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# In-Building Wireless Solution Guide

**PANDUIT**<sup>®</sup>  
infrastructure for a connected world

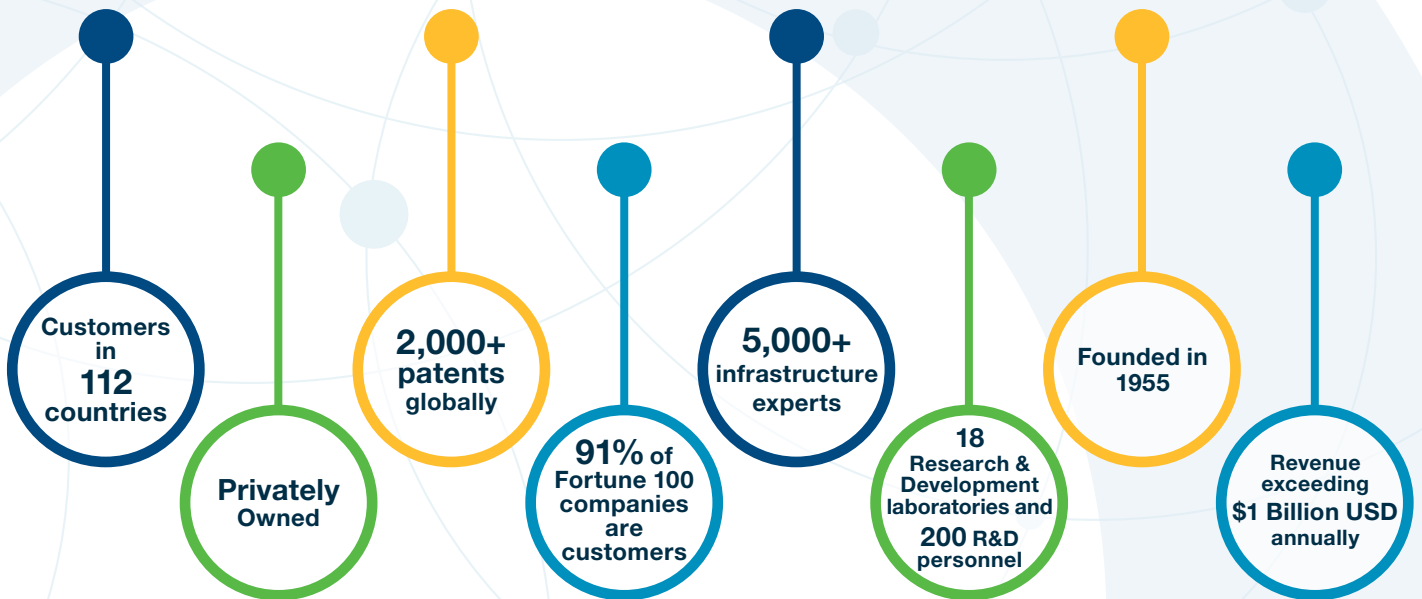
Wireless connectivity continues to make meaningful penetration into enterprise networks unlocking performance and transforming the way people work.

Partner with Panduit for best-in-class solutions throughout your enterprise environments that scale around the globe.

**Panduit In-Building Wireless solutions supports your business, so you can effectively and efficiently support your customers.**

### A culture of curiosity, a history of innovation

From the first product, a panel conduit that gave us our name, we understood the value of thinking differently. Here's where it's gotten us:



## Secure Data

Technology is a critical asset for driving improvements in operational and financial efficiencies, but it can become risky. Within Enterprise, data center, and industrial automation applications, broader access to networks, files, and websites increases threats, posing more significant security risks. Security considerations, while paramount, should not become a barrier to service improvements and IT investments. Panduit is a world-class developer and provider of leading-edge solutions that help optimize the physical infrastructure to mitigate risk and offers Network Infrastructure Security Solutions that enhance information security measures at the physical layer by deterring unauthorized network access and physical system changes.



## Reliable Connection

Convergence, building automation, and proliferating connected devices are shaping enterprise environments, placing new demands on networks and staff. From the data center to telecom rooms and office environments, highly engineered, end-to-end cabling infrastructure and connectivity solutions help move business forward. Panduit offers a range of innovative copper cabling solutions to fit the needs of all types of applications for maximum performance.

## Global Reach

Panduit operates globally and executes locally. Our global presence, backed by the Panduit ONE Partner Program, ensures continuity of supply on a global scale. Our extensive manufacturing capabilities are distributed across nine different locations. In addition to our extensive partner and distributor community, we have ten warehouses to help facilitate and augment the fulfillment operations of our distribution partners.



## Scalable Infrastructure

Panduit works with 90% of Fortune 100 companies and supports all types of enterprises, commercial real estate properties, stadiums, outdoor venues, airports, healthcare facilities, education facilities, warehouses, and more. Our network infrastructure solutions enable wireless access, data security, access control, automation equipment, point-of-sale systems, client connectivity systems, and smart building technologies.

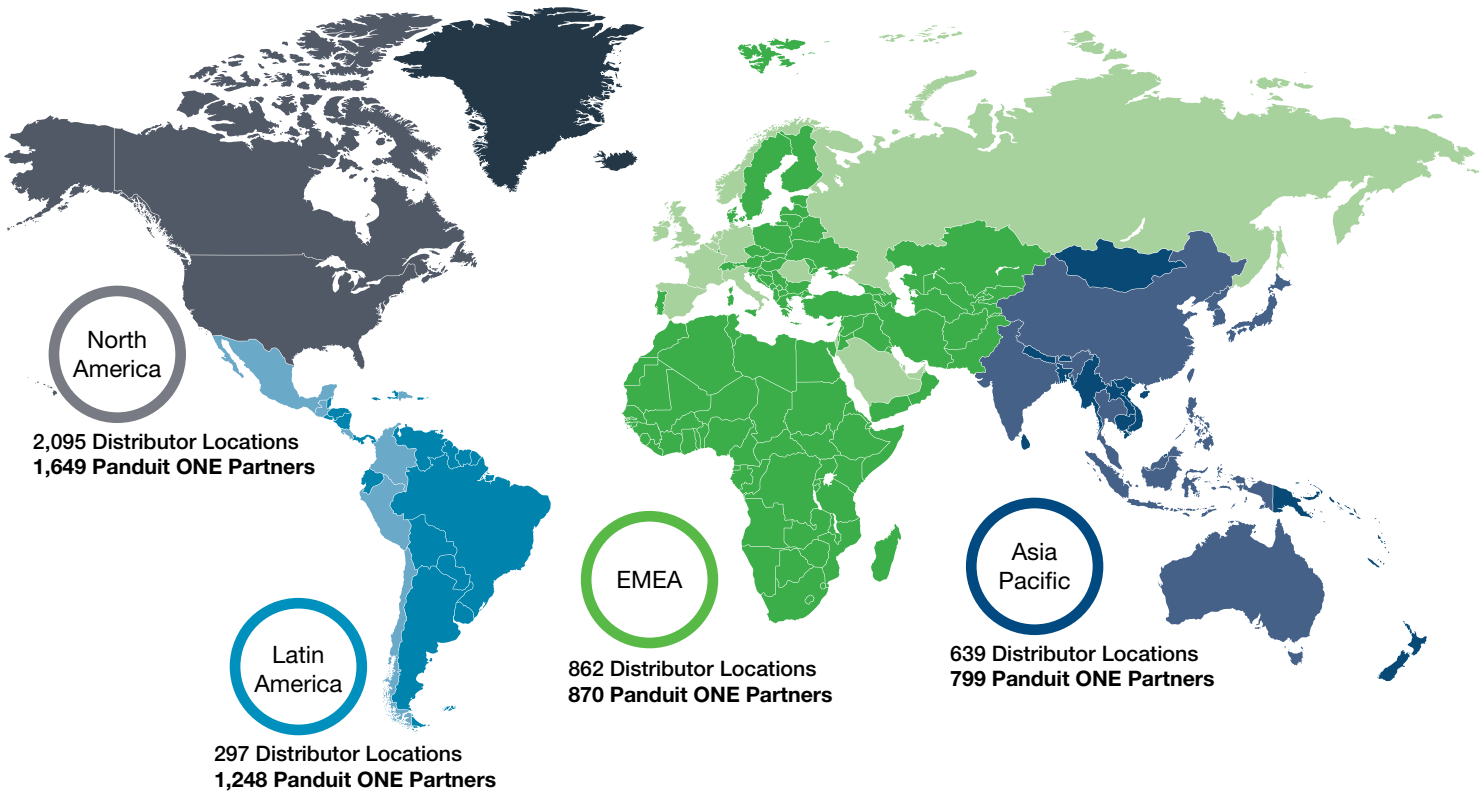
## Innovative Solutions

At Panduit, innovation is in our DNA. We have a rich history of technical advances realized through our engineering expertise, along with our deep understanding of market needs and challenges developed through ongoing customer engagement and collaboration. Panduit infrastructure solutions are standards-based and backed by industry-leading warranties to ensure reliability and dependability.



# World Class Global Manufacturing and Distribution Ecosystem

The Panduit global support structure for manufacturing, warehousing, sales, technical, and customer service enables real-time responses within each region.



## A World of Connections

When it's your vision to connect technology, systems, and people on a global scale, you don't go it alone. That's why we built a support team that is committed to earning your trust and providing a superior customer experience the world over, and a partner ecosystem that spans the project lifecycle, from planning and design to delivery, deployment, maintenance, and operation.

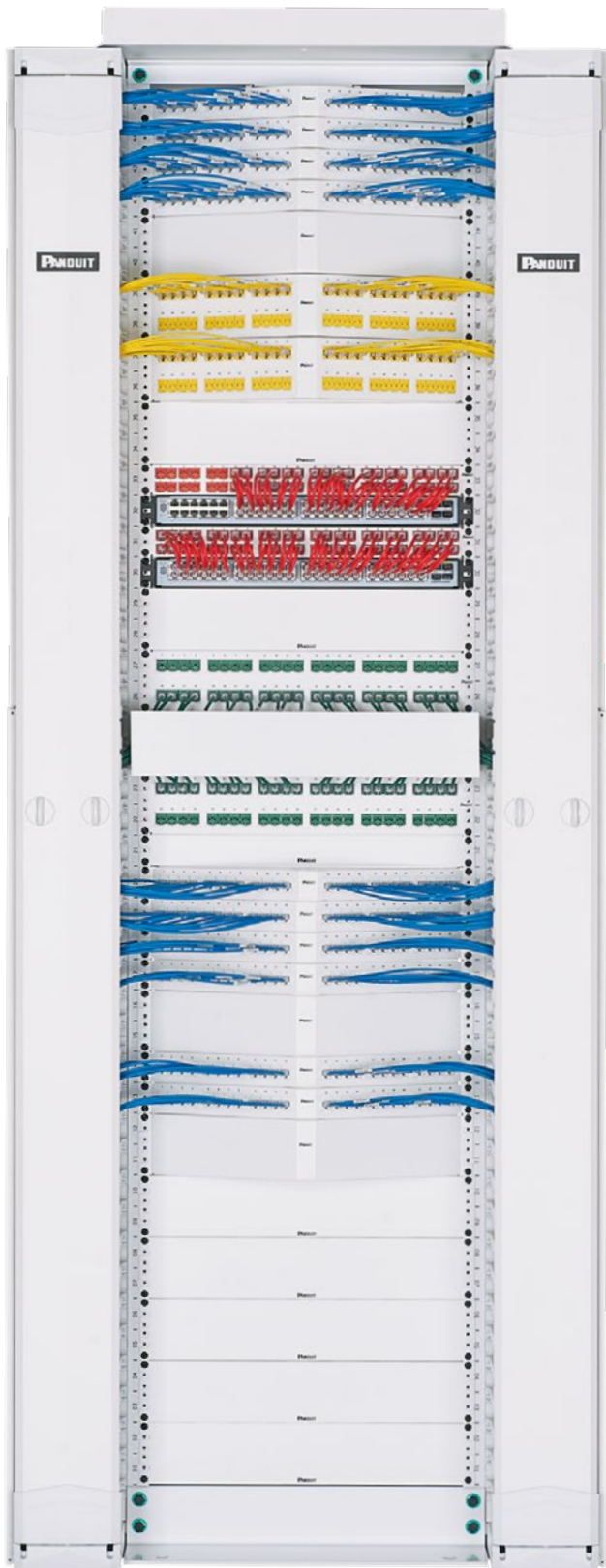
## Partner Smarter

Our global network of distributors provides local inventory, product support, and logistics services so our customers can expect to receive exactly what they need when they need it.



Our Panduit One partners include highly skilled installers, contractors, and system integrators who are trained and certified to design, develop, and deploy high-performance electrical and network infrastructures.

Optimize connectivity with a single source provider of all network infrastructure solutions needs in enterprise landscapes. Power distribution, cable and rack management, copper and fiber cable and connectivity systems, and grounding and bonding solutions that protect your critical connections.



## Power Distribution Systems

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Panduit Fault Managed Power System



Panduit Uninterruptible Power Supplies (UPS)



Panduit Power Distribution Unit (PDU)



## Racks and Cable Management

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Rack Systems

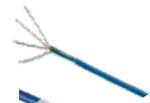


Cable Managers & Enclosures

## Copper Systems

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Bulk Cable



Patch Cords



Patch Panels



Jacks



Connectors



## Fiber Optic Systems

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Bulk Cable



Patch Cords



Trunks



Patch Panels



Connectors



## Grounding and Bonding

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## Physical Infrastructure Accessories

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# Panduit supports your DAS and Wireless Installations with superior physical infrastructure and Class 4 Power distribution.

## Solutions

DAS | Small Cell | D-RAN | Wi-Fi

### Room/Zone

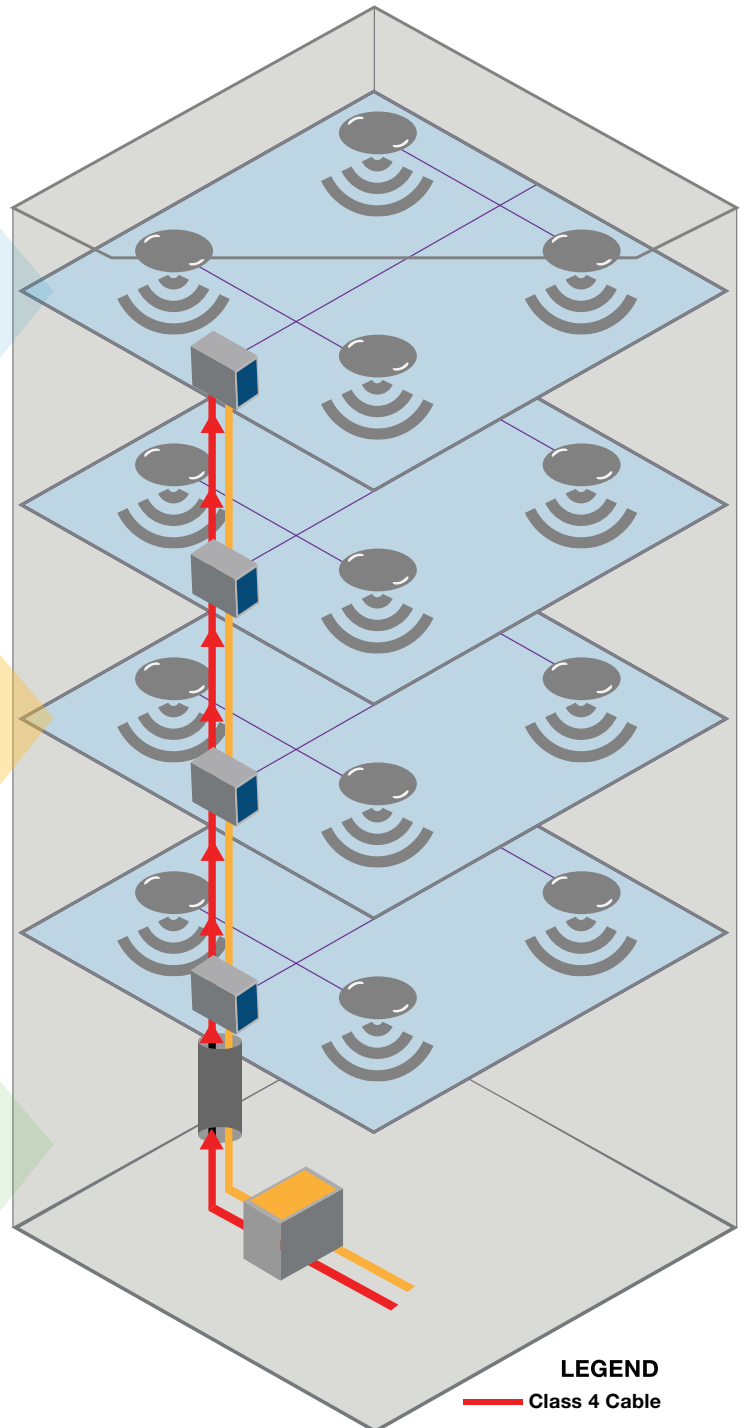
Panduit leads the industry with innovative fiber-optic solutions that meet many network requirements and provide a migration path for applications. PanMPO™ Fiber Connectors and the HD Flex™ Fiber Cabling System simplify data migration. Get ahead of outages with identification tools with automated labeling, printers, and *RapidID™* Software Applications.

### Equipment Room

Rapidly deploy Ethernet/IP networks efficiently with small cabinet and zone enclosures. Rugged, reliable infrastructure in equipment rooms house and supports the technology that makes the campus hum. Panduit Copper Systems provide the infrastructure to connect networking applications in any enterprise setting. Our industry-leading Category 6A Vari-MaTriX™ HD Cabling System delivers 10G and takes the guesswork out of applications like Power over Ethernet and HDBaseT.

### Headend Room

Accelerate deployment and ensure network availability and performance through strong, capable, and versatile Racks and Cable Managers. Deploy power safely and monitor performance for electrical circuit overloads and critical IT equipment risks with Panduit Power Solutions including PDU, UPS, and FMPS. Comprehensive fiber optic connectivity supports advanced bandwidth and mission-critical infrastructures that deliver high performance, reliability, and scalability.



#### LEGEND

- Class 4 Cable
- SM Fiber
- Coax, Fiber, or Copper Category Cable

# Power Distribution Systems

## 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



Substantially more power over long distances using less copper



Hot-Swappable configuration for ultimate flexibility and upgradability



Simple to install, startup, and troubleshoot



Endless remote monitoring and control capabilities



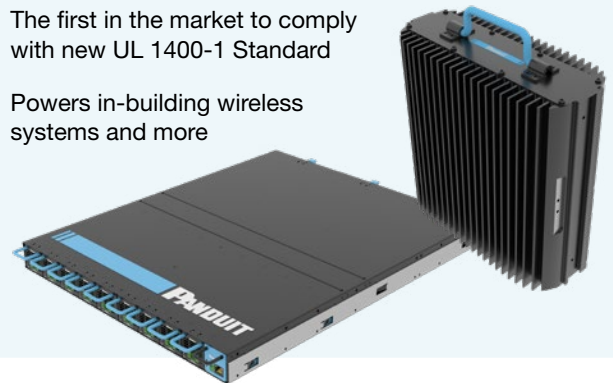
Novel remote power delivery system



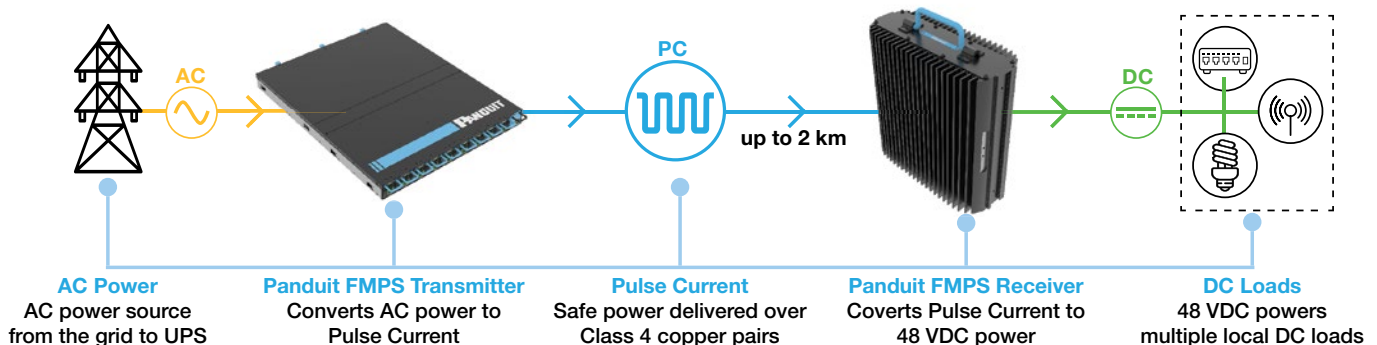
The first in the market to comply with new UL 1400-1 Standard



Powers in-building wireless systems and more



### How does the Panduit FMPS Work?



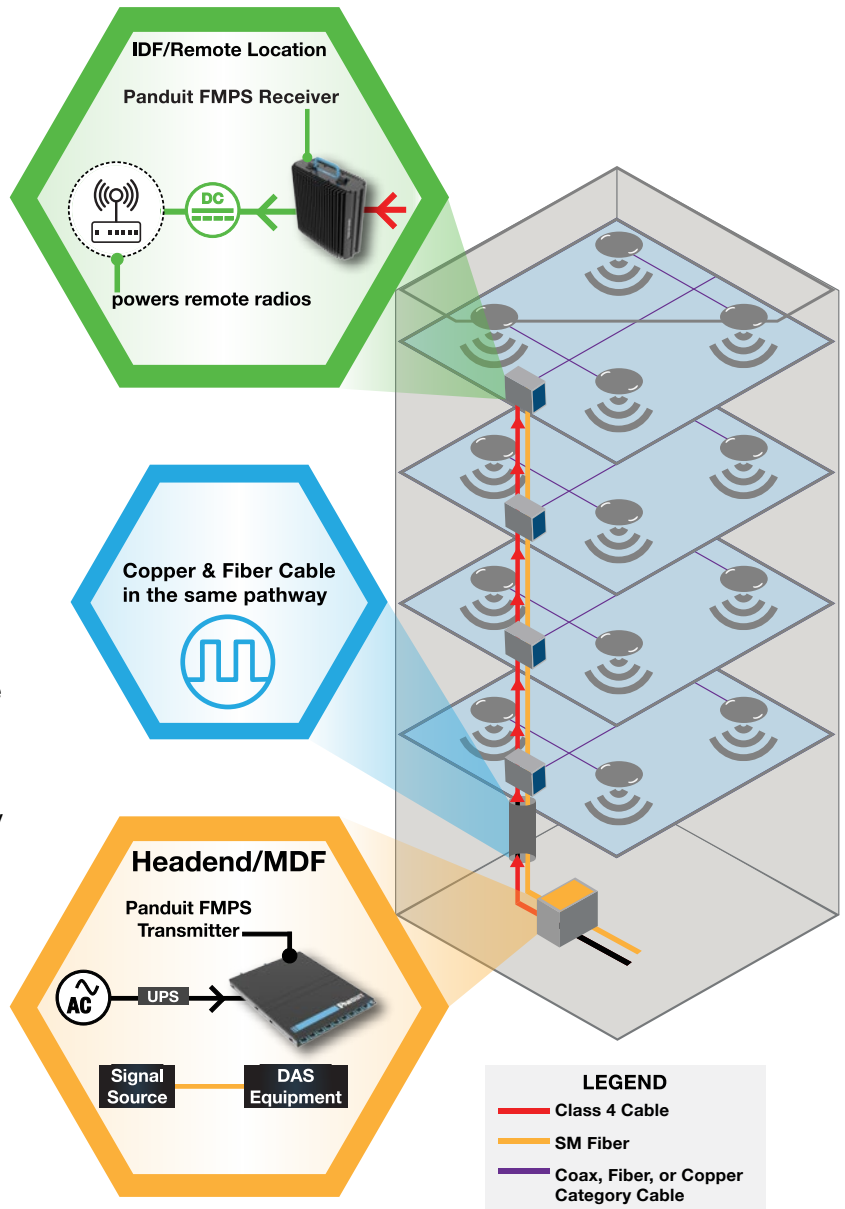
The Panduit FMPS uses Pulse Current as its power delivery method. The Transmitter converts standard AC power into high voltage DC power, which is further converted into a Pulse Current waveform delivered over a Class 4 multi-conductor copper cable to the Receiver. The Receiver converts the pulse current waveform into +/- 48 VDC power, which can power multiple end devices. With the ability to monitor faults, the system can safely use higher voltage to deliver power compared to low-voltage systems (Class 2). This allows the FMPS system to have all the safety benefits of low-voltage installations while delivering significantly more power over longer distances than Class 2 systems.

## Where is the Panduit FMPS Used?

The Panduit Fault Managed Power System provides safe, sustainable, and reliable power distribution anywhere you need it. The Panduit FMPS serves as a backbone for power distribution deployment for any venue or technology. Centralized for ease of back-up, monitoring and control for added resiliency, and scalable to grow with your technological demands.

## Panduit FMPS with In-Building Wireless

Wireless connectivity continues to make meaningful penetration into enterprise networks unlocking performance and transforming the way people work. Reliable connections, secure access to data, and on-demand communication capacity are mainstays of modern business. These resources are the fourth-utility that people rely on to get through their day. Partner with Panduit for best-in-class solutions throughout your enterprise environments that scale around the globe and optimize connectivity with a single source provider of all network and physical infrastructure solutions. In any Distributed Antenna System (DAS), Distributed-Ran (D-RAN), or small cell architecture, the Panduit FMPS provides safe power anywhere it is needed to power remote radios. Run fiber and copper in the same pathways for a faster installation and centralize power distribution with the Panduit FMPS for easy power back-up, monitoring, and control in a more reliable wireless network.

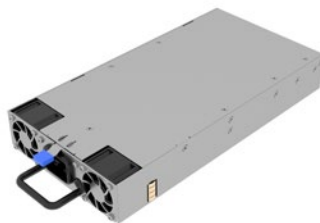


## Ordering Information:

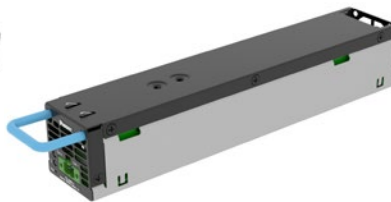
Part Number	Description
PXS1ARANNBL	Transmitter Chassis
PXU1AJANNXX	Power Supply Module
PXP1AFNNBL	Transmitter Module
PXC1AJDNNBL	Receiver



PXS1ARANNBL



PXU1AJANNXX



PXP1AFNNBL



PXC1AJDNNBL

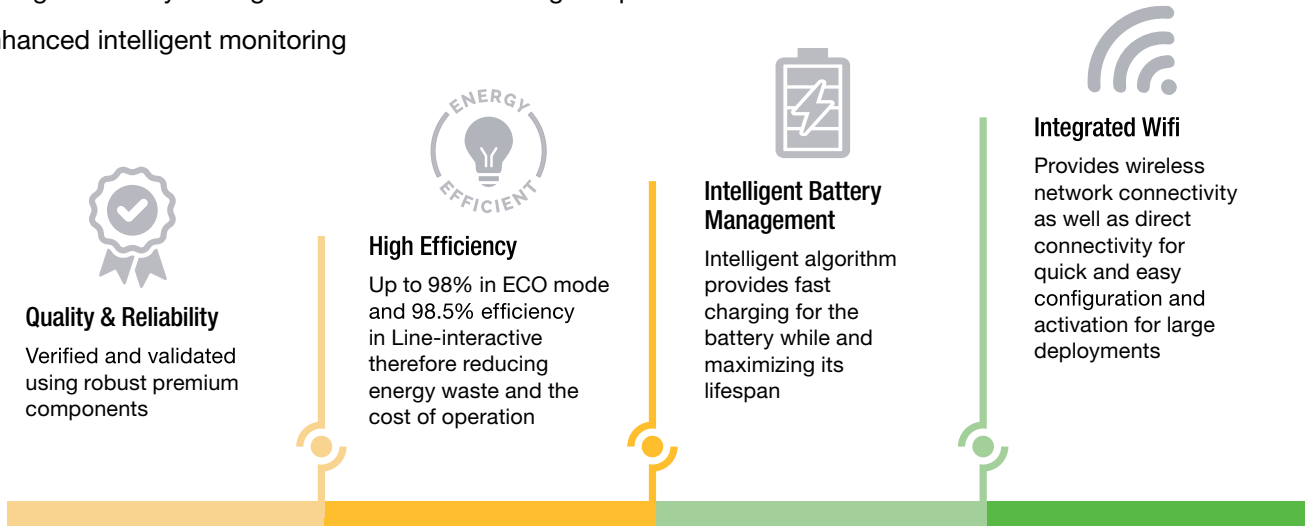


# SmartZone™ Uninterruptible Power Supply

## Highly Efficient and Reliable Power Production and Backup

The SmartZone Uninterruptible Power Supply delivers highly efficient and reliable power protection and backup power for your Computer IT equipment. To continually meet the growing power demands of Data Center, Enterprise and Edge IT equipment, the SmartZone UPS provides:

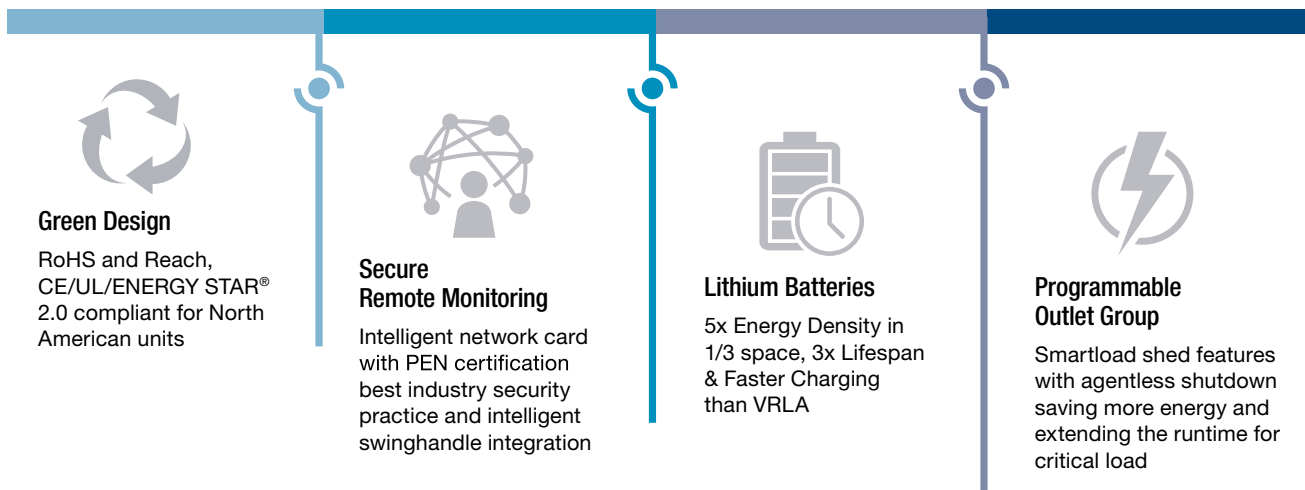
- Excellent electrical performance
- Intelligent battery management
- Enhanced intelligent monitoring
- Secure network functions
- A long lifespan for lithium units



### Integrated Wifi

Provides wireless network connectivity as well as direct connectivity for quick and easy configuration and activation for large deployments

## smartzone™ UPS

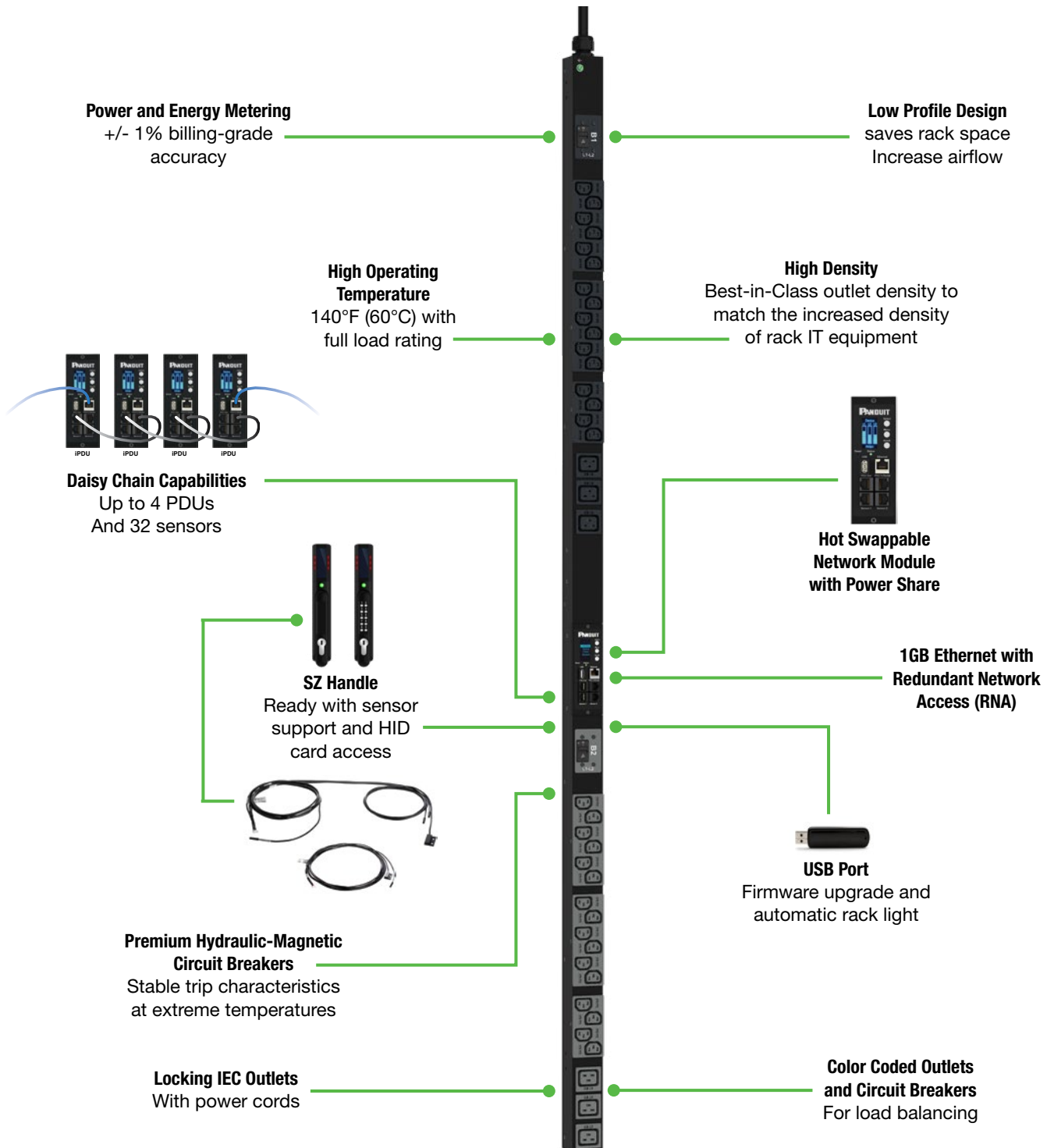


The also comply with ENERGY STAR® 2.0, EMC and safety standards and has been integrated with SmartZone Cloud Next Generation DCIM Solution. Integrated Wi-Fi provides wireless network connectivity as well as direct connectivity for quick and easy configuration. The Panduit factory warranty for VRLA (Lead-Acid) UPS is three years for the UPS unit and two years for the battery. The factory warranty for the Lithium-Ion UPS is five years for the UPS unit and battery.

# SmartZone™ G5 Intelligent PDUs

## High Density. Different Configurations. Real-Time Monitoring.

The SmartZone G5 iPDU's monitor the data center power and the environment by continuously scanning for electrical circuit overloads and physical environmental conditions that place critical IT equipment at risk. By monitoring physical access points, the PDUs increase cabinet security to protect your systems and data. With some of the highest outlet densities and the smallest form factors available in the market, your cabinets will be functioning at their most resourceful state.



# Ordering Information

Part Number	Form Factor	# of CB's	Apparent Power (kVA)	Input Current per Phase	Input Phase	Input Plug Type	Input Voltage Range	Phase Connection	Outlet Count	Outlet Type
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## Basic Power Distribution Units (Non-Network)

<b>P12B01M</b>	1U	0	1.4	15	1	NEMA 5-15P	100-120VAC	Single Phase, L-N	12	(12)5-20R
<b>P22B10M</b>	0U HALF	0	3.3	20	1	NEMA L6-20P	100-120VAC	Single Phase, L-L or L-N	22	(20)C13, (2)C19

## Monitored Input (MI) Power Distribution Units

<b>P24D07M</b>	0U MID	2	5.0	30	1	NEMA L6-30P	100-120VAC	Single Phase, L-L	24	(20)C13, (4)C19
<b>P38D28M</b>	0U FULL	3	8.6		3	NEMA L21-30P	100-120/200-240VAC, WYE	3 Phase Wye, L-L, L-N	38	(30)C13, (6)C19, (2)5-20R
<b>P24D05M</b>		6	17.3	3	IEC 60309 3P+N+E 6h 30A (IP44)	415VAC	3 Phase Wye, L-L	24	(12)C13, (12)C19	
<b>P36D03M</b>								36	(24)C13, (12)C19	
<b>P24D34M</b>			17.3	60		IEC 60309 3P+E 9h 60A	200-240VAC, DELTA	3 Phase Delta, L-L	24	(12)C13, (12)C19

## Monitored Switch (MS) Power Distribution Units

<b>P36E35M</b>	0U FULL	3	8.6	30	3	NEMA L21-30P	100-120/200-240VAC, WYE	3 Phase Wye, L-L	16	(30)C13, (6)C19
<b>P24E09M</b>		6	17.3			IEC 60309 3P+N+E 6h 30A (IP44)	415VAC		24	(12)C13, (12)C19
<b>P36E04M</b>	0U FULL - Wide			36	(24)C13, (12)C19					
<b>P24E32M</b>	0U FULL	17.3	60		IEC 60309 3P+E 9h 60A	200-240VAC, DELTA	3 Phase Delta, L-L	24	(12)C13, (12)C19	

For the complete offering of power distribution units, including Monitored per Outlet (MPO) and Monitored and Switched per Outlet (MSPO) reference the SmartZone iPDU Selection Guide found at [www.panduit.com/pdu](http://www.panduit.com/pdu)

To configure your own power distribution unit part number, visit [www.panduit.com/configure-pdu](http://www.panduit.com/configure-pdu)

# Locking Power Cords

Part Number	Description	Length (Ft.)
<b>LPCA11-X</b>	Dual Locking Power Cord, IEC C14 to IEC C13, 10 Pack, Black.	2
<b>LPCA12-X</b>		4
<b>LPCA13-X</b>		6
<b>LPCA14-X</b>		8
<b>LPCB11-X</b>	Dual Locking Power Cord, IEC C20 to IEC C19, 10 Pack, Black.	2
<b>LPCB12-X</b>		4
<b>LPCB13-X</b>		6
<b>LPCB14-X</b>		8

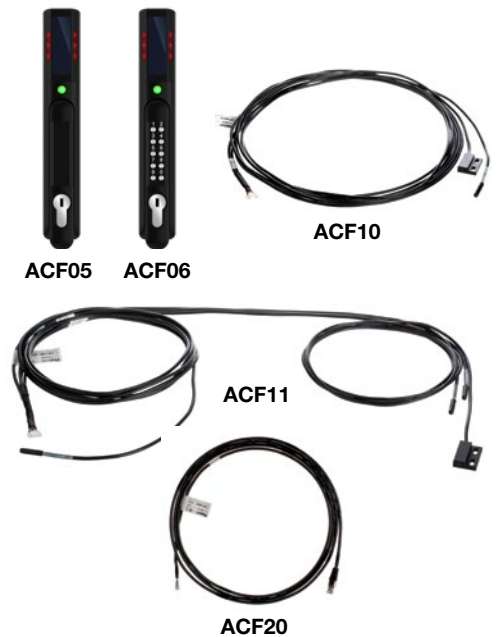


**LPCA11-X**

-X indicates bulk packaged with 10 pieces per package to reduce single-use plastic  
Visit [www.panduit.com](http://www.panduit.com) for other colors and lengths

## SmartZone™ G5 Accessories

Part Number	Description
ACF05	SmartZone Security Handle with dual frequency (125 kHz and 13.56 MHz) card reader and integral humidity sensor. All handles feature the base tumbler (TU020X) pre-installed at the factory
ACF06	SmartZone Security Handle with dual frequency (125 kHz and 13.56 MHz) card reader, integral humidity sensor, and keypad for dual authentication. All handles feature the base tumbler (TU020X) pre-installed at the factory
ACF10	SmartZone Security Handle Temperature and Door Sensor. Connects only to ACF05 and ACF06
ACF11	SmartZone Security Handle (3) Temperature and Door Sensor. Connects only to ACF05 and ACF06
ACF20	SmartZone Security Handle to Panduit G5 iPDU harness (JST to RJ45 male)
MA030	SmartZone Security Handle Patch Cord Extension (RJ45 female to RJ45 male)
MA031	SmartZone G5 iPDU Power Share Patch Cord (RJ45 male to RJ45 male)
EC001	SmartZone G5 Three Temperature and One Humidity Sensor for cold aisle applications, for use with PDU controller only
EA001	SmartZone G5 Temperature Sensor for hot aisle applications, for use with PDU controller only



To learn more about SmartZone PDU, visit [www.panduit.com/pdu](http://www.panduit.com/pdu)

## Data Center Infrastructure Management for the Hybrid IT

SmartZone™ Cloud Software is our next generation DCIM solution. A true cloud-native platform, built from the ground up to take advantage of cloud flexibility and scalability as well as enhanced manageability, security, and operations ease of use and efficiency to manage Data Center, Enterprise, and Edge infrastructures. Supports the management, monitoring, and alerting for power, cooling, environmental, IT, and connectivity.

smartzone™ cloud



Although SmartZone Cloud is agnostic and supports multiple vendor IT and facilities devices, it tightly aligns with **SmartZone G5 Intelligent PDU** and **SmartZone UPS** product lines, to visualize rack-level power, environment, and cabinet physical security access, enabling a single pane

of glass to manage the entire data center infrastructure resources. In addition to floorplan layout and rack elevation, power path visualization enables operators to identify a single point of failure, reduce overprovisioning, and assess risk.

SmartZone Cloud is a self-served solution which eliminates the need for professional services and with our open REST APIs that have all product functionality documented, customers can easily integrate with existing applications such as CMDB, ITSM, BMS, and ticketing system. This ensures a solution that is quick to deploy, intuitive to use, and simple to maintain.



APPLICATION



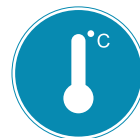
ASSET TRACKING



POWER ACCESS



CABINET ACCESS



ENVIRONMENTAL MONITORING

Part Number	Description
SZC-PEIA3Y	3-year subscription per power and environmental infrastructure asset (UPS, RPP/PDU, rack PDU, cooling, etc.)
SZC-ITIA1Y	1-year subscription per IT infrastructure asset (IT rack, server, storage, network, etc.)
SZC-ITIA3Y	3-year subscription per IT infrastructure asset (IT rack, server, storage, network, etc.)
SZC-QSTART	Quick Start Service, 12-hour remote service

To learn more about SmartZone Cloud, visit [www.panduit.com/dcim](http://www.panduit.com/dcim)

# Racks and Cable Management

Our comprehensive offerings of cabinets, thermal management, racks, enclosures for data centers, telecommunications equipment rooms, and enterprise cabling applications help to reduce energy consumption, enhance network reliability, and optimize space.

## 4-Post Cable Management Rack System

- Independent adjustable front and rear mounting rails can be adjusted while the rack is secured to the floor
- Printed rack space identification on all equipment rails allows for quick location of rack spaces (shipped numbers up per TIA606 specifications; can be set to number down by flipping the rails)
- Multiple mounting holes in top flanges for securing overhead pathways
- Weld nut construction eliminates the need for a second wrench increasing speed and ease of assembly
- Vertical cable managers mount directly to the 4-Post Rack at any of the four corners
- Paint piercing washers included to electrically bond rack for simplified grounding

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Equipment Rails	Load Capacity Lbs.	Color
R4P	84.0 (2134)	23.3 (591)	30.0 (762)	45	#12-24 Threaded	2500	Black
R4PCN					Cage Nut		
R4P23CN			23.0 (584)				
R4P36			36.0 (914)				
R4P36CN							
R4P42CN			42.0 (1054)				



R4PCN

## Adjustable Depth 4-Post Racks

- Supports equipment mounting depths from 23 inches to 42 inches in 0.5 inch increments
- Constructed from heavy-duty steel which provides a sturdy and durable platform for equipment
- Compatible with accessories including: power distribution, unit brackets, vertical tie-off panels, and shelving
- Includes grounding and bonding features that prevent damage from electrical surges and ensure equipment operates reliably

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Equipment Rails	Color
AR4P	84.13 (2136.9)	20.31 (515.9)	23.00 to 42.00 (584.2 to 1066.8)	45	#12-24 Threaded	Black
AR4P96	96.13 (2441.7)			52		
AR4PCN	84.13 (2136.9)			45	Cage Nut	
AR4PCN96	96.13 (2441.7)			52		



AR4P

To learn more about 4-Post Racks, visit [www.panduit.com/4-post-rack](http://www.panduit.com/4-post-rack)

## 2-Post Cable Management Rack System

- Printed rack space identification on all equipment rails allows for quick location of rack spaces; numbers up per TIA606 specifications
- Double-sided #12–24 EIA universal mounting hole spacing
- 24 #12–24 mounting screws included
- When mounting NetRunner Managers to channel rack R2P6S, utilize side mount kit WMPVSMK
- Multiple mounting hole locations in each base angle
- Can be used with all cable management and patch panel products in addition to any industry standard 19" components
- Paint piercing washers included to electrically bond rack for simplified grounding; for the complete grounding solution, use StructuredGround Kits for racks

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Equipment Rails	Load Capacity Lbs.	Color
R2P	84.0 (2134)	20.3 (516)	3.0 (76)	45	#12–24 Threaded	1000	Black
R2P6S			6.0 (152)			1500	



R2P

To learn more about 2-Post Racks, visit [www.panduit.com/2-post-rack](http://www.panduit.com/2-post-rack)

## Rack Mount Shelves

- Mounting hardware included
- Vented shelves provide better heat distribution for active equipment

Part Number	Description	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Material	Load Rating Lbs.	Color
SRM19FM1	2-Post Rack Mount Shelf	1.7 (44)	19.0 (483)	15.2 (385)	1	Steel	30	Black
RSHLF	4-Post Rack Mount Shelf			30.0 (762)			275	



RSHLF

## Rack Filler Panels

- Direct airflow in cabinet applications
- Mount to standard EIA 19" racks or cabinets
- Reserve rack unit space for future use

Part Number	Height In. (mm)	Width In. (mm)	No. of Rack Units	Color
DPPFP1	1.7 (44)	19.0 (483)	1	Black
DPPFP2	3.5 (88)		2	



DPPFP1

## Brackets and Blanking Panels

Part Number	Description	No. of Rack Units	Color
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### Panel Extender Brackets

PEB1	Set of two brackets, allows 19" rack mountable accessories to mount to 23" wide rack	1	Black
PEB2		2	



PEB1

Part Number	Description	Color
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### 4-Post PDU Bracket

CVPDUB	PDU bracket kit vertically mounts power distribution units (PDUs) to the back of 4-Post Racks	Black
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### 2-Post PDU Bracket

R2PPDUB	Mounts power distribution units (PDUs) to the back of 2-Post Racks	Black
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### Blanking Panel

BR1B	Brush seal blanking panel with front to back cable pass-through 1 RU	Black
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CVPDUB

## PatchRunner™ 2 Vertical Cable Management System

- A "push-to-close" door design allows for easy operation
- The doors ship with managers which simplifies the ordering process with less packaging waste
- There are no brackets to install, providing faster installation while reducing labor costs
- Managers and doors are available in black and white
- Individual fingers align with rack spaces to simplify cable routing changes
- The integral bend radius control ensures network performance and system reliability
- An optional snap on vertical retainer can be placed on the fingers to help retain cables in channel for improved cable management and appearance
- An optional slack management spool helps organize and manage patch cord slack allowing for standardization of patch cord lengths

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Single or Dual Sided	No. of Doors Included	Color
PR2VD06	84.0 (2130)	6.0 (152)	20.6 (523)	45	Dual	2	Black
PR2VD08		8.0 (203)					
PR2VD10		10.0 (254)					
PR2VD12		12.0 (305)					
PR2VFD06		6.0 (152)	12.0 (304.8)		Single	1	
PR2VFD08		8.0 (203)					
PR2VSD06		6.0 (152)	20.6 (523)		Dual		
PR2VSD08		8.0 (203)					



PR2VD08

## Cable Management Accessories

Part Number	Description	Color
PR2VRGSK12	Rear Gate System Kit for use with 12-inch wide single-sided PatchRunner 2 Vertical Cable Managers, kit of 4 gates	Black
PR2VWF	Waterfall Trough creates a cable pathway above 2-Post or 4-Post Rack systems and PatchRunner 2 Vertical Cable Managers	



PR2VWF

## PatchRunner™ 2 Enhanced Vertical Cable Manager with Vertical Patching

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Single or Dual Sided	No. of Doors Included	Color
PE2VD06	84.0 (2130)	6.0 (152)	26.8 (681)	45	Dual	2	Black
PE2VD08		8.0 (203)					
PE2VD12		12.0 (305)					
PE2VFD06		6.0 (152)	16.3 (415)		Single	1	



PE2VD12

## PatchRunner™ 2 Horizontal Cable Management System

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Single or Dual Sided	No. of Doors Included	Color
PR2HF2	3.6 (90)	19 (484)	7.9 (202)	2	Single	1	Black
PR2HF3	5.41 (135)			3			
PR2HF4	7.1 (179)			4			



PR2HF2

## NetRunner™ Vertical Cable Management

- Integral cable retainers on the end of each finger provide easy access to route cables between fingers
- Bend radius fingers align with rack spaces to support cables as they transition to the vertical pathway
- Dual hinged covers can be opened 110° to the left or right to provide complete access to the cables inside the vertical pathway
- Vertical managers include hinged covers, mounting brackets and #12–24 screws

### NetRunner Vertical Cable Manager

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Single or Dual Sided	Color
WMPV45E	83.0 (2108)	4.9 (125)	12.0 (306)	45	Dual	Black
WMPVF45E			6.5 (165)		Single	
WMPVHC45E		6.7 (170)	14.1 (357)		Dual	
WMPV22E	41.5 (1054)	4.9 (125)	12.0 (306)	22	Dual	
WMPVHCF45E	83.0 (2108)	6.7 (170)	7.6 (192)	45	Single	



WMPV45E

## In-Cabinet Vertical Cable Managers

- For managing cable within cabinets 27 inches or wider
- Attach to equipment mounting rails
- Two mounting bracket options to facilitate mounting to various cabinet configurations
- Snap-on covers included

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Orientation	Single or Dual Sided	Color
CWMPV3340	70.0 (1778)	4.7 (119)	3.3 (83)	40	Front Mount	Single	Black
CWMPV3440	71.9 (1825)	3.5 (88)	4.3 (109)		Side Mount		



CWMPV3340

## Open-Access™ Horizontal Cable Managers

- D-ring managers provide an open and efficient way to manage cable
- Patented D-ring design provides flexibility for easy moves, adds, and changes
- Pass-through holes allow front to rear cabling
- Mount to 19" EIA racks and cabinets
- Hardware included
- Ideal when positioning managers above and below a 1 RU patch panel or switch for better port access

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Single or Dual Sided	Color
CMPHF1	1.7 (44)	19.0 (483)	8.6 (218)	1	Single	Black
CMPHF2	3.5 (88)			2		



CMPHF1



## PatchLink™ Horizontal Cable Managers

- Lightweight plastic construction provides durability and easy installation
- Patented dual hinged cover allows cable access without removing cover
- Rounded edges on fingers protect cables from snags and damage to cable
- Flexible fingers allows easy installation and removal of cables
- Pass-through holes allow front to rear cabling
- Covers and #12–24 mounting screws included
- Recommended for use with NetRunner WMPVHC45E and WMPVHCF45E Vertical Managers

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Single or Dual Sided	Color
WMP1E	3.5 (89)	19.0 (483)	8.9 (226)	2	Dual	Black
WMPF1E			3.7 (94)		Single	
WMPH2E			8.9 (226)		Dual	
WMPFSE	1.7 (44)		2.7 (69)	1	Single	
WMPSE			8.9 (226)		Dual	
WMPHF2E	3.5 (89)		3.7 (94)	2	Single	
WMPLFSE	1.7 (44)		2.7 (69)	1	Dual	
WMPLSE			7.9 (200)			



## NetManager™ High Capacity Horizontal Cable Managers

- Innovative inset fingers slope inward toward back of managers offering unobstructed access to network cabling for easier moves, adds, and changes
- Rear cable management finger spacing utilizes open D-rings for greater accessibility
- Can be used to create large capacity horizontal pathways for routing cable
- Patented front and rear dual hinged cover allows cable access without removing cover
- Pass-through holes allow for front to rear cabling
- Built in cable retainers hold cable in place for easy moves, adds, and changes
- Covers and #12–24 mounting screws included
- Recommended for use with NetRunner WMPVHC45E Vertical Manager or PatchRunner 2 Vertical Managers

Part Number	Height In. (mm)	Width In. (mm)	Depth In. (mm)	No. of Rack Units	Single or Dual Sided	Color
NMF1	1.7 (44)	19.0 (482)	6.2 (157)	1	Single	Black
NMF2	3.5 (88)			2		
NM1	1.7 (44)		13.1 (332)	1	Dual	
NM2	3.5 (88)		2			
NMF1WH	1.7 (44)		6.2 (157)	1	Single	White
NMF2WH	3.5 (88)			2		



## PanZone® Wall Mount Cabinets

- Holds 12, 18, or 26 RU of active and passive network equipment plus two additional rack units for power strips and small electronic devices (modems, routers, power strips, etc.)
- Thermal management design (vents, perforated doors, and optional fan) optimizes air flow for improved heat dissipation
- Installed as hinged right or hinged left
- Conduit and wireless access point antenna knockouts provided
- Rear hinging access manages the back of the cabinet
- Accessories include horizontal slack manager, bend radius posts, rear equipment rail kit, and exhaust fan
- Working load rating of 250 lbs. (12 RU), 300 lbs. (18RU) or 350 lbs. (26RU)
- Adjustable rails mount at 1-inch increments to accommodate various depths of network equipment including PoE switches
- Individual rack spaces are identified for ease of equipment mounting
- Keys to secure front and rear doors and side panels

Part Number	Width In. (mm)	Depth In. (mm)	Height In. (mm)	No. of Rack Units	Material	Door Type	Color		
PZWMC12P	25.0 (635)	25.0 (635)	23.8 (605)	12	Steel	Perforated	Black		
PZWMC12W			34.0 (864)	18		Window			
PZWMC18W			48.2 (1224)	26					
PZWMC26W		30.0 (762)	23.8 (605)	12		Steel		Window	Black
PZWMC1230W			34.0 (864)	18					
PZWMC1830W			48.2 (1224)	26					
PZWMC2630W			48.2 (1224)	26					

### Accessories

PZWMC12RR	PanZone Wall Mount Cabinet 12 RU Rear Rails Kit
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PZWMC12W



PZWMC1230W

## PanZone® Consolidation Point Box Enclosures

- Provides a point of connection and configuration within the permanent link to allow interconnection and cross connection to a network service or device
- The use of these enclosures in a zone cable application provides accessibility and flexibility to reconfigure cable runs
- Meets frequently changing organizational requirements and reducing network downtime when reconfigurations happen
- 6 and 12-port boxes include base, cover, modular panels, Snap-In Mini-Com Faceplate, and external mounting brackets
- 24 and 48-port include base, cover, and external mounting brackets and provide versatility in configurations by accepting interchangeable modular patch panels for use with Mini-Com Products, NetKey Products, QuickNet Products, or fiber products
- Removable cover protects connection points
- Large openings for cable entry/exit allow for optimum cable capacity and maintains cable bend radius
- Foam around cable entry and exit points, protects from excess dust and debris

Part Number	Width In. (mm)	Depth In. (mm)	Height In. (mm)	No. of Rack Units	No. of Ports	Material	Color
CPB6BL	7.00 (177.8)	6.99 (177.5)	2.48 (63)	1	6	Steel	Black
CPB12BL	11.30 (287)	7.15 (181.6)			12		
<b>BEST SELLER</b> CPB24BL	20.15 (511.8)	12.15 (308.6)	1.93 (49.1)		24		
<b>BEST SELLER</b> CPB48BL			3.74 (95)	2	48		



CPB24BL

## Adjustable Wall Mount Rack

- Wall mountable designed to support network equipment found in data center, telecommunication room, and lab environments
- Supports equipment mounting depths from 18 inches, 21.5 inches, and 25 inches to provide greater flexibility with a single part number
- Front weldments with adjustable front-to-back braces provide the required strength and flexibility needed to

work with various types of active equipment

- Open design allows for maximum airflow in and around the rack
- Horizontal slots on the adjustable wall attachment brackets are compatible with Tak-Ty and allow for easy front to back cable management
- ETL approved, meets UL2416 with a tested load capacity of 150 lbs. for the 9 and 12 RU, 200 lbs. for the 18 RU

### PanZone Adjustable Wall Mount Rack

Part Number	RU	Height In. (mm)	Width In. (mm)	Depth In. (mm)	Color
<a href="#">AWMR9</a>	9	16.8 (427.5)	20.3 (515.9)	18 (457.2), 21.5 (546.1), 25 (635)	Black
<a href="#">AWMR12</a>	12	22.4 (569.7)			
<a href="#">AWMR18</a>	18	33.7 (854.7)			



**AWMR9**

## Universal Distribution Frames

- Engineered to deploy and protect Industrial Ethernet DIN mount switches in industrial applications
- Pre-configured, wall mount design delivers up to 75% faster implementation
- Pre-engineered power infrastructure with redundant power supplies, optional UPS, wiring, labels, terminal blocks, and disconnects
- Defined cable routings incorporate best practices in connectivity, cable management, wiring and grounding
- Additional back-end space allows for 3X the cooling capacity over typical deployments
- Key-locking handle limits access to authorized personnel for a secure network
- Detailed installation guide provides easy instructions assuring consistency and saving time on the job-site
- UL Type 4/12 or 4X, UL 508A Listed, CE Approved, IP66 Rated

Part Number	Enclosure Material	Included Accessories	Power Infrastructure
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### 12U Universal Distribution Frame for Industrial DIN Mount Switches

<a href="#">ZDF24-S25</a>	Mild Steel	(1) 48-Port Patch Panel and (1) 4 RU DIN Mount Bracket to Support (2) Switches	(1) Maintenance Free UPS, Redundant Power Supplies AC to DC, Terminal Blocks and Wiring for 120 V AC Input
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### 26U Universal Distribution Frame for Industrial DIN Mount Switches

<a href="#">ZDF48-S65</a>	Mild Steel	(3) 48-Port Patch Panels, (3) 4 RU DIN Mount Brackets to Support (6) Switches	(3) Maintenance-Free UPS, Redundant Power Supplies AC to DC, Terminal Blocks and Wiring for 120 V AC Input
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**ZDF24-S25**



**ZDF48-S65**

## Opticom® QuickNet™ Rack Mount Fiber Cassette Enclosures

- Support up to 96 LC fiber connections per RU
- Mount to standard 19" rack rails
- Holds QuickNet Fiber Optic Cassettes for Opticom Fiber Adapter Panels
- Holds HD Flex Fiber Optic Cassettes with FLEX-OPTI-1RU Bracket Adapter
- Suitable for all pre-terminated, field-terminated, or field-splice applications
- Slide-out, tilt-down drawer provides full front access to all fibers and cables
- Integral bend radius control and cable management for fiber patch cords
- Innovative rear cable management for proper slacking/spooling
- Multiple cable entry locations

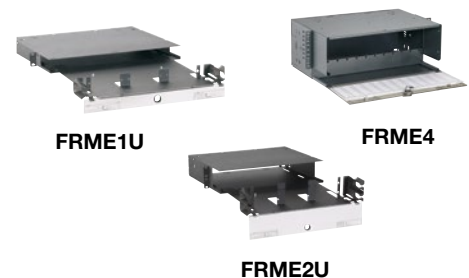
Part Number	Description	Cassette/FAP/FOSM Openings	Color**
<b>BEST SELLER</b> FCE1U** ●	Rack mount fiber enclosure 1 RU, with sliding/tilt drawers	4	Black (BL), White (WH)
FCE2U** ●	Rack mount fiber enclosure 2 RU, with sliding/tilt drawers	8	
FCE4U** ●	Rack mount fiber enclosure 4 RU, with sliding/tilt drawers	12	



## Opticom® QuickNet™ Rack Mount Fiber Enclosures

- Supports up to 96 LC fiber connections per rack unit
- Mount to standard 19" or 23" EIA rack or cabinet
- Holds QuickNet or Opticom Fiber Adapter Panels (FAPs)
- Holds HD Flex Fiber Optic Cassettes with FLEX-OPTI-1RU Bracket Adapter
- Front and rear access on all models via durable molded-hinge doors
- Integral bend radius control and cable management for fiber patch cords
- Multiple trunk cable entry locations
- Include fiber optic cable routing kit (grommets, cable ties, saddle clips, strain relief bracket, and ID/caution labels) for various cable management solutions
- Extends 4.9 inches from rack

Part Number	No. of Rack Spaces	Cassette/FAP/FOSM Openings	Color**
FRME1U** ●	1	3	Black (BL), White (WH)
FRME2U** ●	2	6	
FRME4** ●	4	12	



## Opticom® QuickNet™ Wall Mount Enclosures

- Holds Opticom Fiber Adapter Panels (FAPs)
- Rugged all metal construction for fiber protection and secure mounting
- Compact design allows installation in tight areas
- Separate doors for service side and user side with optional keyed locks for added security includes fiber optic routing kit (grommets, cable ties, spools, strain relief bracket and ID/caution labels) for various cable management solutions

Part Number	FAP/FMP Openings
FWME2 ●	2
FWME4 ●	4
FWME8 ●	8



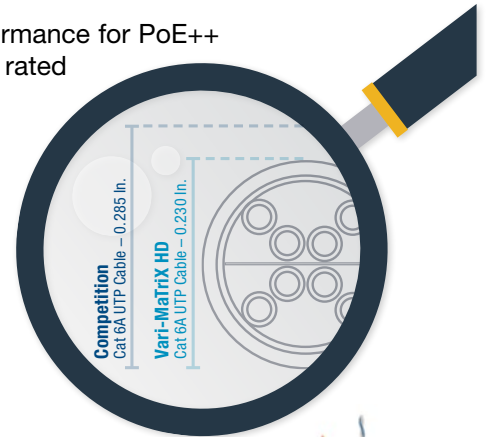
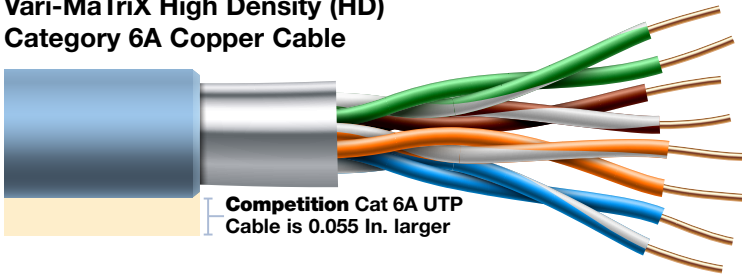
● = Fusion Splice Ready

# Copper Systems

## TX6A™ Category 6A Unshielded Copper Cable

- Cable designed with small diameter to improve cable fill and simplify upgrades from Category 6
- Lighter weight cables, smaller bend radius and increased flexibility ease installation
- Best-in-class alien crosstalk mitigation
- Vari-MaTriX HD Cables offer the best EMI immunity in a UTP cable
- Exceptional performance for PoE++ applications – LP rated

### Vari-MaTriX High Density (HD) Category 6A Copper Cable



Part Number	Flame Rating	Performance Level	AXT Barrier Tape	Nominal Cable Diameter In. (m)	LP Rating	Packaging	Color
<b>BEST SELLER</b> PUP6AHD04BU-G	Plenum (CMP, FT-6)	Category 6A UTP Premium	Vari-MaTriX HD Cables	0.230 (5.8)	CMP-LP (0.7A)	Reel	Blue
PUR6AHD04BU-G	Riser (CMR, FT-4)			0.245 (6.2)	–		
<b>BEST SELLER</b> PUP6XHD04BU-G	Plenum (CMP, FT-6)	Category 6A UTP Standard Compliant Plus	Continuous	0.230 (5.8)	CMP-LP (0.7A)		



## Copper Patch Cords

- Each patch cord is 100% performance tested to component limits
- Tangle-free latch on all plugs
- Supports IEEE 802.3af, 802.3at, and 802.3bt type 3 and 4 for PoE applications up to 100 W
- 28 AWG patch cords support up to 96m of channel length when using 6m of patch cord; De-rating factor: 1.9
- 26 AWG patch cords support full 100-meter channel length; De-rating factor: 1.5
- 24 AWG patch cords support full 100-meter channel length; De-rating factor: 1.2
- Pre-labeled with the RapidID™ Network Mapping System to enable faster tracing, placing, and network documentation
- Eco-friendly packing minimizes single-use plastics and eases cleanup on the job site

## Unshielded Patch Cords

**BEST SELLER** Best Sellers are blue and white, 1, 3, 5, 7, 10 feet for immediate delivery.

Part Number	Performance Level	Cable Type	AWG	Nominal Cable Diameter In. (m)	Flammability Rating	Length Ft. ^	Color*
UTP28X^* ●	Category 6A	Unshielded	28	0.19 (4.7)	CM/LSZH	0.67, 1.0, 3.0, 5.0, 7.0, 10.0, 15.0	Off White (Leave Blank), Black (BL), Blue (BU), Green (GR), Red (RD), Yellow (YL)
UTP28SP^* ●	Category 6			0.15 (3.8)			
UTP6AX^* ●	Category 6A		24	0.25 (6.4)	CM	1.0, 3.0, 5.0, 7.0, 10.0, 15.0	
UTPSP^*Y ●	Category 6			0.24 (6.0)			

All combinations listed above ship within two days for orders up to 500 cords



## Shielded Patch Cords

Part Number	Performance Level	Cable Type	AWG	Nominal Cable Diameter In. (m)	Flammability Rating	Length m ^	Color*
STP28X^M* ●	Category 6A	Shielded	28	0.19 (4.7)	CM/LSZH	0.2, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 5.0	International Gray (IG), Black (BL), Blue (BU), Green (GR)
STP6X^M* ●			26	0.25 (6.3)			



● = Packaged with reduced Single-Use Plastic

# RapidID™ Network Mapping System

The *RapidID* Network Mapping System automates labor-intensive and error-prone cable documentation, resulting in a faster, easier way to place and trace cables and patch cords. It is a practical alternative to traditionally manual approaches that is ideally suited for building a new telecommunications room, locating installed cabling, or replacing a network switch.

**Reduce the time and cost of patch cord documentation by up to 50%.** With *RapidID*, the painstaking labeling process is already done. Now network engineers can easily, quickly, and accurately place and trace cables to focus on more strategic initiatives.

**Minimize the risk of a network outage.** Network documentation can drastically reduce downtime during an outage, but documenting physical infrastructure is extremely time-consuming and often overlooked or outdated. *RapidID* makes the documentation process less painful and reduces human error by eliminating the need for manual data entry.



## RapidID: EASY AS 1, 2, 3...

- 1 INSTALL**  
 Install Panduit Copper & Fiber Patch cables pre-labeled with unique *RapidID* barcode labels.
- 2 DOWNLOAD**  
 Download the *RapidID* application to your device (Mobile, Tablet, or Windows® OS desktop).
- 3 SCAN**  
 Scan barcodes using a Bluetooth-enabled handheld scanner to:
  - Quickly and accurately capture and document new cable installations without the need for manual data entry
  - Find cable endpoints without disconnecting or disrupting connections, reducing risk of causing a network outage
  - Easily verify and audit existing patch cord mapping against previously saved results



It is a practical alternative to traditional manual approaches that is ideally suited for data center audits, enterprise environments, and remote locations.

Part Number	Description
RPDSCN	<i>RapidID</i> Network Mapping System handheld Bluetooth® barcode scanner with isolation shield

To learn more about *RapidID* Network Mapping System, visit [www.panduit.com/RapidID](http://www.panduit.com/RapidID)

## Mini-Com® TX6A™ and TX6™ PLUS Jack Modules

Part Number	Jack Type	Performance Level	Termination Style	Color*
<b>CJ6X88TG*+</b>	Unshielded Standard	Category 6A	TG-Style	Black (BL), Blue (BU), Electric Ivory (EI), Green (GR), International Gray (IG), Off White (IW), Orange (OR), Red (RD), Violet (VL), White (WH), Yellow (YL)
<b>CJ688TG*+</b>		Category 6		

\*Replace with color initials

+Add -24 to indicate bulk packaged with 24 pieces per package or -C to indicate 100 pieces per package to reduce single use plastic



## TX6A™ Unshielded and Shielded Field Term Plugs

Part Number	Type	Performance Level	Termination Style	Color
<b>FP6X88MTG+</b>	Unshielded Straight	Category 6A	TG-Style	Black (BL)

+Add -X to indicate bulk packaged with 10 pieces per package to reduce single use plastic



## Mini-Com® Flush Mount Modular Patch Panel

Part Number	No. of Rack Units	Style	Identification	Ports	Color
<b>CPP24FMWBLY</b>	1	Flat	Adhesive	24	Black (BL)



## IndustrialNet DIN Rail Mount Copper Patch Panel

Part Number	Description	Color
<b>CDPP8RG</b>	8-Port Patch Panel, DIN Rail Mount	International Gray (IG)



## DIN Rail Bracket

Part Number	Description	Color
<b>IABDIN4</b>	The industrial automation bracket installs DIN-mountable equipment into a standard EIA 19" (483mm) rack or cabinet. This bracket is made of steel, is 4 RU	Black (BL)



# Fiber Optic Systems

## Opti-Core® Fiber Optic Indoor Distribution Cable (Bulk Fiber Cable)

Part Number	Fiber Type	Fiber Count
<b>FSDP912Y</b>	9µm Singlemode OS2	6, 12, and 24



## Fiber Optic Patch Cord and Pigtail Assemblies

Part Number	Fiber Type	Connector Type	Fiber Count	Jacket In. (mm)	Flame Rating	Performance	Length Ft. (m)*
<b>F923RSNSNSNM003</b>	OS2	SC Duplex	2	0.12 (3.0)	Riser	Standard IL	9.8 (3.0)

## Opticom® Fiber Adapter Panels (FAPs)

Part Number	Fiber Type	No. of Ports	Adapter Type	Fibers	Split Sleeve	Color
<b>F9TYL5E5EAAM050</b>	OS2	3	Simplex SC/APC	24	Zirconia	Green

## HD Flex™ Fiber Optic Indoor Small Diameter Trunks

Part Number	Fiber Type	Connector Type	Flame Rating	Polarity	Performance	Pulling Eye	Length Ft. (m)
<b>FY9TP77A001F015</b>	OS2	PanMPO Female with 1m breakout to PanMPO Female with 1m breakout	Plenum	Polarity A	Standard IL	Pulling Eye End A	15.0 (381.0)
<b>FY9UP77A001F015</b>							
<b>FY9WP77A001F015</b>							

## Fusion Splice Fiber Optic Connectors

Part Number	Connector Type	Cable Type Fiber	Fiber Type	Color
<b>FSCS2/9SOCA9AG</b>	SC	900µm Tight Buffered or 250µm Loose Tube	Singlemode	Green



## Opticom® Fiber Optic Adapter Panels (FAPs)

Part Number	No. of Ports	Adapter Type	Fibers	Split Sleeve	Color
<b>FAP12WAGSCZ</b>	3	Simplex SC/APC	24	Zirconia	Green





# Grounding and Bonding

## Auxiliary Cable Bracket Jumper Kit

Part Number	Description
GACBJ618U	Auxiliary cable bracket jumper for bonding pathway sections; #6 AWG (16mm <sup>2</sup> ); 18.0 (457mm) length; factory terminated on both ends with straight, two-hole, long barrel compression lugs; provided with .16 oz. (5cc) of antioxidant and four mounting screws



## StructuredGround™ GJ672UH Equipment Bonding Jumper

Part Number	Description
GJ672UH	One 72 length #6 AWG green wire with yellow horizontal stripe. Jumper is pre-terminated on one end with LCC6-14JAWH-L and the other end with LCC6-14JAW-L

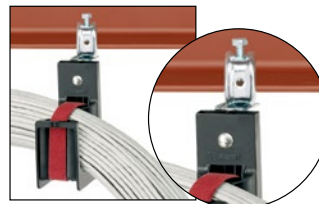


# Physical Infrastructure Accessories

## J-Pro™ Cable Support System



JP131SBC50-L20



JP2SBC50RB-L20



Part Number	Description	Max. Bundle Capacity In. (mm)	Max. Cable Capacity*			Material**
			Category 6A-SD/6A [0.3 In. (7.62mm)]	Category 6 [0.24 In. (6.1mm)]	Category 5e [0.24 In. (5.84mm)]	

### Screw-On Beam Clamps

JP131SBC50-L20	J Hook with screw-on beam clamp for use with flanges up to 1/2" (12.7mm) thick. Rotates 360°	1.31 (33.3)	15	25	29	Nylon 6.6 J Hook with Metal Attachments
JP4SBC50-X20		4.00 (101.6)	115	180	200	
JP75SBC50RB-L20		0.75 (19.0)	5	8	10	
<b>BEST SELLER</b> JP2SBC50RB-L20	J Hook with screw-on beam clamp for use with flanges up to 1/2" (12.7mm) thick	2.00 (50.8)	30	46	55	

\*The above cable Dia. represent the nominal Panduit cable Dia. per performance level for specific cable fill information based on specific part numbers, please contact Customer Service

\*\*Suitable for use in air handling spaces in accordance with Sec. 300.22(C) and (D) of the National Electrical Code when mounted as single units or in pairs. JP4 family of parts suitable for use in single unit configurations only Listed in accordance with CAN/ULC S102.2 when mounted as single units or in pairs. Minimum spacing of 4' (1220mm) required between mount points. (Flame Spread Rating = 0, Smoke Developed Classification = 20)

# TDP Printer/Labels

Part Number	Description
<b>BEST SELLER</b> TDP43ME	300 dpi printer; includes printer, Easy-Mark Plus™ Labeling Software, RMEH4BL black hybrid ribbon, AC power adapter with US power cord, USB cable, user manual, quick start card, TDP43ME-TB-KIT, and driver disk; for use in North America



Part Number	Width In. (mm)	Length In. (mm)	Print-On Area Height In. (mm)	Min. Cable O.D. In. (mm)	Max. Cable O.D. In. (mm)	Wire AWG Range	Labels Per Row	Color
<b>BEST SELLER</b> R100X150V1T	1.0 (25.4)	1.50	0.5 (12.7)	0.22 (5.59)	0.28 (7.11)	Category 5e UTP, Category 6 UTP, Category 6A UTP	4	White
R100X225V1T		2.25	0.75 (19.05)	0.28 (7.11)	0.39 (9.06)	Category 6 FTP, Category 6A UTP, Category 6A FTP, 8 – 4 AWG		
<b>BEST SELLER</b> S100X150VATY		1.50	0.5 (12.7)	0.16 (4.06)	0.34 (8.13)	Category 5e UTP, Category 6 UTP, Category 6A UTP, Category 5e FTP, 10 – 6 AWG		
<b>BEST SELLER</b> S100X225VATY		2.25	0.75 (19.05)	0.24 (6.1)	0.48 (12.19)	Category 6 FTP, Category 6A UTP, Category 6A FTP, 8 – 4 AWG		



The logo for Panduit, featuring the word "PANDUIT" in a bold, white, sans-serif font with a registered trademark symbol (®) to the upper right. The background of the entire page is a dark blue color with a subtle pattern of overlapping circles and lines, creating a network-like or molecular structure.

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