



Welcome Note

From the Alliance Leadership

Welcome to the inaugural newsletter from the Fault Managed Power (FMP) Alliance. We're excited to introduce this newsletter and highlight our commitment to advancing FMP technology, helping to shape a new era of intelligent power distribution. Our mission is to unite industry leaders in developing innovative solutions that radically simplify power distribution, improve safety, and reduce costs for electrification projects.

In each issue, you'll find updates on the latest Alliance milestones, educational content, success stories, news, and insights into industry trends. This newsletter is designed to get you involved in the FMP movement and keep you informed about developments impacting the way we safely and efficiently deliver and manage power.

ALLIANCE HIGHLIGHTS

Recent Milestones

In April 2024, the FMP Alliance was founded by Belden, Cisco, Panduit, Prysmian, and VoltServer. Since then, four new members, highlighted below have joined. These collaborations are crucial for fostering industry-wide adoption and raising awareness of how FMP can modernize power systems.

The Alliance was also proud to participate in several industry events, showcasing the benefits of fault-managed power.



Electrify 2024 Conference:

At this key gathering in Fort Worth, TX, members presented on the role of FMP in energy transition and how it simplifies building electrification.



BICSI Fall 2024 Conference:

Alliance members delivered sessions in Las Vegas, including "Fault Managed Power – The Future of Power Distribution," where we explored the latest trends and opportunities in power management.



BICSI Fall 2024 Industry Panel:

Ronna Davis, Josh Goyke, Andrew Lu , and Bob Voss participated in discussions about electrification and building automation, focusing on how fault-managed power is transforming large-scale projects.

EDUCATION

Understanding Fault Managed Power

In this first educational section, we'll briefly explain what Fault Managed Power (FMP) is and why it's revolutionary. We'll then explore the Mt. Diablo data center design, which closely aligns with FMP's key features.

Since the invention of electricity, ensuring safety for people, buildings, and equipment has required complex safety equipment and extensive wiring methods from the system's head end along every foot of distribution to the end load. This approach made power distribution installations costly, inflexible, and time-consuming. Limited energy systems like PoE (Power over Ethernet) simplify installation, but they have very limited power and distance capabilities, limiting their capabilities.

FMP changes this dynamic. It combines the simplicity and ease of PoE with the high-power, long-distance capabilities of high-voltage AC power. As an inherently high-voltage DC system (e.g., 350V DC), FMP provides protection from electrical shock and fire hazard inherent in the FMP system design, enabling faster, simpler distribution of power. FMP works by automatically detecting faults and limiting the energy released to a safe level, ensuring safety even at higher voltage

levels. This embedded safety eliminates the need for costly, rigid infrastructure like conduit.



By reducing the cost and complexity of high-voltage power distribution, FMP opens new market opportunities for electrification. As demand grows for more resilient, adaptable, and cost-effective power distribution, FMP is poised to transform industries, from commercial real estate to industrial automation, data centers, and transportation.

THE MT. DIABLO CASE STUDY

How FMP Aligns with the Most Efficient Hyperscale Data Centers



A recent example illustrating FMP's alignment with modern data center needs is the Mt. Diablo project, which reimagines data center power distribution. The Mt. Diablo team aims to use high-voltage DC to increase efficiency, but this approach has traditionally been too costly and challenging due to the extensive safety measures required to handle high voltage DC safely. The constant voltage of DC results in a larger, more sustained arc flash compared to AC power. Thus, DC systems require more complex and robust materials to extinguish arc flashes, adding substantially to equipment and maintenance costs. Historically these requirements have made high-voltage DC data centers prohibitively expensive despite DC efficiency advantages.

FMP inherently addresses these challenges by providing safe, high-voltage DC power distribution, **allowing data centers like Mt. Diablo to harness the efficiency of DC without the prohibitive costs associated with traditional high-voltage DC systems.**

Additionally, FMP supports future needs for modularity, flexibility, and scalability. Mt. Diablo's design separates the server and power racks, enabling easy scaling of power density. This approach mirrors FMP's modular and centralized power distribution, aligning well with the data center's adaptable infrastructure requirements.

Mt. Diablo's design also highlights the growing need for flexibility, driven by rapidly changing server technology and workloads. FMP supports this adaptability by eliminating the need for rigid infrastructure like conduit and UPS systems, allowing data centers to respond more easily to evolving demands.

In summary, the Mt. Diablo project serves as a powerful example of how FMP can enhance data center design. By embracing FMP, data centers can achieve **greater efficiency, safety, and adaptability, while reducing installation and operational costs.**

INDUSTRY TRENDS & NEWS

What's Happening in Fault Managed Power

Fault Managed Power is rapidly gaining traction. Key trends to watch include:

NEC 2023 Adoption

The 2023 National Electrical Code (NEC) introduced FMP as Class 4 power, a major milestone for the technology. As of now, 16 states have already adopted NEC 2023, with more expected in the coming months. Given the push toward decarbonization and stricter safety requirements, adoption rates are expected to accelerate, with projections showing more than 35 states adopting the 2023 code by the end of 2025.



NPFA 70 Code Reorganization, Limited Energy

One of the challenges of bringing any new power distribution technology to the mainstream is obtaining approval from the AHJ (Authority Having Jurisdiction), or more colloquially, inspectors. The AHJ has the massive task of both staying current with technology changes and determining how they fit—or don't fit—within the current structure of the NEC. The difficulty lies in the fact that, for decades, the primary focus was on high-voltage AC power distribution, which still forms the underlying structure of how the Code book is organized today. As a result, it can be challenging for an AHJ to piece together relevant information from various Code sections and interpret standards that may not fully apply to newer technologies.



After the 2023 version of the Code, experts recognized that this difficulty could slow adoption

and reduce accuracy, and thus saw the need to take additional steps to reduce ambiguity, thereby decreasing the time and effort required for AHJs to confidently assess FMP as well as limited-energy installations. With that goal in mind, the upcoming 2026 NEC will be reorganized to create a new category called "Limited Energy," which encompasses FMP and complementary technologies like PoE (Power over Ethernet) and low-voltage DC. This reorganization provides clear, cohesive guidance tailored to these newer systems, streamlining the approval and inspection processes for AHJs, ultimately making their work more accurate, easier, and faster. The 2026 NEC publishes in late summer 2025.



VoltServer Launches the Tetra Platform

VoltServer has announced the launch of its third-generation platform, Tetra, setting a new industry standard. Tetra delivers over 250% more power per channel than any other UL-listed system, with an initial capacity of 1.5 kW per channel and plans to expand to 3 kW. This increased power density, combined with the ability to connect multiple receivers on a single channel, significantly advances the deployment of Digital Electricity™ across both high- and low-density environments. Visit voltserver.com/tetra for more details on VoltServer's Tetra platform.

NEW MEMBER SPOTLIGHT

We are honored to welcome the following new members to the FMP Alliance.



Marmon Industries operates across a diverse array of sectors, including industrial, electrical, and infrastructure solutions. With a history of providing durable, top-tier products, Marmon has earned a reputation for engineering excellence and quality. Their vast expertise and innovative approach continue to make them a major force in industrial solutions worldwide.



Raycap specializes in innovative surge protection, connectivity, and power management solutions designed for critical infrastructure and industrial applications. With advanced technology that protects valuable equipment from power surges and lightning strikes, Raycap is trusted across telecommunications, transportation, and energy sectors. Their commitment to reliability and durability has made them a global leader in safeguarding essential systems from disruptive electrical events.



Senko is a global leader in fiber optic connectivity, recognized for its pioneering work in data center and telecommunications infrastructure. With a focus on precision engineering and quality, Senko has developed a robust portfolio of fiber optic connectors and adapters. Their commitment to advancing connectivity technologies has set them apart as a preferred partner for high-speed, reliable data solutions.



XPCC is renowned for its expertise in electrical power systems and high-performance power management solutions. Known for their focus on innovation and reliability, XPCC has a proven track record in designing scalable, efficient power distribution products. Their dedication to addressing modern energy challenges has positioned them as a trusted leader in the power sector.

UPCOMING EVENTS

The FMP Alliance will be at BICSI Winter in Orlando FL, 2-6 February 2025.



THIS MONTH'S SUCCESS STORY

Success Story in Fault Managed Power

This month, we spotlight the partnership between Mouser Electronics, Sinclair Digital, and VoltServer, where fault-managed power played a crucial role in deploying energy-efficient lighting architecture. The challenge was to maintain high power efficiency while ensuring safety in a system that spanned large distances within a commercial facility.

Using FMP technology combined with a PoE system, Mouser achieved remarkable efficiency gains without compromising safety. The project significantly reduced energy consumption and costs. This case illustrates the powerful combination of fault management and PoE to meet modern electrification and smart building needs.



CLOSING REMARKS

We hope this newsletter has provided valuable insights into the evolving world of fault-managed power and its potential to transform industries. Stay tuned for future issues, where we will continue to share success stories, industry updates, and educational resources.

If you have feedback or would like to contribute to next month's edition, feel free to contact us at admin@fmpalliance.org. Thank you for being part of the FMP Alliance community.