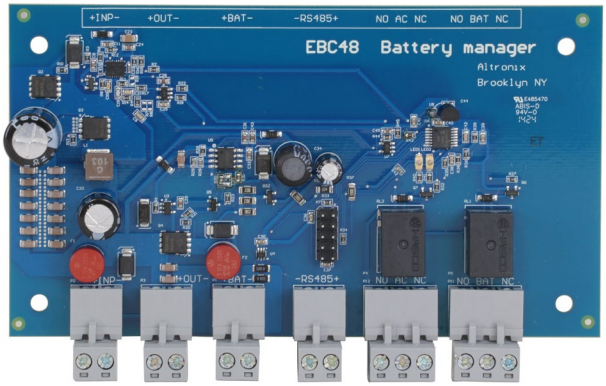
Powering Outdoor Edge Devices Without Full-Time Power

How the Altronix EBC48 and NetWay Spectrum Solve the Light Pole Power Gap

Introduction: A Smarter Way to Keep Outdoor Equipment Running 24/7

In many outdoor deployments, delivering continuous charge to distant edge devices is a logistical challenge, especially when the only available source is a light pole on a roadway or in a parking lot that's powered only at night. Yet 24/7 operation is non-negotiable for today's security, access, and smart systems.

The Altronix EBC48 rapid battery charger is purpose built for this use case. Designed to work in tandem with NetWay Spectrum hardened PoE fiber switches, it draws power when lighting circuits are active, charging 48V battery banks, and powering connected equipment simultaneously. When pole power is shut off during the day, the system automatically switches to battery backup, ensuring uninterrupted performance for cameras, sensors, access controllers, digital signage, and other items.



Whether you're managing parking lots, campus gates, remote perimeter sites, or critical infrastructure, the EBC48 eliminates the disconnect between intermittent power and reliable uptime—without trenching AC cabling, solar panels, or compromise.

The Challenge: No Daytime Power at the Pole

In many outdoor and remote environments—such as parking lots, campuses, and public spaces—light poles are the only practical source of power. These poles are typically connected to lighting circuits that are on at night and shut off during the day—leaving connected hardware like cameras, access readers, and environmental monitors without power during critical daylight hours.

This creates a critical gap. During daylight hours, the AC shuts off, but essential systems mounted on those poles—like IP cameras, PoE access controllers, electronic signage, and monitoring devices—still need to run. These systems are expected to operate 24/7, especially in areas requiring surveillance, safety, or communication systems.

Without continuous power:

- Surveillance systems go dark
- Access control fails
- Signage and alerts disappear
- Sensors drop offline

It's a practical solution that bridges conventional installation methods to fulfill new operational requirements.

How it Works:

- **Nighttime (AC On):** Powers devices (up to 100W) and charges batteries (2A/4A)
- **Daytime (AC Off):** Switches to battery power automatically

The EBC48 intelligent handoff guarantees nonstop operation regardless of pole lighting schedules.

Note: *Solar panels may appear to be a viable option—but in urban environments, factors like tree cover, cloudy weather, and poor panel orientation can make it unreliable or ineffective. It's also costly to install and maintain.*

The Solution: Altronix EBC48 Rapid Battery Charger
The EBC48 addresses the lack of daytime power, integrating with NetWay Spectrum hardened PoE switches to deliver a complete power and backup solution for any environment. Building on the high-level overview above, here's how the EBC48 operates in real-world conditions:

At Night (When Pole Power is Active):
- Supports equipment such as cameras, access control panels, and signage (up to 100W total)
- Simultaneously charges 48V battery banks at a selectable rate (2A or 4A)

During the Day (When AC Power is Off):
- Automatically switches to battery backup, ensuring reliable operation of connected devices

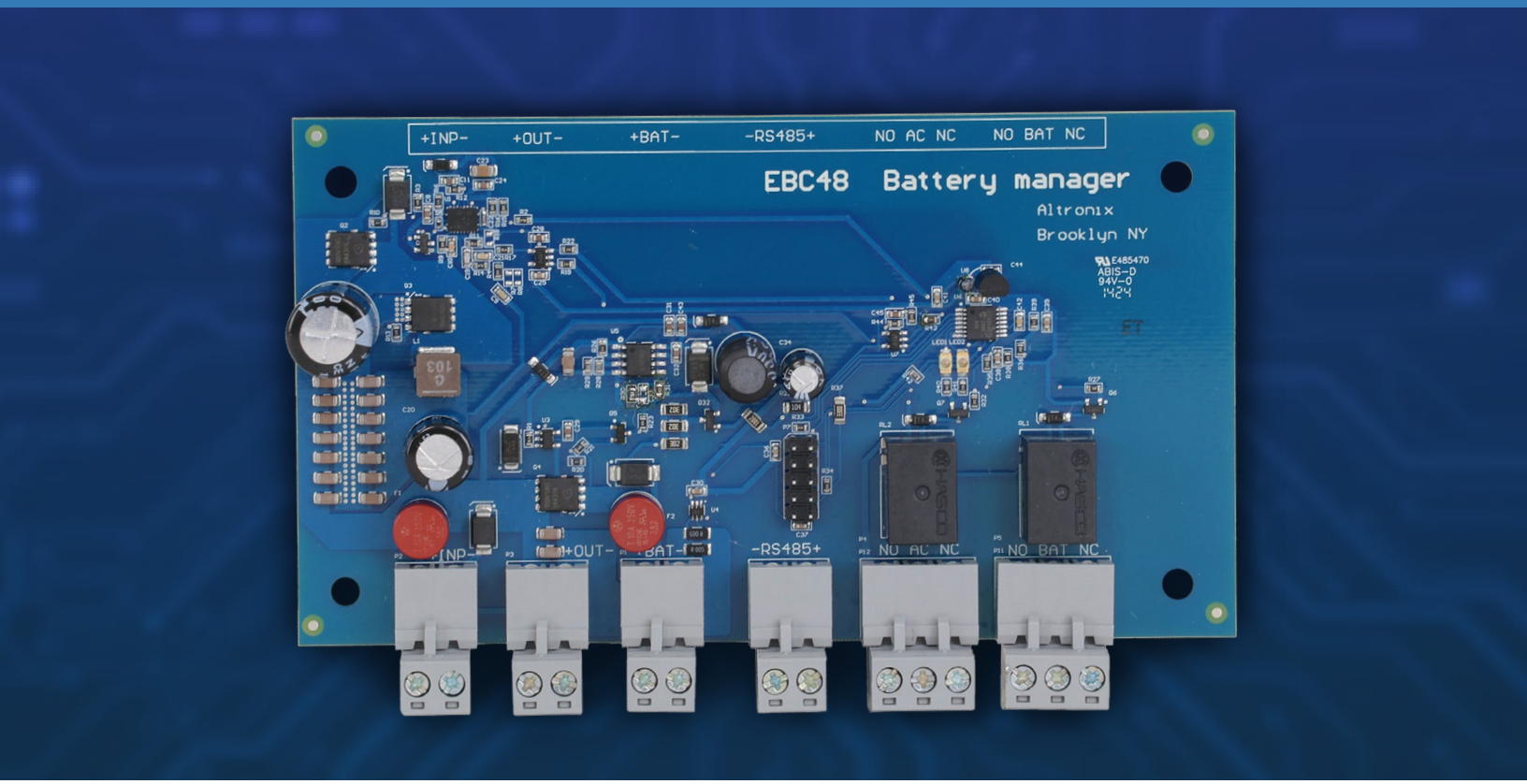
This intelligent design means that when the lights come on at night, the system both charges the batteries and powers the equipment, and when the power switches off during the day—or during power interruptions at night—the fully charged batteries take over to maintain uninterrupted operation.

Real-World Applications Where EBC48 Makes the Difference

In today's connected environments, power gaps aren't just inconvenient—they're a threat to safety, visibility, and operational continuity. The EBC48 enables 24/7 uptime in scenarios where conventional sources fall short.

Use cases where it excels:

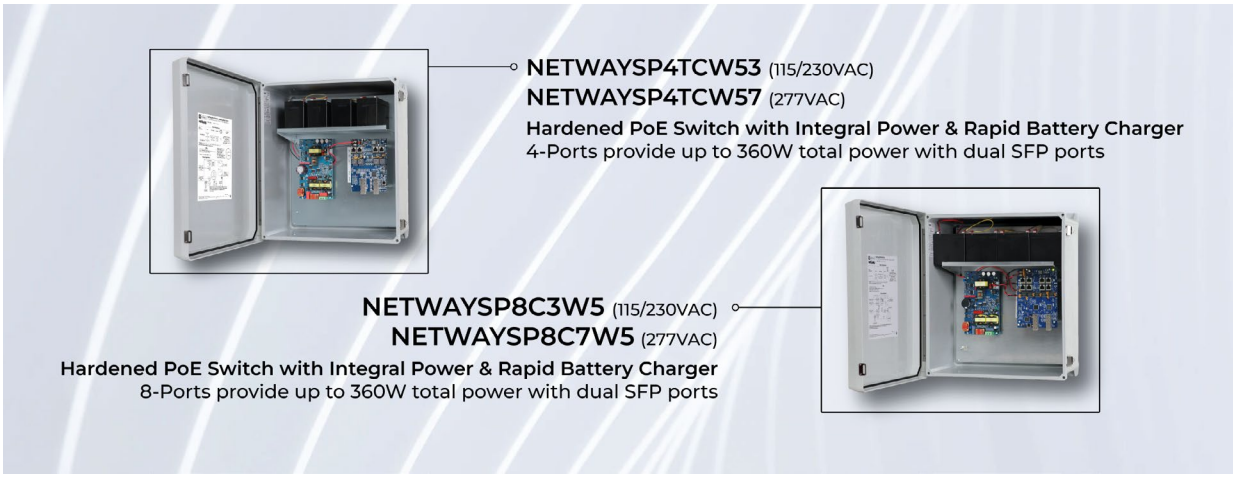
- **Parking Lots:** Surveillance cameras mounted on light poles can't afford to go dark when the lights do. The EBC48 enables recording to continue throughout the day without excavating new cable lines, helping reduce liability and deterring crime.
- **Campus Access Points:** University and corporate campuses often rely on outdoor gate readers and IP intercoms for access control. These systems require uninterrupted power to prevent entry issues and maintain security logs. The EBC48 ensures access systems function during the day, even when the pole shuts off, avoiding downtime and access delays.
- **Smart Cities:** From video to digital signage to air quality monitors, modern municipalities depend on equipment for operations, security, and environmental monitoring. The EBC48 keeps these systems online 24/7, regardless of pole lighting schedules or AC availability.
- **Remote Perimeters**: In industrial zones, utility sites, or fence lines where running new power lines is impractical, the EBC48 facilitates reliable electricity in hard-to-reach locations by using nighttime-activated lighting circuits to charge batteries for uninterrupted daytime operation.



Key Benefits of EBC48:

- **Nonstop Uptime:** Delivers uninterrupted power for IP cameras, readers, signage, and sensors, even when AC is only intermittently available.
- **Rapid Recharge:** Fully recharges 32AH batteries in under 8 hours to ensure swift recovery after outages.
- **Flexible Input Options**: Compatible with 115/230VAC and 277VAC circuits, common in commercial lighting systems.
- **Smart Power Routing:** Prioritizes devices over battery charging, supporting essential equipment first, then diverting excess power to recharge batteries.
- **Remote Supervision:** Built-in remote monitoring offers AC loss and low battery alerts, ensuring maintenance teams are notified promptly.
- **Cost-Effective Alternative:** Offers a simpler deployment with lower cost than solar or wired installations, making it ideal for locations where conventional power isn't an option.

NetWay Spectrum Switches with integrated EBC48 charger



These hardened switches deliver up to 360W across 4 or 8 PoE ports, and they integrate seamlessly with the EBC48 to provide around-the-clock backup for remote edge environments.

Battery Backup Chart

Note: *Backup times may vary with load and battery chemistry. Lower loads yield longer runtimes.*

Battery	Charging Current	Full Charge Current	Approx Backup Time	
			120W	240W
7AH	2AH	4 hr	2.5 hr	1.25 hr
	N/A	N/A		
12AH	2AH	7 hr	4.5 hr	2.25 hr
	4AH	3.5 hr		
32AH	2AH	16 hr	12.8 hr	6.4 hr
	4AH	8 hr		

*Note: Calculation is based on Power Sonic PSL-48320-G2C LiFePO4 battery

Conclusion: Power Stability Without the Headache

The Altronix EBC48 delivers a practical, powerful solution to one of the most overlooked challenges in outdoor deployments: how to maintain 24/7 uptime when AC power isn't always available. By leveraging nighttime pole activity to charge and operate edge devices, and seamlessly switching to battery backup during the day, the EBC48 ensures uninterrupted availability for mission critical outdoor systems and hardware.

Together with NetWay Spectrum hardened fiber switches, the Altronix EBC48 rapid battery charger creates a fully integrated solution that eliminates the need for costly underground cabling or unreliable or expensive solar. For environments where infrastructure is limited but expectations are high, this innovative integrated solution provides the resilience, flexibility, and reliability that integrators and end users demand. **Only from Altronix.**

A global leader in power and data transmission solutions for professional Security, Surveillance, Access Control, and Fire Signaling applications, Altronix designs and manufactures innovative low-voltage electronics that provide the foundation for any physical security system. Our comprehensive line of power products and peripherals with network management feature the quality, reliability, and performance that have been associated with Altronix for over 40 years – backed by a Lifetime Warranty.

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