

Understanding UL Certification and Panduit FMPS

UL certification isn't just a badge—it's a sign of trust, safety, and compliance. For professionals specifying or installing electrical infrastructure solutions like Panduit FMPS, UL certification affirms that the product meets rigorous safety and performance standards required by code, insurers, and customers.

PANDUIT[®]



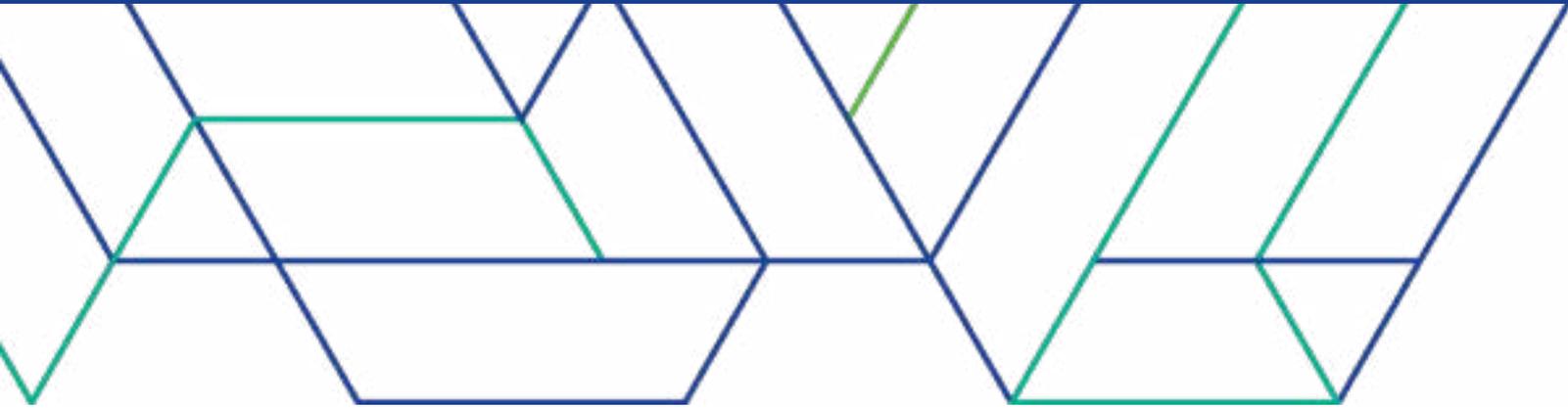
A Decision-Maker's Guide to Safe, Code-Compliant Fault Managed Power Systems

As power needs expand across campuses, enterprises, and security systems, decision-makers must balance innovation, safety, and regulatory compliance. Fault Managed Power Systems (FMPS) provide a future-ready way to deliver power safely over long distances. A critical factor in system selection is UL certification.

This e-book answers the most important questions about Class 4 UL certification and its role in Panduit FMPS deployments. It clarifies why the UL certification matters, how Panduit FMPS exceeds safety and code requirements, and what benefits this brings to your project.



Setting the Standard



Panduit has emerged as a pioneer in redefining how energy is safely delivered. With the development of Class 4 Fault Managed Power (FMP), Panduit engineers tackled the challenge of delivering higher power over longer distances—without compromising safety. Recognizing the limitations of traditional AC systems and the growing need for scalable DC solutions, Panduit designed our FMP system to be inherently safe, efficient, and adaptable to modern infrastructure needs.

But innovation alone isn't enough. Panduit partnered closely with UL Solutions to help shape the safety standards that would govern this new technology. Through rigorous testing and collaboration, Panduit FMPS earned UL 1400-1 certification—setting a precedent for fault-managed systems across the industry. This early certification validates the technology and empowers installers, inspectors, and businesses to adopt FMPS with confidence. Panduit's proactive approach to safety and standardization underscores its commitment to leading the future of power distribution.



*The Panduit Journey
to UL Certification*
Watch the Video



UL Certification

1 Why is UL certification important for power delivery systems?

UL certification ensures Panduit products meet the stringent safety testing and requirements that protect people and property. For power delivery systems like Panduit FMPS, the UL 1400-1 and UL 1400-2 certifications confirm that fault managed power delivery, through our equipment and cabling, limits hazardous energy during faults, reducing fire risks and electrical hazards. This trusted certification facilitates regulatory approvals and instills confidence in contractors, inspectors, and end-users.

The UL mark signifies adherence to proven testing methodologies that validate system performance under real-world fault conditions. As code bodies and authorities increasingly require UL-listed equipment, having a certified FMPS streamlines permitting and inspection processes, accelerating project timelines and mitigating compliance risks. Panduit understands the importance of UL listing, which is why our distinguished engineers worked hand-in-hand with UL to develop the standards and testing procedures to ensure the safest systems possible

2 What is UL 1400 and how does it relate to Panduit FMPS?

UL certification is an independent verification process where products undergo rigorous testing against defined safety and performance standards. For power systems, this includes tests on fault detection, power limitation, thermal management, and electrical isolation. Panduit FMPS certification under UL 1400 series ensures it meets these critical criteria as a fault managed power system.

The certification also includes ongoing factory inspections and product testing to maintain compliance. UL certification is internationally recognized and often referenced by building codes, insurance providers, and regulatory agencies, serving as a benchmark for product trustworthiness and safety.

3 Does UL certification make installation easier?

For facility managers and owners, UL certification translates into safer installations with fewer fire hazards and reduced risk of electrical failure. The built-in fault detection and limitation features of Panduit FMPS, validated by UL testing, help protect people, equipment, and infrastructure while minimizing downtime from electrical faults.

Additionally, UL-certified products often lead to faster approvals, simplified insurance underwriting, and lower liability exposure. This reliability supports long-term operational stability and safeguards occupant well-being in environments like schools, hospitals, and enterprises.



Learn how to find Class 4
Systems that comply with UL
1400-1 Standard for FMPS

How Panduit FMPS Meets Safety and Code Requirements

Panduit FMPS is designed to comply with the latest NEC Article 726, which defines Class 4 circuits for fault managed power systems. This code enables FMPS to deliver safe, efficient power over long distances using cables rated for these specific applications, often reducing or eliminating the need for conduit. In addition to meeting NEC and UL 1400-1 standards, Panduit FMPS aligns with IEC 62368, the international safety standard for IT and communication equipment, ensuring global applicability and compliance. The system also incorporates SIL 3-level functional safety, which is ten times more reliable than SIL 2, offering an advanced layer of protection for critical applications. By actively monitoring for faults and limiting energy delivery, FMPS ensures installations meet both regulatory and performance expectations, setting a new benchmark for safe, scalable power distribution.

This alignment in standards enables FMPS to be used in diverse settings—from K-12 campuses to enterprise facilities—without compromising code compliance. The system supports flexible cabling options and environmental protections, allowing deployment indoors, outdoors, and in harsh environments while simplifying labor and materials requirements.



Safety & Code Compliance

4

What Are the UL 1400-1 and UL 1400-2 Standards?

UL 1400-1 and UL 1400-2 define safety and performance requirements specifically for fault managed power systems. UL 1400-1 focuses on system-level safety including fault detection and power limitation, while UL 1400-2 addresses cable specifications.

Together, these standards ensure that Panduit FMPS safely limits electrical energy during faults, preventing fires or shocks while delivering power efficiently. Compliance with these standards is essential for code approval and practical deployment in commercial and institutional settings.

5

Can You Use Panduit FMPS in Code-Compliant Applications?

Yes. Panduit FMPS is designed to comply with the National Electrical Code (NEC) Article 726. This NEC limited energy standard directs Class 4 power, also known as fault managed power systems. NEC 726 allows FMPS to use the same proven cabling methods used in the installation of low voltage structured cabling.

This means FMPS installations can often reduce conduit usage and share the same cable pathways as the other low voltage cabling communications-grade cables without violating code. This ease of installation makes FMPS a practical choice in difficult installation environments.

6

What Types of Cabling Are Approved for Use with Panduit FMPS?

Panduit FMPS supports a range of UL-listed cables, including Class 4 (CL4) and plenum-rated cables (CMP), where required. While FMP cables share a similar form factor with standard category cables, they are specifically rated for higher voltage applications with enhanced safety performance.

NEC Article 726 permits many FMPS installations without conduit if cables meet these standards and are installed correctly. This flexibility allows contractors to select cables optimized for the environment—whether plenum, riser, direct burial, or industrial settings—resulting in reduced material costs and faster installation times compared to traditional power cabling.

7

Can You Use Panduit FMPS Outdoors or in Harsh Environments?

Yes, with proper cable and enclosure selection, Panduit FMPS can be deployed outdoors and in harsh or industrial environments. UL 1400 standards require environmental testing to ensure components withstand moisture, UV, chemicals, and physical impact. This makes FMPS suitable for campuses, stadiums, parking lots, and industrial plants requiring resilient, code-compliant power distribution.



Let's Talk Cabling Podcast episode
with Mahmoud Ibrahim

8

How Does Panduit FMPS Support Sustainable and Energy-Efficient Power Delivery?

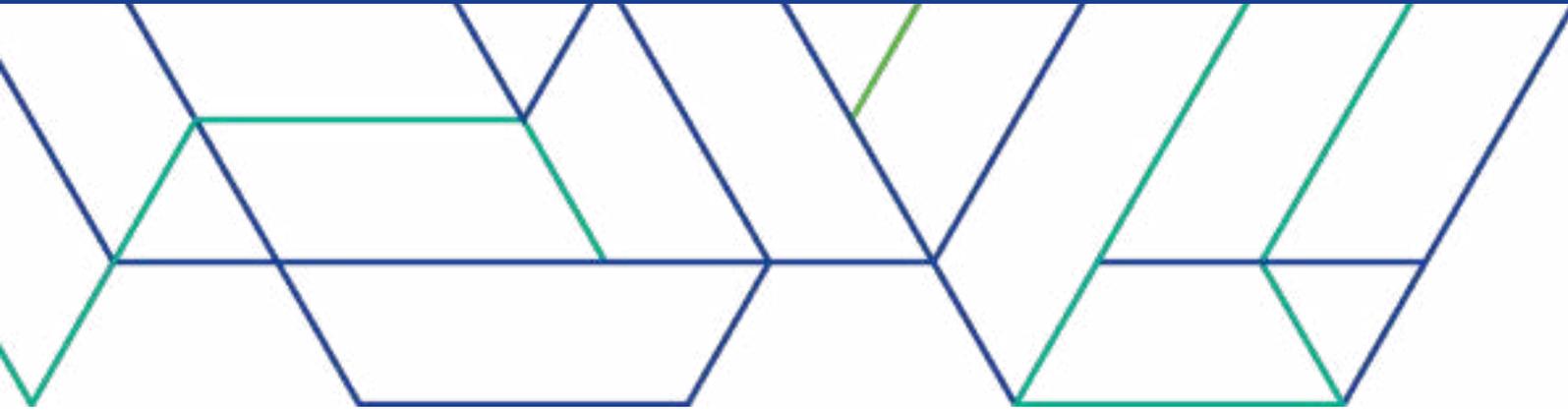
Panduit FMPS increases energy efficiency by delivering power through end-to-end DC distribution, which minimizes the losses typically found in AC or PoE systems. This approach enables safe DC power delivery while allowing for reduced cable gauge and less infrastructure, helping organizations align with sustainability goals such as LEED certification and net-zero carbon targets.

The system's intelligent energy delivery and remote monitoring reduce operational costs and environmental impact. Supported by UL and NEC standards, FMPS proves that safer, more efficient power delivery is achievable without complexity or sacrifice.



Learn more about efficient power
in our Enterprise Guide

Unlocking Project Efficiency and Safety with FMPS



Using Panduit FMPS provides measurable benefits including reduced installation labor and material costs due to lighter cabling and minimized conduit requirements. Its long-distance power delivery capability cuts down on the number of power drops needed, accelerating project timelines and reducing complexity. Integrated diagnostics and compatibility with Building Management Systems also enable proactive maintenance, reducing downtime and operational expenses.

Beyond efficiency, Panduit FMPS supports sustainability goals by minimizing energy loss and reducing the physical infrastructure footprint. FMP allows for streamlined design, eliminating the need for MEP drawings for the power distribution, PE stamps, plan reviews by the AHJ and site surveys and design revisions.

UL certification and NEC compliance simplify permitting and inspections, helping projects stay on schedule and within budget. Ultimately, FMPS provides a future-proof power solution that enhances safety, reduces total cost of ownership, and supports modern building automation needs.



Project Benefits

9 Is Panduit FMPS Compatible with Existing Building Management Systems?

Panduit FMPS is designed to integrate with modern Building Management Systems (BMS), offering integration using SNMP or API's. This facilitates centralized control, fault alerts, and performance visibility within the broader building automation infrastructure.

Compatibility with BMS enables facilities to proactively manage power delivery, reduce downtime, and improve operational efficiency, supporting environments like higher education, healthcare, and enterprise facilities.

10 How Does Panduit FMPS Help Reduce Installation Time and Labor Costs?

By using fault managed, low-voltage delivery, Panduit FMPS reduces the need for conduit, and heavy gauge wiring, significantly lowering labor and material costs while leveraging low voltage pathways or sharing new structured cable paths. Longer cable runs (up to 2 KM / 1.2 miles) reduce the number of power drops and installation complexity.

Real-world projects have demonstrated up to 40% labor savings and faster schedules. The system's UL certification and NEC compliance smooth permitting and inspection, helping contractors finish projects on time and budget.

[Read more about labor savings in the Miller Electric Case Study](#)

11

Who Can Install and Maintain Panduit FMPS?

Low-voltage technicians handle most physical installations, while licensed electricians focus on system design, code compliance, and power infrastructure connections.* This split speeds up projects, boosts productivity, and helps electrical contractors scale their business across commercial, industrial, and smart building markets.

*Local building codes and AHJ requirements vary by jurisdiction

12

How Does Panduit FMPS Align With National Code Updates?

Panduit FMPS complies with NEC 2023 Articles 725, which govern Class 4 power-limited circuits and premises powering. UL 1400-1 certification reflects ongoing collaboration between UL Solutions and NEC committees to ensure new technologies fit evolving code requirements.

Panduit actively participates on codes and standards panels for UL Solutions, NEC, NEMA, and NFPA, helping shape the very frameworks that guides fault-managed power safety, compliance, and adoption.



Panduit offers dedicated training, certification programs, and technical support to ensure installers understand UL requirements and FMPS-specific procedures.

13

What Are the Key Advantages of Panduit FMPS Compared to Traditional Power Delivery Methods?

Panduit's Fault Managed Power System (FMPS) offers a transformative approach to power delivery by combining safety, scalability, and simplicity. Unlike traditional systems that often require custom engineering and complex installation, FMPS enables projects to standardize and scale using a consistent, UL-certified product set. This means faster deployment, reduced design complexity, and easier repeatability across multiple sites.

In addition to its core safety and efficiency benefits, FMPS is backed by Panduit's full line of connectivity options—providing a true turn-key solution from source to sink. Whether you're powering IT infrastructure, smart buildings, or industrial systems, Panduit delivers everything needed to complete the circuit. And with a robust global supply chain, customers can count on reliable product availability and support wherever their projects take them.

Discover more about
Panduit FMPS



We have the knowledge and experience to help you make the most of your infrastructure investment.

panduit.com



Let's connect
panduit.com/contact-us

