



**PANDUIT**

Fault Managed Power System

# Panduit Fault Managed Power System

## Higher Power. Longer Distance. Superior Safety.



### Overview

The Panduit Fault Managed Power System (FMPS) is a novel remote power delivery system that allows System Integrators to safely and easily deliver power to wireless systems. The Panduit FMPS is the first in the market to comply with the new UL 1400-1 Standard for a safer, more reliable, and easy-to-install power alternative for wireless systems and eliminates many complicated requirements for traditional power. It delivers significant power over longer distances using standard multi-conductor cables without the need for conduit, junction boxes, breaker panels, or permits. Such innovations simplify installation, and increase deployment speed while reducing deployment costs. This is ideal for larger venues or complex installations that require centralized power management.

The Panduit FMPS offers remote monitoring and control capabilities that provide total visibility into power usage to manage and troubleshoot remotely. The plug-and-play configuration is flexible and scalable allowing for growth with increasing wireless demands while a hot-swappable configuration minimizes equipment downtime and business interruptions.

**The Panduit Fault Managed Power System is a safe, efficient, reliable, and practical remote power delivery system that will go the distance.**



Redundant fault management for ultimate safety making it safe to handle like Class 2 power



Novel remote power delivery system



Substantially more power over long distances using less copper



The first in the market to comply with new UL 1400-1 Standard



Hot-Swappable configuration for ultimate flexibility and upgradability



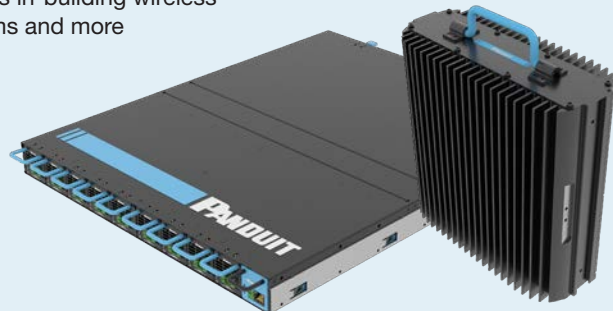
Powers in-building wireless systems and more



Simple to install, startup, and troubleshoot



Endless remote monitoring and control capabilities



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[www.panduit.com/fmps](http://www.panduit.com/fmps)

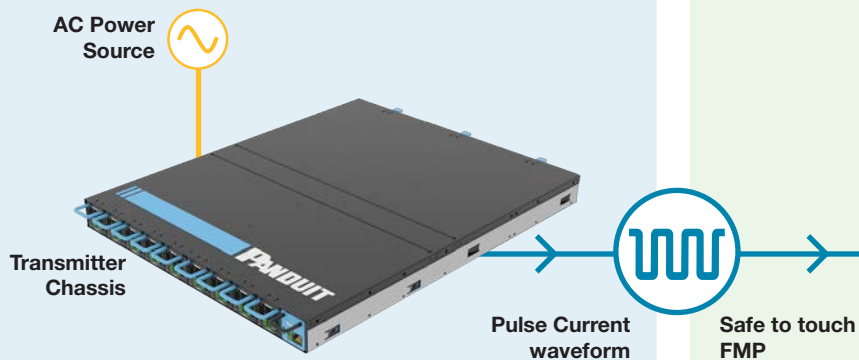
## How does it work?

The Panduit FMPS has a new patent-protected technology that transports power through a Pulse Current waveform. Pulse Current is comprised of short duration pulses (e.g., 3ms), where each pulse contains a power ON and power OFF period. Delivering power in this way allows the system to detect faults and stop power transmission almost instantly.

The Panduit FMPS consists of two main components:

### Transmitter Chassis

The Transmitter Chassis takes standard AC power (for example, 110/220V outlets or 208V source from a rack-PDU) and converts it into high voltage (360V) limited current DC power. It then transforms the DC power signal into a Pulse Current waveform delivered over a Class 4 multi-conductor cable. Each pulse has a short duration of time (e.g., 3ms). The redundant fault management system within the Transmitter Chassis will almost instantly detect a fault (e.g., a cable short or a person touching the wires). Once a fault is detected, it triggers the system to stop power transmission within milliseconds, making it safer than traditional powering methods. Delivering power in this manner enables the use of a thin copper cable and wiring methods afforded to communications wiring per NEC guidelines\* where cables housed in conduit are not required, and technicians may complete the installation.



### Receiver

The Receiver receives the Pulse Current waveform delivered by the Transmitter through Class 4 multi-conductor cables. It then converts the Pulse Current waveform into  $\pm 48/56$  VDC power, which can power multiple end devices.



**Figure 1:** The Panduit FMPS takes power, converts it to higher voltages, and then transforms the power into a Pulse Current waveform that is delivered over Class 4 multi-conductor cable as shown in the image above.

\*Class 2 is safe because of power limitation, Panduit FMPS Transmitter Chassis is safe because energy will be limited by the fault prevention system during a fault. Panduit Fault Managed Power System is the first in the market to comply with UL 1400-1 Standard which refers to this technology as a Class 4 Power System. It is referred to as Class 4 power in a new NEC Article 726.



## Feature Summary

### Safe High-Voltage Power

A fault management system that detects and almost instantly stops power transmission when a fault occurs, making it a safe power delivery system that has all the safety benefits of Class 2 power systems.

### Significant Power Over Long Distance

Up to 30x the power and up to 30x the distance\* of a Class 2 power system using less copper pairs and thinner wire gauge, saving up to 60% on cable costs†.

\*Panduit Internal Time Study, 2017

†Field tested by industry experts.

### Simple & Efficient Installation

No conduit, junction boxes, circuit breakers, or permits are required as with traditional power. Technicians may install copper and fiber cabling simultaneously for greater cost and time savings over traditional power, saving up to 40% on material and installation costs. The centralized design of the Panduit FMPS makes it easy to back up and provides ultimate flexibility for larger venues, unique locations, and places where conduit is challenging to install. Easy-to-install connectors for secure and reliable connectivity accompanied with cable management solutions provide savings on rack space.

### Latest Industry Standard Compliance

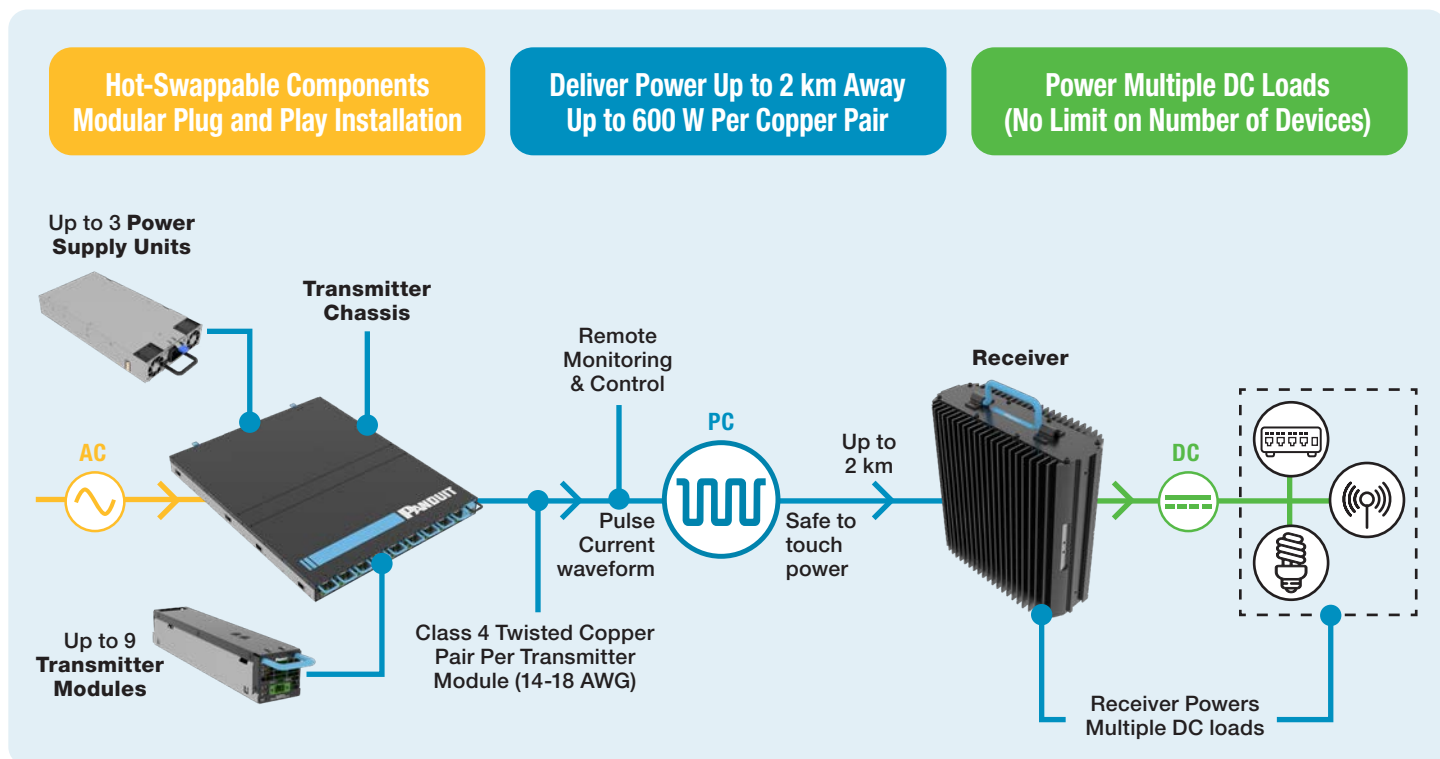
Safe and compliant with the latest industry standards, for peace of mind when hiring technicians. Gain faster approval from local Jurisdiction Having Authorities (JHA) and expedite installation.

### Remote Monitoring & Control

Monitor, troubleshoot, and control systems remotely through web-based access or SNMP interface. Increase operational efficiency with full visibility into power usage and the ability to remotely shutdown individual components to help avoid costly site visits.

### Hot-Swappable Components

Easy to move/add/change for a flexible and scalable power delivery system to grow with rising wireless demands. Minimizes equipment downtime and reduces business interruptions. Intelligent LED indicators on all system components for easier installation, onsite maintenance, and troubleshooting.



**Figure 2:** Overview of the Panduit FMPS, showing the Transmitter Chassis which typically resides in the headend, delivering power in a Pulse Current waveform, through multi-conductor cable, and sending it to the Panduit FMPS Receiver which is typically distributed throughout the building near devices that require power.

The Panduit Fault Managed Power System delivers optimal safety, efficiency, and reliability for optimal control. System Integrators may deploy cutting-edge technology with centralized power to unique locations, over longer distances, with a scalable, flexible design to future-proof initial deployments.

Welcome to the new world of power distribution with the Panduit Fault Managed Power System.

For more information on the the Panduit Fault Managed Power System offering, visit [www.panduit.com/fmps](http://www.panduit.com/fmps).

## Ordering Information

Part Number	Description
PXTC1ARA	FMPS Transmitter Chassis 4.8kW
PXU1AJANNXX	FMPS Power Supply Unit 1.6kW, AC
PXTM1AF	FMPS Transmitter Module 600W
PXR1AJD	FMPS Receiver 1.6kW, 48VDC
PXR1AJF	FMPS Receiver 1.6kW, 56VDC
PXUP316AWH-UQ	Class 4 Cable, 3-Pair, 16 AWG

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