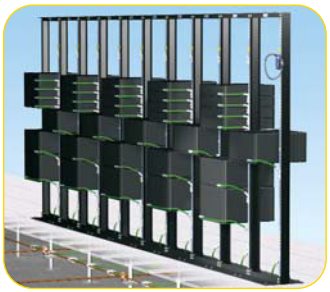
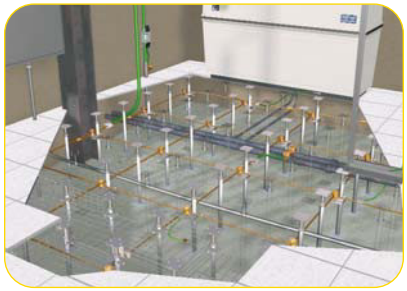
Grounding and Bonding

Panduit grounding and bonding solutions meet customer needs and today's critical application requirements for grounding data centers and telecommunication spaces. Panduit® StructuredGround™ Grounding System provides a high quality, visually verifiable, and dedicated grounding path to maintain system performance and protect network equipment and personnel. Panduit grounding and bonding components are designed for use on racks and cabinets which meet EIA-310.





- Ensures highest network system performance
- Prevents equipment damage
- Maximizes uptime
- Meets TIA-942, TIA-607-B, IEEE Std 1100 (IEEE Emerald Book), UL and CSA
- Promotes personnel protection
- Designed for flexibility and easy installation

StructuredGround™ Grounding System components provide a low resistance grounding path for reliability; include factory terminated jumpers for easy installation; and are kitted for convenience. Jumper kits include Panduit Copper Compression Electrical Connectors that meet NEBS Level 3 Criteria, the highest level of operability within the network facility environment. A full line of manual, controlled cycle, and battery operated hydraulic crimping tools meet application needs and provide lowest installed cost. For the complete line of Panduit Electrical Power and Grounding Connectors and crimping tools, visit www.panduit.com or refer to the Electrical Solutions Catalog SA-ELCB10.

The Purpose of Grounding and Bonding

The grounding and bonding system is more than just an insurance policy against a lightning strike or other surge event. It is an active, functioning system that provides protection for personnel and equipment. Proper grounding and bonding are essential for efficient network performance in the modern data center and telecommunication spaces.

A primary purpose of the grounding and bonding system is to create an adequate-capacity path for electrical surges and transient voltages to return to their source (which may include the earth). Lightning, fault currents, circuit switching (motors turning on and off), activation of surge protective devices (SPDs) and electrostatic discharge are common causes of these electrical surges and transient voltages. An effective grounding and bonding system minimizes the detrimental effects of these electrical surges and transient voltages.

A properly designed grounding and bonding system is intentional, visually verifiable, and adequately sized to handle expected currents safely and without undue effect on susceptible electronic equipment. Any metallic component that is part of the data center infrastructure (such as equipment, racks, ladder racks, cabinets, cable trays, etc.) must be properly connected to the grounding and bonding system.

What are the Effects of Improper Grounding?

Lower Reliability

- An improperly designed grounding (and bonding) system may be a primary source of interference and emission [1]
- According to the IEEE, the typical AC third-prong ground circuit is almost never sufficient to prevent damage to network equipment susceptible to ground-fault related potentials [2]
- Poorly designed or improperly applied grounding, bonding, and shielding techniques often adversely affect the performance of electronic equipment – from the circuit board to the network system [3]
- Approximately 70% of all anomalies, dysfunctions, or problems associated with power distribution systems are directly or indirectly related to bonding and grounding issues [4]

Safety Risks

- Personal injury from electric shock caused by improper grounding and bonding can cause immeasurable human suffering and significant expense
- Potential fire hazards exist when heat is generated from electrical surges that occur on a high impedance grounding and bonding path

1. Ott, Henry. *Noise Reduction Techniques in Electronic Systems.*, 2nd edition. NY: Wiley-Interscience, 1988.
2. Institute of Electrical and Electronics Engineers. IEEE Std 1100 – 2005. *IEEE Recommended Practice for Powering and Grounding Electronic Equipment.*
3. Quoted from Doug Dorr, Senior Project Manager, EPRI and William Bush, Industry Consultant for Power and Grounding and Surge Protection. Both serve on the IEEE P1100 committee (Emerald Book) in leadership positions and also on the IEEE SPD committee, as well as other standards organizations.
4. Quoted from S. Frank Waterer, Electrical Engineering, Fellow, at Schneider Electric with 30 years experience, Vice-Chair of IEEE/SPDC, NEMA member.

Can You Afford Improper Grounding?

According to IEEE, grounding and bonding are an essential part of the infrastructure, not just a tool to achieve power quality. [2]
Network equipment, such as switches, routers, and storage devices, costs anywhere from thousands of dollars to hundreds of thousands of dollars. The cost of proper grounding is only a tiny fraction of the cost of the equipment it is protecting. Clearly the cost of proper grounding and bonding is a small fraction of the larger cost of improper grounding and bonding – mainly, the inability to service customers properly.

Protect your infrastructure with the most comprehensive grounding system, designed specifically for easy selection and installation with the highest quality components to minimize your risk.

From the data center, to the manufacturing floor, to facilities operations, there are critical systems and equipment that require proper grounding and bonding. Protecting those systems, equipment, and personnel helps to ensure equipment reliability and thus availability of services, while resulting in lower operational expense.

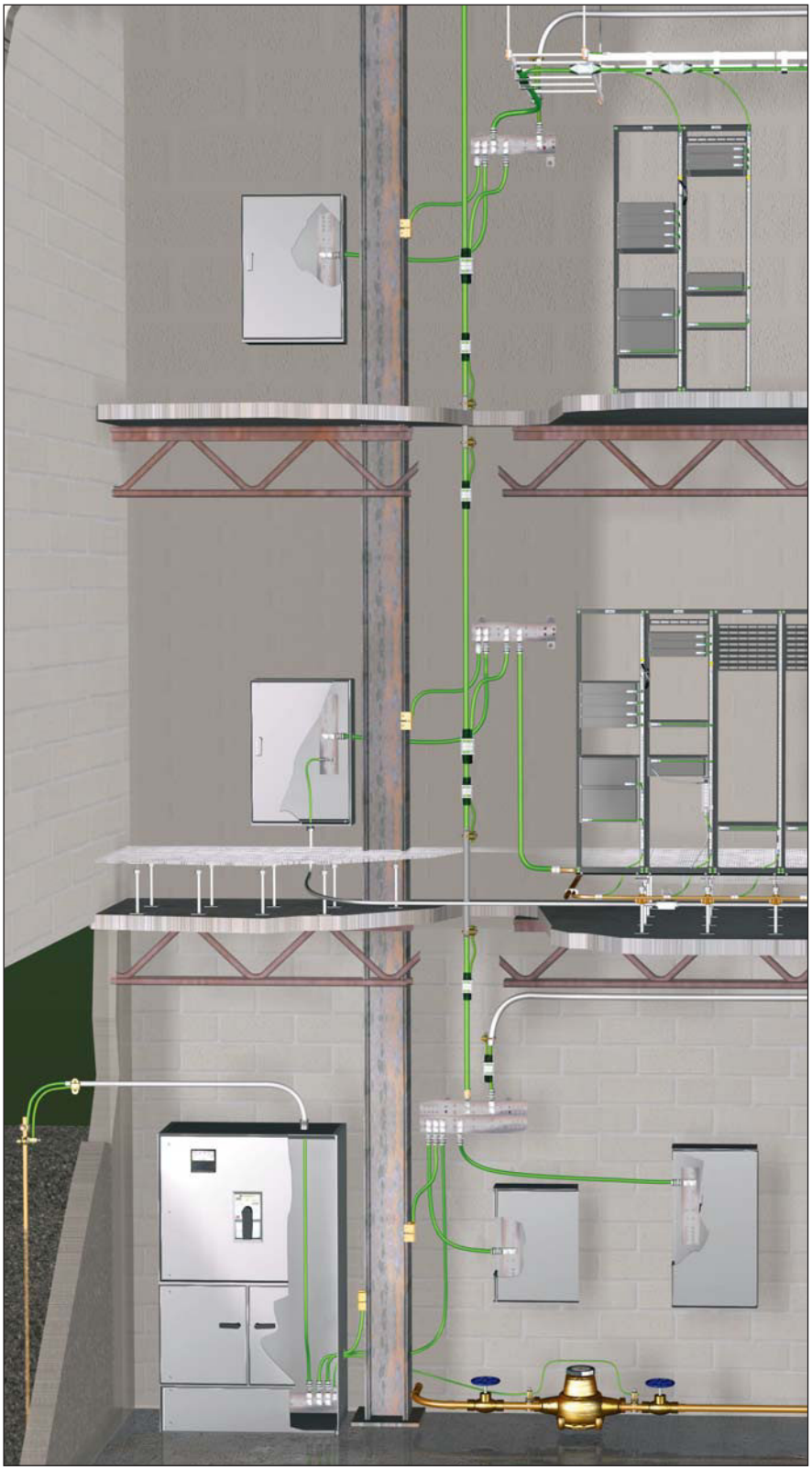
Comprehensive, integrated technology from Panduit addresses the grounding and bonding needs of the entire infrastructure including electrostatic discharge (ESD) protection, racks, cabinets, enclosures, access floors, control panels, service entrance, and direct burial applications. These industry-leading solutions deliver reliability, availability, safety and lower total cost of ownership. As a solution architecture, the StructuredGround™ Grounding System is complemented by a range of installation tooling, design software, and services.

Panduit® StructuredGround™ Grounding System gives you what you need to properly protect your investment.

1. Ott, Henry, *Noise Reduction Techniques in Electronic Systems*, 2nd edition, NY; Wiley-Interscience, 1988.
2. Institute of Electrical and Electronics Engineers, IEEE Std 1100 – 2005, *IEEE Recommended Practice for Powering and Grounding Electronic Equipment.*
3. Quoted from Doug Dorr, Senior Project Manager, EPRI and William Bush, Industry Consultant for Power and Grounding and Surge Protection. Both serve on the IEEE P1100 committee (Emerald Book) in leadership positions and also on the IEEE SPD committee, as well as other standards organizations.
4. Quoted from S. Frank Waterer, Staff Engineer at Schneider Electric with 30 years experience.

Common Bonding Network (CBN) Roadmap

- Panduit® StructuredGround™ Grounding System is a complete, highly reliable line of products to ground your building and network equipment in compliance with BICSI TDM Manual,12th Edition and TIA-607-B,TIA-942, IEEE Std 1100 (IEEE Emerald Book), UL and CSA



Telecommunications Room (see roadmap on page M.6)

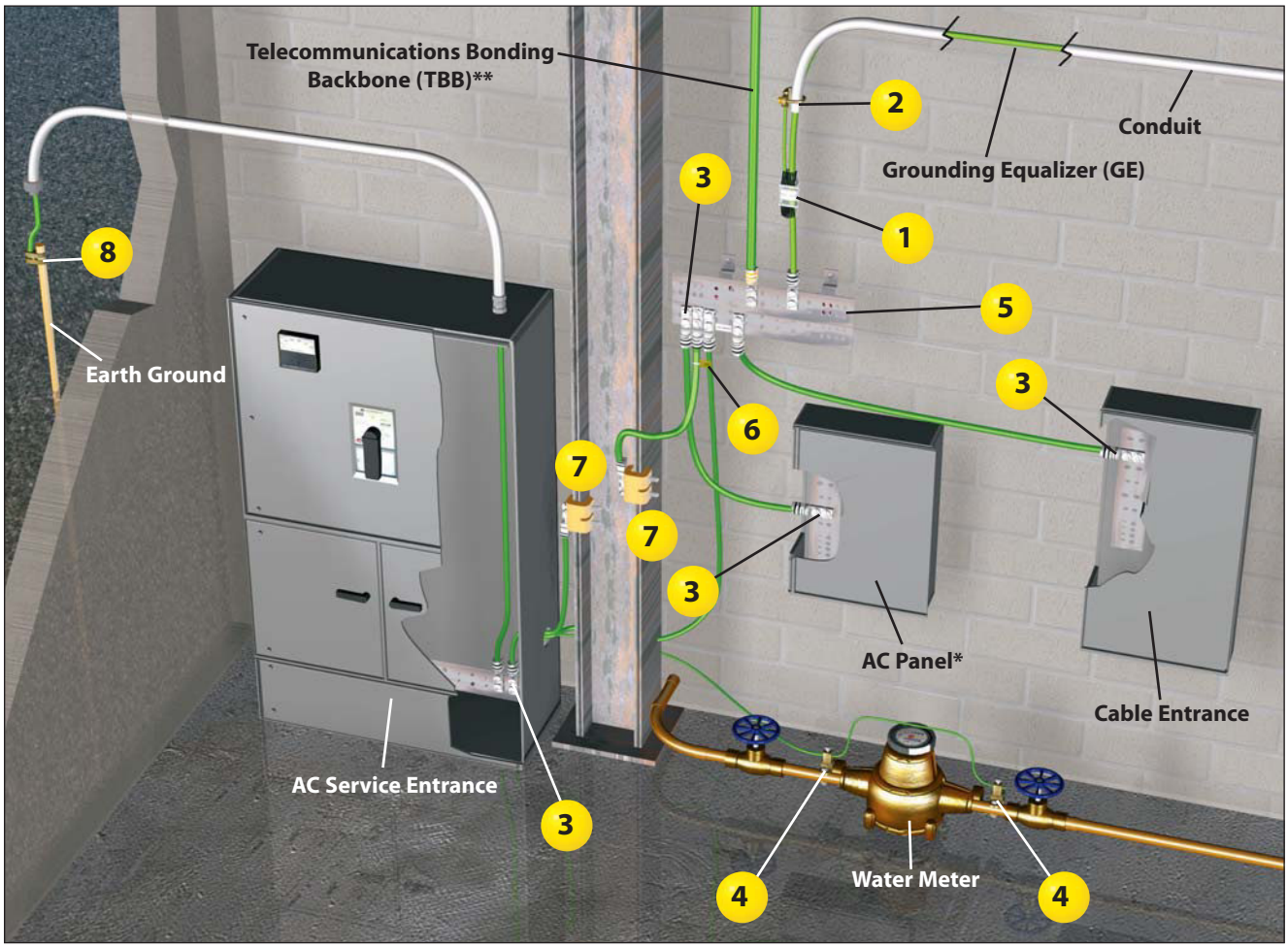
Data Center (see roadmaps on pages M.8 – M.9)

Service Entrance (see roadmap on page M.5)

For more data center grounding information, see www.panduit.com/dcgrounding.

Service Entrance Grounding Roadmap

- Complies with TIA-607-B and IEEE Std 1100 (IEEE Emerald Book)
- Grounding Equalizer (GE) is required when two or more Telecommunications Bonding Backbones (TBB) are used within a multi-story building; bond TBBs together with a GE at the top floor and at a minimum of every third floor in between



1 Copper Compression HTAP and Clear Cover: HTWC (pages M.41 thru M.42)

2 Bronze, U-Bolt Grounding Clamp: GPL (page M.44)

3 Copper Compression, Two-Hole, Long Barrel with Window Lug: LCC-W (pages M.36 – M.38)

4 Bronze, Water Pipe Grounding Clamp: KP (page M.44)

5 Telecommunications Main Grounding Busbar (TMGB) and Busbar Label (page M.29)

6 Telecommunications Grounding and Bonding Conductor Label Kit: LTYK (page M.29)

7 Universal Beam Grounding Clamp: GUBC500-6 (page M.31)

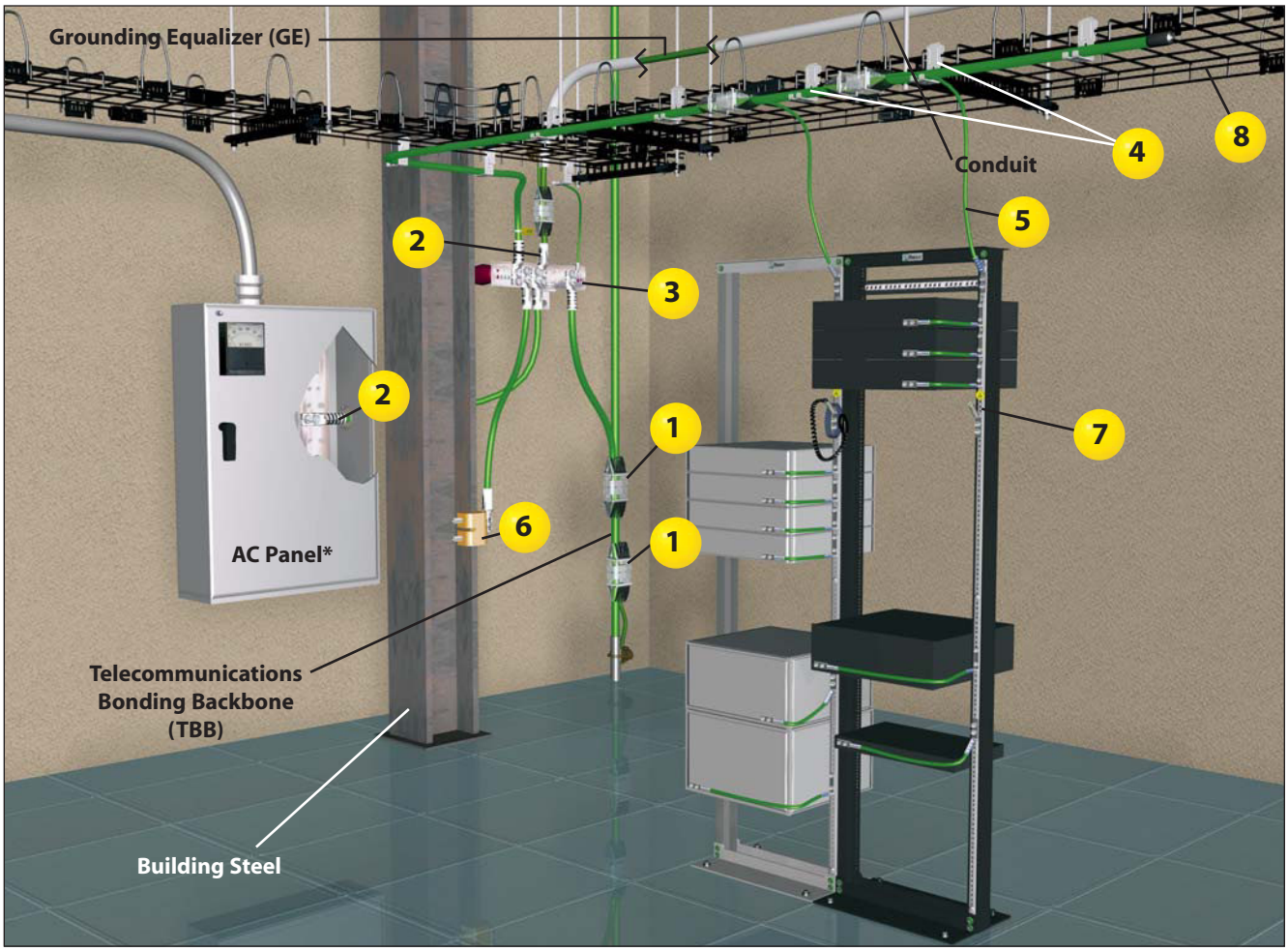
8 E Style Grounding Connector: GCE
For the complete line of StructuredGround™ Direct Burial Compression Grounding System, visit www.panduit.com

*AC panel should be grounded per NEC standards. Enclosure should be grounded per manufacturer's specifications.
**TIA-607-B specifies different size conductors based on the length of the Telecommunications Bonding Backbone (TBB).

Telecommunications Room Grounding Roadmap

- Complies with BICSI TDM Manual, 12th Edition and TIA-607-B, TIA-942, IEEE Std 1100 (IEEE Emerald Book), UL and CSA
- Bonding hardware is recommended to mount all panels, equipment, shelves, etc. to ensure electrical continuity between metallic components and the grounded rack or cabinet
- Can be used to ground equipment mounted in racks and cabinets which meet EIA-310; installer should bond all racks and cabinet members to the grounding strip

Back of Racks Shown

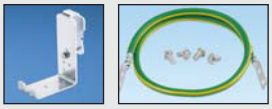


1. **Copper Compression HTAP and Clear Cover: HTWC (pages M.41 – M.42)**

2. **Copper Compression, Two-Hole, Long Barrel with Window Lug: LCC-W (pages M.36 – M.38)**

3. **Telecommunications Grounding Busbar (TGB) and Busbar Label (page M.29)**

4. **Auxiliary Cable Bracket: GACB (page M.31)**



5. **Telecommunication Equipment Bonding Conductor (TEBC) Kits: (pages M.21 – M.22)**

6. **Universal Beam Grounding Clamp: GUBC500-6 (page M.31)**

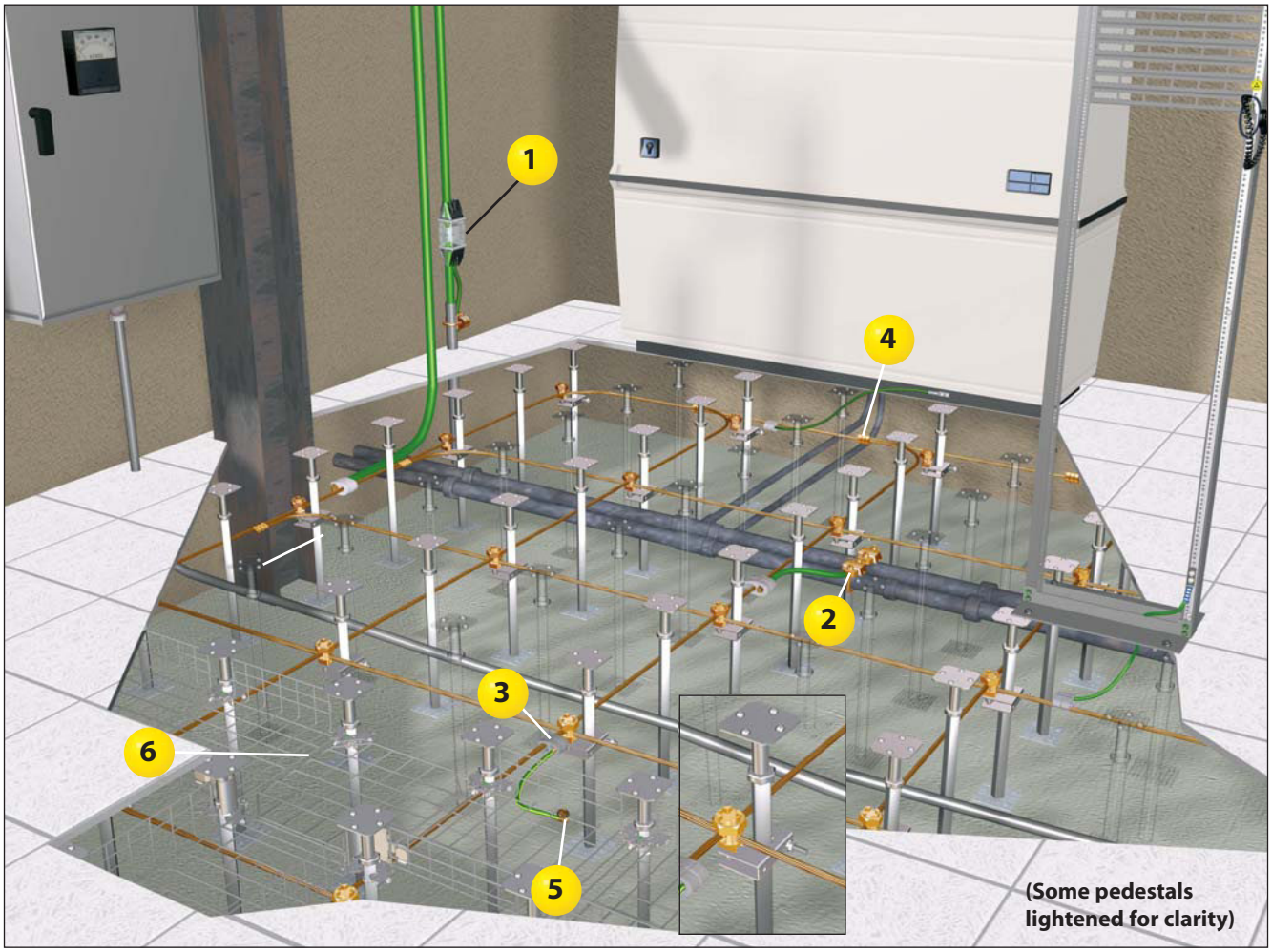
7. **Electrostatic Discharge (ESD) Port Kit: RGESD (page M.24)**

8. **Wyr-Grid® Overhead Cable Tray Routing System (page J.65 – J.74)**

*AC panel should be grounded per NEC standards. Enclosure should be grounded per manufacturer's specifications.
A typical overhead cabling system includes a multitude of metallic components which are connected together. It is the responsibility of the installer to insure all of the metallic components are bonded, which means that they are connected together electrically in accordance with applicable specifications. The Panduit Grounding and Bonding System does not insure required bonding of the overhead cabling system metallic components.

Access Floor Mesh Common Bonding Network (MCBN) Roadmap

- Complies with BICSI TDM Manual, 12th Edition and TIA-607-B, TIA-942, IEEE Std 1100 (IEEE Emerald Book), UL and CSA
- MCBN for access floor deployment is recommended in a grid design on 4 foot intervals, allowing for bonding of every other access floor pedestal; this design enables the bonding of at least one pedestal from each access floor tile directly to the MCBN network
- Bond all metallic elements to the MCBN, including rack/cabinet grounding jumpers, wire basket, water pipes and air conditioning units



1 **Copper Compression HTAP and Clear Cover: HTWC (pages M.41 – M.42)**

2 **Bronze, U-Bolt Grounding Clamp: GPL (page M.44)**

3 **Access Floor Grounding Clamp: GPQC (page M.16)**

4 **Code Conductor, Thin Wall, CTAP: CTAPF (page M.43)**

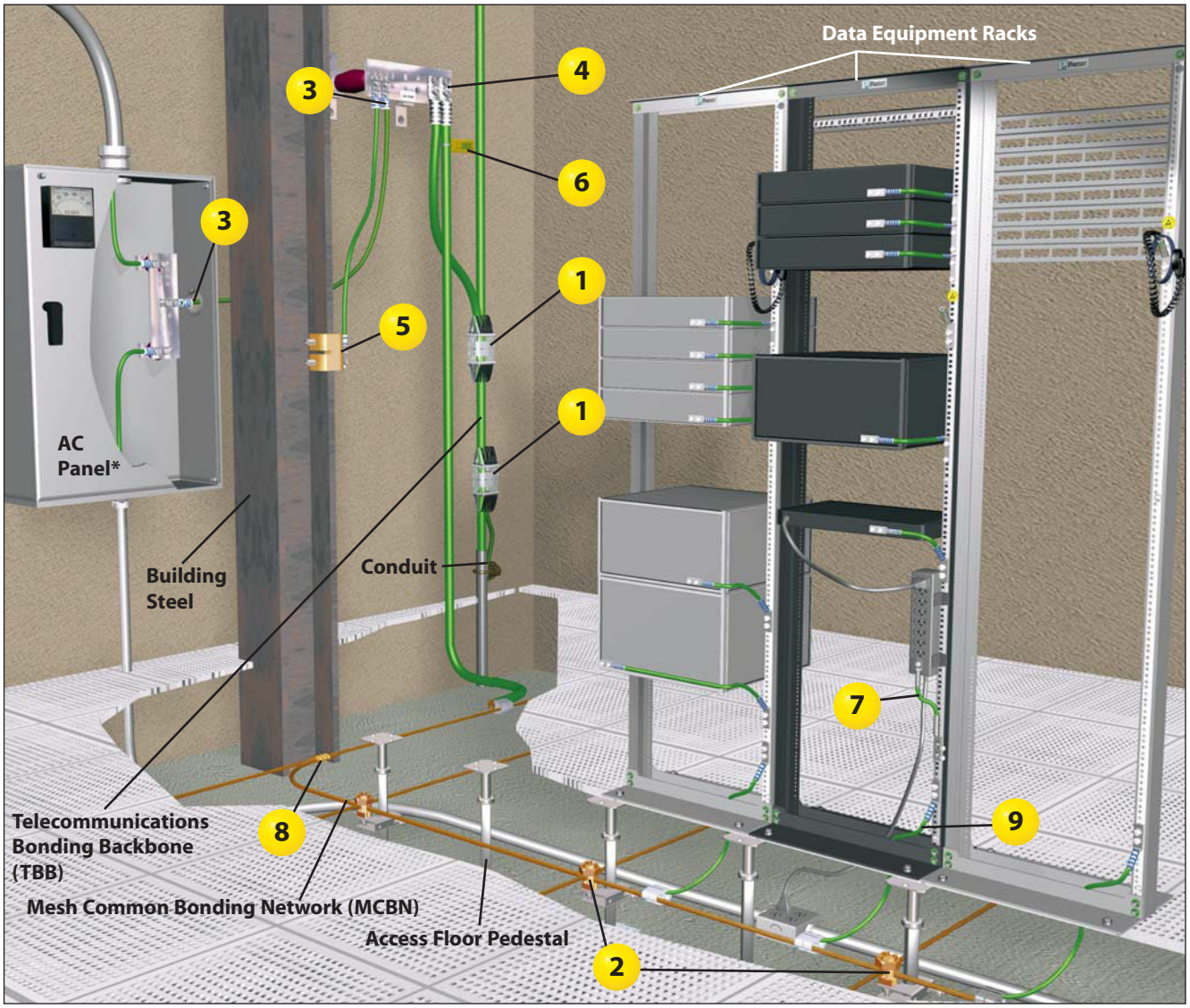
5 **Split Bolt, Copper: SBC (page M.45)**

6 **GridRunner™ Underfloor Cable Routing System (pages J.75 – J.79)**

Data Center Rack and Cabinet Grounding Roadmap

- Complies with BICSI TDM Manual, 12th Edition and TIA-607-B, TIA-942, IEEE Std 1100 (IEEE Emerald Book), UL, and CSA
- Bonding hardware is recommended to mount all panels, equipment, shelves, etc. to ensure electrical continuity between metallic components and the grounded rack or cabinet
- Designed for use on racks and cabinets which meet EIA-310, see pages L.1 – L.74 for the Panduit cabinets, racks, and cable management offering

Back of Racks Shown



1 **Copper Compression HTAP and Clear Cover: HTWC (pages M.41 – M.42)**

2 **Access Floor Grounding Clamp: GPQC (page M.16)**

3 **Copper Compression, Two-Hole, Long Barrel with Window Lug: LCC-W (pages M.36 – M.38)**

4 **Telecommunications Grounding Busbar (TGB) and Busbar Label (page M.29)**

5 **Universal Beam Grounding Clamp: GUBC500-6 (page M.31)**

*AC panel should be grounded per NEC standards. Enclosure should be grounded per manufacturer's specifications.
A typical access floor includes a multitude of metallic components which are connected together. It is the responsibility of the manufacturer and installer of the access floor to insure all the access floor metallic components are bonded which means that they are connected together electrically in accordance with applicable specifications. The Panduit Grounding and Bonding System does not insure required bonding of the access floor metallic components.

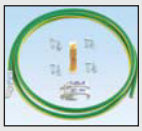
Back of Cabinets Shown

6 Telecommunications Grounding and Bonding Conductor Label Kit: LTYK (page M.29)

8 Code Conductor, Thin Wall, CTAP: CTAPF (page M.43)

7 Surge Suppressor Jumper Kit: SSGK (page M.20)

9 Common Bonding Network (CBN) Jumper Kit: RGCBNJ (page M.16)



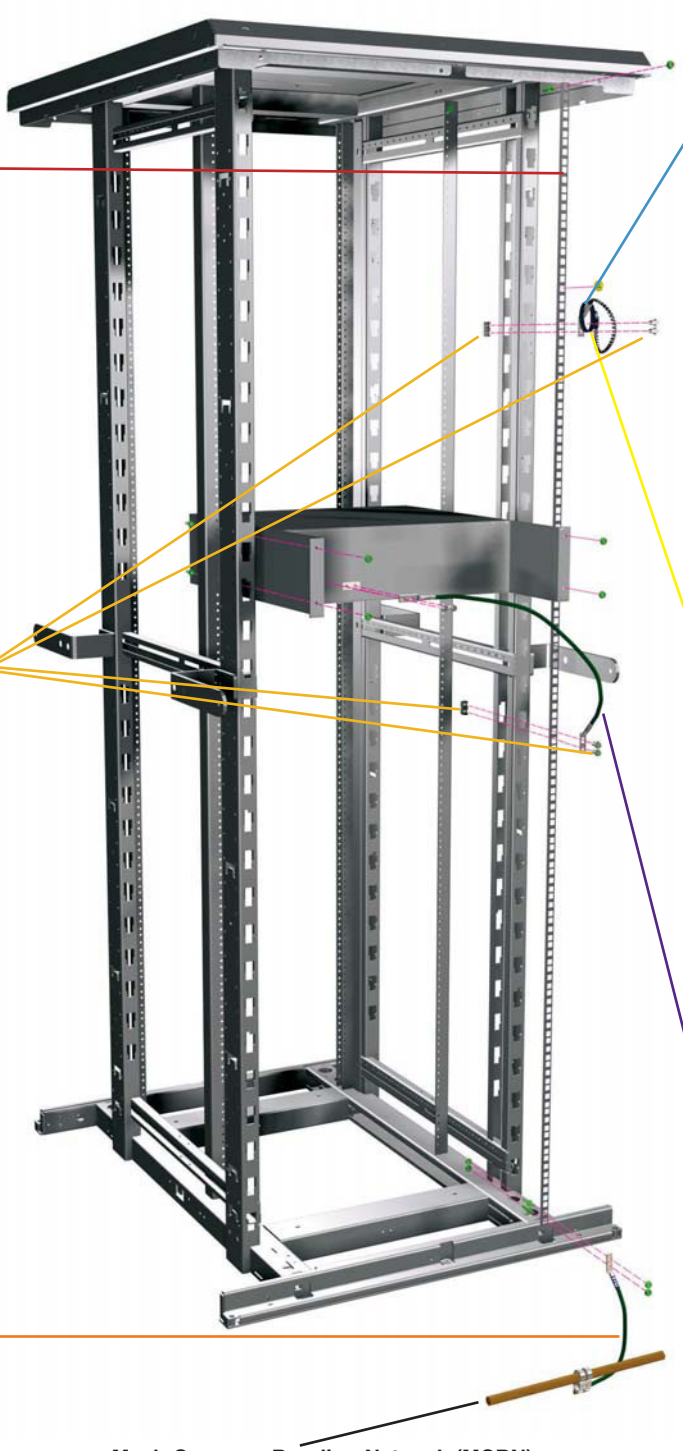
A typical access floor includes a multitude of metallic components which are connected together. It is the responsibility of the manufacturer and installer of the access floor to insure all the access floor metallic components are bonded which means that they are connected together electrically in accordance with applicable specifications. The Panduit Grounding and Bonding System does not insure required bonding of the access floor metallic components.

Selection Guide – StructuredGround™ Kits for Net-Access™ Cabinets

LISTED CERTIFIED

- Complies with the "Telecommunications Infrastructure Standard for Data Centers" as described in TIA-942 and TIA-607-B
- Maximizes uptime, maintains system performance, and protects network equipment
- Provides a dedicated, low resistance, and visually verifiable ground system
- Flexible design for use on EIA-310 compliant cabinets

Typical cage nut application
Back of cabinet shown
(Sides/doors removed for clarity)
Kits for threaded and thru-hole also available



Grounding Strip Kit: RGS (page M.17)
Patented hardware provides a bond between grounding strip and cabinet, eliminating the need to scrape paint

Bonding Cage Nut: CNBK (page M.25)
Patented, bonds equipment and patch panels to cabinet rails

Common Bonding Network (CBN) Jumper Kit: RGCBNJ (page M.16)
Connects grounding busbar to MCBN in access floor and overhead grounding applications

Electrostatic Discharge (ESD) Port Kit: RGESD (page M.24)
Bent 45° acts as a hook to hold ESD wrist strap

Electrostatic Discharge (ESD) Wrist Strap Kits: RGESDWS (page M.24)
Prevents damaging electrostatic discharge to equipment and personnel

Equipment Jumper Kit: RGEJ (page M.19)
Bonds network equipment to the grounding strip or grounding busbar

Mesh Common Bonding Network (MCBN)

Selection Guide – StructuredGround™ Kits for Net-Access™ Cabinets (continued)

Cabinet Grounding Selection in 2 Easy Steps:

1. What type of fasteners do your mounting rails require?
2. What is the maximum depth of the equipment being mounted?

Selection Criteria		Grounding Strip Kit^■	ESD Port Kit (2 required)‡	ESD Wrist Strap (1 per ESD Port)	Grounding Busbar Kit^	Front to Back Rail Jumper Kit^	Common Bonding Network (CBN) Jumper Kit*	Equipment Jumper Kit**	Bonding Hardware***
Panduit® Net-Access™ Cabinets: CN1, CN2, CN4, CN5, CN1CN, CN2CN, CS1, CS2 and CS3		**StructuredGround™ Kits for Data Center Cabinet Grounding**							
1. Rail Fasteners									
Threaded #12-24•		RGS134-1Y	RGESD2-1	RGESDWS	—	—	RGCBNJ660P22	GJS660U	RGTBSG-C (Bonding Screw)
Cage Nut••		RGS134B-1	RGESD2B-1	RGESDWS					CNBK (Bonding Cage Nut)
EIA-310 Compliant Cabinets		**StructuredGround™ Kits for Data Center Cabinet Grounding**							
1. Rail Fasteners	**2. Rail Depth up to**								
Threaded #12-24 or M6	20" (.5M)	RGS134-1Y	RGESD2-1	RGESDWS	RGRB19U	CGJ620U	RGCBNJ660P22	GJS660U	RGTBSG-C or RGTBSM6G-C
	30" (.75M)					CGJ630U			
	40" (1M)					CGJ640U			
Cage Nut	20" (.5M)	RGS134B-1	RGESD2B-1	RGESDWS	RGRB19CN	CGJ620UB			CNBK (Bonding Cage Nut)
	30" (.75M)					CGJ630UB			
	40" (1M)					CGJ640UB			

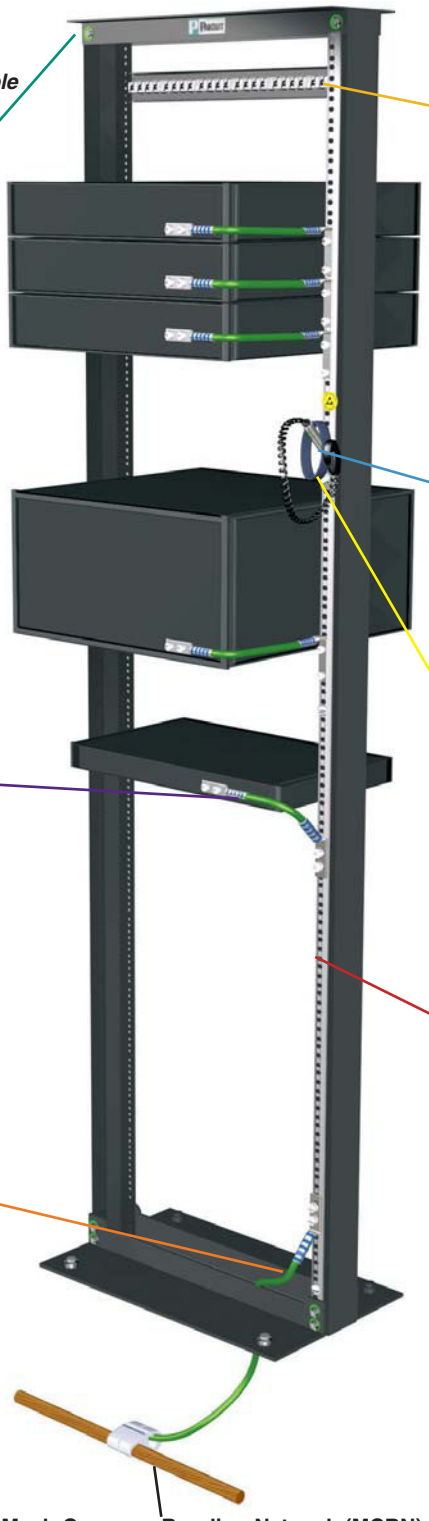
^Grounding strip kits, grounding busbar kits, and front to back rail jumper kits are supplied with mounting hardware based upon rail type.
■Grounding strip kits also available in packages of ten.
‡ESD port recommended for use on front and back of cabinet.
*CBN jumper kit supports MCBN connection up to #2 AWG (35mm²). Use RGCBNJ660PY for cable sizes up to 250kcmil (120mm²).
**Additional equipment jumper kits available in different sizes with different termination options, refer to page M.19. One equipment jumper kit is required per component.
***Use bonding hardware to mount and bond equipment to the cabinet.
•Threaded #12-24 rails are included with the CN1, CN2, CN4 and CN5 cabinets.
••Cage nut equipment rails are sold in pairs for the cabinets, order part number CNRC, CN1CN, CN2CN, CS1, CS2 or CS3.

Selection Guide – StructuredGround™ Kits for Racks

LISTED CERTIFIED

- Complies with the "Telecommunications Infrastructure Standard for Data Centers" as described in TIA-942 and TIA-607-B
- Maximizes uptime, maintains system performance, and protects network equipment
- Provides a dedicated, low resistance, and visually verifiable ground system
- Flexible design for use on EIA-310 compliant racks

New installation
Typical threaded application
Back of rack shown
Kits for cage nut and thru-hole also available



Paint Piercing Grounding Washer Kit: RGW (page M.26)
Provides a superior bond between frame members, serrations eliminate the need to scrape paint

Equipment Jumper Kit: RGEJ (page M.19)
Bonds network equipment to the grounding strip or grounding busbar

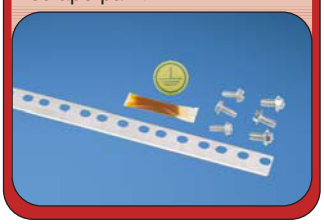
Common Bonding Network (CBN) Jumper Kit: RGCBNJ (page M.16)
Connects grounding strip or grounding busbar to MCBN in access floor and overhead grounding applications

Bonding Screw: RGTBS (page M.25)
Patented, bonds equipment and patch panels to the front of the rack.

Electrostatic Discharge (ESD) Port Kit: RGESD (page M.24)
Bent 45° acts as a hook to hold ESD wrist strap

Electrostatic Discharge (ESD) Wrist Strap Kit: RGESDWS (page M.24)
Prevents damaging electrostatic discharge to equipment and personnel

Grounding Strip Kit: RGS (page M.17)
Thread-forming hardware provides a bond between grounding strip and rack, eliminating the need to scrape paint



Mesh Common Bonding Network (MCBN)

Selection Guide – StructuredGround™ Kits for Racks (continued)

For Panduit racks:
Simply find your rack part number and follow across.

For other EIA-310 compliant racks, follow these two easy steps:

1. What type of installation do you have?
2. What type of fasteners do your mounting rails require?

<table>
<tr><th>Selection Criteria</th><th>Grounding Strip Kit</th><th>ESD Port Kit (2 required)*</th><th>ESD Wrist Strap (1 per ESD Port)</th><th>Grounding Busbar Kit</th><th>Common Bonding Network (CBN) Jumper Kit</th><th>Equipment Jumper Kit**</th><th>Bonding Hardware***</th></tr>
<tr><td>Panduit Racks</td><td colspan="7">StructuredGround™ Kits for Data Center Rack Grounding</td></tr>
<tr><td colspan="8">2 Post Racks</td></tr>
<tr><td>R2P, R2P48, R2PS
New Installation</td><td>RGS134-1Y</td><td rowspan="2">RGESD2-1</td><td rowspan="2">RGESDWS</td><td>—</td><td rowspan="2">RGCBNJ660P22</td><td>GJS660U</td><td rowspan="4">RGTBSG-C
(#12-24)</td></tr>
<tr><td>R2P, R2P48, R2PS
Retrofit Installation</td><td rowspan="3">—</td><td>RGRB19U</td><td rowspan="3">GJS660U</td></tr>
<tr><td>NFR84
New Installation</td><td rowspan="2">(1 each)
RGESD-1Y and
RGESD2-1</td><td rowspan="2">RGESDWS</td><td colspan="2">RGRKCBNJY</td></tr>
<tr><td>NFR84
Retrofit Installation</td><td>RGRB19U</td><td>RGCBNJ660P22</td></tr>
<tr><td colspan="8">4 Post Racks</td></tr>
<tr><td>R4P, R4P96
New Installation</td><td>RGS134-1Y</td><td rowspan="2">RGESD2-1</td><td rowspan="2">RGESDWS</td><td>—</td><td rowspan="4">RGCBNJ660P22</td><td>GJS660U</td><td rowspan="2">RGTBSG-C</td></tr>
<tr><td>R4P, R4P96
Retrofit Installation</td><td>—</td><td>RGRB19U</td><td>GJS660U</td></tr>
<tr><td>R4PCN, R4P96CN
New Installation</td><td>RGS134B-1</td><td rowspan="2">RGESD2B-1</td><td rowspan="2">RGESDWS</td><td>—</td><td>GJS660U</td><td rowspan="2">CNBK</td></tr>
<tr><td>R4PCN, R4P96CN
Retrofit Installation</td><td>—</td><td>RGRB19CN</td><td>GJS660U</td></tr>
<tr><td rowspan="3">EIA-310
Compliant Racks</td><td rowspan="2">RGS134-1Y</td><td>RGESD2-1</td><td rowspan="3">RGESDWS</td><td>—</td><td rowspan="2">RGCBNJ660P22</td><td rowspan="2">GJS660U</td><td>RGTBSG-C
(#12-24) or
RGTBSM6G-C
(M6)</td></tr>
<tr><td>RGESD2A-1</td><td>—</td><td>RGTBS1032G-C
(#10-32) or
RGTBSM5G-C
(M5)</td></tr>
<tr><td>—</td><td>RGESD2-1</td><td>RGRB19U</td><td>RGCBNJ660P22</td><td>GJS660U</td><td>RGTBSG-C
(#12-24) or
RGTBSM6G-C
(M6)</td></tr>
<tr><td colspan="4"></td><td colspan="2">RGRKCBNJY</td><td></td></tr>
</table>

The paint piercing grounding washers work with 3/8" (M8) hardware, for all other sizes, use the grounding solution for retrofit installations.
*ESD port recommended for use on front and back of rack.
**Additional equipment jumper kits available in different sizes with different termination options, refer to page M.19. One equipment jumper kit is required per component.
***Use bonding hardware to mount and bond equipment to the rack.

Features and Benefits – StructuredGround™ Kits for Cabinets

LISTED CERTIFIED

Panduit offers a variety of kits with premium components engineered specifically to meet TIA-942 and TIA-607-B for reliable cabinet grounding.

- Provides a dedicated, low resistance, and visually verifiable ground system to maximize uptime, maintain data center system performance, and protect network equipment and personnel
- Incorporates a flexible design that can be used with cabinets which meet EIA-310
- Offers ease of installation – no paint scraping required to bond cabinets; factory terminated jumpers simply bolt in place

A **Bonding Cage Nut** is a patented hardware with paint piercing serrations designed to create a bond point between the cabinet rail and the equipment being installed

B **Grounding Strip** is made from high conductivity wrought copper and tin-plated to inhibit corrosion, providing the lowest resistance path to ground

C **Reverse Bent Lugs** are factory terminated on front to back rail jumper kits to bond the front and back cabinet rails; innovative design maximizes space by utilizing only one RU

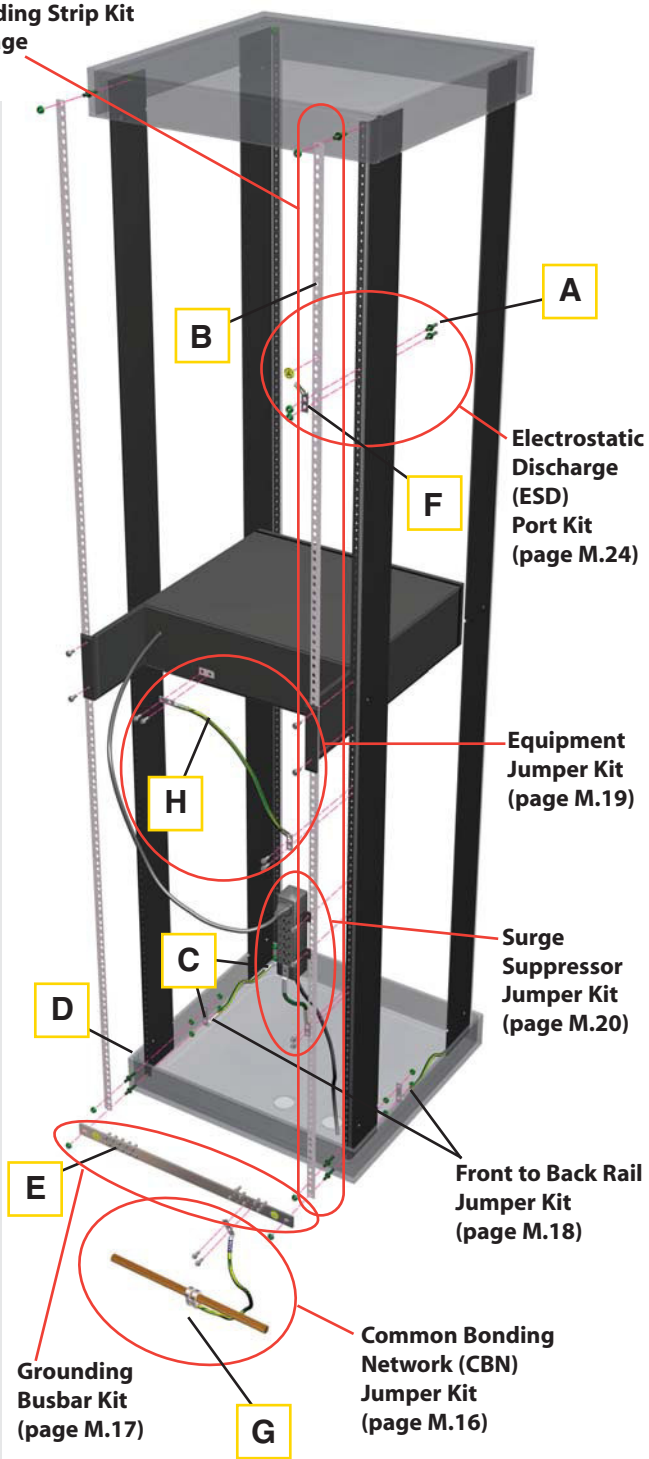
D **Bonding Studs** include patented paint piercing serrations to create a bond point between the cabinet rail, strip, busbar and lug; equipment can be installed at any time without removal of stud

E **Grounding Busbar** is made from high conductivity, low resistance wrought copper and tin-plated to inhibit corrosion

F **Electrostatic Discharge (ESD) Port** is made from high conductivity, low resistance copper and tin-plated to inhibit corrosion plus it functions as an ESD wrist strap hanger

G **Copper Compression HTAP** is UL Listed and CSA Certified; used to make a highly reliable, permanent bond between the mesh common bonding network and common bonding network (CBN) jumper kit

H **Jumper** has UL, VW-1 flame rated green-and-yellow insulation and is factory terminated with copper compression, two-hole, long barrel with window lug; lug is UL Listed, CSA Certified and meets NEBS Level 3



Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

Features and Benefits – StructuredGround™ Kits for Racks

Panduit offers a variety of kits with premium components engineered specifically to meet TIA-942 and TIA-607-B for reliable rack grounding.

- Provides a dedicated, low resistance, and visually verifiable ground system to maximize uptime, maintain data center system performance, and protect network equipment and personnel
- Incorporates a flexible design that can be used with racks which meet EIA-310
- Offers ease of installation – no paint scraping required to bond racks; factory terminated jumpers simply bolt in place

A **Paint Piercing Grounding Washer** is made from hardened steel and electro zinc plated which inhibits corrosion to provide a superior bond between frame members on bolt-together racks

B **Grounding Strip** is made from high conductivity wrought copper and tin-plated to inhibit corrosion, providing the lowest resistance path to ground

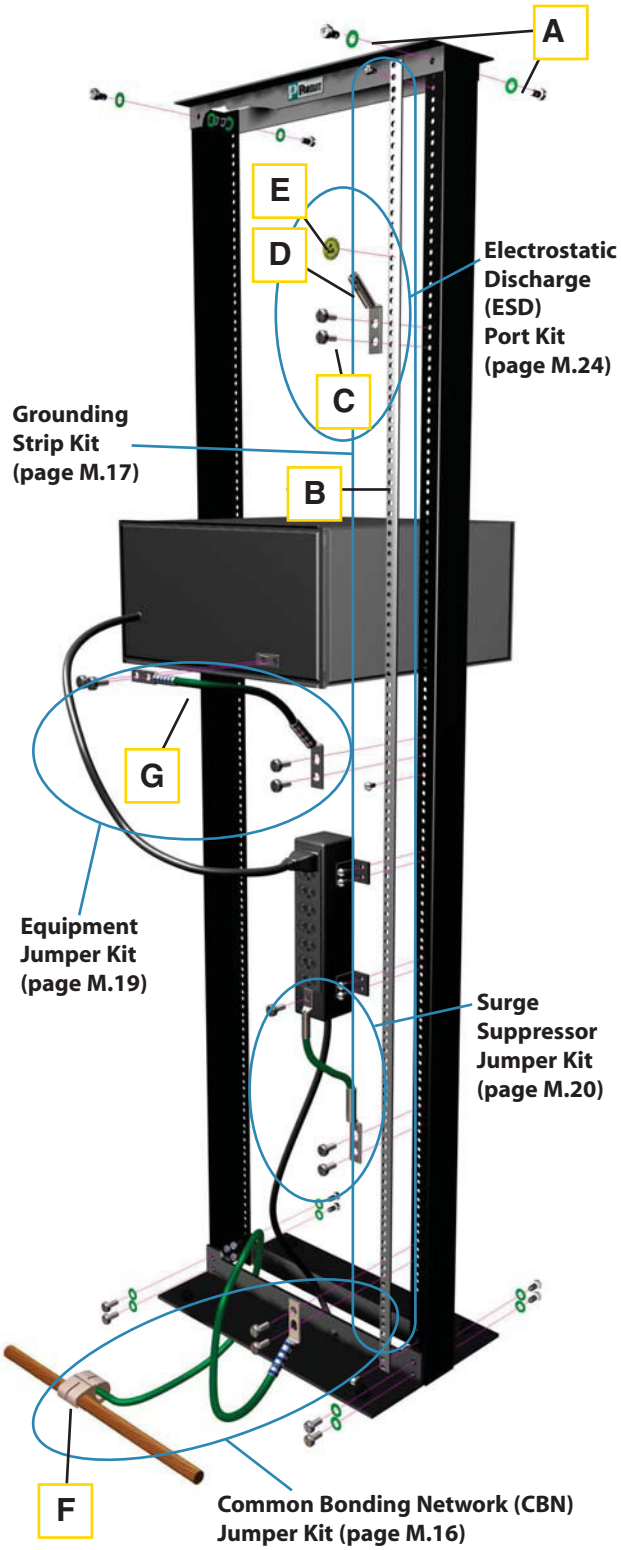
C **Thread-Forming Screws** are made from electro zinc plated steel and provide a bond to the rack by removing paint from threaded holes without creating metal shavings

D **Electrostatic Discharge (ESD) Port** is made from high conductivity, low resistance copper and tin-plated to inhibit corrosion plus it functions as an ESD wrist strap hanger

E **Electrostatic Discharge (ESD) Protection Sticker** is provided in black and yellow for high visibility and easy identification as an ESD port

F **Copper Compression HTAP** is UL Listed and CSA Certified; used to make a highly reliable permanent bond between the mesh common bonding network and common bonding network (CBN) jumper kit

G **Jumper** has UL, VW-1 flame rated green-and-yellow insulation and is factory terminated with copper compression, two-hole, long barrel with window lug; lug is UL Listed, CSA Certified and meets NEBS Level 3 with a single stud hole and slot which allows mounting for 1/2" to 5/8" hole spacing and accommodates stud sizes 1/4", #12, and 6mm

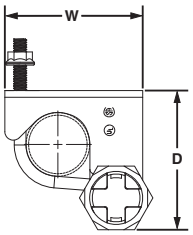


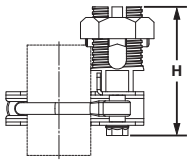
Access Floor Grounding Clamps

LISTED CERTIFIED PATENTED

- Bond mesh common bonding network (MCBN) conductors to each other and bond the access floor pedestals to the conductors
- Specifically designed to bond perpendicular MCBN conductors per TIA-942 and TIA-607-B
- Bond to the pedestal with a single bolt to simplify installation
- Accommodate conductors from #6 – 1/0 AWG, minimizes inventory requirements
- Bond round and square access floor pedestals for greater flexibility

Installed on Pedestal



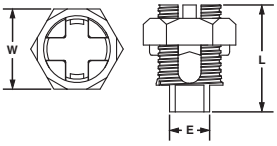


Part Number	Round Pedestal In.	Square Pedestal In.	MCBN Conductor Size Range AWG	Figure Dimensions In.			Tightening Torque In. – Lbs.		Std. Pkg. Qty.	Std. Ctn. Qty.
				D	W	H	Conductor	Clamp		
GPQC07-1/0	3/4 – 7/8	—	#6 SOL – 1/0 STR	4.25	3.38	3.19	385	150	1	10
GPQC10-1/0	1 – 1 1/8	7/8	#6 SOL – 1/0 STR	4.19	3.38	3.19	385	150	1	10
GPQC12-1/0	1 1/4	—	#6 SOL – 1/0 STR	4.53	3.44	3.19	385	150	1	10
GPQC15-1/0	1 1/2	—	#6 SOL – 1/0 STR	4.47	3.44	3.19	385	150	1	10
GPQC17-1/0	1 3/4	—	#6 SOL – 1/0 STR	5.19	4.00	3.19	385	150	1	10
GPQC20-1/0	2	—	#6 SOL – 1/0 STR	5.06	4.00	3.19	385	150	1	10

Split Bolt Quad Clamp, Bronze

LISTED CERTIFIED DB RATED

- Split bolt design allows easy insertion of perpendicular conductors speeding installation
- UL 467 Listed and CSA Certified for direct burial in earth or concrete
- UL Listed and CSA Certified for use up to 600 V and temperature rated 90°C
- Each clamp accepts up to two conductors for a high performance bond with faster installation
- Wide wire range-taking capability minimizes inventory requirements
- Made from high strength, electrolytic bronze to provide reliable grounding connections

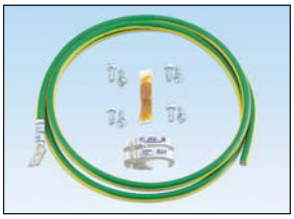


Part Number	Conductor Size Range	Figure Dimensions In.			Tightening Torque In. – Lbs.	Std. Pkg. Qty.
		E	W	L		
SBQC1/0-X	#6-1/0 AWG	0.75	1.50	2.00	#6 – #4 AWG – 165 #3 – #1 AWG – 275 1/0 AWG – 385	10

Common Bonding Network (CBN) Jumper Kits

LISTED CERTIFIED

- Bond the rack or cabinet to the MCBN
- HTAPs, included in kits, require crimping tool and die; see the CT-930 crimping tool on page M.47, the CT-2930/L and CT-2930/LE crimping tools on page M.48 and the CD-930H-250 and CD-920H-2 crimping dies on page M.49
- HTAPs are UL Listed and CSA Certified for applications up to 600 V when crimped with Panduit and specified competitor crimping tools and Panduit crimping dies
- Engineered to comply with US and International grounding requirements



Part Number	MCBN Conductor Size AWG	Part Description	Std. Pkg. Qty.	Std. Ctn. Qty.
RGCBNJ660P22	HTCT2-2-1 #6 – #2 AWG	#6 AWG (16mm²) jumper; 60" (1.52m) length; 45° bent lug on grounding strip side; provided with .16 oz. (5cc) of antioxidant, two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws and a copper compression HTAP* for connecting to the MCBN.	1	10
RGCBNJ660PY	HTCT250-2-1 #2 AWG – 250 kcmil		1	10

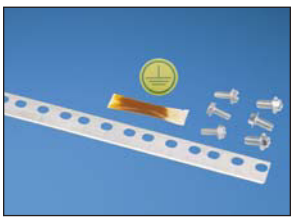
*HTAPs also sold separately, see pages M.41–M.42.

Order number of pieces required, in multiples of Standard Package Quantity.

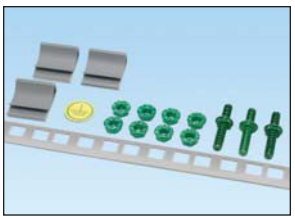
Prime items appear in **BOLD**.

Grounding Strip Kits

- Bonds up to 45 RU per rack
- EIA Universal mounting hole pattern
- Engineered to comply with US and International grounding requirements



Threaded Rail Kit



Cage Nut Rail Kit

Part Number	Part Description	Std. Pkg. Qty.
Grounding Strip Kits for Threaded Rail Fasteners		
RGS134-1Y	Grounding strip; 78.65" (2m) length; .67" (17mm) width; .05" (1.27mm) thickness; provided with .16 oz. (5cc) of antioxidant, one grounding sticker and three each #12-24 x 1/2" and M6 x 12mm thread-forming screws.	1
RGS134-10-1Y	Ten grounding strips; 78.65" (2m) length; .67" (17mm) width; .05" (1.27mm) thickness; provided with .16 oz. (5cc) of antioxidant, ten grounding stickers and 30 each #12-24 x 1/2" and M6 x 12mm thread-forming screws.	1
Grounding Strip Kits for Cage Nut Rail Fasteners		
RGS134B-1	Grounding strip; 78.70" (2m) length; .67" (17mm) width; .05" (1.27mm) thickness; provided with .16 oz. (5cc) of antioxidant, one grounding sticker, three cage nut bonding studs, eight #12-24 bonding nuts and three strip clips.	1
RGS134B-10-1	Ten grounding strips; 78.70" (2m) length; .67" (17mm) width; .05" (1.27mm) thickness; provided with .16 oz. (5cc) of antioxidant, ten grounding stickers, 30 cage nut bonding studs, 80 #12-24 bonding nuts and 30 strip clips.	1

Grounding Busbar Kits

- Provide the common grounding point within the cabinet
- Optimized for installation on 19" racks or cabinets that meet EIA-310
- Can be positioned anywhere on the rack or cabinet
- Available pre-assembled with twenty mounting screws for quick and easy installation
- Engineered to comply with US and International grounding requirements

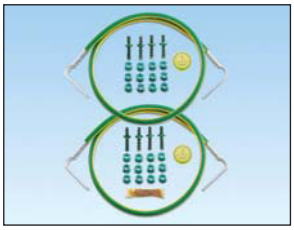
RGRB19U

Part Number	Part Description	Std. Pkg. Qty.
Grounding Busbar Kits for Threaded Rail Fasteners		
RGRB19Y	Grounding busbar; 19" (483mm) length; tin-plated; fourteen holes arranged for flexibility in mounting; provided with two each #12-24 x 1/2" and M6 x 12mm thread-forming screws.	1
RGRB19U	Grounding busbar; 19" (483mm) length; tin-plated; twenty holes arranged for flexibility in mounting with twenty #12-24 x 1/2" hex head screws installed; mounting hole sets have 5/8" (15.9mm) spacing; provided with two each #12-24 x 1/2", M6 x 12mm thread-forming screws, and two #12 flat washers for mounting.	1
Grounding Busbar Kit for Cage Nut Rail Fasteners		
RGRB19CN	Grounding busbar; 19" (483mm) length; tin-plated; twenty holes arranged for flexibility in mounting with twenty #12-24 x 1/2" hex head screws installed; mounting hole sets have 5/8" (15.9mm) spacing; provided with two cage nut bonding studs and four #12-24 bonding nuts.	1

Front to Back Rail Jumper Kits

LISTED CERTIFIED

- Bond the front and back cabinet rails to the cabinet grounding busbar
- Patent pending hardware incorporates paint piercing serrations to create a bond point between the cabinet rail and lug; hardware never needs to be removed for new equipment installations
- Both ends are factory terminated with reverse bent lugs that save space, confining the connection to one RU
- Available in three lengths, 20", 30", and 40" to satisfy a wide range of cabinet rail depths
- Engineered to comply with US and International grounding requirements



Part Number	Length In. (m)	Part Description	Std. Pkg. Qty.
Front to Back Rail Jumper Kits for #12-24 or M6 Rail Fasteners			
CGJ620U	20 (.50)	Two #6 AWG (16mm²) jumpers; factory terminated on both ends with 90° reverse bent lugs; provided with .16 oz. (5cc) of antioxidant, two grounding stickers, eight each #12-24 and M6 bonding studs and sixteen each #12-24 and M6 bonding nuts.	1
CGJ630U	30 (.75)		1
CGJ640U	40 (1.00)		1
Front to Back Rail Jumper Kits for Cage Nut Rail Fasteners			
CGJ620UB	20 (.50)	Two #6 AWG (16mm²) jumpers; factory terminated on both ends with 90° reverse bent lugs; provided with .16 oz. (5cc) of antioxidant, two grounding stickers, eight cage nut bonding studs and 24 #12-24 bonding nuts.	1
CGJ630UB	30 (.75)		1
CGJ640UB	40 (1.00)		1

Order number of pieces required, in multiples of Standard Package Quantity.

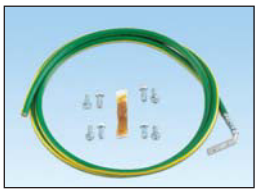
Prime items appear in **BOLD**.

Equipment Jumper Kits

LISTED CERTIFIED

- Bond network equipment to grounding strip or grounding busbar
- Jumper kit available with both ends factory terminated to provide a bolt-on solution
- Jumper kit available with one end factory terminated to attach to the grounding strip or grounding busbar; free end accommodates unique equipment terminations
- Use jumpers with 90° bent lug, on grounding strip side, for high density grounding requirements up to one ground point per RU
- Use jumpers with 45° bent lugs, on grounding strip side, for improved cable management
- Engineered to comply with US and International grounding requirements

RGEJ1024PFY



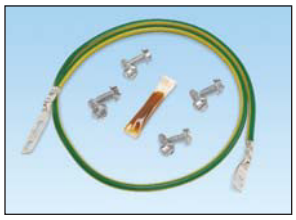
RGEJ1057PFY

Part Number	Length In. (m)	Angle	Part Description	Std. Pkg. Qty.	Std. Ctn. Qty.
#6 AWG (16mm²) Equipment Jumper Factory Terminated on One End for Switches, Cabinets, and 4-Post Racks					
GJS660U	60 (1.52)	Straight	#6 AWG green wire with yellow horizontal stripe. Jumper is pre-terminated on one end with LCC6-14JAW-L.	1	10
GJS696U	96 (2.44)	Straight		1	10
#10 AWG (6mm²) Equipment Jumpers Factory Terminated on Both Ends					
RGEJ1024PHY	24 (0.61)	45°	#10 AWG (6mm²) jumper; bent lug on grounding strip side to straight lug on equipment; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws.	1	10
RGEJ1024PFY	24 (0.61)	90°		1	10
RGEJ1036PFY	36 (0.91)	90°		1	10
RGEJ1024URT	24 (0.61)	Straight	#10 AWG (6mm²) jumper, 24 in. (609.6mm) L, pre-terminated with two #10 (5.3mm) stud hole ring terminals to provide a bolt-on solution for grounding network equipment.	1	10
#6 AWG (16mm²) Equipment Jumpers Factory Terminated on Both Ends					
RGEJ624PHY	24 (0.61)	45°	#6 AWG (16mm²) jumper; bent lug on grounding strip side to straight lug on equipment; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws.	1	10
RGEJ624PFY	24 (0.61)	90°		1	10
RGEJ636PFY	36 (0.91)	90°		1	10
NEW! **RGEJ660PF**	60 (1.52)	90°	#6 AWG (16mm²) jumper; bent lug on grounding strip side to straight lug on equipment.	1	10
NEW! **RGEJ696PF**	96 (2.44)	90°		1	10
RGEJ660U	60 (1.52)	Straight	#6 AWG (16mm²) jumper, 60 in. (1524mm) L, pre-terminated with two straight slotted lugs to provide a bolt-on solution for grounding network equipment.	1	10
RGEJ696U	96 (2.44)	Straight	#6 AWG (16mm²) jumper, 96 in. (2438.4mm) L, pre-terminated with two straight slotted lugs to provide a bolt-on solution for grounding network equipment.	1	10
#10 AWG (6mm²) Equipment Jumper Factory Terminated on One End					
RGEJ1057PFY	57 (1.45)	90°	#10 AWG (6mm²) jumper; bent lug on grounding strip side; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws.	1	10
#6 AWG (16mm²) Equipment Jumper Factory Terminated on One End					
RGEJ657PFY	57 (1.45)	90°	#6 AWG (16mm²) jumper; bent lug on grounding strip side; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws.	1	10

Surge Suppressor Jumper Kit

LISTED CERTIFIED

- Bonds power or data line surge suppressor to grounding strip or grounding busbar
- Both ends factory terminated to provide a bolt-on solution
- Engineered to comply with US and International grounding requirements



Part Number	Part Description	Std. Pkg. Qty.
SSGK-1	#10 AWG (6mm²) jumper; 24" (.61m) length; factory terminated on both ends; one-hole lug on surge suppressor to two-hole lug on grounding strip/busbar side; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws.	1

Armored Cable Grounding Kit

- Provides a secure bond to the armor sheath on indoor and indoor/outdoor fiber optic cables at both cassette and enclosure ends
- Worm-gear design evenly distributes forces across the armor
- Made from steel and aluminum material is compatible with common armor for long term reliability
- Black insulating cover protects and hides the connection for an aesthetically pleasing work area
- Complies with industry requirements ensuring a high level of reliability and safety

Part Number	Part Description	Std. Pkg. Qty.
ACG24K	#6 AWG (16mm²) jumper for armored cable diameter up to 0.84" (21.3mm); 24" (609.6mm) length; factory terminated on one end with LCC6 two-hole copper compression lug and the other end with grounding terminal; provided with two each #12-24 and M6 thread-forming screws and a black polypropylene terminal cover.	1
ACG24K-500	#6 AWG (16mm²) jumper for armored cable diameter 0.85" (21.3mm) to 1.03" (26.2mm); 24" (609.6mm) length; factory terminated on one end with LCC6 two-hole copper compression lug and the other end with grounding terminal; provided with two each #12-24 and M6 thread-forming screws and a black polypropylene terminal cover.	1
NEW! **ACG24KX-500**	#6 AWG (16mm²) jumper for armored cable diameter 0.94" (23.9mm) to 1.5" (38.1mm); 24" (609.6mm) length; factory terminated on one end with LCC6 two-hole copper compression lug and the other end with grounding terminal; provided with two each #12-24 and M6 thread-forming screws and a black polypropylene terminal cover.	1
ACGK	Armored cable grounding kit with one grounding terminal for #6 AWG and one #10 mechanical clamp, 9/16" – 1 1/16" diameter range.	1
NEW! **ACGKX**	Armored cable grounding kit with one grounding terminal for #6 AWG and one #16 mechanical clamp, 15/16" – 1 1/2" diameter range.	1

Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

Telecommunication Equipment Bonding Conductor (TEBC) Kits

- Bonds the rack or cabinet to the telecommunications grounding busbar (TGB)
- Jumper kit available with both ends factory terminated to provide a bolt-on solution
- Jumper kit available with one end factory terminated to attach to the rack or cabinet; free end accommodates unique length requirements
- Engineered to comply with US and international grounding requirements

Pre-Terminated on Both Ends

Part Number	Length In.	Length m	Angle	Part Description	Std. Pkg. Qty.
Jumpers Pre-Terminated on Both Ends					
GJ672UH	72	1.83	Straight and 45°	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.	1
GJ696UH	96	2.44	Straight and 45°	One 96" 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.	1
GJ6120UH	120	3.05	Straight and 45°	One 120" 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.	1
GJ6144UH	144	3.66	Straight and 45°	One 144" 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.	1
GJ6168UH	168	4.27	Straight and 45°	One 168" 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.	1
GJ6192UH	192	4.88	Straight and 45°	One 192" 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.	1
GJ6216UH	216	5.49	Straight and 45°	One 216" 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.	1
GJ6240UH	240	6.10	Straight and 45°	One 240" 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.	1
GJ6264UH	264	6.71	Straight and 45°	One 264" 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.	1
GJ6288UH	288	7.32	Straight and 45°	One 288" 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.	1

Table continues on page M.22

Telecommunication Equipment Bonding Conductor (TEBC) Kits (continued)

Pre-Terminated on One End

Part Number	Length In.	Length m	Angle	Part Description	Std. Pkg. Qty.
Jumpers Pre-Terminated on One End					
GJS6120U	120	3.05	Straight	One 120" length #6 AWG green wire with yellow horizontal stripe. Jumper is pre-terminated on one end with LCC6-14JAW-L.	1
GJS6180U	180	4.57	Straight	One 180" length #6 AWG green wire with yellow horizontal stripe. Jumper is pre-terminated on one end with LCC6-14JAW-L.	1

Hardware for TEBC Kits

Part Number	Part Description	Std. Pkg. Qty.
Hardware for TEBC Kits		
HDW1/4-KT	Stainless steel mounting hardware for busbar; two 1/4-20 hex bolts, two 1/4-20 hex nuts, four 1/4 flat washers and two 1/4 Belleville compression washers. Mounting hardware for rack or cabinet; two #12-24 thread-forming screws and two M6 thread-forming screws.	1
HDW3/8-KT	Stainless steel mounting hardware for busbar; two 3/8-16 hex bolts, two 3/8-16 hex nuts, four 3/8 flat washers and two 3/8 Belleville compression washers. Mounting hardware for rack or cabinet; two #12-24 thread-forming screws and two M6 thread-forming screws.	1
HDW1/4-A-KT	Stainless steel mounting hardware for busbar; two 1/4-20 hex bolts, two 1/4-20 hex nuts, four 1/4 flat washers and two 1/4 Belleville compression washers. Mounting hardware for rack or cabinet; two #10-32 thread-forming screws and two M5 thread-forming screws.	1
HDW3/8-A-KT	Stainless steel mounting hardware for busbar; two 3/8-16 hex bolts, two 3/8-16 hex nuts, four 3/8 flat washers and two 3/8 Belleville compression washers. Mounting hardware for rack or cabinet; two #10-32 thread-forming screws and two M5 thread-forming screws.	1

Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

Enclosure Grounding Kit

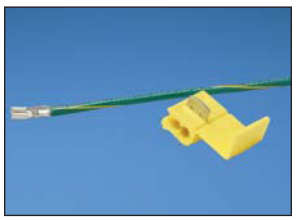
PATENTED

- Patented bracket provides equipotential bonding and protection from static electricity for equipment housed in enclosures
- A discrete grounding point for each piece of equipment within the enclosure allows equipment to be easily added or moved without disturbing other grounding connections
- Anti-rotation design prevents one-hole lugs from loosening
- Grounding washer provides a high performance electrical bond, eliminating the need to manually remove paint
- Built-in ESD port provides a convenient docking station for ESD wrist strap
- Provides proper bonding of PanZone® Active Wall Mount Enclosure PZAEWM3, see page E.5

Part Number	Part Description	Std. Pkg. Qty.
PZAEGK	One tin-plated copper bracket; 3.92" L x .56" W x .79" H (99.6mm x 14.2mm x 20.1mm); provided with four #12-24 screws, one each #10-32 and #10-24 hex nut, #10 split lock washer, grounding washer and ESD protection sticker.	1

Shielded Jack Module Grounding Kit

- Alternate method for grounding modules to another grounding wire in shielded applications



Part Number	Part Description	Std. Pkg. Qty.	Std. Ctn. Qty.
CJSGK-XY	Kit used to ground enhanced Giga-TX™ Style Shielded Jack Modules to another ground wire in shielded applications.	10	100

Electrostatic Discharge (ESD) Port Kits and Wrist Strap

- Accommodate standard ESD wrist strap 4mm plug
- Wrist strap provides rapid and continuous drain of electrostatic charge between a person and the surface that the wrist strap is bonded to, thus preventing damaging static discharge into equipment
- Can be mounted to front or back of rack or cabinet for convenient access
- Bent 45°, acts as a hook to hold wrist strap
- Two-hole configuration provides anti-rotation and prevents loss of bond
- Barrel permanently marked with the protective earth (ground) symbol
- Engineered to comply with US and International grounding requirements

RGESD2-1

RGESD2B-1

RGESDWS

Part Number	Part Description	Std. Pkg. Qty.	Std. Ctn. Qty.
ESD Port Kit for #12-24 or M6 Rail Fasteners			
RGESD2-1	Two-hole ESD port with 5/8" hole spacing; provided with an ESD protection sticker, .16 oz. (5cc) of antioxidant, and two each #12-24 x 1/2" and M6 x 12mm thread-forming screws.	1	20
ESD Port Kit for Cage Nut Rail Fasteners			
RGESD2B-1	Two-hole ESD port with 5/8" hole spacing; provided with an ESD protection sticker, .16 oz. (5cc) of antioxidant, two cage nut bonding studs and two #12-24 bonding nuts.	1	20
ESD Wrist Strap			
RGESDWS	Adjustable fabric ESD wrist strap with 6' coil cord, banana plug, 1 megohm resistor and 4mm snap.	1	—

ESD port must be attached to a grounded member.
ESD wrist strap sold separately.

Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

PATENTED Bonding Screws

- Patented screws create an electrical bond between painted patch panels and racks or cabinets
- Serrations on bottom of screw remove paint from patch panel, providing metal-to-metal contact
- Available in two color options to meet different application needs
- Thread-forming, provides a bond to the rack or cabinet by removing paint from threaded holes and minimizing metal shavings
- Permanently marked with the protective earth (ground) symbol and Panduit logo
- Easily installed with Phillips screwdriver

Part Number	Part Description	Std. Pkg. Qty.
RGTBSG-C	Green thread-forming bonding screw, #12-24 x 1/2".	100
RGTBSM6G-C	Green thread-forming bonding screw, M6 x 15mm.	100
RGTBS1032G-C	Green thread-forming bonding screw, #10-32 x 1/2".	100
RGTBSM5G-C	Green thread-forming bonding screw, M5 x 15mm.	100

PATENTED Bonding Cage Nut

- Patented, creates an electrical bond between the mounting rails and equipment
- Conforms to EIA-310 specifications for racks and cabinets
- Made from high carbon steel
- Easily installed with a Phillips, flat blade, or nut screwdriver

Part Number	Part Description	Std. Pkg. Qty.
CNB4K	Green bonding cage nut, includes 4 #12-24 bonding cage nuts (.06 – .11 thick panel) and 4 #12-24 x 1/2" bonding screws with #2 Phillips/slotted combo hex head (use 5/16" or 8mm socket). Ideal for patch panel applications.	1
CNBK	Green bonding cage nut, includes 50 #12-24 bonding cage nuts (.06 – .11 thick panel) and 50 #12-24 x 1/2" bonding screws with #2 Phillips/slotted combo hex head (use 5/16" or 8mm socket).	1

Thread-Forming Screws

- Thread-forming, provide a bond to the rack or cabinet by removing paint from threaded holes and minimizing metal shavings
- Easily installed with 5/16" (8mm) socket head wrench or flat blade screwdriver

Part Number	Part Description	Std. Pkg. Qty.
RGTS-CY	Thread-forming grounding screw, #12-24 x 1/2".	100
RGTSM6-C	Thread-forming grounding screw, M6 x 12mm.	100
RGTS1032-C	Thread-forming grounding screw, #10-32 x 1/2".	100
RGTSM5-C	Thread-forming grounding screw, M5 x 12mm.	100

Paint Piercing Grounding Washer Kit

- Bonds frame members on bolt-together racks
- No paint scraping required
- Green color-coding to indicate bonding application
- Engineered to comply with US and International grounding requirements

Part Number	Part Description	Std. Pkg. Qty.
RGW-100-1Y	100 paint piercing bonding washers for 3/8" (M8) stud size; .875" (22.2mm) O.D.; provided with .16 oz. (5cc) of antioxidant.	1

PATENTED Bonding Hardware Kits

- Patented bonding hardware kits incorporate paint piercing serrations to create a bond point between the rack or cabinet and painted patch panels, mounted equipment, servers, busbars, and jumpers
- Thread-forming, provide a bond to the rack or cabinet by removing paint from holes and minimizing metal shavings
- Green color-coding to indicate bonding application

TRBSK

CGNBSK

BGN

Part Number	Part Description	Std. Pkg. Qty.
Bonding Stud Kits for Threaded Rail Fasteners		
TRBSK	Bonding stud kit for threaded #12-24 rail fasteners; includes 25 bonding studs and 50 bonding nuts.	1
TRBSM6K	Bonding stud kit for threaded M6 rail fasteners; includes 25 bonding studs and 50 bonding nuts.	1
Bonding Stud Kit for Cage Nut Rail Fasteners		
CGNBSK	Bonding stud kit for cage nut rail fasteners; includes 25 bonding studs and 50 bonding nuts.	1
Bonding Nuts		
BGN-C	Bonding nut for threaded #12-24, cage nut, and 1/4" thru-hole rail fasteners.	100
BGNM6-C	Bonding nut for threaded M6 rail fasteners.	100

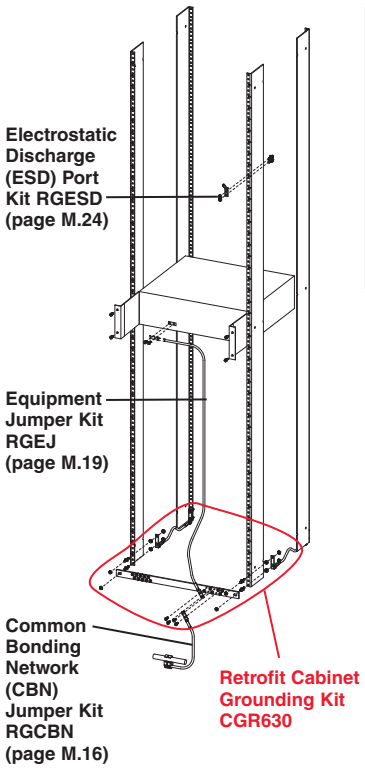
Order number of pieces required, in multiples of Standard Package Quantity.

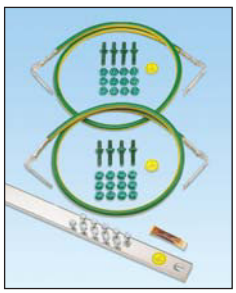
Prime items appear in **BOLD**.

LISTED CERTIFIED PATENTED

Retrofit Cabinet Grounding Kits

- Provide a dedicated ground system to maintain system performance and protect network equipment when equipment is already installed
- Patented hardware incorporates paint piercing serrations to create a bond point between the cabinet rail, grounding busbar and lug; hardware never needs to be removed for new equipment installations
- Optimized for installation on 19" cabinets that meet EIA-310, with functioning equipment, and are deployed in the field
- Provides a complete system of matched components to save cost and labor
- Engineered to comply with US and International grounding requirements





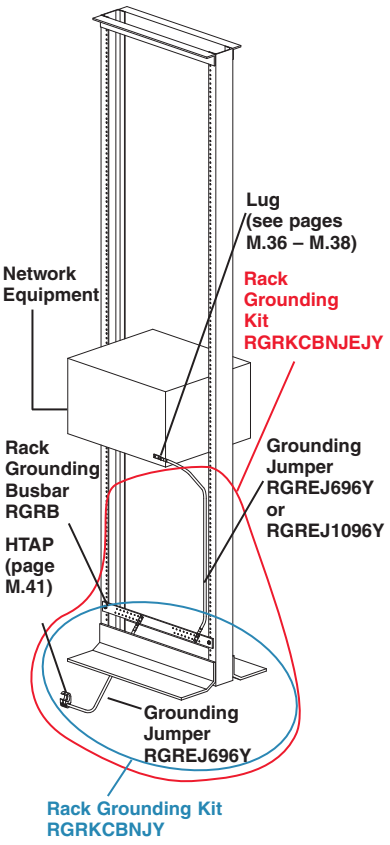
CGR630UB

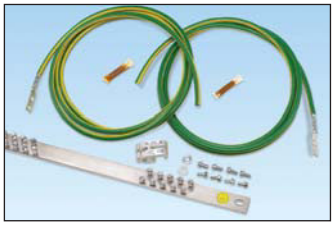
Part Number	Part Description	Std. Pkg. Qty.
CGR630U	Retrofit grounding kit for installation on cabinets with threaded #12-24 or M6 rail fasteners and rail depth up to 30" (.75m); includes one RGRB19U grounding busbar kit and one CGJ630U front to back rail jumper kit.	1
CGR630UB	Retrofit grounding kit for installation on cabinets with cage nut rail fasteners and rail depth up to 30" (.75m); includes one RGRB19U grounding busbar kit and one CGJ630UB front to back rail jumper kit.	1

Retrofit Rack Grounding Kits

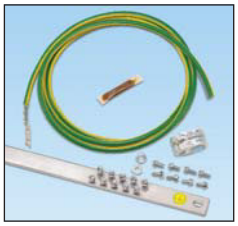
LISTED CERTIFIED

- Provide a dedicated ground system to maintain system performance and protect network equipment when equipment is already installed
- Optimized for installation on 19" racks that meet EIA-310, with functioning equipment, and are deployed in the field
- Provide a complete system of matched components that can be easily selected to save cost and labor
- Thread-forming screws eliminate the need to manually remove paint from the rack
- Engineered to comply with US and International grounding requirements





RGRKCBNJEJY



RGRKCBNJY

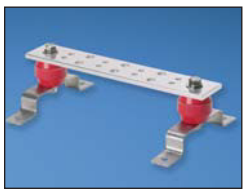
Part Number	Part Description	Std. Pkg. Qty.
Busbar and Jumper Kits		
RGRKCBNJEJY	Rack grounding kit to ground the rack and one piece of equipment; includes one RGRB19U busbar, one HTCT250-2-1 HTAP, and two RGREJ696Y grounding jumpers.	1
RGRKCBNJY	Rack grounding kit to ground the rack; includes one RGRB19U busbar, one HTCT250-2-1 HTAP, and one RGREJ696Y grounding jumper.	1
Busbar Kits		
RGRB19Y	Grounding busbar; 19" (483mm) length; tin-plated; fourteen holes arranged for flexibility in mounting; provided with two each #12-24 x 1/2" and M6 x 12mm thread-forming screws.	1
RGRB19U	Grounding busbar; 19" (483mm) length; tin-plated; twenty holes arranged for flexibility in mounting with twenty #12-24 x 1/2" hex head screws installed; mounting hole sets have 5/8" (15.9mm) spacing; provided with two each #12-24 x 1/2", M6 x 12mm thread-forming screws, and two #12 flat washers for mounting.	1
RGRB19CN	Grounding busbar; 19" (483mm) length; tin-plated; twenty holes arranged for flexibility in mounting with twenty #12-24 x 1/2" hex head screws installed; mounting hole sets have 5/8" (15.9mm) spacing; provided with two bonding cage nuts and four #12-24 bonding screws.	1
Equipment Jumper Kits		
RGREJ696Y	Grounding jumper; #6 AWG (16mm²); 96" (2.44m) length; one end factory terminated to lug; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws.	1
RGREJ1096Y	Grounding jumper; #10 AWG (6mm²); 96" (2.44m) length; one end factory terminated to lug; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws.	1

Order number of pieces required, in multiples of Standard Package Quantity.

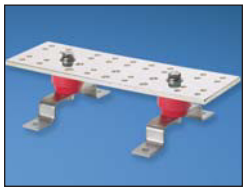
Prime items appear in **BOLD**.

c UL us BICSI/TIA-607-B Telecommunications Grounding Busbars

- Meet BICSI and TIA-607-B requirements for network systems grounding applications
- Made of high conductivity copper and tin-plated to inhibit corrosion
- Come pre-assembled with brackets and insulators attached for quick installation
- Use Panduit component labels, sold separately, to identify busbars to meet TIA-607-B, see chart below



TGB



TMGB

Part Number	Bar Size	No. of Mounting Positions		Std. Pkg. Qty.
		1/4" Stud Hole with 5/8" Hole Spacing	3/8" Stud Hole with 1" Hole Spacing	
Telecommunications Grounding Busbars (TGB)				
GB2B0304TPI-1	1/4" x 2" x 10"	4	3	1
GB2B0306TPI-1	1/4" x 2" x 12"	6	3	1
GB2B0312TPI-1	1/4" x 2" x 20"	12	3	1
GB2B0514TPI-1	1/4" x 2" x 24"	14	5	1
Telecommunications Main Grounding Busbars (TMGB)				
GB4B0612TPI-1	1/4" x 4" x 12"	12	6	1
GB4B0624TPI-1	1/4" x 4" x 20"	24	6	1
GB4B1028TPI-1	1/4" x 4" x 24"	28	10	1

Telecommunications Grounding and Bonding Conductor Label Kit

Part Number	Part Description	Std. Pkg. Qty.
LTYK	Label kit includes printed tag and one flame retardant cable tie.	1

For complete labeling solutions and product information, reference charts on pages O.1 – O.25.

Component Labels for BICSI/TIA-607-B Telecommunications Grounding Busbars

Suggested Label Solutions for TIA-607-B Compliance				
Telecommunications Grounding Busbar Part Number	Laser/Ink Jet Desktop Printer Label	TDP43ME Thermal Transfer Desktop Printer Label	PanTher™ LS8E Hand-Held Printer Label	Cougar™ LS9 Hand-Held Printer Label
All GB2B and GB4B Parts	C200X100FJJ	C200X100YPT	C200X100FJC	T100X000VPC-BK

NEMA Hole Pattern Grounding Busbars

- Provided with standard NEMA hole pattern spacing
- Made of high conductivity copper and tin-plated to inhibit corrosion
- Come pre-assembled with brackets and insulators attached for quick installation
- Insulators provide 600 V of insulation

Part Number	Bar Size	No. of Mounting Positions: 1/2" Stud Hole with 1 3/4" Hole Spacing	Std. Pkg. Qty.
GB4N0007TPI-1	1/4" x 4" x 12"	7	1
GB4N0016TPI-1	1/4" x 4" x 24"	16	1
GB4N0024TPI-1	1/4" x 4" x 36"	24	1
GB4N0026TPI-1	1/4" x 4" x 48"	26	1
GB4N0034TPI-1	1/4" x 4" x 60"	34	1

Grounding Busbar 1 Inch Hole Spacings

- Provided with 1 inch hole D pattern spacing
- Made of high conductivity copper and tin-plated to inhibit corrosion
- Come pre-assembled with brackets and insulators attached for quick installation
- Insulators provide 600 V of insulation

Part Number	Bar Size	No. of Mounting Positions: 3/8" Stud Hole with 1" Hole Spacing	Std. Pkg. Qty.
GB2D0008TPI-1	1/4" x 2" x 12"	8	1
GB2D0021TPI-1	1/4" x 2" x 24"	21	1
GB2D0033TPI-1	1/4" x 2" x 36"	33	1
GB2D0044TPI-1	1/4" x 2" x 48"	44	1
GB2D0056TPI-1	1/4" x 2" x 60"	56	1

Busbar Type	Busbar Pattern
BICSI	B
GB2D...series	D
NEMA	N

See pages M.36 – M.38 for Lug information

Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

Universal Beam Grounding Clamp

LISTED CERTIFIED IEEE 837-2002

- Universal, fits on a wide range of standard (angled) and wide flange (parallel) structural steel beams
- Provide a mounting pad suitable for a two-hole compression lug
- Install quickly and easily with standard 1/4" key hex wrench tooling
- UL 467 Listed and CSA 22.2 Certified for grounding and bonding suitable for direct burial in earth or concrete
- Comply with vibration tests per MIL-STD-202G (METHOD 201A)
- For the complete line of StructuredGround™ Direct Burial Compression Grounding System, visit www.panduit.com

Part Number	Copper Conductor Size Range AWG	Flange Thickness In.	Stud Size In.	Hole Spacing In.	Thread Size	Length In.	Width In.	Height In.	Std. Pkg. Qty.
GUBC500-6	#6 – 500	0.250 – 0.675	1/2	1.75	1/2 – 13	3.15	2.13	2.50	1

Auxiliary Cable Brackets and Jumpers

LISTED CERTIFIED PATENT PENDING

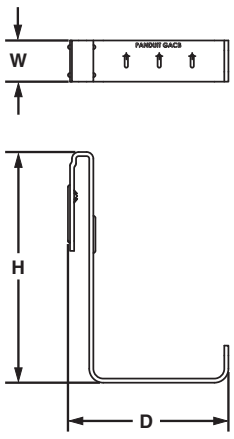
- Bonds ladder rack, wire basket and Panduit® Wyr-Grid® System sections together without drilling holes
- Supports grounding conductors in the telecommunications room, allows separation of grounding conductors from other cables
- Holds up to four conductors in sizes up to 750 kcmil
- Bonds to all 1" and 2" ladder rack rails
- Paint piercing teeth provide electrical continuity between cable pathway sections while minimizing debris
- Front and back mounting screw options allow easy installation and visual inspection
- GACB-2 and GACB-3 can be mounted above or below the cable pathway system for flexibility
- Brackets Meet TIA-607-B

GACB

GACB-2

GACB-3

GACBJ618U



Part Number	Part Description	Std. Pkg. Qty.	Std. Ctn. Qty.
Auxiliary Cable Brackets			
GACB-1	Auxiliary cable bracket; 1.25" (31.8mm) width; 7.00" (177.8mm) height; 4.87" (123.7mm) depth; provided with one mounting screw.	1	10
GACB-2	Auxiliary cable bracket; 1.63" (41.4mm) width, 3.95" (100.3mm) height, 5.22" (132.6mm) depth; provided with one mounting screw.	1	10
GACB-3	Auxiliary cable bracket; 1.88" (47.6mm) width, 4.58" (116.3mm) height, 5.29" (134.4mm) depth; provided with one mounting screw.	1	10
Bonding Jumper Kits			
GACBJ68U	Auxiliary cable bracket jumper for bonding pathway sections; #6 AWG (16mm²); 8.0" (203mm) 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.	1	—
GACBJ612U	Auxiliary cable bracket jumper for bonding pathway sections; #6 AWG (16mm²); 12.0" (305mm) 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.	1	—
GACBJ618U	Auxiliary cable bracket jumper for bonding pathway sections; #6 AWG (16mm²); 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.	1	—

One-Hole Grounding Lay-In Lug

UL LISTED DB RATED

- Used for quick installation of a continuous grounding conductor
- UL 467 Listed for grounding and bonding, copper lugs UL Listed for direct burial in earth or concrete
- UL Listed for use up to 600 V and temperature rated 90°C
- Wide wire range-taking capability minimizes inventory requirements

Copper

Tin-Plated Copper

Aluminum

Part Number	Set Screw Material	Conductor Size Range	Stud Hole Size In.	Hex Key Size In.	Length In.	Width In.	Height In.	Std. Pkg. Qty.
Copper Body								
LICC4-22-C	Stainless Steel	#14 AWG – #4 AWG	0.22	**	1.09	0.39	0.75	100
Tin-Plated Copper Body								
LICC4-22TP-C	Stainless Steel	#14 AWG – #4 AWG	0.22	**	1.09	0.39	0.75	100
Tin-Plated Aluminum Body								
LIAC4-22-C	Stainless Steel	#14 AWG – #4 AWG	0.22	**	1.06	0.39	0.78	100
LIAS1/0-14-L	Zinc Plated Steel	#14 AWG – 1/0 AWG	0.27	**	1.50	0.61	1.10	50
LIAS250-56-Q	Zinc Plated Steel	#6 AWG – 250 kcmil	0.33	1/4	2.20	0.80	1.70	25

**Uses slotted head set screw.

The use of Panduit oxide inhibiting joint compound (CMP) is recommended for pad to conductor connections. Refer to www.panduit.com for more information.

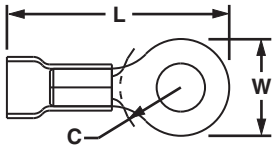
Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

Ring Terminal, Vinyl Expanded Insulation

LISTED CERTIFIED

- Expanded wire entry designed to accommodate wire with a larger insulation thickness
- Ring tongue design assures a secure connection in high vibration applications
- Insulation support helps to prevent wire damage in bending applications
- Brazed seam protects terminal barrel from splitting during the crimp process
- Internal barrel serrations assure good wire contact and maximum tensile strength
- UL Flammability UL 94V-0, maximum insulation temperature 221°F (105°C)
- UL and CSA rated up to 600 V per UL 486A/B



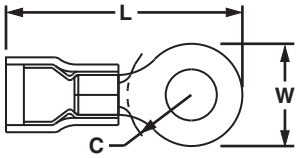
Part Number	Wire Range AWG	Wire Range mm²	Color Code	Max. Ins. Dia. In.	Max. Ins. Dia. mm	Stud Size In.	Stud Size mm	Length In.	Length mm	Width In.	Width mm	Clearance In.	Clearance mm	Panduit Crimping Tool	Std. Pkg. Qty.	Std. Ctn. Qty.
PV14-8RX-C	16 – 14 AWG	1.5 – 2.5	Blue	0.200	5.1	#8	M4	0.96	24.4	0.31	7.9	0.25	6.4	CT-100A‡, CT-600-A‡, CT-1550‡, CT-1551‡, CT-2500‡	100	500
PV14-10RX-C				0.200	5.1	#10	M5	0.96	24.4	0.31	7.9	0.25	6.4		100	500
PV14-14RX-L				0.200	5.1	1/4"	M6	1.16	29.5	0.46	11.7	0.37	9.4		50	500
PV14-56RX-L				0.200	5.1	5/16"	M8	1.16	29.5	0.46	11.7	0.37	9.4		50	500
PV14-38RX-L				0.200	5.1	3/8"	M10	1.25	31.8	0.53	13.5	0.42	10.7		50	500
PV10-8RX-L	12 – 10 AWG	4.0 – 6.0	Yellow	0.250	6.4	#8	M4	1.10	27.9	0.31	7.9	0.30	7.6	CT-100A‡, CT-600-A‡, CT-1550‡, CT-1551‡, CT-2500‡	50	500
PV10-10RX-L				0.250	6.4	#10	M5	1.10	27.9	0.31	7.9	0.30	7.6		50	500
PV10-14RX-L				0.250	6.4	1/4"	M6	1.29	32.8	0.52	13.2	0.39	9.9		50	500
PV10-56RX-L				0.250	6.4	5/16"	M8	1.29	32.8	0.52	13.2	0.42	10.7		50	500
PV10-38RX-L				0.250	6.4	3/8"	M10	1.35	34.3	0.58	14.7	0.46	11.7		50	500
PV8-10RX-QY	8 AWG	10.0	Red	0.360	9.1	#10	M5	1.52	38.6	0.47	11.9	0.43	10.9	CT-720 with Die Insert CD-720PV8-2‡, CT-2600 with Die Insert CD-2600-PV8‡	25	250
PV8-14RX-QY				0.360	9.1	1/4"	M6	1.52	38.6	0.47	11.9	0.43	10.9		25	250
PV8-56RX-QY				0.360	9.1	5/16"	M8	1.62	41.2	0.59	15.0	0.51	13.0		25	250
PV8-38RX-QY				0.360	9.1	3/8"	M10	1.62	41.2	0.59	15.0	0.51	13.0		25	250
PV8-12RX-XY				0.360	9.1	1/2"	M12	1.74	44.2	0.82	20.8	0.51	13.0		10	100
PV6-10RX-X	6 AWG	16.0	Blue	0.436	11.1	#10	M5	1.61	40.9	0.47	11.9	0.43	10.9	CT-720 with Die Insert CD-720PV8-2‡, CT-2600 with Die Insert CD-2600-PV6‡	10	100
PV6-14RX-X				0.436	11.1	1/4"	M6	1.61	40.9	0.47	11.9	0.43	10.9		10	100
PV6-56RX-X				0.436	11.1	5/16"	M8	1.73	43.9	0.62	15.8	0.51	13.0		10	100
PV6-38RX-X				0.436	11.1	3/8"	M10	1.73	43.9	0.62	15.8	0.53	13.5		10	100
PV4-14RX-E	4 AWG	25.0	Yellow	0.515	13.1	1/4"	M6	1.87	47.5	0.55	14.0	0.53	13.5	CT-720 with Die Insert CD-720PV8-2‡, CT-2600 with Die Insert CD-2600-PV4‡	20	200
PV4-56RX-E				0.515	13.1	5/16"	M8	1.94	49.3	0.68	17.3	0.53	13.5		20	200
PV4-38RX-E				0.515	13.1	3/8"	M10	1.94	49.3	0.68	17.3	0.53	13.5		20	200
PV4-12RX-E				0.515	13.1	1/2"	M12	2.03	51.6	0.86	21.8	0.53	13.5		20	200
PV2-14RX-XY	2 AWG	35.0	Red	0.632	16.1	1/4"	M6	1.94	49.3	0.68	17.3	0.58	14.7	CT-720 with Die Insert CD-720PV8-2‡, CT-2600 with Die Insert CD-2600-PV2‡	10	100
PV2-56RX-XY				0.632	16.1	5/16"	M8	1.94	49.3	0.68	17.3	0.58	14.7		10	100
PV2-38RX-XY				0.632	16.1	3/8"	M10	1.94	49.3	0.68	17.3	0.58	14.7		10	100
PV2-12RX-XY				0.632	16.1	1/2"	M12	2.03	51.6	0.86	21.8	0.58	14.7		10	100

‡UL and CSA approved tooling/product combinations.
For crimping tool information, see page M.46.
For the full selection of Panduit Crimping Tools see www.panduit.com.

Ring Terminal, Nylon Insulated – Funnel Entry

LISTED CERTIFIED

- Ring tongue design assures a secure connection in high vibration applications
- Metal insulation grip sleeve crimps to wire insulation, providing protection to the crimp joint during high vibration applications
- Internal barrel serrations assure good wire contact and maximum tensile strength
- UL Flammability UL 94V-2/HB, maximum insulation temperature 221°F (105°C)
- UL and CSA rated up to 600 V per UL 486A/B



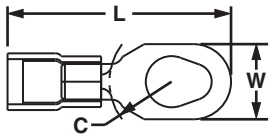
Part Number	Wire Range AWG	Wire Range mm²	Color Code	Max. Ins. In.	Max. Ins. mm	Stud Size In.	Stud Size mm	Length In.	Length mm	Width In.	Width mm	Clearance In.	Clearance mm	Panduit Crimping Tool	Std. Pkg. Qty.	Std. Ctn. Qty.
PNF14-8R-C	16 – 14 AWG	1.5 – 2.5	Blue	0.162	4.12	#8	M4	0.87	22.1	0.31	7.9	0.25	6.4	CT-100A‡, CT-600-A‡, CT-1550‡, CT-1551‡, CT-2500‡	100	500
PNF14-10R-C				0.162	4.12	#10	M5	0.85	21.6	0.31	7.9	0.29	7.4		100	500
PNF14-14R-C				0.162	4.12	1/4"	M6	1.06	26.9	0.46	11.7	0.40	10.2		100	500
PNF14-56R-C				0.162	4.12	5/16"	M8	1.06	26.9	0.46	11.7	0.40	10.2		100	500
PNF14-38R-L				0.162	4.12	3/8"	M10	1.14	29.0	0.53	13.5	0.45	11.4		50	500
PNF10-8R-L	12 –10 AWG	4.0 – 6.0	Yellow	0.225	5.75	#8	M4	1.06	26.9	0.37	9.4	0.31	7.9	CT-100A‡, CT-600-A‡, CT-1550‡, CT-1551‡, CT-2500‡	50	500
PNF10-10R-L				0.225	5.75	#10	M5	1.06	26.9	0.37	9.4	0.31	7.9		50	500
PNF10-14R-L				0.225	5.75	1/4"	M6	1.21	30.7	0.52	13.2	0.38	9.7		50	500
PNF10-56R-L				0.225	5.75	5/16"	M8	1.21	30.7	0.52	13.2	0.38	9.7		50	500
PNF10-38R-L				0.225	5.75	3/8"	M10	1.29	32.8	0.58	14.7	0.43	10.9		50	500

‡UL and CSA approved tooling/product combinations.
For crimping tool information, see page M.46.
For the full selection of Panduit Crimping Tools see www.panduit.com.

Multiple Stud Terminal, Nylon Insulated

LISTED CERTIFIED

- Teardrop shaped mounting hole of multiple stud terminals permits use with #6, #8, or #10 size studs
- Ring tongue design assures a secure connection in high vibration applications
- Metal insulation grip sleeve crimps to wire insulation, providing protection to the crimp joint during high vibration applications
- Internal barrel serrations assure good wire contact and maximum tensile strength
- UL Flammability UL 94V-2/HB, maximum insulation temperature 221°F (105°C)
- UL and CSA rated up to 600 V per UL 486A/B



Part Number	Wire Range AWG	Wire Range mm²	Color Code	Max. Ins. In.	Max. Ins. mm	Stud Size In.	Stud Size mm	Length In.	Length mm	Width In.	Width mm	Clearance In.	Clearance mm	Panduit Crimping Tool	Std. Pkg. Qty.	Std. Ctn. Qty.
PN14-610R-C	16 – 14 AWG	1.5 – 2.5	Blue	0.165	4.25	#6, #8, #10	M3.5 – M5	0.95	24.1	0.31	7.9	0.25	6.4	CT-100A‡, CT-600-A‡, CT-1550‡, CT-1551‡, CT-2500‡, CT-400, CT-460	100	500
PN10-610R-L	12 – 10 AWG	4.0 – 6.0	Yellow	0.225	5.75	#6, #8, #10	M3.5 – M5	1.17	29.7	0.37	9.4	0.33	8.4	CT-100A‡, CT-600-A‡, CT-1550‡, CT-1551‡, CT-2500‡, CT-460	50	500

‡UL and CSA approved tooling/product combinations.
For crimping tool information, see page M.46.
For the full selection of Panduit Crimping Tools see www.panduit.com.

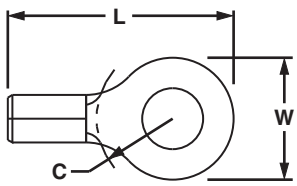
Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

Ring Terminal, Non-Insulated

LISTED CERTIFIED

- Ring tongue design assures a secure connection in high vibration applications
- Internal barrel serrations assure good wire contact and maximum tensile strength
- Brazed seam protects terminal barrel from splitting during the crimp process
- Barrel of terminal internally beveled to provide quick and easy wire insertion
- Maximum recommended operating temperature 302°F (150°C)
- UL and CSA rated up to 2000 V per UL 486A/B, where applicable



Part Number	Wire Range AWG	Wire Range mm²	Stud Size In.	Stud Size mm	Length In.	Length mm	Width In.	Width mm	Clearance In.	Clearance mm	Panduit Crimping Tool	Std. Pkg. Qty.	Std. Ctn. Qty.
P14-8R-C	18 – 14 AWG	1.0 – 2.5	#8	M4	0.71	18.0	0.31	7.9	0.25	6.4	CT-100A‡, CT-200‡, CT-600-A‡, CT-1570‡, CT-2500‡	100	1000
P14-10R-C			#10	M5	0.71	18.0	0.31	7.9	0.25	6.4		100	1000
P14-14R-C			1/4"	M6	0.91	23.1	0.46	11.7	0.38	9.7		100	1000
P14-56R-C			5/16"	M8	0.91	23.1	0.46	11.7	0.38	9.7		100	1000
P14-38R-C			3/8"	M10	1.0	25.4	0.53	13.5	0.43	10.9		100	1000
P14-12R-L			1/2"	M12	1.20	30.5	0.72	18.3	0.53	13.5		50	500
P10-8R-L	14 – 10 AWG	2.5 – 6.0	#8	M4	0.78	19.8	0.31	7.9	0.31	7.9	CT-100A‡, CT-200‡, CT-600-A‡, CT-1570‡, CT-1701‡, CT-2500‡	50	500
P10-10R-L			#10	M5	0.81	20.6	0.38	9.7	0.31	7.9		50	500
P10-14R-L			1/4"	M6	0.96	24.4	0.52	13.2	0.38	9.7		50	500
P10-56R-L			5/16"	M8	0.96	24.4	0.52	13.2	0.38	9.7		50	500
P10-38R-L			3/8"	M10	1.05	26.7	0.58	14.7	0.44	11.2		50	500
P10-12R-L			1/2"	M12	1.20	30.5	0.72	18.3	0.53	13.5		50	500
P8-10R-Q	8 AWG	10.0	#10	M5	1.14	29.0	0.47	11.9	0.43	10.9	CT-1701‡, CT-2600 with Die Insert CD-2600-8‡	25	250
P8-14R-Q			1/4"	M6	1.14	29.0	0.47	11.9	0.43	10.9		25	250
P8-56R-Q			5/16"	M8	1.25	31.8	0.59	15.0	0.51	13.0		25	250
P8-38R-Q			3/8"	M10	1.25	31.8	0.59	15.0	0.51	13.0		25	250
P8-12R-Q			1/2"	M12	1.36	34.5	0.82	20.8	0.54	13.7		25	250
P6-10R-E	6 AWG	16.0	#10	M5	1.21	30.7	0.47	11.9	0.43	10.9	CT-1701‡, CT-2600 with Die Insert CD-2600-6‡	20	200
P6-14R-E			1/4"	M6	1.21	30.7	0.47	11.9	0.43	10.9		20	200
P6-56R-E			5/16"	M8	1.33	33.8	0.62	15.7	0.51	13.0		20	200
P6-38R-E			3/8"	M10	1.33	33.8	0.62	15.7	0.51	13.0		20	200
P6-12R-E			1/2"	M12	1.43	36.3	0.82	20.8	0.51	13.0		20	200
P4-14R-E	4 AWG	25.0	1/4"	M6	1.40	35.6	0.55	14.0	0.50	12.7	CT-1701‡, CT-2600 with Die Insert CD-2600-4‡	20	200
P4-56R-E			5/16"	M8	1.46	37.1	0.68	17.3	0.50	12.7		20	200
P4-38R-E			3/8"	M10	1.46	37.1	0.68	17.3	0.50	12.7		20	200
P4-12R-E			1/2"	M12	1.55	39.4	0.86	21.8	0.53	13.5		20	200
P2-14R-X	2 AWG	35.0	1/4"	M6	1.46	37.1	0.68	17.3	0.58	14.7	CT-1701‡, CT-2600 with Die Insert CD-2600-4‡	10	100
P2-56R-X			5/16"	M8	1.46	37.1	0.68	17.3	0.58	14.7		10	100
P2-38R-X			3/8"	M10	1.46	37.1	0.68	17.3	0.58	14.7		10	100
P2-12R-X			1/2"	M12	1.55	39.4	0.86	21.8	0.58	14.7		10	100

‡UL and CSA approved tooling/product combinations.
For crimping tool information, see page M.46.
For the full selection of Panduit Crimping Tools see www.panduit.com.

Code Conductor, Two-Hole, Long Barrel with Window Lug

LISTED CERTIFIED

For Use with Stranded Copper Conductors

- Meets TIA-607-B requirements for network systems grounding applications
- **Tested by Telcordia – meets NEBS Level 3 with AWG conductor**
- Requires crimping tools and dies, see pages M.46 – M.49
- UL Listed and CSA Certified with AWG conductor for use up to 35 KV** and temperature rated 90°C when crimped with Panduit and specified competitor crimping tools and dies
- Color-coded barrels marked with Panduit and specified competitor die index numbers for proper crimp die selection
- Long barrel maximizes number of crimps and provides premium wire pull-out strength and electrical performance
- Inspection window to visually assure full conductor insertion
- Tin-plated to inhibit corrosion
- Available with NEMA hole sizes and spacing

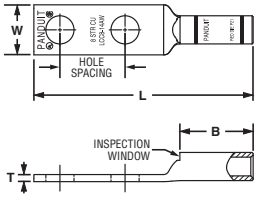


Figure 1: Straight

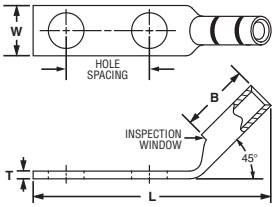


Figure 2: 45° Bent

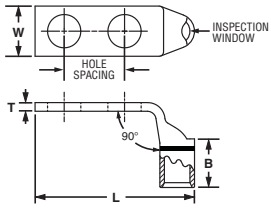


Figure 3: 90° Bent

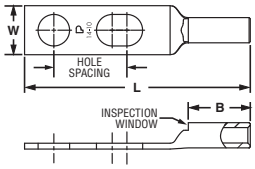


Figure 4: Slotted, Straight

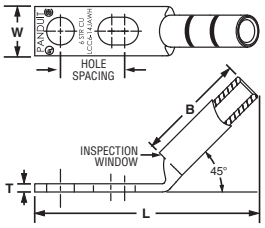


Figure 5: Slotted, 45° Bent

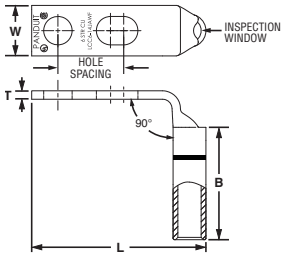


Figure 6: Slotted, 90° Bent

Part Number	Figure No.	Copper Conductor Size	Stud Hole Size In.	Stud Hole Spacing In.	Figure Dimensions In.			Panduit Crimping Tool‡	Panduit Die Color and Die No.‡	Wire Strip Length In.	Busbar Pattern^	Std. Pkg. Qty.
					W	B	L					
LCC10-14JAW-L*	4	#14 – #10 AWG STR, #12 – #10 AWG SOL	1/4	0.50 – 0.63	0.42	0.53	1.93	CT-1570, CT-1701	—	9/16	B	50
LCC10-14JAWH-L*	5		1/4	0.50 – 0.63	0.42	0.53	1.78				B	50
LCC10-14JAWF-L*	6		1/4	0.50 – 0.63	0.42	0.53	1.56				B	50
LCC10-14AW-L*	1		1/4	0.63	0.42	0.53	1.93				B	50
LCC8-10AW-L	1	#8 AWG	#10	0.63	0.41	0.70	2.01	CT-1700, CT-930, CT-2930/L, CT-2930/LE	Red P21	3/4	B	50
LCC8-14AWH-L	2		1/4	0.63	0.48	0.70	1.91				B	50
LCC8-14AWF-L	3		1/4	0.63	0.48	0.70	1.61				B	50
LCC8-38DW-L	1		3/8	1.00	0.60	0.70	2.70				B, D	50

‡See pages M.50 – M.53 for Panduit and competitor tool and die information.
*Not tested to NEBS Level 3 requirements.
**Consult cable manufacturer for voltage stress relief instructions with applications greater than 2000 V.
^See page M.30 for busbar patterns.
◆NEMA hole sizes and spacing.

Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

LISTED CERTIFIED

Code Conductor, Two-Hole, Long Barrel with Window Lug (continued)

Part Number	Figure No.	Copper Conductor Size	Stud Hole Size In.	Stud Hole Spacing In.	Figure Dimensions In. W	B	L	Panduit Crimping Tool‡	Panduit Die Color and Die No.‡	Wire Strip Length In.	Busbar Pattern^	Std. Pkg. Qty.
LCC6-10ABW-L	4	#6 AWG	#10	0.63 – 0.75	0.46	1.07	2.52	CT-1700, CT-930, CT-2930/L, CT-2930/LE	Blue P24	1 1/8	B	50
LCC6-14JAW-L	4		1/4	0.50 – 0.63	0.48	1.07	2.49				B	50
LCC6-14JAWH-L	5		1/4	0.50 – 0.63	0.48	1.07	2.08				B	50
LCC6-14JAWF-L	6		1/4	0.50 – 0.63	0.48	1.07	1.66				B	50
LCC6-14AW-L	1		1/4	0.63	0.48	1.07	2.49				B	50
LCC6-38DW-L	1		3/8	1.00	0.62	1.07	3.08				B, D	50
LCC6-12W-L	1		1/2	1.75	0.75	1.07	3.97			1 1/8	N	50
LCC4-14AW-L	1	#4 – #3 AWG STR, #2 AWG SOL	1/4	0.63	0.55	1.05	2.50	CT-1700, CT-930, CT-2930/L, CT-2930/LE	Gray P29	1 1/8	B	50
LCC4-38DW-L	1		3/8	1.00	0.62	1.05	3.09				B, D	50
LCC4-12W-L	1		1/2	1.75	0.75	1.05	4.01			1 1/8	N	50
LCC2-14AW-Q	1	#2 AWG	1/4	0.63	0.60	1.16	2.67	CT-1700, CT-930, CT-2930/L, CT-2930/LE	Brown P33	1 1/4	B	25
LCC2-38DW-Q	1		3/8	1.00	0.66	1.16	3.24				B, D	25
LCC2-12W-Q	1		1/2	1.75	0.75	1.16	4.41				N	25
LCC1/0-14AW-X	1	1/0 AWG	1/4	0.63	0.76	1.44	3.07	CT-930, CT-2930/L, CT-2930/LE	Pink P42	1 1/2	B	10
LCC1/0-38DW-X	1		3/8	1.00	0.76	1.44	3.57				B, D	10
LCC1/0-12W-X	1		1/2	1.75	0.80	1.44	4.74				N	10
LCC2/0-14AW-X	1	2/0 AWG	1/4	0.63	0.85	1.50	3.23	CT-930, CT-2930/L, CT-2930/LE	Black P45	1 9/16	B	10
LCC2/0-38DW-X	1		3/8	1.00	0.85	1.50	3.67				B, D	10
LCC2/0-12W-X	1		1/2	1.75	0.85	1.50	4.83				N	10
LCC3/0-38DW-X	1	3/0 AWG	3/8	1.00	0.96	1.50	3.70	CT-930, CT-2930/L, CT-2930/LE	Orange P50	1 9/16	B, D	10
LCC3/0-12W-X	1		1/2	1.75	0.96	1.50	4.87				N	10
LCC4/0-38DW-X	1	4/0 AWG	3/8	1.00	1.06	1.56	3.81	CT-930, CT-2930/L, CT-2930/LE	Purple P54	1 5/8	N	10
◆ **LCC4/0-12W-X**	1		1/2	1.75	0.96	1.56	3.81				N	10
LCC250-38DW-X	1	250 kcmil	3/8	1.00	1.17	1.61	3.89	CT-930, CT-2930/L, CT-2930/LE	Yellow P62	1 11/16	B, D	10
◆ **LCC250-12W-X**	1		1/2	1.75	1.17	1.61	4.12				N	10

‡See pages M.50 – M.53 for Panduit and competitor tool and die information.
*Not tested to NEBS Level 3 requirements.
**Consult cable manufacturer for voltage stress relief instructions with applications greater than 2000 V.
^See page M.30 for busbar patterns.
◆NEMA hole sizes and spacing.

Table continues on page M.38

LISTED CERTIFIED

Code Conductor, Two-Hole, Long Barrel with Window Lug (continued)

	Part Number	Figure No.	Copper Conductor Size	Stud Hole Size In.	Stud Hole Spacing In.	Figure Dimensions In.			Panduit Crimping Tool‡	Panduit Die Color and Die No.‡	Wire Strip Length In.	Busbar Pattern^	Std. Pkg. Qty.
						W	B	L					
◆	**LCC350-12W-X**	1	350 kcmil	1/2	1.75	1.28	2.24	5.76	CT-930, CT-2930/L, CT-2930/LE	Red P71	2 5/16	N	10
	LCC350-38DW-X	1		3/8	1.00	1.28	2.24	4.58		Red P71		B, D	10
◆	**LCC400-12W-6**	1	400 kcmil	1/2	1.75	1.28	2.30	5.84	CT-930, CT-2930/L, CT-2930/LE	Blue P76	2 3/8	N	6
	LCC400-38DW-6	1		3/8	1.00	1.39	2.30	4.66		Blue P76		B, D	6
◆	**LCC500-12W-6**	1	500 kcmil	1/2	1.75	1.54	2.50	6.12	CT-930, CT-2930/L, CT-2930/LE	Brown P87	2 9/16	N	6
	LCC500-38DW-6	1		3/8	1.00	1.54	2.50	4.94		Brown P87		B, D	6
◆	**LCC600-12W-6**	1	600 kcmil	1/2	1.75	1.70	2.69	6.36	CT-930, CT-2930/L, CT-2930/LE	Green P94	2 3/4	N	6
	LCC600-38DW-6	1		3/8	1.00	1.70	2.69	5.18		Green P94		B, D	6
◆	**LCC750-12W-6**	1	750 kcmil	1/2	1.75	1.89	2.88	6.65	CT-930, CT-2930/L, CT-2930/LE	Black P106	2 15/16	N	6
	LCC750-38DW-6	1		3/8	1.00	1.89	2.88	5.71		Black P106		B, D	6

‡See pages M.50 – M.53 for Panduit and competitor tool and die information.
*Not tested to NEBS Level 3 requirements.
**Consult cable manufacturer for voltage stress relief instructions with applications greater than 2000 V.
^See page M.30 for busbar patterns.
◆NEMA hole sizes and spacing.

Order number of pieces required, in multiples of Standard Package Quantity.
Prime items appear in **BOLD**.

LISTED CERTIFIED

Flex Conductor, Two-Hole, Long Barrel with Window Lug

For Use with Flexible, Extra-Flexible, and Code Stranded Copper Conductors

- Meets TIA-607-B requirements for network systems grounding applications
- Requires crimping tools and dies, see pages M.46 – M.49
- UL Listed and CSA Certified with AWG conductor for use up to 35 KV** and temperature rated 90°C when crimped with Panduit and specified competitor crimping tools and dies
- Color-coded barrels marked with Panduit and specified competitor die index numbers for proper crimp die selection
- Can be used with code conductor and flex conductor class: G, H, I,K, M and Diesel Locomotive
- Long barrel maximizes number of crimps and provides premium wire pull-out strength and electrical performance
- Inspection window to visually assure full conductor insertion
- Generously beveled wire entry prevents bent back strands when inserting conductor into barrel
- Tin-plated to inhibit corrosion
- Available with NEMA hole sizes and spacing

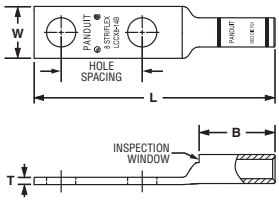


Figure 1: Straight

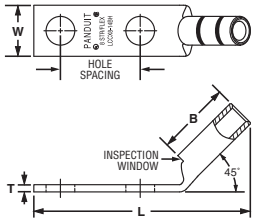


Figure 2: 45° Bent

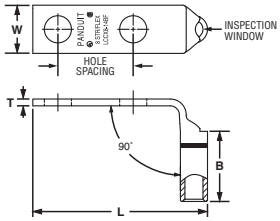


Figure 3: 90° Bent

Part Number	Fig. No.	Flex Conductor Size		Code Conductor Size	Stud Hole Size In.	Stud Hole Spacing In.	Figure Dimensions In.			Panduit Crimping Tool‡	Panduit Die Color & Die No.‡	Wire Strip Length In.	Busbar Pattern^	Std. Pkg. Qty.
		Class G,H, I, K, M	Diesel Locomotive				W	B	L					
LCCX8-14A-L	1	#8 AWG	#8 AWG	#8 AWG	1/4	0.63	0.48	0.70	2.10	CT-1700, CT-930, CT-2930/L, CT-2930/LE	Red P21	3/4	B	50
LCCX8-14AH-L	2				1/4	0.63	0.48	0.70	1.91					50
LCCX8-14AF-L	3				1/4	0.63	0.48	0.70	1.62					50
LCCX8-38D-L	1				3/8	1.00	0.60	0.70	2.70				B, D	50
LCCX6-14A-L	1	#6 AWG	#6 AWG	#6 AWG	1/4	0.63	0.48	1.07	2.49	CT-1700, CT-930, CT-2930/L, CT-2930/LE	Blue P24	1 1/8	B	50
LCCX6-14AH-L	2				1/4	0.63	0.48	1.07	2.18					50
LCCX6-14AF-L	3				1/4	0.63	0.48	1.07	1.66					50
LCCX6-38D-L	1				3/8	1.00	0.62	1.07	3.08				B, D	50

‡See pages M.54 and M.55 for Panduit and competitor tool and die information.
**Consult cable manufacturer for voltage stress relief instructions with applications greater than 2000 V.
^See page M.30 for busbar patterns.
◆NEMA hole sizes and spacing.

Table continues on page M.40

LISTED CERTIFIED

Flex Conductor, Two-Hole, Long Barrel with Window Lug (continued)

	Part Number	Fig. No.	Flex Conductor Size		Code Conductor Size	Stud Hole Size In.	Stud Hole Spacing In.	Figure Dimensions In.			Panduit Crimping Tool‡	Panduit Die Color & Die No.‡	Wire Strip Length In.	Busbar Pattern^	Std. Pkg. Qty.
			Class G,H, I, K, M	Diesel Locomotive				W	B	L					
	LCCX4-14A-L	1	#4 AWG	#5, #4, #3 AWG	#4 AWG	1/4	0.63	0.55	1.05	2.49	CT-1700, CT-930, CT-2930/L, CT-2930/LE	Gray P29	1 1/8	B	50
	LCCX4-38D-L	1				3/8	1.00	0.62	1.05	3.09				B, D	50
	LCCX2-14A-E	1	#2 AWG	#2 AWG	#2 AWG	1/4	0.63	0.70	1.36	2.89	CT-1700, CT-930, CT-2930/L, CT-2930/LE	Brown P33	1 7/16	B	20
	LCCX2-38D-E	1				3/8	1.00	0.70	1.36	3.46				B, D	20
	LCCX2-12-E	1				1/2	1.75	0.75	1.36	4.63				N	20
	LCCX1/0-14A-X	1	1/0 AWG	1/0 AWG	1/0 AWG	1/4	0.63	0.85	1.50	3.23	CT-930, CT-2930/L, CT-2930/LE	Pink P42	1 9/16	B	10
	LCCX1/0-38D-X	1				3/8	1.00	0.85	1.50	3.67				B, D	10
	LCCX1/0-12-X	1				1/2	1.75	0.85	1.50	4.83				N	10
	LCCX2/0-14A-X	1	2/0 AWG	2/0 AWG	2/0 AWG	1/4	0.63	0.96	1.50	3.27	CT-930, CT-2930/L, CT-2930/LE	Black P45	1 9/16	B	10
	LCCX2/0-38D-X	1				3/8	1.00	0.96	1.50	3.70				B, D	10
	LCCX2/0-12-X	1				1/2	1.75	0.96	1.50	4.87				N	10
	LCCX3/0-38D-X	1	3/0 AWG	3/0 AWG	3/0 AWG	3/8	1.00	1.06	1.56	3.81	CT-930, CT-2930/L, CT-2930/LE	Orange P50	1 5/8	B, D	10
	LCCX4/0-38D-X	1	4/0 AWG	4/0 AWG	4/0 AWG	3/8	1.00	1.19	2.24	4.55	CT-930 CT-2930/L, CT-2930/LE	Purple P54	2 5/16	B, D	10
◆	LCCX4/0-12-X	1			4/0 AWG	1/2	1.75	1.19	2.24	5.73				N	10
	LCCX250-38D-X	1	250 kcmil	262.6 kcmil	—	3/8	1.00	1.28	2.24	4.59	CT-930, CT-2930/L, CT-2930/LE	Yellow P62	2 5/16	B, D	10
◆	LCCX350-12-6	1	350 kcmil	373.7 kcmil	—	1/2	1.75	1.54	2.50	6.13	CT-930, CT-2930/L, CT-2930/LE	Blue P76	2 9/16	N	6
	LCCX350-38D-6	1	350 kcmil	373.7 kcmil	—	3/8	1.00	1.54	2.50	4.95	CT-930, CT-2930/L, CT-2930/LE	Blue P76	2 9/16	B, D	6
◆	LCCX450-12-6	1	450 kcmil	444.4 kcmil	—	1/2	1.75	1.70	2.69	6.37	CT-930, CT-2930/L, CT-2930/LE	Brown P87	2 3/4	N	6
	LCCX450-38D-6	1	450 kcmil	444.4 kcmil	—	3/8	1.00	1.70	2.69	5.19	CT-930, CT-2930/L, CT-2930/LE	Brown P87	2 3/4	B, D	6
◆	LCCX500-12-6	1	500 kcmil	535.3 kcmil	—	1/2	1.75	1.89	2.88	6.66	CT-930, CT-2930/L, CT-2930/LE	Pink P99	2 15/16	N	6
	LCCX500-38D-6	1	500 kcmil	535.3 kcmil	—	3/8	1.00	1.89	2.88	5.72	CT-930, CT-2930/L, CT-2930/LE	Pink P99	2 15/16	B, D	6
◆	LCCX650-12-6	1	—	646.4 kcmil	—	1/2	1.75	1.95	2.94	6.75	CT-930, CT-2930/L, CT-2930/LE	Black P106	3.00	N	6

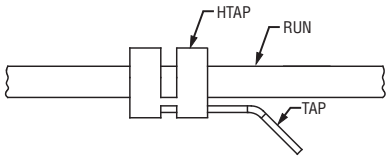
‡See pages M.54 and M.55 for Panduit and competitor tool and die information.
**Consult cable manufacturer for voltage stress relief instructions with applications greater than 2000 V.
^See page M.30 for busbar patterns.
◆NEMA hole sizes and spacing.

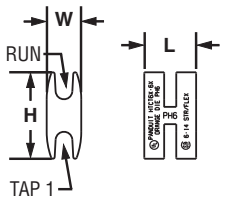
Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

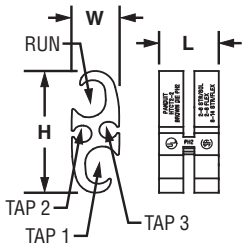
Code/Flex Conductor HTAP

- Used to tap into continuous conductors as a splice or pigtailing
- Each HTAP terminates a wide range of conductor sizes and combinations of code and flex conductors Class G, H, I and Locomotive to suit a variety of applications
- Slotted design allows quick and easy assembly of conductor to HTAP using three Panduit 94V-0 cable ties included
- Tap grooves are separated from one another allowing them to function independently so HTAP can be used with a single or multiple taps providing maximum design and installation flexibility
- Color coded and marked with Panduit die index numbers for proper crimp die selection
- Requires crimping tools and dies, see pages M.47 – M.49
- UL Listed and CSA Certified with AWG conductor for applications up to 600 V when crimped with Panduit and specified competitor crimping tools and Panduit crimping dies
- Tin plated to inhibit corrosion

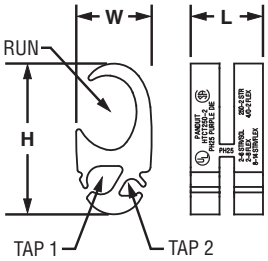




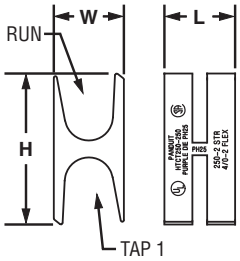
HTCT6X-6X



HTCT2-2



HTCT250-2



HTCT250-250

Part Number	Copper Conductor Size Range					Figure Dimensions In.			Panduit Crimping Tool‡	Panduit Die Color & Die No.‡	Wire Strip Length In.	Std. Pkg. Qty.
	Wire Strand Type	Run	Tap 1	Tap 2	Tap 3	L	W	H				
HTCT6X-6X-1	Code	#6 – #14 AWG	#6 – #14 AWG	— —	— —	0.60	0.40	1.00	CT-930, CT-2930/L, CT-2930/LE	Orange PH6	11/16	1
	Flex	#6 – #14 AWG	#6 – #14 AWG	— —	— —							
HTCT2-2-1	Code	#2 – #6 AWG STR/SOL	#2 – #6 AWG STR/SOL	#8 – #14 AWG	#8 – #14 AWG	0.76	0.61	1.55	CT-930, CT-2930/L, CT-2930/LE	Brown PH2	13/16	1
	Flex	#2 – #8 AWG	#2 – #8 AWG	#8 – #14 AWG	#8 – #14 AWG							
HTCT250-2-1	Code	250 kcmil – #2 AWG	#2 – #6 AWG STR/SOL	#8 – #14 AWG	— —	0.92	0.96	1.92	CT-930, CT-2930/L, CT-2930/LE	Purple PH25	1	1
	Flex	4/0 – #2 AWG	#2 – #8 AWG	#8 – #14 AWG	— —							
HTCT250-250-1	Code	250 kcmil – #2 AWG	250 kcmil – #2 AWG	— —	— —	0.90	0.89	1.92	CT-930, CT-2930/L, CT-2930/LE	Purple PH25	1	1
	Flex	4/0 – #2 AWG	4/0 – #2 AWG	— —	— —							

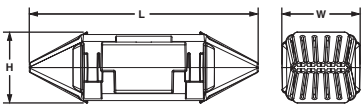
‡See page M.58 for Panduit and competitor tool and die information.

Clear Covers for HTCT HTAPs

- Made of high impact plastic to provide high impact strength and 360° inspections of crimped connection to assure the crimp is complete and the correct die was used
- Incorporate dual self-latching spring loaded latches and supplied with two Panduit UL 94V-0 cable ties to allow for easy snap-on assembly and ensure covers are secured
- Low profile design minimizes space requirements
- Each cover half supports installation information labels inside plastic retainer strips to allow labels to be viewed on either side of cover and to protect labels from being removed
- Incorporate molded in flash barriers which encompass the HTAP installation providing protection against electrical flash over
- UL 94V-0 flame rating and oxygen index of 28 providing self-extinguishing, flame retardant properties
- Part number, voltage rating, temperature rating and HTCT part number molded into cover for easy identification
- Flexible fingers located at each end of cover prevent foreign objects from entering cover and are made from ductile plastic material that allows easy installation and will not damage conductor insulation

Part Number	Use With HTAP Part Number	Figure Dimensions In.			Std. Pkg. Qty.
		L	W	H	
CLRCVR1-1	HTCT6X-6X-1	4.48	1.41	1.20	1
CLRCVR2-1	HTCT2-2-1	5.10	1.66	1.40	1
CLRCVR3-1	HTCT250-2-1, HTCT250-250-1	5.35	2.16	1.40	1

Labels for clear covers are sold separately and are printed with the Panduit® PanTher™ LS8E Hand-Held Thermal Transfer Printer, see pages O.1 – O.25.



Shown Assembled

Code/Flex Conductor HTAP Kits

Part Number	Components		Std. Pkg. Qty.
	HTAP Part No.	Clear Cover Part No.	
HTWC6X-6X-1	HTCT6X-6X-1	CLRCVR1-1	1
HTWC2-2-1	HTCT2-2-1	CLRCVR2-1	1
HTWC250-2-1	HTCT250-2-1	CLRCVR3-1	1
HTWC250-250-1	HTCT250-250-1	CLRCVR3-1	1

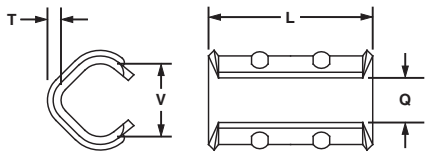
Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

Code Conductor, Thin Wall, Tin-Plated, CTAPF

UL LISTED CSA CERTIFIED

- For copper-to-copper tapping splicing or pigtailing
- Wide wire range-taking capability minimizes inventory requirements
- Color-coded for proper crimp die selection
- Ribbed design provides high strength
- Made from high conductivity wrought copper
- Tin-plated to inhibit corrosion and oxidation
- UL Listed and CSA Certified with AWG conductor to 600 V and temperature rated to 90°C when crimped with Panduit and specified competitor crimping tools and dies

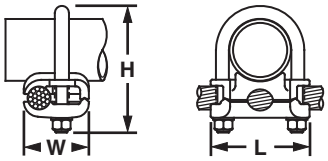


Part Number	Copper Conductor Size		Number of Ribs	Figure Dimensions In.				Panduit Crimping Tool‡	Panduit Color Code	Wire Strip Length In.	Std. Pkg. Qty.
	Run AWG	Tap AWG		L	T	V	Q				
CTAPF4-12TP-C	#6 AWG	#8 – #6 AWG	1	1.25	0.07	0.40	0.28	CT-1700, CT-930, CT-2930/L, CT-2930/LE	Brown	1 5/16	100
	#5, #4 AWG	#12 – #8 AWG									
CTAPF1/0-12TP-L	#2 AWG	#4 – #2 AWG	2	1.82	0.09	0.63	0.42	CT-930, CT-2930/L, CT-2930/LE	Orange	1 7/8	50
	#1 AWG	#4 – #3 AWG									
	1/0 AWG	#12 – #4 AWG									
CTAPF2/0-12TP-Q	#1 AWG	#2 – #1 AWG	2	1.82	0.09	0.71	0.48	CT-930, CT-2930/L, CT-2930/LE	Purple	1 7/8	25
	1/0 AWG	#3 – #2 AWG									
	2/0 AWG	#12 – #3 AWG									

‡See pages M.56 – M.57 for Panduit and competitor tool and die information.

Grounding Clamp, U-Bolt, Bronze

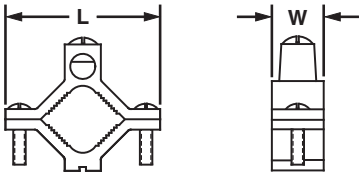
- Used to ground copper conductor parallel or at a right angle to a rod, tube, or pipe
- Made from high strength, electrolytic cast bronze
- High strength silicon bronze hardware provides long term reliable assembly
- Accommodates a wide range of pipe, tube, rod and conductor sizes – minimizes inventory
- UL Listed for grounding and bonding with AWG conductor and suitable for direct burial in earth or concrete



Part Number	Ground Rod Size In.	Iron Pipe Size In.	Conductor Size Range AWG	Figure Dimensions In.			Bolt Dia. In.	Hex Size In.	Std. Pkg. Qty.
				L	W	H			
GPL-8-Q	7/8 or 1	1/2 or 3/4	#8 SOL – #4 STR	2.38	1.38	2.63	3/8	9/16	25
GPL-14-X	—	1	#8 SOL – #4 STR	2.63	1.38	2.75	3/8	9/16	10
GPL-15-X	—	1	#4 SOL – 2/0 STR	2.63	1.63	2.75	3/8	9/16	10
GPL-16-X	—	1	2/0 SOL – 250 kcmil	2.63	1.88	3.25	3/8	9/16	10
GPL-22-X	—	1 1/4	2/0 SOL – 250 kcmil	3.00	1.88	3.50	3/8	9/16	10
GPL-28-X	—	1 1/2	2/0 SOL – 250 kcmil	3.25	1.88	4.00	3/8	9/16	10
GPL-34-3	—	2	2/0 SOL – 250 kcmil	3.75	1.88	4.25	3/8	9/16	3

Grounding Clamp for Water Pipes, Bronze

- Used to ground copper code conductor to water pipe or copper tube
- Cast from high strength, electrolytic bronze to provide reliable grounding connections
- Plated steel screws provide high strength and inhibit corrosion
- Accommodates a wide range of pipe, tube, rod and conductor sizes – minimizes inventory
- UL Listed for grounding and bonding with AWG conductor and suitable for direct burial in earth or concrete



Part Number	Water Pipe Range In.	Conductor Size Range AWG	Figure Dimensions In.		Std. Pkg. Qty.
			L	W	
KP1-C	1/2 – 1	#10 SOL – #2 STR	2.28	0.66	100
KP2-L	1 1/4 – 2	#10 SOL – #2 STR	3.58	0.73	50

Order number of pieces required, in multiples of Standard Package Quantity.

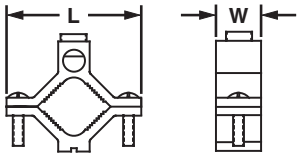
Prime items appear in **BOLD**.

LISTED CERTIFIED

Grounding Clamp for Water Pipes, Aluminum

- Dual-rated for grounding aluminum or copper code conductors to copper water pipe, galvanized pipe, or steel conduit
- Made from high strength, extruded aluminum alloy to provide long term durability
- Tin-plated to inhibit corrosion and oxidation and for low contact resistance
- Plated steel screws provide high strength and inhibit corrosion
- Accommodates a wide range of pipe, tube, and conductor sizes – minimizes inventory requirements
- UL Listed and CSA Certified for grounding and bonding

Part Number	Water Pipe Range In.	Conductor Size Range AWG	Figure Dimensions In.		Std. Pkg. Qty.
			L	W	
GC-15A-Q	1/2 – 3/4 – 1	#14 AWG – 1/0 AWG	2.25	0.69	25
GC-18A-X	1 1/4 – 1 1/2 – 2	#6 AWG – 250 kcmil	3.75	0.81	10
GC-22A-4	2 1/2 – 3 – 3 1/2 – 4	#6 AWG – 250 kcmil	6.31	1.00	4



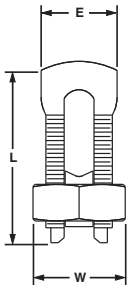
LISTED CERTIFIED

Split Bolt, Copper

- Made from high strength copper alloy to resist corrosion and provide premium electrical and mechanical performance
- Wire range-taking capability minimizes inventory requirements
- Nut hex provides correct fit with socket, box, or open end wrenches resulting in proper torquing of electrical connection
- Pressure bar provides secure connection on a full range of conductor combinations used with each connector assuring premium wire pull-out strength
- UL Listed and CSA Certified with AWG conductor for use up to 600 V and temperature rated 90°C
- SBCT3-C is tin-plated for bonding to galvanized wire baskets

SBC3-C

SBCT3-C Tin-Plated

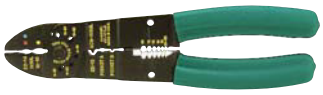


Part Number	Copper Conductor			Figure Dimensions In.			Std. Pkg. Qty.
	Range of Equal Run and Tap AWG		Min. Tap with One Max. Run AWG				
	Min.	Max.		E	W	L	
UL Listed and CSA Certified with Copper Code Conductors							
SBC3-C	#8 STR	#4 STR	#14 STR	0.58	0.81	1.16	100
UL Listed and CSA Certified with Copper and Aluminum Code Conductors							
SBCT3-C*	#8 STR	#4 STR	#10 STR	0.58	0.81	1.24	100

*The use of Panduit oxide inhibiting joint compound (CMP-100) is recommended. Refer to www.panduit.com for more information.

Hand Operated Plier Type Tools

- Installer controlled crimp
- Available with wire stripping and cutting features
- Plier type crimp for #22 thru 10 insulated and non-insulated terminal products



Part Number	Part Description	Std. Pkg. Qty.
CT-100A	Crimps most Panduit #22 – 10 AWG insulated and non-insulated terminals, disconnects, and splices. Crimps 4mm² – 6mm² copper metric lugs. Cuts #4, #6, #8 and #10 screw sizes. Cuts and strips wire. Excellent all-around application tool of heat treated finished steel with comfortable cushioned plastic grip handles.	1

Contour Crimp™ Controlled Cycle Tools

- Controlled cycle mechanism assures high quality, consistent terminations
- Ergonomic tool design assures operator comfort, safety, and performance
- Polypropylene, elastomeric handles provide chemical resistance and a cushioned, non-slip grip

CT-1550

CT-1570

CT- 1700

CT-1701

Part Number	Part Description	Std. Pkg. Qty.
CT-1550	Crimps most Pan-Term® #22 – 10 AWG nylon and vinyl insulated terminals, splices, and disconnects. The CT-1550 has the red/blue pocket closest to the pivot which provides a reduced crimp effort for those who make red/blue terminations.	1
CT-1570	Crimps most Pan-Term® #22 – 10 AWG and .5 – 6.0mm² non-insulated terminals and disconnects. Crimps Panduit #22 – 10 AWG and .5 – 6.0mm² non-insulated splices, #14 – #10 AWG copper code conductor lugs, and 4mm² – 6mm² copper metric lugs.	1
CT-1700	Crimps Panduit #8 – 2 AWG non-insulated tubular terminals (S series), #8 – 1 AWG copper code conductor lugs and splices, #8 – 2 AWG copper flex conductor lugs, #6 – 4 AWG dual rated aluminum lugs and splices and CTAPF10-16 to CTAPF3-12 copper taps. Includes 5-position, color coded rotating die.	1
CT-1701	Crimps Panduit #10 – 2 AWG non-insulated large gauge ring terminals (P series), #12 – 4 AWG non-insulated heavy duty ring terminals (P series), #14 – 10 AWG copper code conductor lugs, and 4mm² – 6mm² copper metric lugs. Includes 5-position, rotating die.	1

Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

Die Type, Manual Hydraulic, 14 Ton, Crimping Tool

- Two-stage rapid advance hydraulic system minimizes number of pumps required to complete a crimp – saves time
- Cushioned grip prevents hands from slipping on tool – reduces fatigue
- Provides UL Listed and CSA Certified connections on Panduit copper and aluminum lugs and splices and copper taps
- Open "C-Head" design allows easy loading of crimping dies and connectors, saves time
- Requires crimping dies, see page M.49
- Dies installed using spring loaded die retention pins, no need for tools
- Rubber boot on crimp head provides abrasion protection
- Audible "pop-off" valve indicates crimp completion
- Crimp head rotates 180°, provides versatility for use in restricted spaces

Part Number	Part Description	Std. Pkg. Qty.
CT-930	Terminates Panduit Compression Connectors: • Copper compression lugs and splices for #8 AWG – 750 kcmil code conductor • Copper compression lugs and splices for #8 AWG – 600 kcmil flex conductor • Copper compression lugs and splices for 10mm² – 400mm² Class 2r metric conductor • Copper compression lugs and splices for 10mm² – 300mm² Class 5f and 10mm² – 240mm² Class 6f metric conductor • StructuredGround™ Direct Burial Compression Grounding System Connectors for #6 AWG – 250 kcmil code conductor and select 500 kcmil conductor combinations • Copper compression CTAPF taps for #10 – 3/0 AWG code conductor • Copper compression CTAP taps for #8 – 4/0 AWG code conductor • Copper compression HTCT taps for #14 AWG – 250 kcmil code conductor, #14 – 4/0 AWG flex conductor • Aluminum compression lugs and splices for #6 AWG – 600 kcmil code conductor • Panduit® Pan-Term® Tubular Terminals for #8 AWG – 250 kcmil code conductor Specifications: Output: 14 tons Jaw opening: 1.65" Weight: 16.5 lbs. Length: 25" Handle span: 17 1/2" (open), 6" (closed) Warranty: 5 years CT-930 includes: • Tool • Plastic tool case with die storage	1

Compatible with CD-920 and CD-930 crimping dies, sold separately, see page M.49.

Die Type, Lithium-Ion Powered Hydraulic, 14 Ton, Crimping Tool

- Lithium-Ion battery powered, provides fingertip operation and up to 71.5% more crimps per battery charge than tools powered with NiCd or NiMH batteries
- Pistol grip tool design with open "C-Head" provides easy loading of crimping dies and rotates 180°, for reaching into tight spaces
- Provides UL Listed and CSA Certified connections on Panduit copper and aluminum lugs and splices and copper taps
- Tool provided with two, Milwaukee® M18™ XC high capacity RED lithium-ion 18VDC rechargeable batteries, battery charger and shoulder strap
- Batteries incorporate LED fuel gage so battery charge level can be checked to allow for continuous operation
- Approximately 9.6 second crimp cycle time provides quick terminations, 30% faster than tools using NiCd or NiMH batteries
- Battery charger charges expended batteries completely in 60 minutes
- Requires crimping dies, see page M.49
- Dies installed using spring loaded die retention pins, no need for tools
- Tool provided with heavy-duty, soft sided tool bag with 58 pockets for storing tool, batteries, charger, dies, etc.

CT-2930/L and CT-2930/LE

FREE! Heavy-Duty Soft Sided Tool Bag Included

Part Number	Charger Voltage	Part Description	Std. Pkg. Qty.
CT-2930/L	120 VAC	Terminates Panduit compression connectors: • Copper compression lugs and splices for #8 AWG – 750 kcmil code conductor • Copper compression lugs for #8 AWG – 600 kcmil flex conductor • Copper compression S Series, Pan-Term™ Tubular Terminals for #8 AWG – 250 kcmil code conductor • Copper compression lugs and splices for 10mm² – 400mm² Class 2r conductor • Copper compression lugs and splices for 10mm² – 300mm² Class 5f conductor and 10mm² – 240mm² Class 6f conductor • StructuredGround™ Direct Burial Compression Grounding System connectors #6 AWG – 250 kcmil code conductor and select 500 kcmil conductor combinations • Copper compression CTAPF taps for #10 – 3/0 AWG code conductor • Copper compression CTAP taps for #8 – 4/0 AWG code conductor • Copper compression HTCT taps for #14 AWG – 250 kcmil code conductor, #14-4/0 AWG flex conductor • Aluminum compression lugs and splices for #6 AWG – 600 kcmil code conductor Specifications: Output: 14 tons (124.5 Kn) Jaw opening: 1.65" (41.9mm) Weight: 17.90 lbs. (8.1 kg) with battery Length: 14.5" (368.3mm), Height: 16.5" (419.1mm), Width: 3.25" (82.6mm) Warranty: 5 years on tool, batteries and charger Tool includes: • Two Milwaukee® M18™ XC high capacity RED lithium-ion 18VDC rechargeable batteries • One Milwaukee® battery charger • One shoulder strap • Heavy-duty bag with storage for tool, batteries, charger, and crimping dies; includes 58 pockets and a shoulder strap for added convenience; 18"L x 7"W x 14"H*	1
CT-2930/LE	230 VAC		1

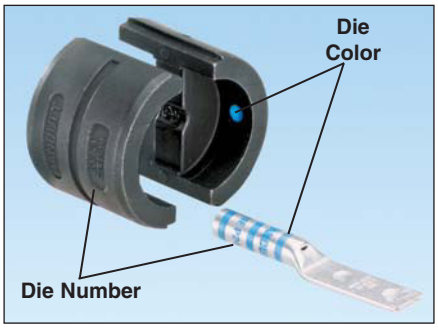
Compatible with CD-920, CDM-920, and CD-930 crimping dies, sold separately, see page M.49.
Tool bag also sold separately, see part number PTB-GP on www.panduit.com.

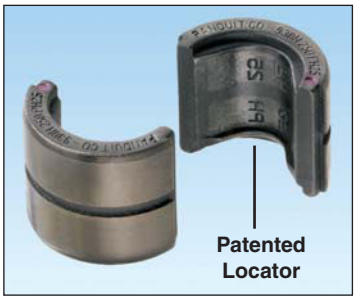
Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

CD-920 Crimping Dies

- Crimping dies and connectors are color-coded for easy matching
- Emboss die index number on connector barrels for post crimp inspection
- Part number permanently marked on crimping die for easy identification
- Provide circumferential crimp results in terminations with premium electrical and mechanical performance
- Used in Panduit crimping tools; see the CT-930 crimping tool on page M.47 and the CT-2930/L and CT-2930/LE crimping tools on page M.48





HTAP Die with Patented Locator

CD-920

CD-930H

CDM-920

Part Number	Used to Install Panduit Compression Lug and Splice Sizes Copper Code Conductor Size and Die Color and Die No.	Std. Pkg. Qty.
Single Crimp Dies		
CD-920-8	#8 AWG, Red P21	1
CD-920-6	#6 AWG, Blue P24	1
CD-920-4	#4 AWG, Gray P29	1
CD-920-2	#2 AWG, Brown P33	1
CD-920-1	#1 AWG, Green P37	1
CD-920-1/0	1/0 AWG, Pink P42	1
CD-920-2/0	2/0 AWG, Black P45	1
CD-920-3/0	3/0 AWG, Orange P50	1
CD-920-4/0	4/0 AWG, Purple P54	1
CD-920-250	250 kcmil, Yellow P62	1
CD-920-350	350 kcmil, Red P71	1
CD-920-400	400 kcmil, Blue P76	1
CD-920-500	500 kcmil, Brown P87	1
CD-920-500A	500 kcmil, Pink P99	1
CD-920-600	600 kcmil, Green P94	1
CD-920-750	750 kcmil, Black P106	1

Part Number	Used to Install Panduit HTAP Part Numbers Copper HTAP and Die Color and Die No.	Std. Pkg. Qty.
Single Crimp Dies with Patented Locator		
CD-920H-6	HTCT6X-6X-1, Orange PH6	1
CD-920H-2	HTCT2-2-1, Brown PH2	1
CD-930H-250	HTCT250-2-1, HTCT250-250-1, Purple PH25	1

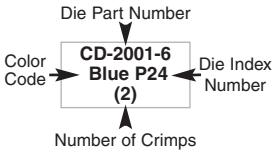
Part Number	Used to Install Panduit CTAPF Part Numbers Copper CTAPF and Die Color and Die No.	Std. Pkg. Qty.
Multi-Crimp Dies		
CDM-920-2	CTAPF4, Brown P33M	1
CDM-920-3/0	CTAPF1/0, Orange P50M	1
CDM-920-4/0	CTAPF2/0, Purple P54M	1

For use with Copper Conductors

Installation Tooling and Die Selections for Type LCC-W

How to read this chart

For LCC6-W lug and CT-2001 crimping tool:



			Panduit							Thomas & Betts			
Panduit Part Number	Std. Wire Size	Wire Strip Length (In.)	CT-1570	CT-1701①	CT-1700①	CT-720	CT-930, CT-930CH, CT-930LPCH⑤, CT-2930, CT-2930/L, CT-2930/LE, CT-2931, CT-920 CT-920CH, CT-2940③, CT-2940/L③, CT-2940/LE③, CT-2920, CT-940CH③	Uni-Die™ Dieless CT-980, CT-980CH, CT-2950④, CT-2980, CT-2980/L, CT-2980/LE, CT-2981, CT-980LPCH⑤ Extended Wire Range⑧	CT-2001, CT-2001/L, CT2001/LE, CT-2002, CT-2002/L, CT-3001, CT-3001/E	TBM20S, TBM25S	TBM5	TBM6, TBM6S, 25000, TBM8	TBM12, 13642M
			Die Part Number/Color Code and Die Index Number/(Number of Crimps)										
LCC10-W	#14 – #10 AWG STR, #12 – #10 AWG SOL	9/16	12-10 (2)	P10 (2)	—	—	—	—	—	—	—	—	—
LCC8-W	#8 AWG	3/4	—	—	Red P21 (3)	CD-720-1 Red P21 (2)	CD-920-8 Red P21 (1)	—	CD-2001-8 Red P21 (2)	Red 21 (3)	Red 21 (1)	Red 21 (1)	Red 21 (1)
LCC6-W	#6 AWG	1-1/8	—	—	Blue P24 (3)	CD-720-1 Blue P24 (2)	CD-920-6 Blue P24 (1)	—	CD-2001-6 Blue P24 (2)	Blue 24 (3)	Blue 24 (1)	Blue 24 (1)	Blue 24 (1)
LCC4-W	#4 – #3 AWG STR, #2 AWG SOL	1-1/8	—	—	Gray P29 (3)	CD-720-1 Gray P29 (2)	CD-920-4 Gray P29 (1)	#4 – #2 AWG #2 AWG SOL Only (1)	CD-2001-4 Gray P29 (2)	Gray 29 (3)	Gray 29 (1)	Gray 29 (1)	Gray 29 (1)
LCC2-W	#2 AWG	1-1/4	—	—	Brown P33 (3)	CD-720-1 Brown P33 (2)	CD-920-2 Brown P33 (1)	#6 – #2 AWG (1)	CD-2001-2 Brown P33 (2)	Brown 33 (3)	Brown 33 (1)	Brown 33 (1)	Brown 33 (1)
LCC1/0-W	1/0 AWG	1-1/2	—	—	—	CD-720-2 Pink P42 (2)	CD-920-1/0 Pink P42 (2)	#6 – 1/0 AWG (2)	CD-2001-1/0 Pink P42 (2)	—	Pink 42 (2)	Pink 42 (2)	Pink 42 (2)
LCC2/0-W	2/0 AWG	1-9/16	—	—	—	CD-720-2 Black P45 (3)	CD-920-2/0 Black P45 (3)	#4 – 2/0 AWG (2)	CD-2001-2/0 Black P45 (3)	—	Black 45 (3)	Black 45 (3)	Black 45 (2)
LCC3/0-W	3/0 AWG	1-9/16	—	—	—	CD-720-2 Orange P50 (3)	CD-920-3/0 Orange P50 (3)	#2 – 3/0 AWG (2)	CD-2001-3/0 Orange P50 (3)	—	Orange 50 (3)	Orange 50 (3)	Orange 50 (2)
LCC4/0-W	4/0 AWG	1-5/8	—	—	—	CD-720-3 Purple P54 (3)	CD-920-4/0 Purple P54 (3)	#1 – 4/0 AWG (2)	CD-2001-4/0 Purple P54 (3)	—	Purple 54 (3)	Purple 54 (3)	Purple 54 (2)
LCC250-W	250 kcmil	1-11/16	—	—	—	CD-720-3 Yellow P62 (4)	CD-920-250 Yellow P62 (3)	1/0 AWG – 250 kcmil (3)	CD-2001-250 Yellow P62 (3)	—	Yellow 62 (4)	Yellow 62 (4)	Yellow 62 (2)

①The CT-1700 and CT-1701 crimp die pockets are integrated into the tool frame.
②Half width dies.
③CD-920 dies can be used with CT-940CH and CT-2940 tools with CD-940-DA adapter.
④Maximum size: 500 kcmil lugs.
⑤Maximum size: 250 kcmil lugs.
⑥Requires U die adapter.
⑦Minimum size: #4 AWG lugs.
⑧Extended wire range when crimped with these Panduit® Uni-Die™ Dieless Crimping Tools.

Installation Tooling and Die Selections for Type LCC-W (continued)

Thomas & Betts			Burndy					Anderson	Penn-Union	Greenlee
TBM15, TBM15I, TBM15BSCR	TBM8-750M-1, TBM8-750, TBM750BSCR⑦, TBM8-750BSCR	TBM14M, TBM14BSCR, BPLT14BSCR, 13100A	Y2MR, Y1MR, Y1MRTC	MY29	Y35, Y35BH, Y39, Y39BH, Y750, Y750-2, Y750BH, Y750HS, Y750BH-2, PAT750, BAT750, BAT35	Y45⑥, Y46⑥	Y644M, Y644HS, Y644MBH, PAT644, BAT644	VC6	TDY-1	1989
Die Part Number/Color Code and Die Index Number/(Number of Crimps)										
—	—	—	—	—	—	—	—	—	—	—
Red 21 (1)	STD (1)	Red 21 (1)	Red 49 (2)	#8 (1)	U8CRT Red 49 (1)	U8CRT Red 49 (1)	—	—	—	—
Blue 24 (1)	STD (1)	Blue 24 (1)	Blue 7 (2)	#6 (1)	U5CRT Blue 7 (1)	U5CRT Blue 7 (1)	STD (1)	STD (1)	—	—
Gray 29 (1)	STD (1)	Gray 29 (1)	Gray 8 (2)	#4 (1)	U4CRT Gray 8 (1)	U4CRT Gray 8 (1)	STD (1)	STD (1)	—	STD (1)
Brown 33 (1)	STD (1)	Brown 33 (1)	Brown 10 (2)	#2 (1)	U2CRT Brown 9 (solid) / Brown 10 (stranded) (2)	U2CRT Brown 9 (solid) / Brown 10 (stranded) (2)	STD (1)	STD (1)	STD (1)	STD (1)
Pink 42H② (4)	STD (2)	Pink 42H② (4)	—	1/0 (2)	U25RT Pink 12 (2)	U25RT Pink 12 (2)	STD (1)	STD (1)	STD (1)	STD (1)
Black 45 (2)	STD (2)	Black 45 (2)	—	2/0 (2)	U26RT Black 13 (2)	U26RT Black 13 (2)	STD (1)	STD (1)	STD (1)	STD (1)
Orange 50 (2)	STD (2)	Orange 50 (2)	—	3/0 (2)	U27RT Orange 14 (2)	U27RT Orange 14 (2)	STD (1)	STD (2)	STD (1)	STD (1)
Purple 54H② (4)	STD (2)	Purple 54H② (4)	—	4/0 (2)	U28RT Purple 15 (2)	U28RT Purple 15 (2)	STD (1)	STD (2)	STD (1)	STD (1)
Yellow 62 (2)	STD (2)	Yellow 62 (2)	—	250 (2)	U29RT Yellow 16 (2)	U29RT Yellow 16 (2)	STD (1)	STD (2)	STD (1)	STD (1)

①The CT-1700 and CT-1701 crimp die pockets are integrated into the tool frame.
②Half width dies.
③CD-920 dies can be used with CT-940CH and CT-2940 tools with CD-940-DA adapter.
④Maximum size: 500 kcmil lugs.
⑤Maximum size: 250 kcmil lugs.
⑥Requires U die adapter.
⑦Minimum size: #4 AWG lugs.
⑧Extended wire range when crimped with these Panduit® Uni-Die™ Dieless Crimping Tools.

For use with Copper Conductors

Installation Tooling and Die Selections for Type LCC-W (continued)

			Panduit							Thomas & Betts			
Panduit Part Number	Std. Wire Size	Wire Strip Length (In.)	CT-1570	CT-1701①	CT-1700①	CT-720	CT-930, CT-930CH, CT-930LPCH⑤, CT-2930, CT-2930/L, CT-2930/LE, CT-2931, CT-920, CT-920CH, CT-2940③, CT-2940/L③, CT-2940/LE③, CT-2920, CT-940CH③	Uni-Die™ Dieless CT-980, CT-980CH, CT-2950④, CT-2980, CT-2980/L, CT-2980/LE, CT-2981, CT-980LPCH⑤ Extended Wire Range⑧	CT-2001, CT-2001/L, CT-2001/LE, CT-2002, CT-2002/L, CT-3001, CT-3001/E	TBM20S, TBM25S	TBM5	TBM6, TBM6S, 25000 TBM8	TBM12, 13642M
			Die Part Number/Color Code and Die Index Number/(Number of Crimps)										
LCC350-W	350 kcmil	2-5/16	—	—	—	CD-720-5 Red P71 (4)	CD-920-350 Red P71 (3)	3/0 AWG – 350 kcmil (3)	CD-2001-350 Red P71 (3)	—	—	Red 71 (4)	Red 71H② (4)
LCC400-W	400 kcmil	2-3/8	—	—	—	CD-720-6 Blue P76 (4)	CD-920-400 Blue P76 (3)	4/0 AWG – 400 kcmil (3)	CD-2001-400 Blue P76 (4)	—	—	Blue 76 (4)	Blue 76H② (4)
LCC500-W	500 kcmil	2-9/16	—	—	—	CD-720-7 Brown P87 (4)	CD-920-500 Brown P87 (3)	4/0 AWG – 500 kcmil (3)	CD-2001-500 Brown P87 (4)	—	—	Brown 87 (4)	Brown 87H② (4)
LCC600-W	600 kcmil	2-3/4	—	—	—	—	CD-920-600 Green P94 (4)	250 – 600 kcmil (3)	—	—	—	—	Green 94H② (4)
LCC750-W	750 kcmil	2-15/16	—	—	—	—	CD-920-750 CD-940-750④ Black P106 (4)	500 – 750 kcmil (3)	—	—	—	—	Black 106H② (4)

①The CT-1700 and CT-1701 crimp die pockets are integrated into the tool frame.
②Half width dies.
③CD-920 dies can be used with CT-940CH and CT-2940 tools with CD-940-DA adapter.
④Maximum size: 500 kcmil lugs.
⑤Maximum size: 250 kcmil lugs.
⑥Requires U die adapter.
⑦Minimum size: #4 AWG lugs.
⑧Extended wire range when crimped with these Panduit® Uni-Die™ Dieless Crimping Tools.

Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.

Installation Tooling and Die Selections for Type LCC-W (continued)

Thomas & Betts			Burndy					Anderson	Penn-Union	Greenlee
TBM15, TBM15I, TBM15BSCR	TBM8-750M-1, TBM8-750, TBM750BSCR⑦, TBM8-750BSCR	TBM14M, TBM14BSCR, BPLT14BSCR, 13100A	Y2MR, Y1MR, Y1MRTC	MY29	Y35, Y35BH, Y39, Y39BH, Y750, Y750-2, Y750BH, Y750HS, Y750BH-2, PAT750, BAT750, BAT35	Y45⑥, Y46⑥	Y644M, Y644HS, Y644MBH, PAT644, BAT644	VC6	TDY-1	1989
Die Part Number/Color Code and Die Index Number/(Number of Crimps)										
Red 71② (4)	STD (3)	Red 71 (4)	—	—	U31RT Red 18 (3)	U31RT Red 18 (3)	STD (1)	STD (3)	STD (2)	STD (1)
Blue 76② (4)	STD (3)	Blue 76 (4)	—	—	U32RT Blue 19 (3)	U32RT Blue 19 (3)	STD (1)	STD (3)	STD (2)	STD (1)
Brown 87② (4)	STD (3)	Brown 87 (4)	—	—	U34RT Brown 20 (3)	U34RT Brown 20 (3)	STD (1)	STD (3)	STD (2)	STD (1)
Green 94② (4)	STD (4)	Green 94 (4)	—	—	U36RT Green 22 (4)	U36RT Green 22 (4)	STD (1)	—	STD (4)	—
Black 106② (4)	STD (4)	Black 106 (4)	—	—	U39RT Black 24 (5)	U39RT Black 24 (5)	STD (1)	—	STD (2)	—

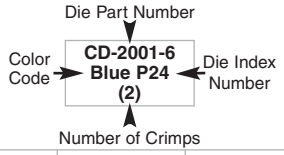
①The CT-1700 and CT-1701 crimp die pockets are integrated into the tool frame.
②Half width dies.
③CD-920 dies can be used with CT-940CH and CT-2940 tools with CD-940-DA adapter.
④Maximum size: 500 kcmil lugs.
⑤Maximum size: 250 kcmil lugs.
⑥Requires U die adapter.
⑦Minimum size: #4 AWG lugs.
⑧Extended wire range when crimped with these Panduit® Uni-Die™ Dieless Crimping Tools.

For use with Copper Conductors

Installation Tooling and Die Selections for Type LCCX

How to read this chart

For LCCX6 lug and CT-2001 crimping tool:



Panduit Part Number	Std. Wire Size	Cable Classes	Wire Strip Length (In.)	Panduit: CT-1700①	Panduit: CT-2001, CT-2001/L, CT-2001/LE, CT-2002, CT2002/L, CT-3001, CT3001/E	Panduit: CT-930, CT-930/CH, CT-2930, CT-2930/L, CT-2930/LE, CT-2931, CT-920, CT-920CH, CT-2940②, CT-2940/L②, CT-2940/LE②, CT-2920, CT-940CH②
				Die Part Number/Color Code and Die Index Number/(Number of Crimps)		
LCCX8	#8 AWG	Compact B, G, H, I, K, M, Locomotive (DLO)	3/4	Red P21 (3)	CD-2001-8 Red P21 (2)	CD-920-8 Red P21 (1)
LCCX6	#6 AWG	Compact, B, G, H, I, K, M, Locomotive (DLO)	1-1/8	Blue P24 (3)	CD-2001-6 Blue P24 (2)	CD-920-6 Blue P24 (1)
LCCX4	#4 AWG	Compact, B, G, H, I, K, M	1-1/8	Gray P29 (3)	CD-2001-4 Gray P29 (2)	CD-920-4 Gray P29 (1)
	#5, #4, #3 AWG	Locomotive (DLO)				
LCCX2	#2 AWG	Compact, B, G, H, I, M, Locomotive (DLO)④⑤	1-7/16	Brown P33 (3)	CD-2001-2 Brown P33 (2)	CD-920-2 Brown P33 (1)
LCCX1/0	1/0 AWG	Compact, B, G, H, I, K, M, Locomotive (DLO)	1-9/16	—	CD-2001-1/0 Pink P42 (3)	CD-920-1/0 Pink P42 (3)
LCCX2/0	2/0 AWG	Compact, B, G, H, I, K, M, Locomotive (DLO)⑥	1-9/16	—	CD-2001-2/0 Black P45 (3)	CD-920-2/0 Black P45 (3)
LCCX3/0	3/0 AWG	Compact, B, G, H, I, K, M, Locomotive (DLO)⑤	1-5/8	—	CD-2001-3/0 Orange P50 (3)	CD-920-3/0 Orange P50 (3)
LCCX4/0	4/0 AWG	Compact, B, G, H, I, K, M, Locomotive (DLO)	2-5/16	—	CD-2001-4/0 Purple P54 (3)	CD-920-4/0 Purple P54 (3)
LCCX250	250 kcmil	G, H, I, K, M	2-5/16	—	CD-2001-250 Yellow P62 (3)	CD-920-250 Yellow P62 (3)
	262.6 kcmil	Locomotive (DLO)				
LCCX350	350 kcmil	G, H, I, K, M	2-9/16	—	CD-2001-400 Blue P76 (4)	CD-920-400 Blue P76 (3)
	373.7 kcmil	Locomotive (DLO)				
LCCX450	450 kcmil	G, H, I, K, M	2-3/4	—	—	CD-920-500 Brown P87 (4)
	444.4 kcmil	Locomotive (DLO)				
LCCX500	535.3 kcmil	Locomotive (DLO)	2-15/16	—	—	CD-920-500A Pink P99 (4)
LCCX650	646.4 kcmil	Locomotive (DLO)	1-1/2	—	—	CD-940-750⑧ Black P106 (2)

①The CT-1700 crimp die pockets are integrated into the tool frame.
②CD-920 dies can be used with CT-940CH and CT-2940 tools with CD-940-DA adapter.
③Requires U die adapter.
④Does not include class K Flex Conductor with Burndy tools.
⑤Does not include class M Flex Conductor with T&B tools.
⑥Does not include class K Flex Conductor with T&B tools.
⑦Half width dies.
⑧CD-940 dies to be used exclusively with CT-940CH and CT-2940 tools.

Installation Tooling and Die Selections for Type LCCX (continued)

Thomas & Betts						Burndy			
TBM12	TBM8	TBM6, 25000	TBM6BSCR, TBM6H	TBM8-750, TBM8-750M-1	TBM14BSCR, TBM14M, TBM15	BCT500HS, Y500CT-HS	Y644M	Y35, Y39, Y750, Y46③, Y750-2, Y750BH, BAT35-14V, BAT750-14V, PAT750-18V	MRC840
Die Part Number/Color Code and Die Index Number/(Number of Crimps)									
TBM12D-1 Red 21 (2)	13461 Red 21 (2)	13475 and 13477 Red 21 (2)	6TON21 Red 21 (2)	STD (2)	15520 Red 21 (2)	W8CRT Red 49 (2)	—	U8CRT Red 49 (2)	Red 49 (2)
TBM12D-1 Blue 24 (2)	13461 Blue 24 (2)	13475 and 13477 Blue 24 (2)	6TON24 Blue 24 (2)	STD (2)	15522 Blue 24 (2)	W5CRT Blue 7 (2)	(2)	U5CRT Blue 7 (2)	Blue 7 (2)
TBM12D-2 Gray 29 (3)	13461 Gray 29 (2)	13472 and 13476 Gray 29 (3)	6TON29 Gray 29 (2)	STD (3)	15527-CK Gray 29 (2)	W4CRT Gray 8 (2)	(2)	U4CRT Gray 8 (2)	—
TBM12D-2 Brown 33 (3)	13461 Brown 33 (3)	13474 and 13477 Brown 33 (3)	6TON33 Brown 33 (2)	STD (3)	15528 Brown 33 (2)	W2CRT Brown 10 (2)	(2)	U2CRT Brown 10 (2)	—
TBM12D-3 Pink 42 (3)	13462 Pink 42 (3)	13475 and 13477 Pink 42 (3)	6TON42 Pink 42 (3)	STD (3)	15508 Pink 42 (3)	W25RT Pink 12 (3)	(2)	U25RT Pink 12 (2)	—
TBM12D-4 Blk/Gold 45 (3)	13462 Black 45 (4)	13474 and 13477 Black 45 (3)	6TON45 Black 45 (3)	STD (3)	15526 Black 45 (2)	W26RT Black 13 (3)	(2)	U26RT Black 13 (2)	—
TBM12D-4 Org/Tan 50 (3)	13462 Orange 50 (4)	13474 and 13477 Orange 50 (3)	6TON50 Orange 50 (3)	STD (3)	15530 Orange 50 (3)	W27RT Orange 14 (4)	(2)	U27RT Orange 14 (2)	—
TBM12D-5 Purp/Olive 54 (4)	—	—	6TON54 Purple 54 (4)	STD (4)	15511 Purple 54 (4)	W28RT Purple 15 (4)	(3)	U28RT Purple 15 (3)	—
TBM12D-5 Yellow 62 (3)	—	—	6TON62 Yellow 62 (4)	STD (4)	15510-CK Yellow 62 (2)	W29RT Yellow 16 (4)	(3)	U29RT Yellow 16 (3)	—
TBM12D-4 Blue 76H⑦ (4)	—	—	6TON76 Blue 76H⑦ (4)	STD (4)	15512 Blue 76H⑦ (4)	W32RT Blue 19 (4)	(3)	U32RT Blue 19 (4)	—
TBM12D-3 Brown 87H⑦ (4)	—	—	6TON87 Brown 87H⑦ (4)	STD (4)	15506 Brown 87H⑦ (4)	—	(4)	U34RT Brown 20 (4)	—
TBM12D-2 Pink 99H⑦ (4)	—	—	—	STD (4)	15505 Pink 99H⑦ (4)	—	(4)	U38XRT Pink L99 (4)	—
TBM12D-2 Black 106H⑦ (2)	—	—	—	—	15515-CK Black 106H⑦ (2)	—	(1)	U39RT Black 24 (2)	—

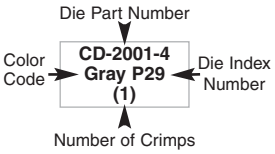
①The CT-1700 crimp die pockets are integrated into the tool frame.
②CD-920 dies can be used with CT-940CH and CT-2940 tools with CD-940-DA adapter.
③Requires U die adapter.
④Does not include class K Flex Conductor with Burndy tools.
⑤Does not include class M Flex Conductor with T&B tools.
⑥Does not include class K Flex Conductor with T&B tools.
⑦Half width dies.
⑧CD-940 dies to be used exclusively with CT-940CH and CT-2940 tools.

For use with Copper Conductors

Installation Tooling and Die Selections for Type CTAPF

How to read this chart

For CTAPF6-12 tap and CT-2001 crimping tool:



Panduit Part Number	Stranded Wire Size		Panduit			
			CT-1700①	CT-930, CT-930CH, CT-2930, CT-2930/L, CT-2930/LE, CT-2931, CT-920, CT-920CH, CT-2940②, CT-2940/L②, CT-2940/LE②, CT-2920, CT-940CH②	CT-2001, CT-2001/L, CT-2001/LE, CT-2002, CT-2002/L, CT-3001, CT-3001/E	
	Main	Tap	Die Part Number/Color Code and Die Index Number/ (Number of Crimps)			
CTAPF4-12	#6 AWG	#8 – #6 AWG	Brown P33 (4)	CDM-920-2 Brown P33M (1)	CDM-2001-2 Brown P33M (1)	CD-2001-2 Brown P33 (2)
	#5, #4 AWG	#12 – #8 AWG				
CTAPF1/0-12	#2 AWG	#4 – #2 AWG	—	CDM-920-3/0 Orange P50M (1)	CDM-2001-3/0 Orange P50M (2)	CD-2001-3/0 Orange P50 (3)
	#1 AWG	#4 – #3 AWG				
	1/0 AWG	#12 – #4 AWG				
CTAPF2/0-12	#1 AWG	#2 – #1 AWG	—	CDM-920-4/0 Purple P54M (1)	—	CD-2001-4/0 Purple P54 (3)
	1/0 AWG	#3 – #2 AWG				
	2/0 AWG	#12 – #3 AWG				

①The CT-1700 crimp die pockets are integrated into the tool frame.
②CD-920 dies can be used with CT-940CH and CT-2940 tools with CD-940-DA adapter.

Order number of pieces required, in multiples of Standard Package Quantity.
Prime items appear in **BOLD**.

Installation Tooling and Die Selections for Type CTAPF (continued)

Panduit Part Number	Stranded Wire Size		Burndy		Thomas & Betts
			Y35, Y39, Y45, Y46, Y750BH-2 Y750, BAT35, BAT750, Y35BH, Y39BH, Y750BH, Y750HS, PAT750, Y750-2	Y500CT-HS, BCT500-HS, BCT500,Y500CT	TBM8-750, TBM8-750M-1, TBM8-750BSCR
	Main	Tap	Die Part Number/Color Code and Die Index Number/ (Number of Crimps)		
CTAPF4-12	#6 AWG	#8 – #6 AWG	UC4 Brown 10M (1)	WC4 Brown 10M (1)	TBM8-750C20 (1)
	#5, #4 AWG	#12 – #8 AWG			
CTAPF1/0-12	#2 AWG	#4 – #2 AWG	UC25 Orange 14M (1)	WC25 Orange 14M (2)	TBM8-750C3540 (1)
	#1 AWG	#4 – #3 AWG			
	1/0 AWG	#12 – #4 AWG			
CTAPF2/0-12	#1 AWG	#2 – #1 AWG	—	—	TBM8-750C4550 (1)
	1/0 AWG	#3 – #2 AWG			
	2/0 AWG	#12 – #3 AWG			

①The CT-1700 crimp die pockets are integrated into the tool frame.
②CD-920 dies can be used with CT-940CH and CT-2940 tools with CD-940-DA adapter.

For use with Copper Conductors

Installation Tooling and Die Selections for Type HTCT

How to read this chart

For HTCT6X-6X-1 tap and CT-2930/L crimping tool:

Die Part Number ▼
CD-920H-6 PH6
▲ Die Index Number

Panduit Part Number	Copper Conductor Sizes (Code Cable) Main	Tap 1	Tap 2	Tap 3	Copper Conductor Sizes (Flex Cable) Types G, H, I, K, M and Locomotive (DLO) Main	Tap 1	Tap 2	Tap 3	Crimp Die Color Code	Installation Tools 15 TON	14 TON	12 TON
										Panduit		
										CT-940CH①, CT-2940①, CT-2940/L, CT-2940/LE	**CT-930, CT-930CH, CT-2930, CT-2930/L, CT-2930/LE**	**CT-920, CT-920CH, CT-2920, CT-2931, CT-2931/E**
										Burndy		
										Y46①, Y46C①	**—**	**Y35, Y35-2, Y35BH, Y35BH-4, Y750, Y39, Y39BH, Y750-2, Y750BH, Y750BH-2, Y750HS, BAT35, BAT750, BAT750C, PAT750, PAT750C**
										Thomas & Betts		
										TBM15I, TBM15BSCR	**TBM14M, TBM14BSCR, BPLT14BSCR, 13100A**	**—**
										Panduit Crimp Die Part Number/Die Index No. (Number of Crimps = 1)		
HTCT6X-6X-1	#6-#14 AWG	#6-#14 AWG	—	—	#6-#14 AWG	#6-#14 AWG	—	—	Orange	CD-920H-6 PH6	CD-920H-6 PH6	CD-920H-6 PH6
HTCT2-2-1	#2-#6 AWG STR/SOL	#2-#6 AWG STR/SOL	#8-#14 AWG	#8-#14 AWG	#2-#8 AWG	#2-#8 AWG	#8-#14 AWG	#8-#14 AWG	Brown	CD-920H-2 PH2	CD-920H-2 PH2	CD-920H-2 PH2
HTCT250-2-1	250 kcmil -#2 AWG	#2-#6 AWG STR/SOL	#8-#14 AWG	—	4/0-#2 AWG	#2-#8 AWG	#8-#14 AWG	—	Purple	CD-930H-250 PH25	CD-930H-250 PH25	CD-930H-250 PH25
HTCT250-250-1	250 kcmil -#2 AWG	250 kcmil -#2 AWG	—	—	4/0-#2 AWG	4/0-#2 AWG	—	—	Purple	CD-930H-250 PH25	CD-930H-250 PH25	CD-930H-250 PH25

①CD-920H and CD-930H dies can be used with CT-940CH and CT-2940 Panduit tools and Y46 and Y46C Burndy tools with CD-940-DA adapter.
Panduit crimping dies must be used with all tooling (Panduit and competitor) to maintain UL/CSA certifications for applications up to 600 V.

Order number of pieces required, in multiples of Standard Package Quantity.

Prime items appear in **BOLD**.