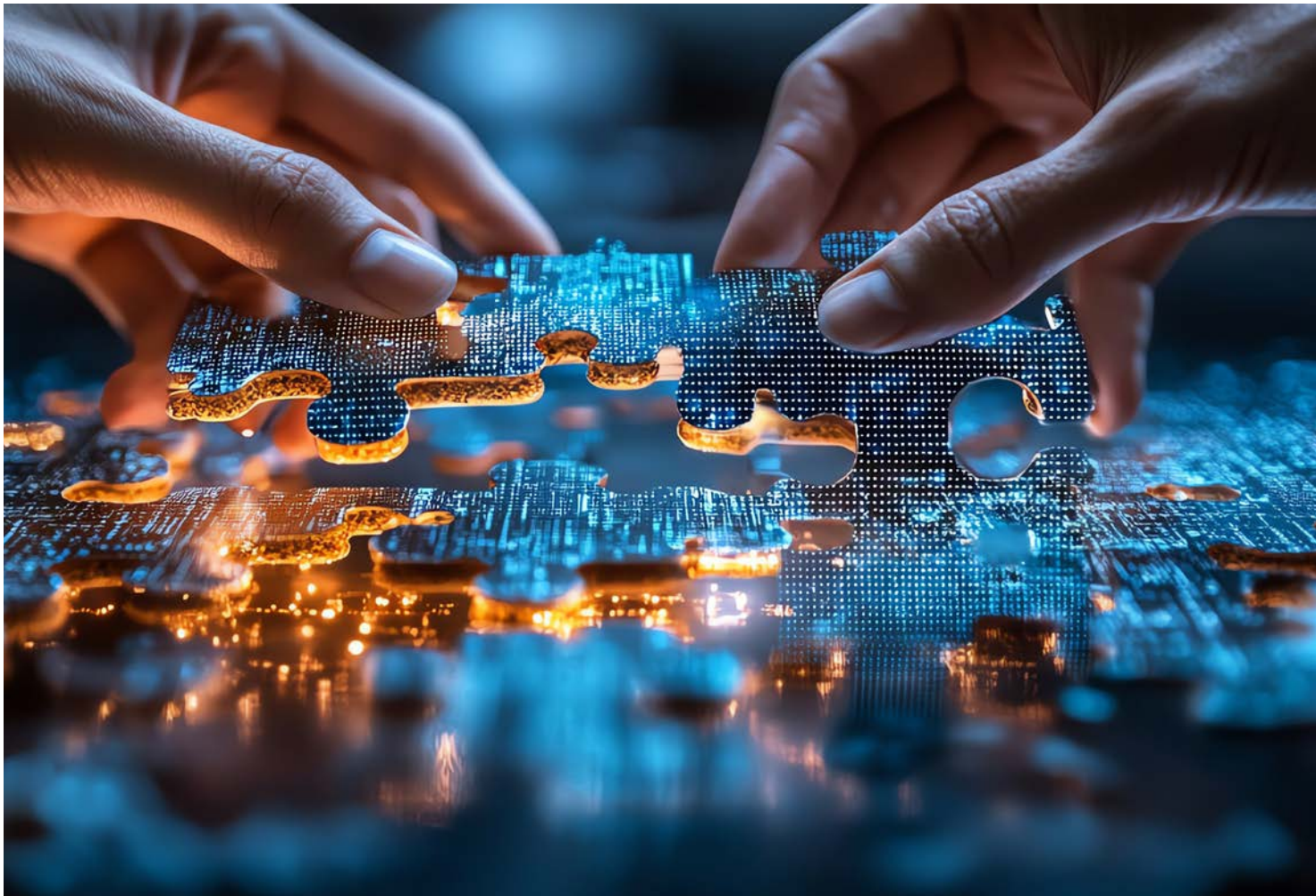




Welcome Note

From the Alliance Leadership

The new year is well underway and our alliance is off to a great start in 2025. In February, a comprehensive white paper on Class 4 Fault Managed Power was released by Cisco. The white paper delves into the evolution of DC power distribution, key characteristics and benefits of FMP, and explores various applications, case studies and standards development. This project was a result of collaboration amongst the FMP Alliance members, enabling a more efficient, scalable and secure approach to power distribution, addressing key challenges in IT, security, and wireless infrastructure.

As AI continues to dominate the headlines, so do the power demands required to support it. High-performance computing, edge data centers, and AI-driven infrastructure need reliable, efficient and scalable power solutions. With its ability to reduce installation complexity, enhance safety and optimize energy efficiency fault managed power is positioned to be a key differentiator for the growing needs of AI-driven environments.



ALLIANCE HIGHLIGHTS

Recent Milestones

April is fast approaching and marks a milestone for the FMP Alliance - one year since Belden, Cisco Systems, Panduit, Prysmian, and VoltServer came together in collaboration to foster industry-wide adoption of FMP.

The FMP Alliance website was recently updated to include interactive content and a dedicated knowledge center keeping current and prospective members up to date on codes and standards, and the latest developments in FMP technology.

Plans to activate video reels on the updated LinkedIn are well underway. The educational series will begin with FAQs. To stay updated on the FMP Alliance please follow us on our new business page, [@FMPAlliance](#).

**BICSI Winter 2025 Conference and Thought Leadership:**

The Alliance had a solid representation in Orlando at our BICSI booth, staffed by Belden, Cisco, Panduit, Prysmian and VoltServer. Opportunities to present our mission and vision, while showcasing our new website, were plentiful. Alliance members, Panduit, VoltServer, Prysmian, and Marmon Industries had a strong presence at the show, offering hands-on to their FMP products.

A pre-conference masterclass on *FMP Design and Installation* with Mahmoud Ibrahim, Panduit, and Jason Shearer, Cisco, headlining. Bob Voss and Vince Barone, both of Panduit, supported the hands-on training. In the keynote sessions, Jason Shearer and Frank Straka, Panduit, delivered the *Practical Deployment of Fault Managed Power* presentation. And VoltServer presented *The Shocking Truth of Fault Managed Power*.

**Cisco Live EMEA 2025 Conference and Thought Leadership:**

Cisco and Panduit exhibited FMP at Cisco Live in Amsterdam. Veera Bhaskar Mutyala, Cisco, spoke on *Powering Sustainable Smart Buildings through FMPS and Catalyst*. Also, Mahmoud Ibrahim, Panduit, presented a session on *Fault Managed Power - The Future of Safe, Sustainable Power*.

**ATIS PEG Conference and Thought Leadership:**

The Annual PEG/ATIS Conference was held on March 18 – 20 in Atlanta. The Protection Engineers Group focus is primarily the Information and Communications Technology (ICT) industry and this year the agenda of presentations was dominated by Fault Managed Power Systems topics. FMP Alliance members who participated were Voltserver, SENKO and Citel. Luke Getto, Sr. Director of Product Management for Voltserver presented a very informative overview of *FMPS Technology, Installation and Maintenance*. Other topics includes Class 4 cabling and UL1400 updates.

EDUCATION

Powering Surveillance Systems Efficiently with Fault Managed Power

As security demands grow, so do the challenges of delivering reliable power to surveillance systems. Traditional high-voltage wiring can be expensive, complex, and difficult to install, especially in large facilities or outdoor environments. Fault managed power offers a groundbreaking solution by enabling safe, long-distance power transmission using wiring methods of low-voltage cabling, simplifying installation and reducing costs.

For Security Integrators, FMP is a game-changer—eliminating the need for costly conduit and electrical infrastructure while ensuring continuous, efficient power for cameras, access control, and alarm systems. Whether securing corporate campuses, critical infrastructure, or smart city environments, FMP enhances flexibility, safety and scalability.

By adopting fault managed power, security professional can deploy surveillance networks faster and more cost-effectively –without compromising reliability.

A prime example of fault managed power in action in a surveillance scenario came about when Miller Electric, a leading electrical contractor,

successfully leveraged the technology to streamline power distribution while reducing installation complexity. By integrating the Panduit Fault Managed Power System into their infrastructure for high resolution security cameras at a government facility. Fault managed power significantly lowered their labor and material costs, proving its effectiveness in real-world applications.

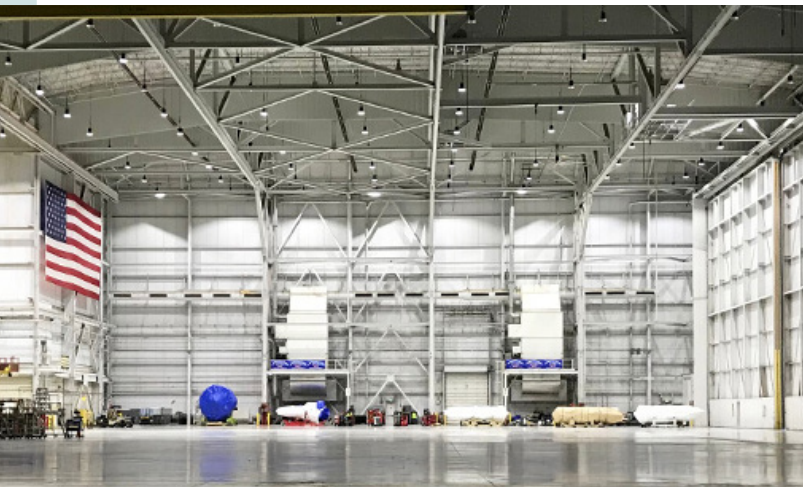


See the Miller Electric Case Study highlighted on the following page, for more detailed information.

THE MILLER ELECTRIC CASE STUDY

Powering Innovation to Deliver Advanced Power Solutions

Miller Electric was tasked with installing new cameras, distributed UPSs, PoE switches, and media converters across several buildings. Typically, a project like this wouldn't challenge Miller Electric's capabilities. However, in this case, the **nearest power source was up to 1000 feet away**. The cost and complexity of installing new panels and conduit, as well as managing power



shutdowns made the deployment significantly more demanding. By using a Fault Managed Power System (FMPS) to distribute power across each **85,000 sq. ft. building**, Miller Electric completed the project with minimal shutdowns and **reduced the installation timeline from two weeks down to two days**.

Miller Electric Company achieved **22% savings** on this project by **using Class 4 FMPS** instead of traditional A/C circuits. The savings breakdown compared to traditional installations includes:

- ▶ **50% Material Cost Savings:** Class 4 Circuits do not require conduit, resulting in savings on conduit, junction boxes, and gang boxes.
- ▶ **42% Labor Cost Reduction:** Since Class 4 circuits do not require conduit installation, Miller Electric ran the Panduit Class 4 cable together with fiber at no additional cost, unlike traditional A/C circuits that require pulling three wires through conduit, separate from the fiber.

In addition to initial capital savings, Miller Electric estimated a 78% reduction in yearly operational costs due to the limited number of UPSs to maintain. A traditional A/C circuit installation would need 20 distributed UPSs, whereas the Panduit Class 4 offering required only three centralized UPSs—one per building. FMPS also offers faster power troubleshooting with remote monitoring and control capabilities.

INDUSTRY TRENDS & NEWS

What's Happening in Fault Managed Power

First Quarter 2025 Codes & Standards Update

Did You Know?

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.



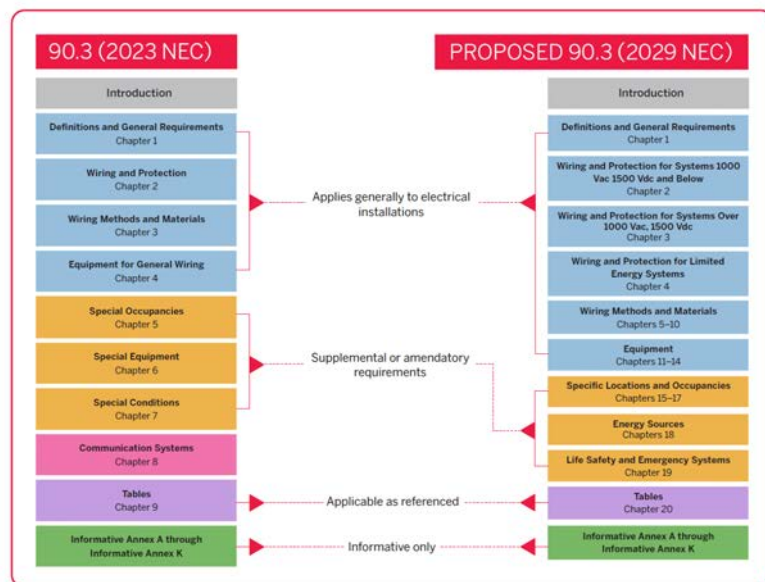
NFPA 70, 2026 Code Expands on FMP

The current version of the NEC is the 2023 edition. It's a special edition of the Code for FMP Alliance members because it marks the first inclusion of Class 4 power (fault managed power) in the National Code.



The upcoming version of the Code, the 2026 edition, is in the waning stages of the review process and will publish August 2025. This version of the Code expands the presence of FMP and features a significant reorganization of the Code that combines communication systems with powering technologies of FMP and PoE into a new definition called Limited Energy. You will sometimes hear industry references to **“limited energy reorganization”**; this is what they're talking about.

Big advantages in this reorganization as it makes limited energy installations easier to inspect and approve, as well as putting complementary wiring methods of communication systems with FMP and PoE together in the Code.



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“Modernizing the NEC to enhance usability will assist both the user when applying the requirements and the code-making panels in developing those same requirements.” from NFPA website¹

Experts from FMP Alliance founding companies Cisco Systems, Panduit, Belden, VoltServer, and Prysmian are all deeply involved in the creation and

¹ <https://www.nfpa.org/education-and-research/electrical/proposed-reorganization-of-the-national-electrical-code>

INDUSTRY TRENDS & NEWS CONTINUED

maintenance of the National Electrical Code. We're honored to be able to contribute our knowledge of fault managed power to make the National Electrical Code stronger.

The Code reorganization will be completed in the 2029 edition, culminating in a reorganization of the chapter structure of the NEC (see embedded graphic, above).

NEMA, Limited Energy Systems Section

NEMA is a well-respected SDO (Standards Development Organization) representing over 300 manufacturers. A group of NEMA experts, organized as the NEMA Codes & Standards Committee, provide guidance for NEMA technical work as well as external SDOs. NEMA contributes technical expertise to many CMPs (Code Making Panels) on NFPA-70. NEMA also does laudable work on behalf of its members in regulatory and legislative areas. This advocacy will help advance new technologies like FMP more rapidly.



NEMA has recently formed a Limited Energy Systems section, focused on you guessed it, Limited Energy. This new group is a welcome addition to the venerable guidance NEMA produces around traditional power distribution. Engineers from three FMP Alliance member companies, Cisco Systems, Prysmian, and Panduit, serve on this section.

UL, UL 1400-1 and UL 1400-2 Standards

These two standards produced by UL Solutions govern the UL listing of



FMPS (Fault Managed Power Systems). FMPS that have passed UL1400-1 and UL1400-2 can be installed according to 2023 NEC, Article 726, which requires these systems be listed.

Why are there two standards? Good question. UL1400-1 is the system standard which allows listing of the entire FMPS system. UL1400-2 is a cabling standard that ensures the cabling used meets FMPS listing criteria. One unique feature of the UL1400 standards is that the FMPS must be listed as a system with UL listed FMP cable. This method gives an extra measure of safety when installing a new technology. So, if you look at UL listings for FMPS, you'll see multiple cable variants for each listed manufacturer.

UL1400 is in FMP news these days because the standards are open for revision right now, drawing on literally dozens of experts, including some from the companies that have achieved UL 1400 listing. When the comment resolution and revision process is complete, the revised standard will be submitted for ANSI-accreditation.

UL Listed Fault Managed Power Products

The following companies have Class 4 UL certification for their products.

1400-1 Listings

- Alpha Technologies (E536975)
- Panduit (E533061)
- VoltServer (E542640)

(Cont'd on p. 8)

NEW MEMBER SPOTLIGHT

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



CITEL specializes in the manufacture and sale of Surge Protective Devices (SPD) to its worldwide customers. Transient voltage surge suppression products and components including AC power surge protection, and DC power surge protectors, keep the world's critical networks and equipment protected from transient overvoltages.

UPCOMING EVENTS

**BICSI ICT Forums**

March 27, 2025 – North Central – Detroit Electrical Industry Training Center, Warren, MI

April 24, 2025 – Southeast – BICSI Learning Academy, Tampa, FL

May 6, 2025 – Southeast – North Carolina State University, Raleigh, NC

**ConnectX**

May 12-14 2025 – McCormick Place, Chicago, IL

**Fiber Connect**

June 1-4, 2025 – Gaylord Opryland, Nashville, TN

**Realcomm | IBcon**

June 3-4, 2025 – Savannah Convention Center, Savannah, GA

**Cisco Live**

June 8-12, 2025 – San Diego Convention Center, San Diego, CA



ASHRAE June 21-25, 2025 – Phoenix Convention Center, Phoenix, AZ

THIS EDITION'S SUCCESS STORY

Success Story in Fault Managed Power

In partnership with Luum.io, Sinclair Digital, and Zumtobel Lighting, Panduit delivered an impressive demonstration of their Fault Managed Power System (FMPS) alongside X-PoE technology. The UL 1400-1 compliant Class 4 system successfully powered a spectacular 1-million lumen LED lighting showcase, capturing the attention of commercial real estate and building technology professionals. The showcase first illuminated the conference's keynote area before moving to the interactive Low Voltage Lab for hands-on engagement.

Realcomm founder Jim Young recognized the milestone achievement: *"I believe that history is made today. Never before has there been a public display of a power architecture of this magnitude that can demonstrate a sustainable future."*

The demonstration highlighted how Sinclair Digital's X-PoE system surpasses traditional Power over Ethernet limitations by eliminating device drivers and associated electronics, creating a simpler, more cost-effective solution with higher power capacity.

"This is an incredible opportunity to demonstrate the power and simplicity of the combination of fault managed power and X-PoE," noted Luis Suau of Sinclair Digital, reinforcing their commitment to sustainable and intelligent building solutions.

This groundbreaking showcase proved that FMPS technology delivers on its promise of safer, more reliable, and environmentally friendly power systems—lighting the way toward a more sustainable future for commercial buildings.

UL Listed Fault Managed Power Products (cont'd)

1400-2 Listings

- Advanced Digital Cable (E534310)
- Belden (E527273)
- Linkz Cables Limited (E534882)
- Marmon Industries (E538710)
- Panduit (E536497 + E542620)
- Proterial Cable America (E537215)
- Prysmian (E532491)
- Servicios Condomex (E544596)
- Southwire (E537761)
- Superior Essex Intl. (E532788)

Expect more manufacturers to join this list as demand soars for FMP technology.

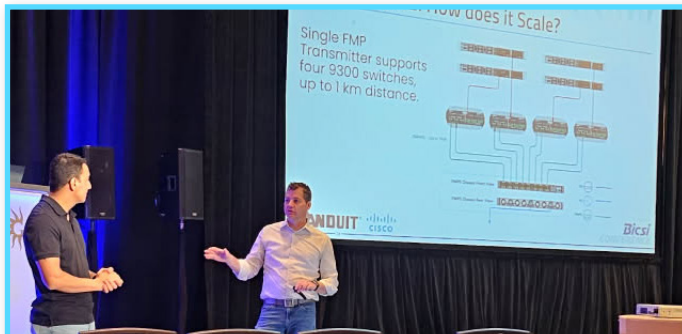
MEET OUR LEADERSHIP TEAM



Meet Bob Voss, our chairman of the board. By day, Bob is a Distinguished Engineer in Panduit's Corporate Research and Development organization. He's responsible for codes and standards strategy as well as supporting the identification and nucleation of new technologies. Bob has been with Panduit for the past 31 years where he's held business and technical roles over his career. Bob balances his high tech career with the "low tech" hobby of caring for and riding quarter horses.



SNAPSHOTS OF THE QUARTER



Mahmoud Ibrahim of Panduit and Jason Shearer of Cisco present *FMP Design and Installation* at BICSI Winter 2025



Luke Getto of VoltServer presents *FMPS Technology, Installation and Maintenance* at PEG/ATIS Conference



FMP Design and Installation at BICSI Winter 2025 participants build out FMP system in hands-on masterclass



FMP Design and Installation Practical Deployment of Fault Managed Power presented by Frank Straka of Panduit and Jason Shearer of Cisco

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FMP Alliance

Our mission is to drive the global transition to reliable, safe and sustainable fault managed power technology.

Non-profit Organizations

