

Bonding & Grounding Solutions For Data Centers and Equipment Rooms

The electrical protection of today's high-speed cabling systems is an essential part of a properly designed and installed information and communications technology (ICT) infrastructure. A bonding and grounding system will aid in controlling negative influences such as electromagnetic interference (EMI), electro static discharge (ESD) or ground potential rise from lightning.

Chatsworth Products (CPI) offers a comprehensive line of UL® Listed Bonding and Grounding Products, as well as racks and cabinets that feature integrated bonding provisions.

✓ Bonding and Grounding checklist:

The Primary Bonding Busbar (PBB) serves as a central attachment point between the telecommunication bonding infrastructure and the building electrical grounding system (not shown)

1 Bonding Busbars

For each equipment room and telecommunications room, select a Secondary Bonding Busbar (SBB) with sufficient connections for the racks and tray in the room

2 Rack-Mount Busbar Kits

For racks and cabinets, use a Rack Bonding Busbar (RBB) to provide an equipotential plane to protect equipment and patch panels that require bonding to the SBB

3 Two Hole Ground Terminal Block

For racks and cabinets that do not have integrated bonding, use Bonding Terminal Blocks and Bonding Jumpers

4 Ground Wire, Bonding Jumpers & Straps, and Stand-Off Tie-Down "L" Bracket

Bond racks and cabinets to the Busbar with Ground Wire or Jumpers and use Tie-Down "L" Brackets to support them. Use straps to electrically bond sections of cable runway

5 Compression Lugs and Taps

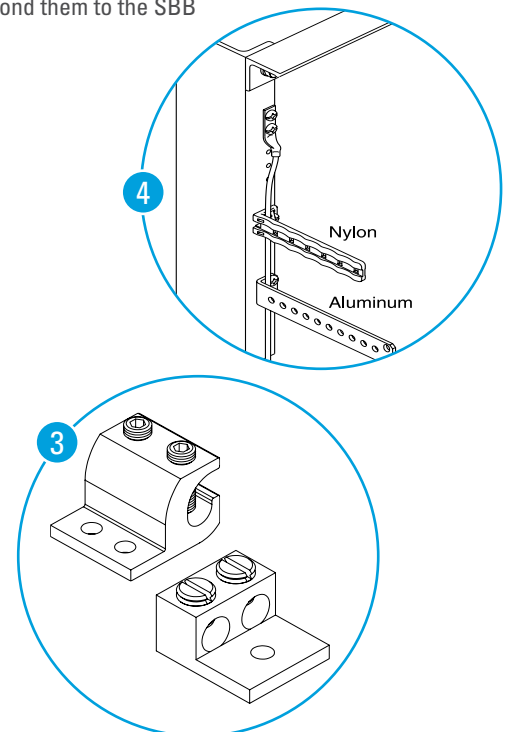
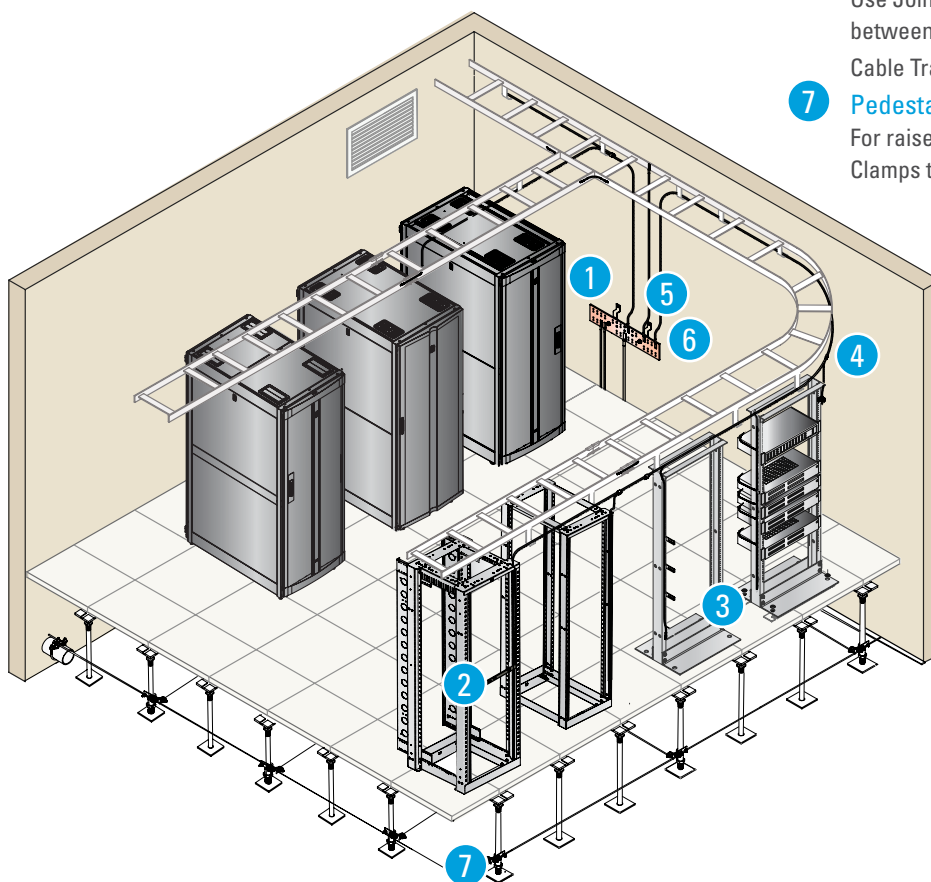
Use Compression Lugs and Taps to connect Ground Wire and Bonding Jumpers to Busbars, racks, cabinets, cable runway or other conductors

6 Antioxidant Joint Compound

Use Joint Compound when making bonding connections between metal surfaces on Racks, Cabinets, Cable Runway, Cable Tray and Busbars

7 Pedestal Clamp with Bonding Conductor

For raised floor pedestals that are bonded together, use Pedestal Clamps to bond them to the SBB



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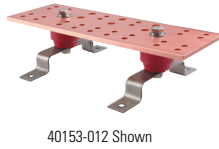
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Primary and Secondary Busbars

- Includes: (1) Busbar, (2) insulators, (2) Stand-off brackets (6.6"H x 3.1"D (168 mm x 80 mm)), (4) Stainless steel bolts with Torx T-45 head
- All Busbars ship individually and preassembled
 - UL Listed, File E236184; Category KDER (US), KDER7 (Canada)



40153-012 Shown

Part Number	Busbar Size W x L - in (mm)
10622-010	4 x 10 (100 x 250) Busbar, has 1/4 (6.4) holes that accept 9 single-hole lugs
10622-012	4 x 12 (100 x 300) Busbar, has 7/16 (11.1) holes that accept 17 two-hole lugs with 3/4" (19 mm), 1" (25.4 mm) or 1 3/4" (44.5 mm) spacing
10622-020	4 x 20 (100 x 510) Busbar, has 7/16 (11.1) holes that accept 17 two-hole lugs with 3/4" (19 mm), 1" (25.4 mm) or 1 3/4" (44.5 mm) spacing
40153-012	4 x 12 (100 x 300) BICSI & ANSI/TIA Bonding Busbar, has 5/16" holes that accepts 15 two-hole lugs with 5/8" spacing, and 7/16 (11.1) holes that accept 3 two-hole lugs with 1" spacing
13622-012	2 x 12 x 1/4 (50 x 300 x 6.4) Busbar Kit, includes (1) 12" (300 mm) SBB (2) insulators, (2) standoff brackets, (4) Stainless steel bolts with Torx T-45 head

Busbars are 1/4" (6.4 mm) thick. Two-hole pattern and additional sizes are available.

Bonding Terminal Blocks

A convenient way to attach ground wires to racks or cabinets and meets BICSI and ANSI/EIA/TIA two-hole mounting recommendations.



40167-001 Shown

Part Number	Description
40167-050	Rack Busbar Insulator Binding Block, Made of durable, nonconductive white Delrin®, 3/4"H x 11/16"W x 1-1/4"L (19.1 mm x 17.5 mm x 31.8 mm), Pack of 50
40167-010	Two Mounting Hole Bonding Terminal Block Accepts conductors ranging from #14 AWG through 2/0, Pack of 10

Rack Bonding Busbars

- Other configurations available on request
- UL Listed, File E236184, Category KDER (US), KDER7 (Canada) - Grounding and Bonding Equipment



40161-036 Shown

Part Number	Description - Length in (mm)
40161-072	Vertical Rack Bonding Busbar Kit, 72 (1830), 1/4" (6.4 mm) thick
40161-036	Vertical Rack Bonding Busbar Kit, 36 (914.4), 1/4" (6.4 mm) thick
40172-001	Vertical Rack Bonding Busbar Kit for 45U 7' (2.1 m) racks
10610-019	Horizontal Rack Bonding Busbar, for 19"W (482.6 mm) Racks/Cabinets

Pedestal Clamp with Bonding Connector

Manufactured from electroplated tinned copper or bronze (P/N 40169-003) with stainless steel installation hardware

- PNs 40169-001 and 40169-002 are UL Listed



40169-002 Shown

Part Number	Cable Size	Hole Spacing	Screw Size
40169-001	Cross	Square, 1-1/8" (28 mm) outside diameter	(2) #6 AWG per side
40169-002	Cross	Round, 1-1/8" (28 mm) to 1-3/4" (44 mm) outside diameter	1) #6 AWG & (1) 2/0 per side
40169-003	Straight	Square or Round, 1-1/8" (28 mm) outside diameter	(2) #6 AWG or (2) 2/0, one side only

Compression Lugs

Connect copper or tinned copper conductors to Busbars, racks, cabinets or Cable Runway.



- Manufactured from electroplated tinned copper conductors
- Available individually or in bulk quantities in 3 styles; Two-Hole, Slotted and 90° Slotted

Part Number	Description	Cable Size	Hole Spacing in (mm)	Screw Size	Color Code
40162-901	Two-Hole Lug	#6 AWG	5/8 (127)	1/4" (M10)	Blue
40162-903	Two-Hole Lug	#6 AWG	1 (25.4)	3/8" (M10)	Blue
40162-909	Two-Hole Lug	2/0	1 (25.4)	3/8" (M6)	Black
40162-913	Slotted Lug	#6 AWG	1/2, 5/8 (12.7, 127)	1/4" (M6)	Blue
40162-914	90° Slotted Lug	#6 AWG	1/2, 5/8 (12.7, 127)	1/4" (M6)	Blue

Note: C-Type Compression Taps are also available.

Ground Wire, Bonding Jumpers & Straps

Rack Bonding Jumper Kit, Equipment Bonding Jumper Kit and Cable Runway Bonding Trap are UL Listed, File E236184; Category KDER (US), KDER7 (Canada)



40164-001 Shown

Part Number	Description
40159-001	Ground Wire, No Lugs, #6 AWG, 100'L (30.5 m)
40159-008	Rack Bonding Jumper Kit, (1) Lug, #6 AWG, 9'L (2.7 m), 1/4-20 Hex Nuts, Joint Compound, Each Kit
40159-010	Equipment Bonding Jumper Kit, (2) Lugs, #6 AWG, 34"L (863.6 mm)
40164-001	Cable Runway Bonding Strap, (2) Lugs, #6 AWG, 8"L (203.2 mm)
10001-001	Stand-Off Tie-Down "L" Bracket, 5"L (127 mm), White Nylon
10559-700	Stand-Off Tie-Down "L" Bracket, 6"L (152.4 mm), Aluminum, Black

Joint Compound

Recommended for all copper-to-copper connections, copper threads and all mechanical/pressure type bonding.



Part Number	Description	Size	Qty
40166-801	Aluminum-to-Aluminum or Aluminum-to-Copper Antioxidant, Gray	8 oz	1
40166-812	Aluminum-to-Aluminum or Aluminum-to-Copper Antioxidant, Gray	8 oz	12
40168-801	Copper-to-Copper Antioxidant, Copper	8 oz	1
40168-812	Copper-to-Copper Antioxidant, Copper	8 oz	12

For additional Bonding and Grounding information, visit us at: chatsworth.com/en-us/products/bonding-grounding/bonding-hardware