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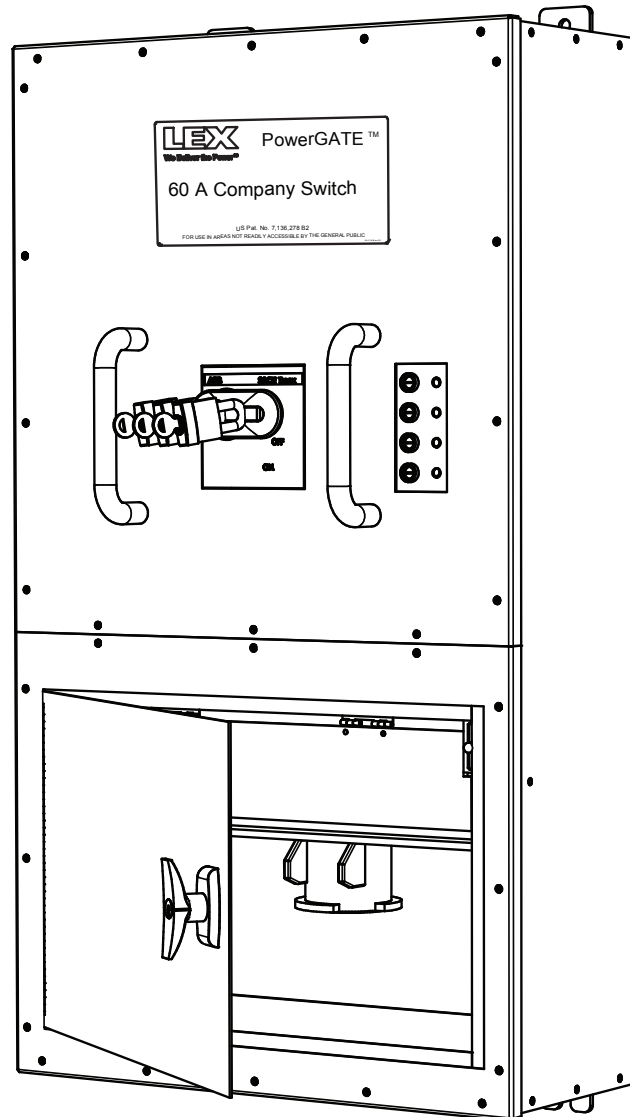
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We Deliver the Power™

US Patent
No. 7,136,278 B2

 US LISTED
(U.S.A. and
Canada)



PowerGATE™
Switches & Panels

IEC 60309 Pin & Sleeve Company Switch Installation Instructions and User Manual

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Introduction

The Lex PowerGATE™ Company Switch has been specifically designed for temporary access to safe power in applications such as:

- Theaters
- Convention Centers
- Studios
- Theme Parks
- Recreational Facilities

Pin & Sleeve Company Switch Catalog Numbers	
60 Amp	CS-60F-D5PS1
100 Amp	CS-100F-D5PS1

Manual Notes

Illustrations shown throughout this manual are of the 60 Amp Type 1 indoor Company Switch. However, they are also representative of the 100 Amp Type 1 indoor Company Switch.

Step 1: Installing the Company Switch



WARNING: RISK OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must be installed and serviced by a licensed electrician only.
- Turn off all power supplying this equipment before working on or inside equipment. Lockouts/tagouts are recommended.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before turning on power to this equipment.

Failure to follow these instructions can result in serious injury or death.

External Layout:

- A: Main switch,
B: LED phase indicator lights
C: Connection chamber access door
D: Mounting ears, (2) located on the bottom and (2) located on the top of the unit.

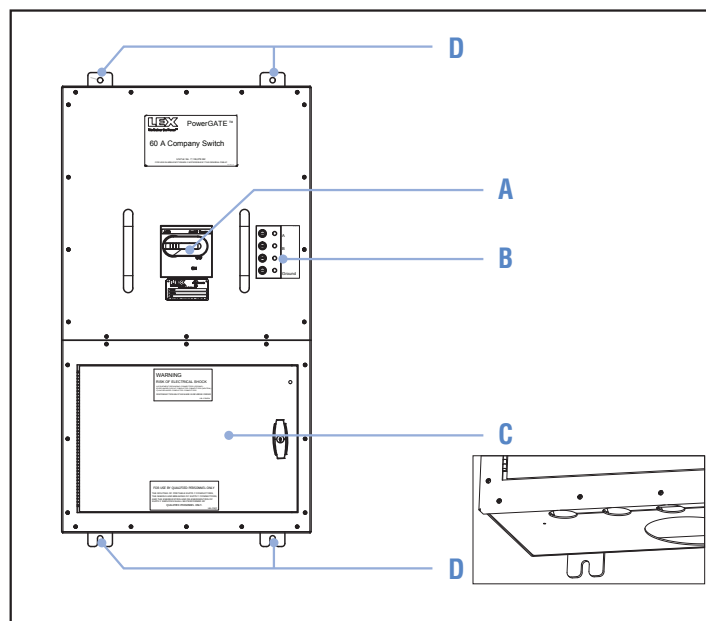


Figure 1

External Layout:

- F: Shunt trip interlock
- G: Internal light
- H: Lug output connector access door
- I: Pin & sleeve receptacle

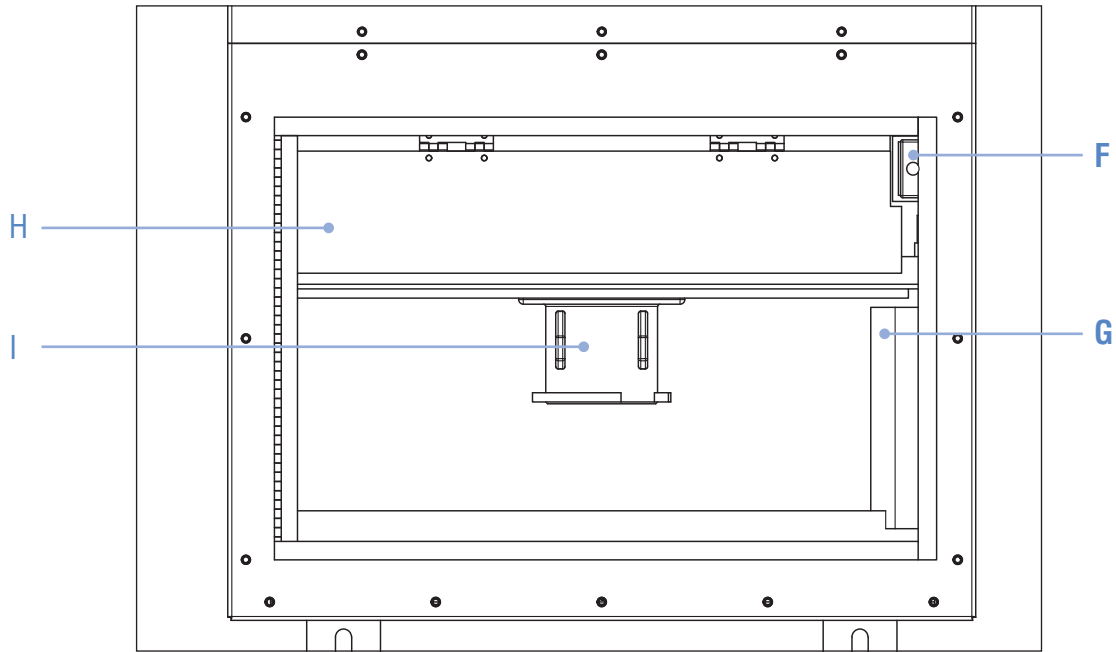


Figure 2

Step 2: Tools Needed

- Lineman's pliers
- Utility knife
- Set of screwdrivers
- Wrenches to connect the conduit into the unit
- 3/8" Allen key for making lug connections
- A hole saw or hole punch for providing an access hole in the cabinet for the conduit connection
- An insulation stripping tool, and cutter to provide square cut ends of the cables
- Mounting hardware (not included with the Lex Products PowerGATE™ Company Switch)

Step 3: Mounting the Unit

Remove upper panel to expose main switch connections and to make the unit easier to mount.

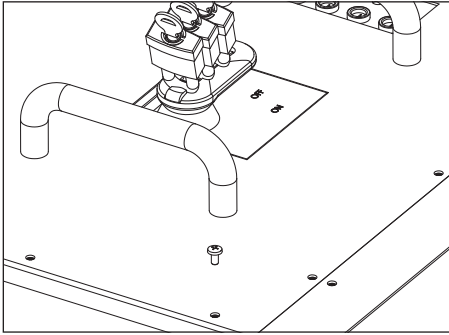


Figure 3

- Determine the specific location to install the unit and confirm that the mounting surface will support the full weight of the Company Switch plus connected cables.
- Mounting ears are provided on positions 1 & 2 on the top and 3 & 4 on the bottom (see figure 4).
- The mounting hole pattern dimensions are:

	Horizontal	Vertical
CS100; CS60	14.00"	37.00"

The minimum clearance (free space) from bottom of the unit to the nearest flat surface needs to be at least 24" to allow clearance for a cable with a pin & sleeve connection. A mounting height of 44" above finished floor to the bottom of the panel is recommended.

Hold unit into place and level, then mark the mounting hole locations. Drill and temporarily mount the unit.

While unit is mounted, determine the desired conduit location.

IMPORTANT:

NOTE 1: Bend radius requirements dictate that the conduit for incoming power may only enter the cabinet from the top of the cabinet. Conduit entry from the sides or back of the cabinet is not permitted.

NOTE 2: When connected to the box, the completed conduit must be a minimum of at least one inch from any of the top edges for proper clearance.

Remove the unit and cut the conduit hole. Cover the main switch during this operation to assure metal filings do not make contact with the switch.

Remount the unit permanently and attach and tighten conduit.

Mounting tab locations and conduit placement:

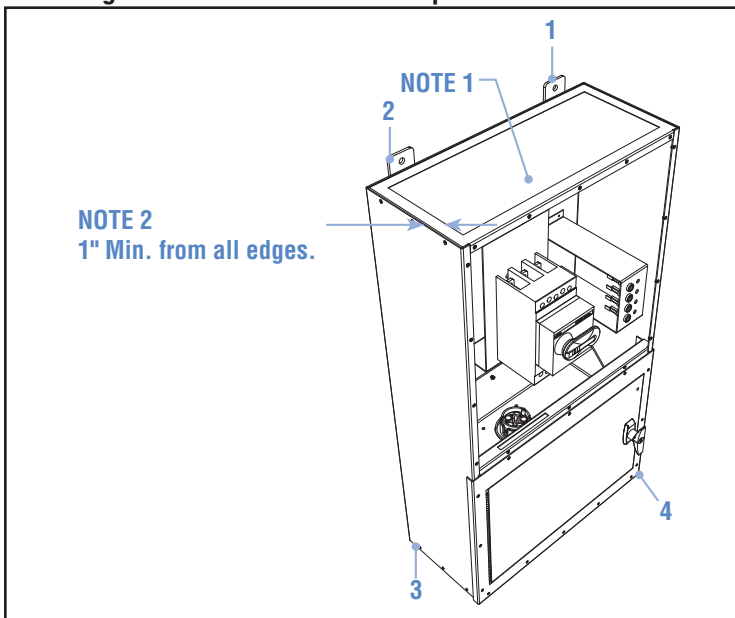


Figure 4

Step 4: Wiring the Unit

The Lex PowerGATE™ Company Switches with pin & sleeve connections are available in (2) ratings: **100 Amp, 3 Phase, 120/208Y VAC and 60 Amp, 3 Phase, 120/208Y VAC .**

The recommended input (contractor direct wire) wire gauge for these units is as follows:

- 60 Amp: #4 AWG minimum
- 100 Amp: #2 AWG minimum

With the conduit in place, confirm the main source of power is off. Once assured the main power source is off, pull the power cables into the unit.

Follow the chart provided below for strip length and torque required to secure cables to binding lugs. Do not damage any strands while stripping cable. Cable ends need to be cut square.

	Wire Gauge Range	Torque (lb.-in.)	Strip Length
Circuit Breaker	350 kcmil - 6 AWG	275	1-1/8"
Ground & Neutral Lugs	350 kcmil - 6 AWG	See table behind Chamber Access Door	1-1/8"

NOTE: Fine stranded wire must be sleeved with copper shim stock before inserting into lugs or strands may interfere with threads of wire binding screw, resulting in false torque indication.

Wire Installation

Strip the cable to the length indicated in the table above. To install, secure the ground first, followed by the neutral, then the phases. Place the appropriate cables into the lugs. Using a 3/8" Allen wrench, torque the screw to the torque value indicated in the table above.

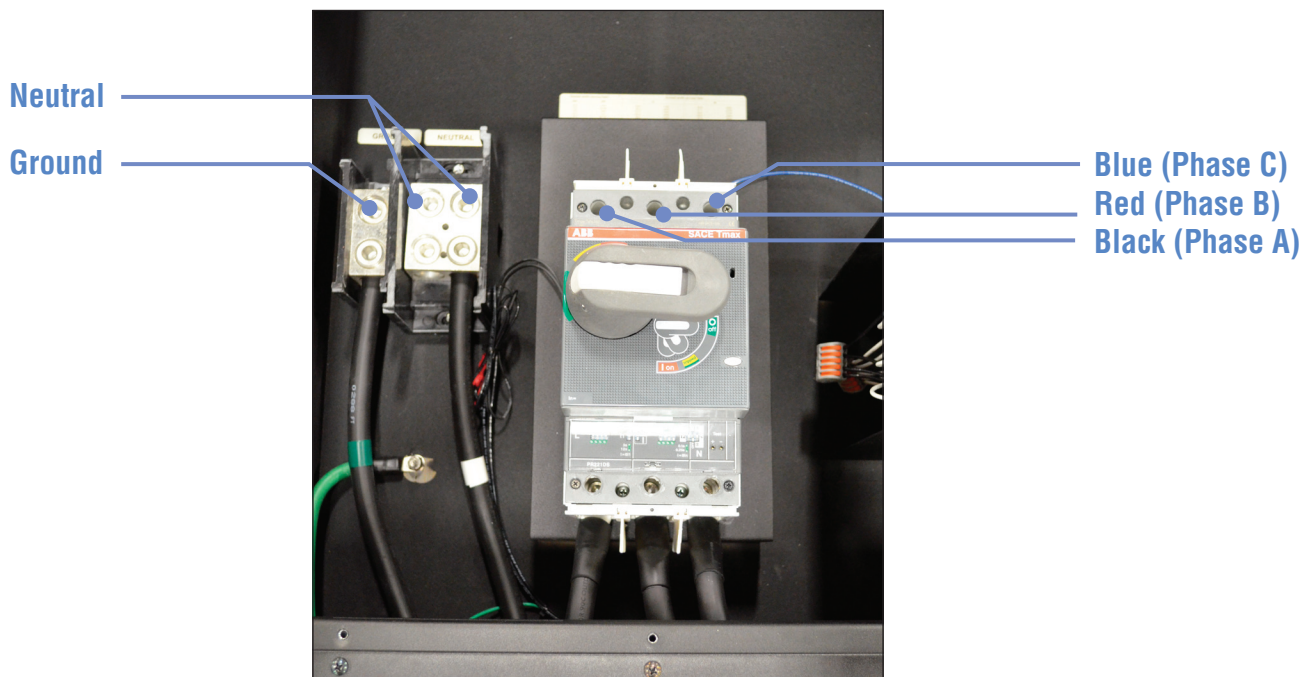


Figure 5

Step 5: Isolating the Chassis Ground

To isolate the chassis from ground, proceed as follows:

The chassis ground (C.G.) termination is located next to the main ground cable. To isolate this ground:

- 1) Remove the nut holding the chassis ground lug to the threaded stud.
- 2) Wrap the chassis ground mounting lug with electrical tape or shrink wrap, if available.
- 3) Using a plastic wire tie, secure the chassis ground to the main ground cable.
- 4) Confirm that the chassis ground is secured in a way that it cannot come into contact with any of the metal surfaces within the cabinet.

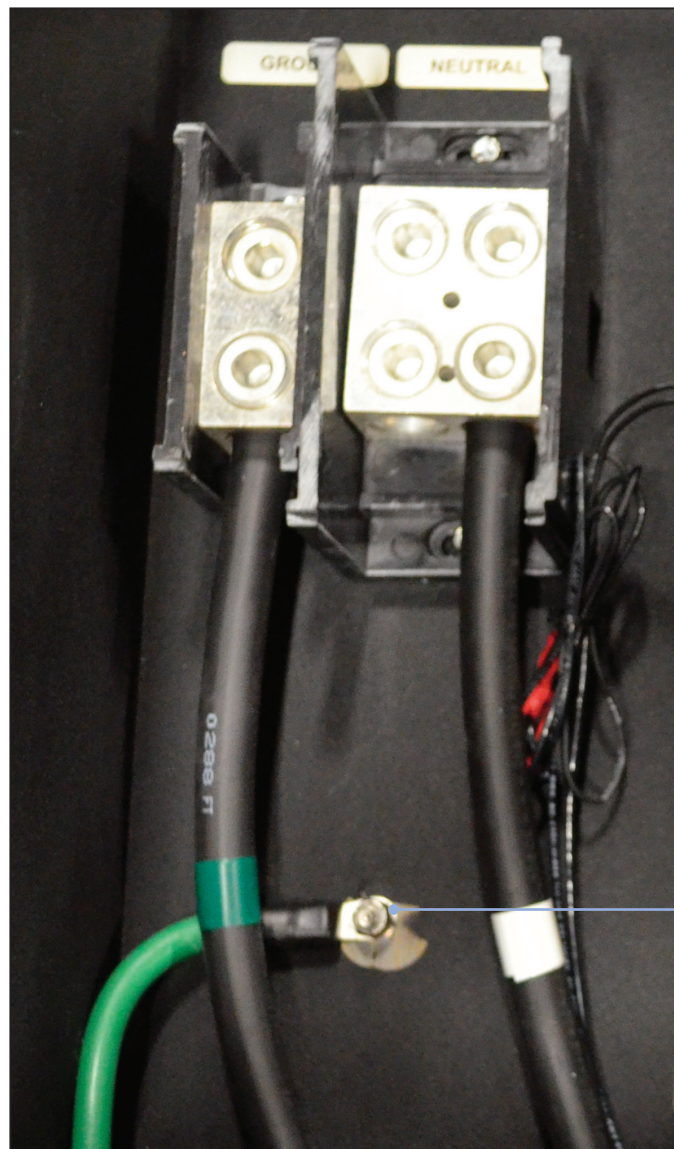


Figure 6

Chassis Ground

Step 6: Power-Up Preparation

- 1) Before energizing the unit, confirm that all connections are correct and secure, and that lugs are torqued to the proper amount.
- 2) Check the area to confirm that there is no debris left over from drilling and that no tools are left in the cabinet.
- 3) Replace front panel and fasten securely.
- 4) Confirm lower panel door is closed and secured. Note that as a safety feature of this device, the circuit breaker will be tripped when the door is opened.
- 5) Turn on power supplying the Company Switch.

Step 7.1: Powering Up

Turn the power lever to the ON position. LEDs for the ground and each phase will illuminate, confirming continuity.

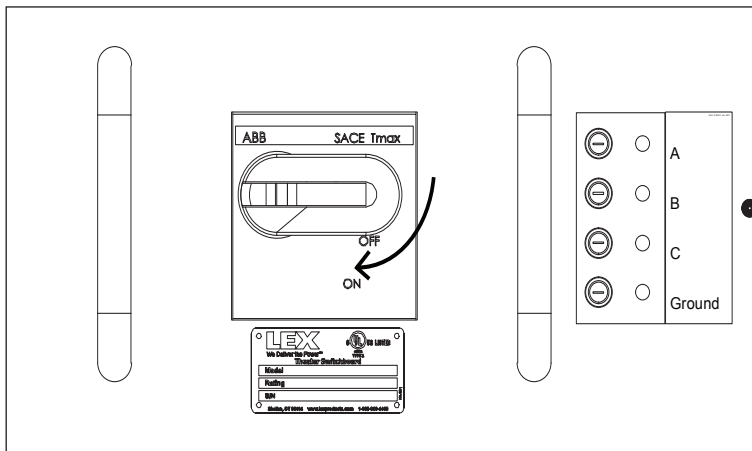


Figure 7

Step 7.2: Troubleshooting



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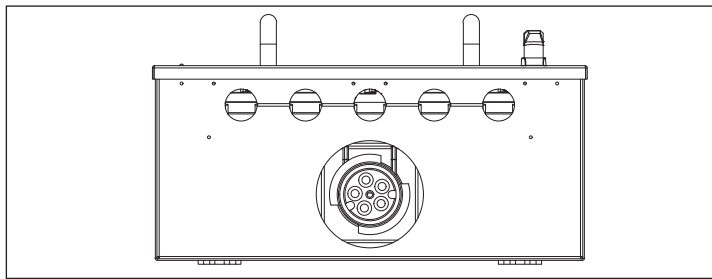
Troubleshooting	
Unit trips immediately when powered	Ensure the lower panel door is closed and secured
LEDs do not illuminate when unit is powered	Turn main power switch off and check the fuses located to the left of the LEDs
Circuit breaker trips under rated ampacity	Contact the Lex Products Technical Services team for instructions on adjusting the trip delay time if the circuit breaker appears to be tripping too quickly, due to inrush current. Technical Services can be contacted 24/7 at 855-539-1002 or by email at support@lexproducts.com.

Step 8: Operation and Use



The circuit breaker switch has a lockout/tagout feature that can be used to secure the switch in the off position. First, lift the gray tab on the hub of the circuit breaker lever. Once lifted, up to three locks may be attached to the tab, locking the handle in the off position.

Lockout/Tagout



The external connection wire access is located at the bottom of the unit and the connections are made inside the connection chamber, behind the lockable door. The large hole is provided for a cable with a pin & sleeve connector and the smaller holes are provided for stripped wire connections.

The stripped wire lug connector access holes are located on the phenolic panel, and the securing screw lugs are located behind the hinged phenolic door as shown below (Figure 8).

An access hole for the pin & sleeve receptacle is provided on the aluminum panel as shown in the illustration above.

NOTE: If the power is ON and the door is opened, the shunt trip interlock will trip the breaker OFF. As a personal safety measure, the breaker should be switched to the OFF position before the door is opened.

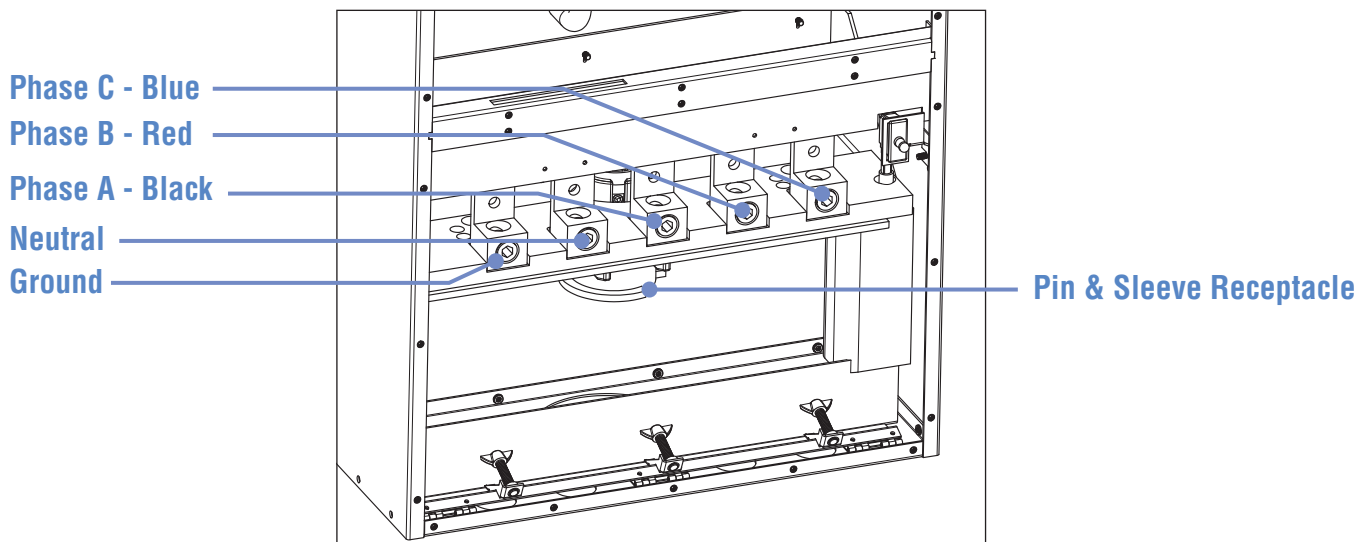


Figure 8

Step 9: Making Lug Connections

Make sure main power source is off.

- 1) Cut the cable end square and strip the wire 1-1/2". Do not damage any strands.
- 2) When connecting the cables, always start with the Ground, then the Neutral, and finally the phases. Insert the wire into the lug and torque per the label on the lug cover.
- 4) Open the connection chamber door.
- 5) Pull the ground cable through the smaller hole in the bottom of the unit that corresponds with the ground mounting lug. The spring loaded door will help hold the cable in place while the wires are connected and torqued.
- 6) Start by connecting the ground first.
- 7) Torque the ground to the proper specification, then continue with the neutral followed by the three phases.
- 8) When all the cables are connected, use the wing bolts on the spring loaded cable door to clamp down on the cable, providing strain relief for the lug connections. Be sure to leave slack in the cable so that there is no strain on the lug connections.

When disconnecting, do it in reverse order: phases then neutral, follow by the ground cable.

Changing Trip Current to 60 Amp (100 Amp Company Switch only)

Please contact the Lex Products Technical Services Team for instructions on adjusting the trip setting of the 100 Amp Company Switch circuit breaker to 60 Amps for applications using lighter cable to feed audio racks or other smaller distribution racks.

Technical Services Team

Lex Products is available to help during installation and with operation for all products. For questions, technical advice or suggestions regarding this product, please contact Lex Products at 855.539.1002 or email support@lexproducts.com.

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