



**PANDUIT**<sup>®</sup>

# Solar Energy Solutions Brochure

Connect • Bundle • Protect • Identify



[www.panduit.solar](http://www.panduit.solar)



# PANDUIT™

## Solar Energy Solutions

WATCH NOW



## Panduit understands the challenges of today's Solar Energy Industry

As the solar industry has grown, Panduit's physical infrastructure expertise has evolved to play a vital role in renewable energy production facilities around the globe. Over the last decade, Panduit has been leading the way, partnering with EPCs and solar installers on PV installations totaling more than 5GW of capacity.

### Developers and Operators

Panduit's solar-specific solutions benefit the entire solar energy industry by making solar power more cost-effective overall.

### EPCs and Installers

Panduit's solar-specific solutions are designed with installers in mind to reduce complexity and labor, thus lowering total installed cost.

### PV Wire Extenders and Harness Manufacturers

Panduit has the tools to bundle, connect and label your PV wire which provides easy identification when they arrive at the job site.

### OEMs (Combiner Boxes, Disconnect Boxes, Inverters)

Panduit offers the broadest solutions for inside-the-panel components, from terminals to wiring duct and everything in between

Panduit has the broadest solutions that cover more ground than any other manufacturer.

Did you know that our solutions can cover up to 75% of a typical Solar BOS?  
Learn more today!

### Grounding Connectors



### Power Connectors



### Cable Management



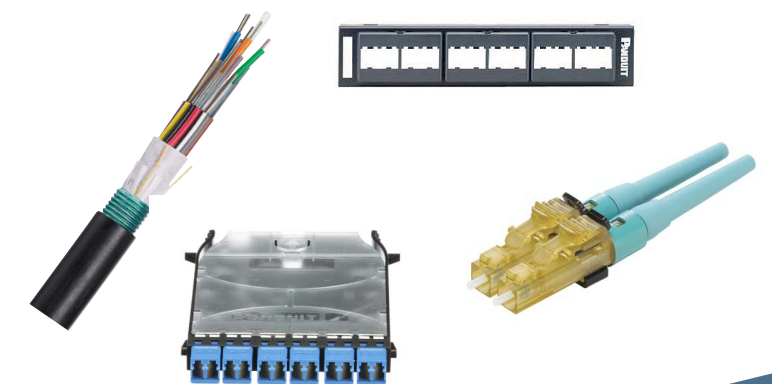
### Identification



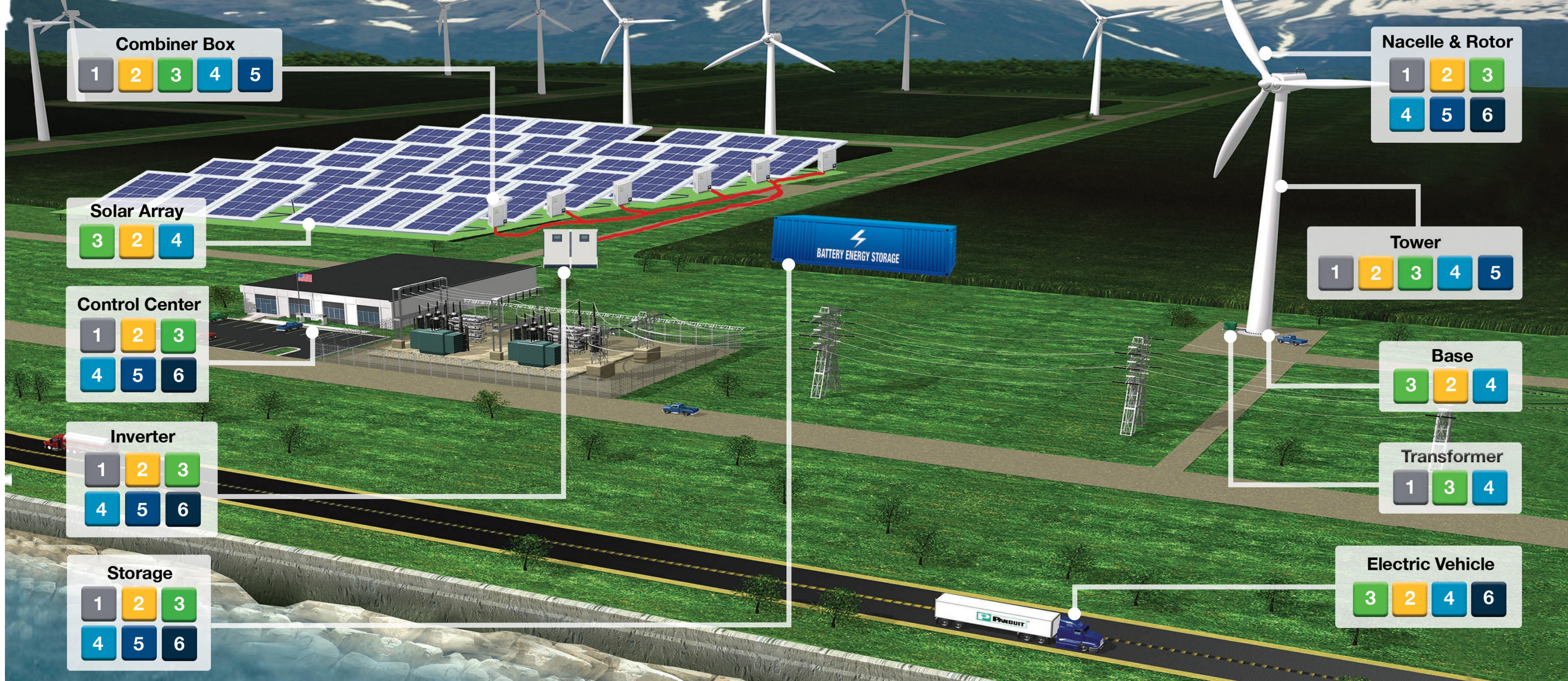
### Safety



### Network Communication







## GROUND 1

**Grounding Solutions**

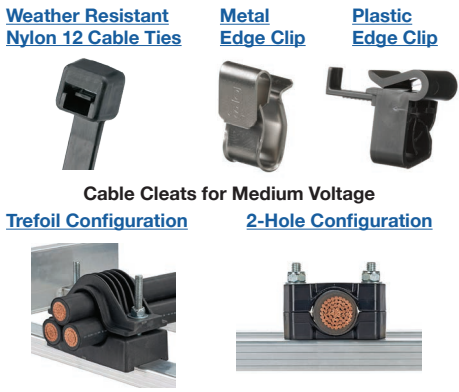
- Reliable grid grounding systems that meets the latest IEEE standards.
- Lowers installation time to help with the accelerated development schedules.



## ROUTE 2

**Cable Management Solutions**

- Reduce installation time and improve the operating life of wire and cables in harsh environments.



## IDENTIFY 3

**Identification Solutions**

- Designed and tested to perform for 20 years in outdoor environments.
- Pre-printed and print-on-demand labeling enables NEC compliance solutions.



## CONNECT 4

**Power Connector Solutions**

- Reduce installation time with our aluminum and copper power connectors.
- Designed to meet all applicable standards and can be crimped with a wide variety of competitors' tools and still maintain UL listed.



## PROTECT 5

**Safety Solutions**

- Panduit's electrical safety business is focused on innovating groundbreaking new electrical safety technology that reduces risk, increases safety, and helps industry leaders achieve operational goals.
- VeriSafe™ is the first-of-its-kind voltage tester that determines the absence of voltage with just a push of a button.



## COMMUNICATE 6

**Communication Solutions**

- The Panduit intelligent data center solution encompasses data center advisory services, intelligent software and hardware, energy efficient cabinets, pre-configured infrastructures, physical infrastructure foundation, and high-speed data transport (HSDT) copper and fiber cabling.
- Solutions are modular, scalable, and agile, fully supporting the introduction of state-of-the-art network architectures today or in the future.





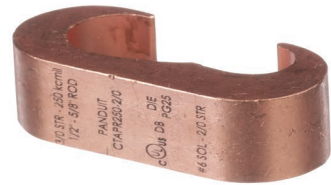
# Grounding Connectors

Most of our grounding and power connectors are UL listed with select competitor's tools and dies. Contact a Panduit Representative for more information.

## CTAPR Series Grounding Connector:

For connecting conductor to conductor and conductor to ground rod applications.

**cULus Listed to UL 467 for direct burial grounding applications.**



## Figure 8 Style Grounding Connector:

Figure 8 Style Grounding Connectors are used to connect copper cable to grounding rods. Broad selection that covers most common applications. Tin plated option available.

**cULus Listed to UL 467 for direct burial grounding applications.**



## Braided Bonding Strap:

Tin-plated to inhibit corrosive effects and improve termination quality of dissimilar metals.



**cULus Listed to UL 467.**

## Grounding and Fence Clamps:

Designed to ground copper conductor parallel or at a right angle to a rod, tube, or pipe.

**cULus Listed to UL 467 for direct burial grounding applications.**



## Figure 6 Style Grounding Connector:

Figure 6 Style Grounding Connectors are used to connect conductors to grounding rods and rebar. Broad selection that covers most common applications.

**cULus Listed to UL 467 for direct burial grounding applications.**



## Mechanical Connector Split Bolts:

Pressure bar provides a secure connection on a full range of conductor combinations assuring wire pull-out strength.

**cULus Listed to UL 467 for direct burial grounding applications.**



## Service Post:

Designed for grounding one or two copper code conductor to steel structures, busbars, or transformers or for tapping from busbar with hex nut and washer.

**cULus Listed to UL 467 for direct burial grounding applications.**



## BlackFin Installation Tools:

**CT-2980/ST 6.2 Ton Dieless Crimping Tool**

Wires can quickly and easily terminate with a 360-degree rotating flip-top crimp head.

**CT-2931/ST 12 Ton Lithium-Ion Battery Powered Hydraulic Tool**

Wires can quickly and easily be terminate with a 355-degree rotating flip-top crimp head.



Tested by CSA to Meet OSHA safety requirements.

# Power Connectors

## Aluminum and Copper Lugs:

Lugs have color-coded barrels marked with Panduit and specified competitor die index numbers for proper crimp die selection. Tin-plated and rated to 35 kV.

**UL Listed & CSA Certified  
Temperature Rated 90°C  
(AL9CU).**



**UL Listed & CSA Certified  
Voltage Rating 35 KV.**

## SMC Connectors - COMING SOON

The solar multi-connector provides a robust connection designed to splice photovoltaic wires in solar panel applications while withstanding harsh UV energy environments. The polycarbonate housing is UV resistant, has a UL94 V-0 flammability rating, and has an Ingress Protection rating of IP68 when mated.



## Aluminum Mechanical Lugs:

The plated steel or aluminum set screw provides a durable electrical contact between conductor and connector.



Single barrel lugs: LAMA\*, LAMB\* Series  
Two barrel lugs: LAM2\* Series  
Three barrel lugs: LAM3\* Series  
Four barrel lugs: LAM4\* Series  
Splicer - Reducers: SR\* Series

**UL listed and CSA certified for use up to 600V and temperature rated to 90°C.**

## Fork Terminals:

Fork designs provides a fast and easy installation by not requiring the removal of the fastening stud.

Nylon: PN\*-F\* Series

Vinyl: PV\*-F\* Series

Non-Insulated: P\*-F\* Series



## Aluminum Splice:

Manufactured from high conductivity thick wall wrought aluminum. Color-coded barrel markings with Panduit and specified competitor die index numbers marked on barrel for proper crimp die selection



## Lay-in Lugs:

For quick installation of a continuous grounding conductor

Tin Plated Aluminum: LIAS\* and LIAC\* Series

Copper Body: LICC4\* Series  
(Direct Burial Rated)

**cULus Listed to UL 467 for grounding applications.**



## Ring Terminals:

Ring tongue design assures a secure connection in high vibration applications.

Nylon: PN\*-R Series

Heavy Duty: PN12\*\*-HDR-\* Series

Vinyl: PV\*-R\* Series

Heavy Duty: PV12\*\*-HDR-\* Series

Heat Shrink: PH\*\*-R\* Series

Kynar Insulated: PK\*-R\* Series

Non-Insulated: P\*-R\* Series

Heavy Duty: P12\*\*-HDR-L Series

High Temp: P\*\*-RHT\*-\* Series



## Terminal Tooling Options:

**BlackFin Battery-Powered Crimping Tool** provides efficient and quality terminations within 1.5 seconds.

**CT-2300/ST Series**

**CT-1550 Crimp Tool** assures high quality, consistent terminations, and the ergonomic features providing comfort, safety, and performance.

**CD-550 Die Insert** is designed for use with the following:

CT-2300/ST BlackFin Crimping Tool

CT-2500/L Crimping Tool

UP14ZLW benchtop press



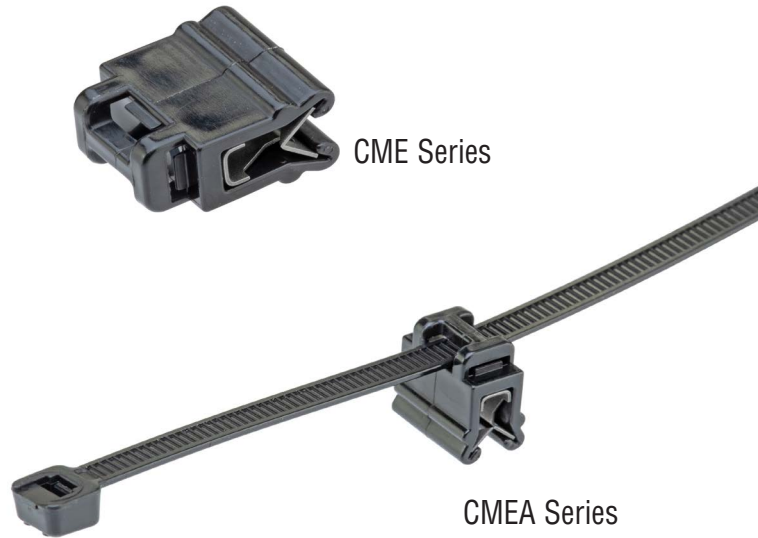


# Cable Management Solutions



## Edge Clip with Cable Tie Mounts

Mount directly to the solar frame edge without requiring any adhesive or drilling.



## Metal Solar Edge Clip

Ideal for PV cable management in Solar Construction. Made of durable Stainless Steel suitable for harsh environments.



MEC Series

**Options for 1 to 2 PV wires** for routing wires parallel or perpendicular with reference to the solar panel frame.

**4-wire version** clips provide an option for routing up to 4 wires parallel with reference to the solar panel frame.

## Plastic Solar Edge Clip

Ideal for PV cable management in Solar Construction. Made of durable weather resistant Polyoxymethylene which eliminates the concern of dissimilar metals and prevents scratches to the solar panel frame.



UCC Series

**Teeth lock feature** prevents movement and can handle multiple gauges.

**Provides alternative solutions** for wires to run parallel or perpendicular to the frame as well as inside or outside the frame member.

## Installation Tools:

### GTS-E

Installs subminiature, miniature, intermediate and standard cross section cable ties



### GTH-E

Installs standard, heavy-standard, light-heavy, and heavy cross section cable ties



## Weather Resistant Nylon 12:

A material with 7-9 years of weathering life expectancy and greater resistance to damage caused by ultraviolet light. Ideal for wire management on galvanized surfaces / frames.

PLT2S-\*0 Series



## StrongHold™ Fully Coated Stainless Cable Ties

Fully coated stainless steel cable ties provide the most durable and lasting solutions for cable management of any other material. This product offers a one-piece, self-locking head design for a permanent installation that, in most cases, will outlast the life-span of a solar plant.



## Weather Resistant Nylon 6.6

Designed to satisfy the needs of general applications, while delivering consistent performance and reliability. Featuring a curved tip to allow for easy pick up from flat surfaces and faster initial threading.

PLT2S Series



## Corrugated Split Tubing - COMING SOON!

Crush, impact, and abrasion resistant to reduce the risk of damage to wire and cable.



## Cable Cleats and MV Cable Clamps

Available in a variety of sizes and configurations, our extensive line of cable cleat solutions ensures cables remain contained in the event of a short circuit fault. Engineered for ease of installation in a range of applications and harsh environments. Tested to globally recognized IEC 61914:2015 standards to ensure performance and safety during installation and in use.

### MLT Double Loop Configuration



### Polymer Cable Cleat One-Hole Configuration

CCPL1H Series



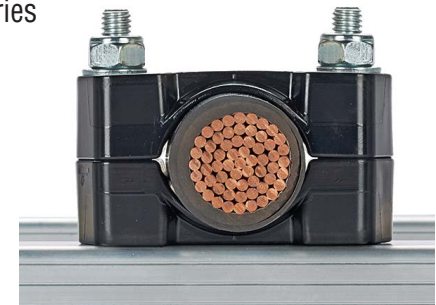
### Polymer Trefoil Cable Cleat Configuration

CCPLTR Series



### Polymer Cable Cleat Two-Hole Configuration

CCPL2H Series





# Identification and Safety Solutions

Did you know? The advantage of using Panduit printers is that you have the flexibility of printing labels on-demand, providing higher productivity on the jobsite. To learn more, visit [www.panduit.com](http://www.panduit.com).



## MP300 Mobile Printer:

The Panduit MP300 mobile label printer is the ideal solution for labeling in the field. The printer offers a wide variety of die-cut and continuous label sizes up to 1.5" wide and an automatic cutter with capabilities for full and half cuts.



## TDP43ME Desktop Printer:

Print a variety of self-laminating labels, component labels, non-laminated labels, heat-shrink labels, marker plates, and continuous tapes up to 4" wide. It includes Easy-Mark Plus Labeling Software. It includes Easy-Mark Plus Labeling Software.



## Detectible Tape:

Underground hazard tape used to provide warning of buried utility lines.



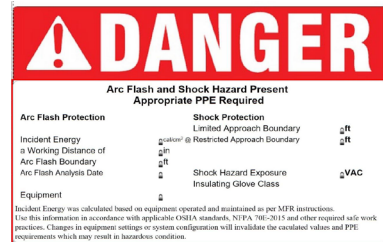
## Electrical Tape:

Suitable for primary insulation and splicing up to 600V and can be used as protective jacketing. Offering protection against an array of abrasive and corrosive materials, while providing quality adhesion properties, as well as resistance to UV rays and cold weather.



## Arc Flash Labels:

Designed to comply with the latest OSHA regulations and standards.



## Self-Laminating Wire Markers:

Available in both cassettes for hand-held printers and in rolls for desktop printers.

Self-laminating: S\*X\*V\* Series



## Lockout Padlocks:

Each lock keyed differently and some styles are supplied with 2 keys.

PSL-\*



## Barricade Tape:

Barricade tape, 3.00" H x 1000' length, 'Caution' (legend), non-adhesive polyethylene film.



## Nylon Marker Plates:

The Thermal Transfer Polyester/Polyolefin Non-Adhesive Marker Plate allows for mounting flexibility, attachable in a horizontal or vertical orientation.

M200X050Y6T



## Safety Tags:

Pre-printed plastic tags with write-on capability.

PVT\* Series



## Continuous Tape:

Ideal for safety signage and identification. A resin ribbon is recommended. Designed to be used with the Easy-Mark Plus Labeling Software and TDP printers.



## Heat Shrink:

Offering crisp, clear legends with superior readability for quick and easy label production. Designed to provide a clear, reliable, and durable way to identify wires and cables.

Heat shrink: H\*\*X\*\*H\* Series



## VeriSafe™ - Absence of Voltage Tester (AVT):

Automates and simplifies the process of absence of voltage testing. Retrofit kits and connector available as well.



## Data Access Port:

The DAP provides a safe and secure way to maintain and monitor performance of Programmable Logic Controllers (PLCs), Variable Frequency Drives (VFDs), and industrial networks.





# Network Communication Solutions

## Harsh Environment Copper Solutions:

Panduit has a comprehensive line of copper physical layer solutions for the industrial Ethernet.

Category 6 Copper  
[Cables Shielded: IFC6C04BBL-CEG](#)  
[Unshielded: IUC6C04ABL-CEG](#)



[FPS6X88MTG-X](#)  
 TX6A™ Shielded Field Term RJ45 Plug  
 Compatible with Category 5e, 6, 6A shielded systems  
 Terminates 4-pair, 22 - 26 AWG, 100 ohm shielded twisted pair cable and uses proven TG-style iack

Category 6 DIN-Rail Patching Devices  
 Available in shielded or unshielded:  
[DIN-Rail Adapter: CADIN11G](#)  
[DIN-Rail Panel: CDPP8RG](#)

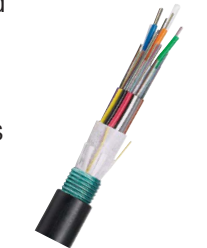


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## Fiber Connectivity Solutions:

A complete offering of fiber optic cabling and connectivity for harsh environments

Horizontal Cable (OM3 and OM4)  
 Outside Plant (OSP) Armored: FSWN\* Series  
 Indoor Distribution Cable: FODP\* Series  
 Armored: FOPP\* Series  
 Dielectric Double Jacketed (DDJ):  
 FSJD9\*\*/ FOJZ\*\*



Connector  
 LC (OM3 and OM4): FLCDMCXAQY



Connector  
 LC (OM3 and OM4): FLCDMCXAQY

Patch Cords  
 LC to LC (OM3): FX2ERLNLNSN\* Series  
 LC to LC (OM4): FZ2ELLNLNSN\* Series



## Industrial Copper Solutions:

The Panduit® TX6A™ Shielded Copper Cabling Solutions for Harsh Environment Applications provide a superior infrastructure with a Channel Headroom Guarantee exceeding the TIA/ISO Standards.



TX6000™ Category 6 Shielded Solution  
 Horizontal  
[Jack: CJSM688TG](#)

TX6A™ Category 6A Shielded Solution  
[Horizontal Cable: PSM7004BU-KEM](#)  
 Jack: CJS6X88TGY



TX6A™ Category 6A Shielded MUD Resistant Solution  
[Non-Armored: PSMD7004BL-LED](#)  
[Armored: PSMDA7004BL-LED](#)  
 Jack: CJS6X88TG



## Network Security Copper and Fiber Lock-In/Block-out:

The innovative designs of the block-out and lock-in devices ensure the safety and security of the network infrastructure.

[Jack module block-out device: PSL-DCJB](#)  
[RJ45 Plug lock-in device: PSL-DCPL](#)  
[LC duplex adapter block-out device: PSL-LCAB](#)

[SKRJ45RD-X](#)  
 SmartKeeper RJ45 Blockout Device  
 Protects RJ45 Openings



[SKUSBA-V](#)  
 SmartKeeper USB Type A Blockout device  
 Protects USBA Openings



[SKUSBC](#)  
 SmartKeeper USB Type C Blockout Device  
 Protects USBC Openings



[SKMKEY](#)  
 SmartKeeper Master Key  
 Used to access or unlock the line of SmartKeeper Blockout Devices



There are several solutions available for Industrial Fiber such as:

1. Bulk Fiber
2. Patch Cords
3. Patch Panels
4. Connectors

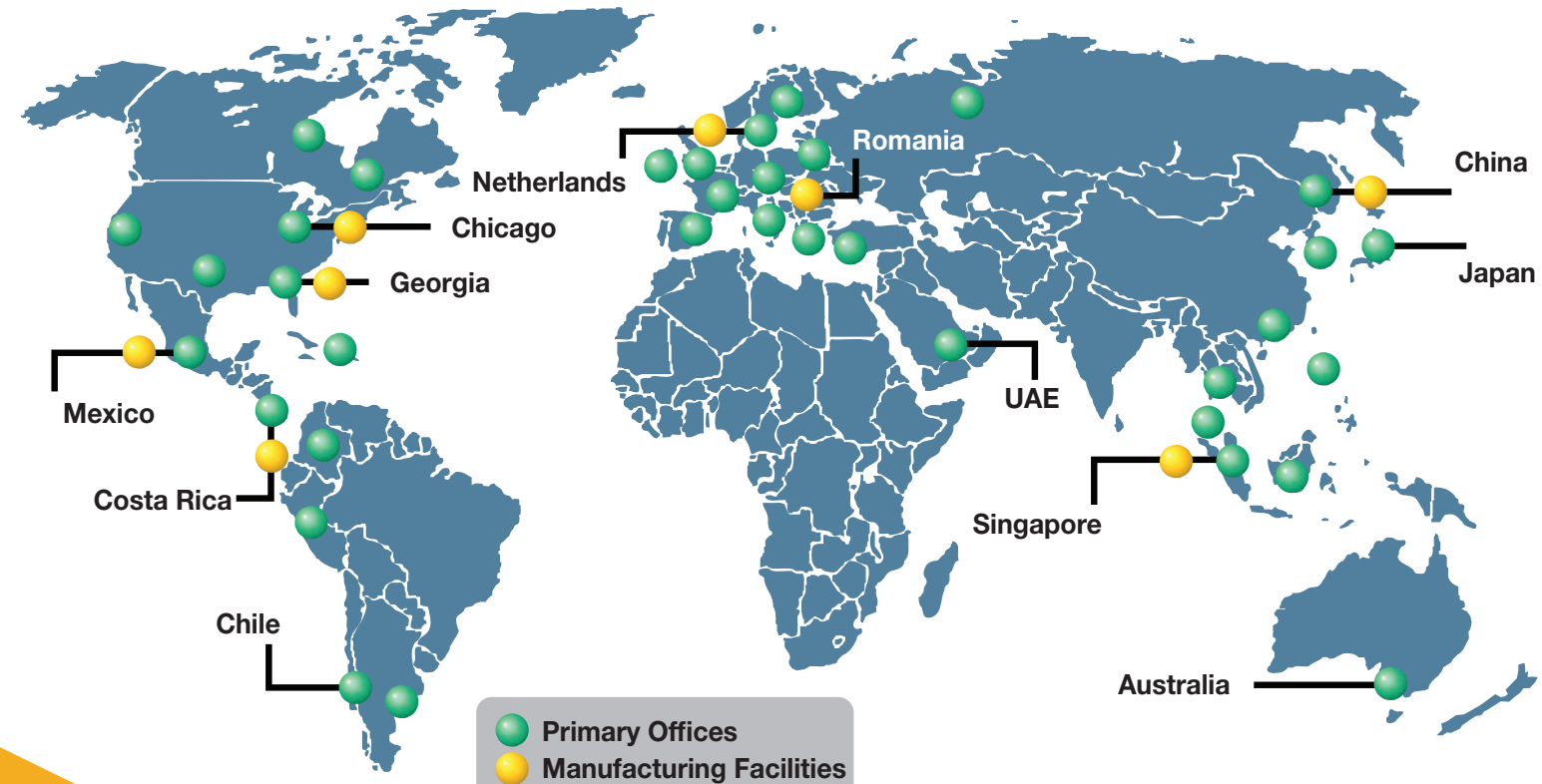
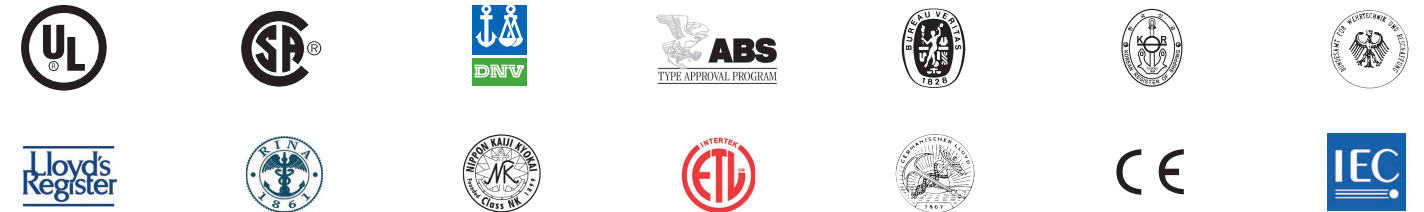
# Global Capabilities

## Global Expertise and Support

Global distribution, manufacturing, sales and technical support teams make Panduit solutions readily accessible, allowing the right products to be delivered when and where they are needed.

## Worldwide Certifications

Panduit solutions hold a variety of the most common heavy industry certifications and approvals worldwide.



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