

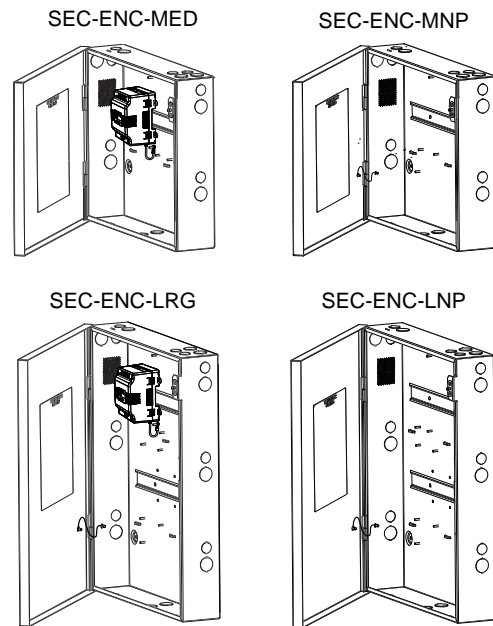
SEC-ENC-Mxx & SEC-ENC-Lxx

Security Enclosure Install Guide

This document covers the mounting and wiring of the medium and large-sized VYKON[®] Security Enclosures used for housing the Security JACE[®] (SEC-J-602 or SEC-J-616 controller model, abbreviated as **S-JACE**), and/or its expansion modules. It assumes that you are an engineer, technician, or service person who is performing access system design or installation. Instructions apply to the following enclosure models:

Models	Description
SEC-ENC-MED	Medium-sized enclosure with single DIN rail, integral power supply, tamper switch, key lock, and capacity for two user-supplied 12V sealed lead-acid backup batteries. Accommodates the S-JACE controller or 2 SEC-R2R modules, or one SEC-RIO module.
SEC-ENC-MNP	As above, but without the integral power supply. Accommodates one additional SEC-R2R module.
SEC-ENC-LRG	Large-sized enclosure with two (2) DIN rails, integral power supply, tamper switch, key lock, and capacity for two user-supplied 12V sealed lead-acid backup batteries. Accommodates the S-JACE controller with up to 4 SEC-R2R modules, or the S-JACE controller with up to 2 SEC-RIO modules, or many other possible combinations.
SEC-ENC-LNP	As above, but without the integral power supply. Accommodates one additional SEC-R2R module.

Thumbnails



These are the main topics included in this document:

- [Preparation](#), page 2
- [Precautions](#), page 3
- [Related Documentation](#), page 3
- [Installation Summary](#), page 4
- [Pre-Installation](#), page 4
- [Mounting and Dimensions](#), page 6
- [Earth Grounding and Power Wiring](#), page 8
 - [SEC-ENC-MED and SEC-ENC-LRG Ground and Power Wiring](#), page 8
 - [SEC-ENC-MNP and SEC-ENC-LNP Ground Wiring](#), page 9
- [Backup Batteries](#), page 10
- [Knockout Locations](#), page 11
- [Replacement Parts](#), page 12

All enclosures are NEMA type 1, with UL 294 Listing.



NOTE:

- Separate documents cover the mounting and wiring of the S-JACE controller and SEC-R2R and SEC-RIO expansion modules. Also, mounting instructions for another small enclosure (SEC-ENC-SML) is in a separate document. See [“Related Documentation,”](#) page 3.
- All certifications and listing information related to a VYKON Security System can be found in the *Security JACE (model) Mounting & Wiring Guide* document.

Preparation

Unpack the enclosure unit and inspect the contents of the package for damaged or missing components. If damaged, notify the appropriate carrier at once and return any damaged components for immediate repair or replacement. See “Returning a Defective Unit” in the *Security JACE (model) Mounting & Wiring Guide*.

See the following sections: “Included in this Package” and “Material and Tools Required.”

Included in this Package

Included in this package you should find the following items:

- A medium (SEC-ENC-MED or SEC-ENC-MNP) or large (SEC-ENC-LRG or SEC-ENC-LNP) metal enclosure with removable hinged door, containing these pre-installed items:
 - 35mm DIN rail, either one (1) or two (2), depending on enclosure model.
 - 1/4-turn door lock, with two keys.
 - (SEC-ENC-MED or SEC-ENC-LRG models only): a universal 90–263 Vac input, 15Vdc output, 30W power supply module (NPB-PWR-UN), mounted on left side of top DIN rail, pre-wired to a 3-position terminal strip.
- An enclosure installation kit (part 11952 for SEC-ENC-MED or SEC-ENC-MNP, or part 11953 for SEC-ENC-LRG or SEC-ENC-LNP), containing the following items:
 - a hardware bag containing a door tamper switch with two wire leads, a door grounding wire, various screws, hex nuts, and cable ties.
 - if SEC-ENC-Lxx, a 6-conductor cable harness to connect assemblies between the two DIN rails.
 - (used in SEC-ENC-MED or SEC-ENC-LRG models only): battery wiring harness with two pairs of 0.25" (6.35mm) spade lug connectors. (**Note:** battery harness to be used only if the SEC-ENC-MED or SEC-ENC-LRG enclosure will contain an S-JACE controller).
- This document, *SEC-ENC-Mxx and SEC-ENC-Lxx Security Enclosure Install Guide*, Part Number 10700, Rev. 6.

Material and Tools Required

The following supplies and tools are required for installation:

- Suitable tools and supplies for mounting enclosure, S-JACE and expansion modules, and for making all wiring terminations.
- (SEC-ENC-MED or SEC-ENC-LRG models only): If installing an S-JACE controller in the enclosure, one or two 12V sealed-lead-acid (SLA) backup batteries, as required by the system. See the *Security JACE (model) Mounting & Wiring Guide* section “Estimating Power and Battery Requirements” for details on calculating battery requirements.

The included wiring harness is designed for common 12V sealed lead-acid (SLA) batteries that have 0.25" (6.35mm) wide “fast on” battery terminals. Overall dimensions of commonly used batteries are 5.96" (150mm) long x 2.56" (65mm) wide x 3.84" high.

Example models of such batteries include:

- Yuasa NP7-12 – 12V 7Ahr
- Panasonic LC-R127R2P1 – 12V 7.2 Ahr

Precautions

This document uses the following warning and caution conventions:



Caution

Cautions remind the reader to be careful. They alert readers to situations where there is a chance that the reader might perform an action that cannot be undone, might receive unexpected results, or might lose data. Cautions contain an explanation of why the action is potentially problematic.



Warning

Warnings alert the reader to proceed with extreme care. They alert readers to situations where there is a chance that the reader might do something that can result in personal injury or equipment damage. Warnings contain an explanation of why the action is potentially dangerous.

Safety Precautions

The following items are warnings relating to the power supply wiring to a Security Enclosure. Be sure to heed these warnings to prevent personal injury or equipment damage.



Warning

- **The circuit powering the Security Enclosure power supply is from 120 to 240Vac at 50/60 Hz. Disconnect power before installation or servicing to prevent electrical shock or equipment damage.**
- **Make all connections in accordance with national and local electrical codes. Use copper conductors only.**
- **To reduce the risk of fire or electrical shock, install in a controlled environment relatively free of contaminants.**
- **This system is only intended for use as a monitoring and control device. To prevent data loss or equipment damage, do not use it for any other purpose.**

Related Documentation

For more information on mounting and wiring a VYKON Security system, refer to the following documents:

- *Security JACE (SEC-J-602, SEC-J-616) Mounting & Wiring Guide*, part number 12822
 - For UL-294 use *Security JACE (SEC-J-601) Mounting & Wiring Guide*, part number 10908
- *Remote 2 Reader Module (SEC-R2R) Mounting & Wiring Guide*, part number 10698
- *Remote I/O Module (SEC-RIO) Mounting & Wiring Guide*, part number 10699
- *SEC-ENC-SML Security Enclosure Install Sheet*, part number 10701

For details on software configuration for a fully functioning security system, refer to the following document:

- *VYKON Security Appliance Guide*, part number 11216

Installation Summary

Installation of the medium or large Security Enclosure is covered in the following main sections:

- [Pre-Installation](#), page 4
- [Mounting and Dimensions](#), page 6
- [Earth Grounding and Power Wiring](#), page 8
- [Backup Batteries](#), page 10

After completing these tasks, please refer to the appropriate “Mounting & Wiring” Guide for the VYKON Security equipment that you are installing in the enclosure. For example, refer to the *Security JACE (model) Mounting & Wiring Guide*. See [Related Documentation](#), page 3.

Pre-Installation

The following pre-installation tasks are explained:

- [Removing and replacing the enclosure door](#)
- [Locate and remove enclosure knockouts](#)
- [Install the door tamper switch](#)
- [Locate and mark mounting holes](#)

Removing and replacing the enclosure door

The door on a Security Enclosure is removable. It is often convenient to remove the enclosure door before other mounting and wiring tasks. This also provides a lighter unit for initial mounting to the wall.

Procedure 1 Removing the door of a Security Enclosure.

-
- Step 1** Open (and if necessary, unlock) the door, opening it about half way.
- Step 2** Slide the door toward the top of the unit, until the hinge tabs on the door clear the hinge pins on the enclosure.
- Step 3** Lift the door away from the enclosure.
-

Procedure 2 Replacing the door of a Security Enclosure.

-
- Step 1** Align the hinge tabs on the door above the hinge pins on the left wall of the metal casing.
- Step 2** Slide the door toward the bottom of the unit, until the door hinge tabs fully seat onto the hinge pins.
- Step 3** Close the door and check for proper fit.
-

Locate and remove enclosure knockouts

The Security Enclosure has numerous knockouts on the top, sides, and bottom (see figure on [page 11](#)). Locate and remove any knockouts required for conduit and cabling entering the unit, before mounting it to the wall. In addition, install the appropriate conduit or cable clamps to the removed knockouts.



Note Conduit must be used for all AC power wiring, with conduit clamps installed in enclosure knockouts.

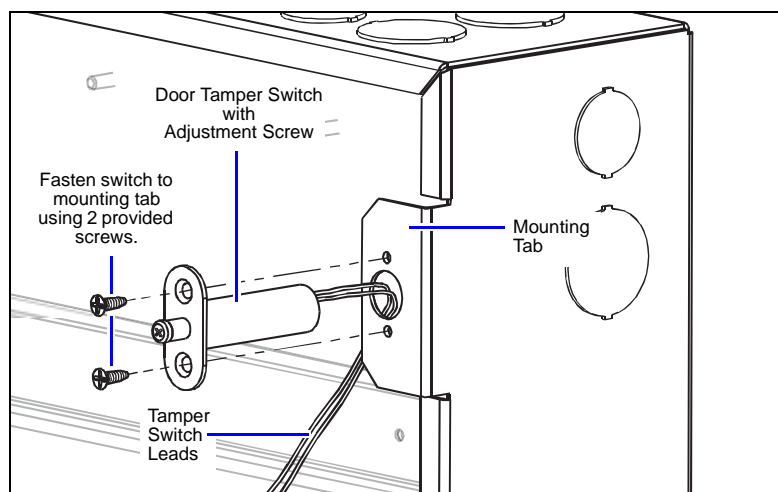
Procedure 3 Locate and remove enclosure knockouts.

- Step 1** Depending on which direction the conduit and cabling will be brought to the enclosure, remove the appropriate knockouts.
- Step 2** Install the appropriate conduit or cable clamps in the knockout holes.

Install the door tamper switch

The Security Enclosure has a door “tamper switch” that mounts in an enclosure tab near the top of the door opening (see [Figure 1](#)). Use the two sheet metal screws (provided) to fasten the switch.

Figure 1 Tamper switch installation.



Procedure 4 Install the door tamper switch.

- Step 1** Thread the two leads of the tamper switch through the front of the hole in the mounting tab.
- Step 2** Fasten the switch to the tab using the provided Phillips-head sheet metal screws.



- Notes**
- The two tamper switch leads will be connected (later) to the S-JACE controller or one of its expansion modules, depending on the system. For now, move the switch leads neatly away to avoid being harmed.
 - Later, after reinstalling the enclosure door, check the adjustment screw on the tamper switch. You may need to tighten or loosen the adjustment screw for proper switch operation.

Locate and mark mounting holes

The Security Enclosure has four main mounting holes on its back wall—the upper two holes are keyhole types. It is often convenient to mark the location of the mounting holes in the wall before continuing.

Procedure 5 Locate and mark enclosure mounting holes.

Step 1 With the enclosure door opened or removed, position the enclosure on the wall in the location where it will be installed.



Note For locations and dimensions of enclosure mounting holes, see [Figure 2](#) on page 7 for medium sized enclosures (SEC-ENC-MED, SEC-ENC-MNP) and [Figure 3](#) on page 7 for large sized enclosures (SEC-ENC-LRG, SEC-ENC-LNP).

Step 2 Carefully mark the mounting hole locations, and remove the enclosure.

Step 3 Drill the needed pilot holes in the wall, for example to install wall anchors (if needed), and install wall anchors if used. For example, drill 5/16" (8mm) holes for wall anchors.

Mounting and Dimensions



Note Mount the Security Enclosure in an indoor location only. For more environmental requirements, see the “UL Requirements” section in the *Security JACE (model) Mounting & Wiring Guide*.

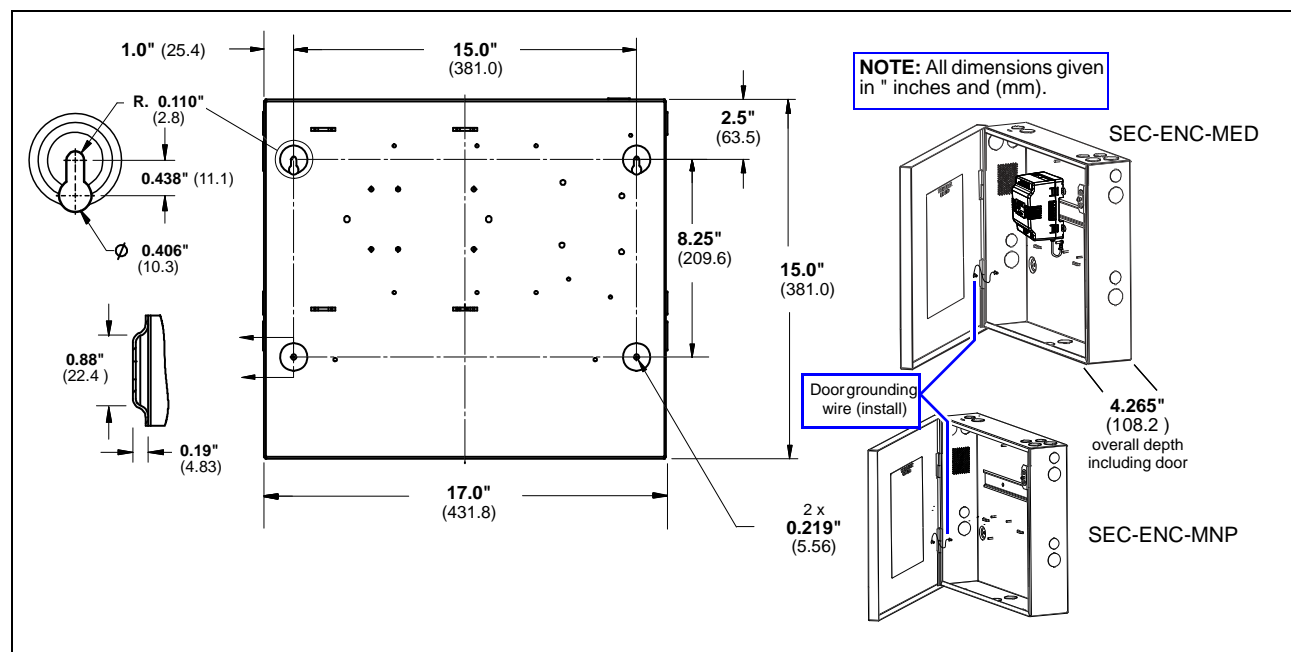
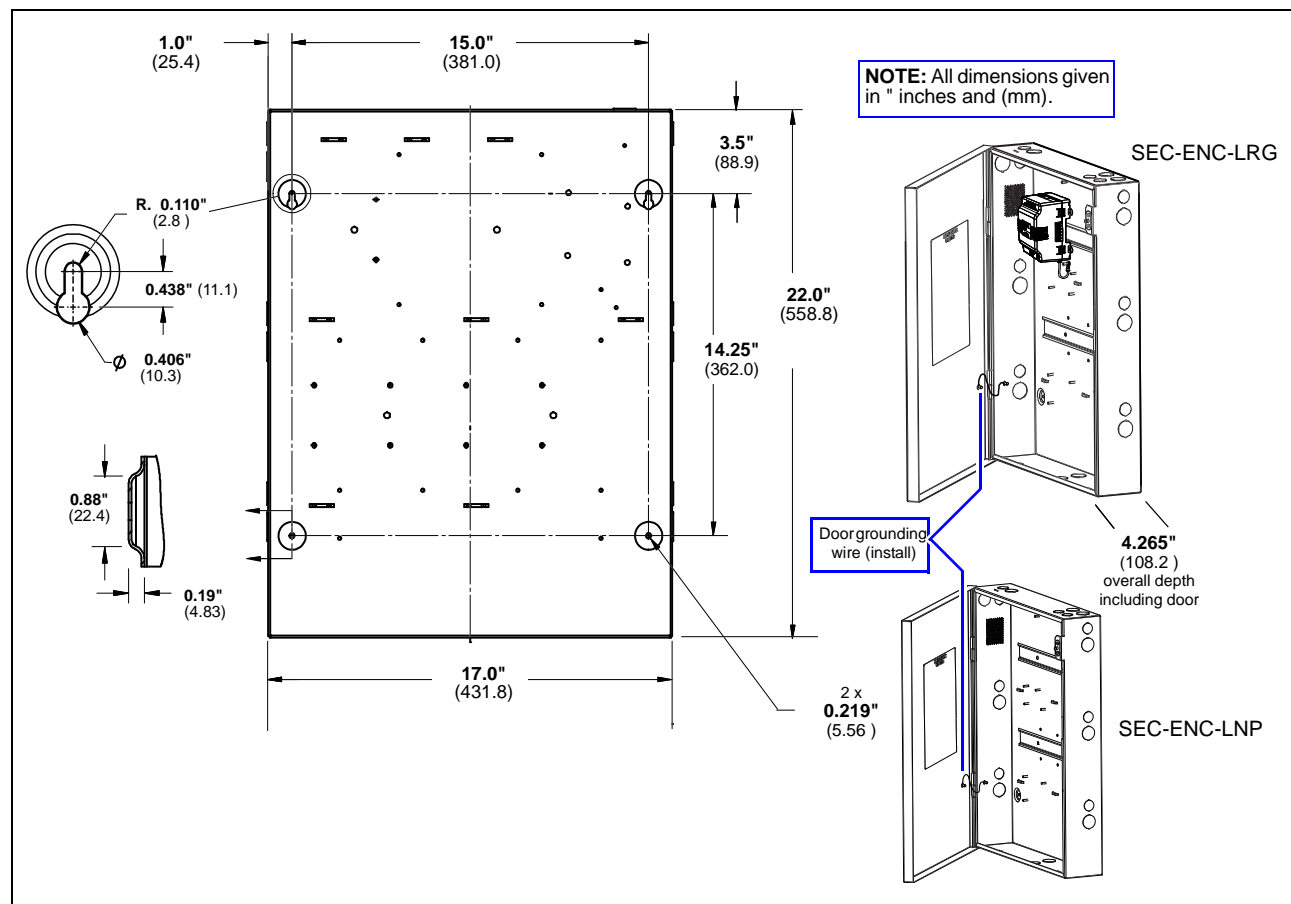
Following [pre-installation](#) tasks, the enclosure is ready for wall mounting. Install fasteners in all 4 mounting holes, tightening securely. For example, if wall anchors were installed in 5/16" holes, use four #14 anchor bolts, or other appropriate fasteners, as needed to securely fasten.

- See [Figure 2](#) for medium enclosure (SEC-ENC-MED, SEC-ENC-MNP) wall mounting dimensions.
- See [Figure 3](#) for large enclosure (SEC-ENC-LRG, SEC-ENC-LNP) wall mounting dimensions.

After mounting, replace the enclosure door if removed, see [“Removing and replacing the enclosure door,”](#) page 4.



Note A short, green, grounding wire with ringed ends is included in the enclosure’s hardware bag. After mounting and final replacement of the door, install this wire on the studs inside the door and on the enclosure’s left side, near the lower hinge. Use the included #6-32 keps nuts to fasten the wire ends to the studs. For the location of this grounding wire, see [Figure 2](#) and [Figure 3](#) on page 7.

Figure 2 SEC-ENC-MED, SEC-ENC-MNP medium enclosure wall mounting details.**Figure 3 SEC-ENC-LRG, SEC-ENC-LNP large enclosure wall mounting details.**

Earth Grounding and Power Wiring

The Security Enclosure must be connected to a nearby earth ground.

- If a unit with an integral power supply, wire ground to the unit's 3-position terminal strip, along with power wiring. See the next section “SEC-ENC-MED and SEC-ENC-LRG Ground and Power Wiring”.
- If a unit *without* an integral power supply, make an earth ground connection to a designated grounding stud inside the enclosure. See “SEC-ENC-MNP and SEC-ENC-LNP Ground Wiring,” page 9.

SEC-ENC-MED and SEC-ENC-LRG Ground and Power Wiring

The integral power supply in a SEC-ENC-MED or SEC-ENC-LRG enclosure provides 30W of regulated 15Vdc power to a S-JACE and/or its connected expansion modules. Input voltage is 120Vac to 240Vac, single phase.



Warning

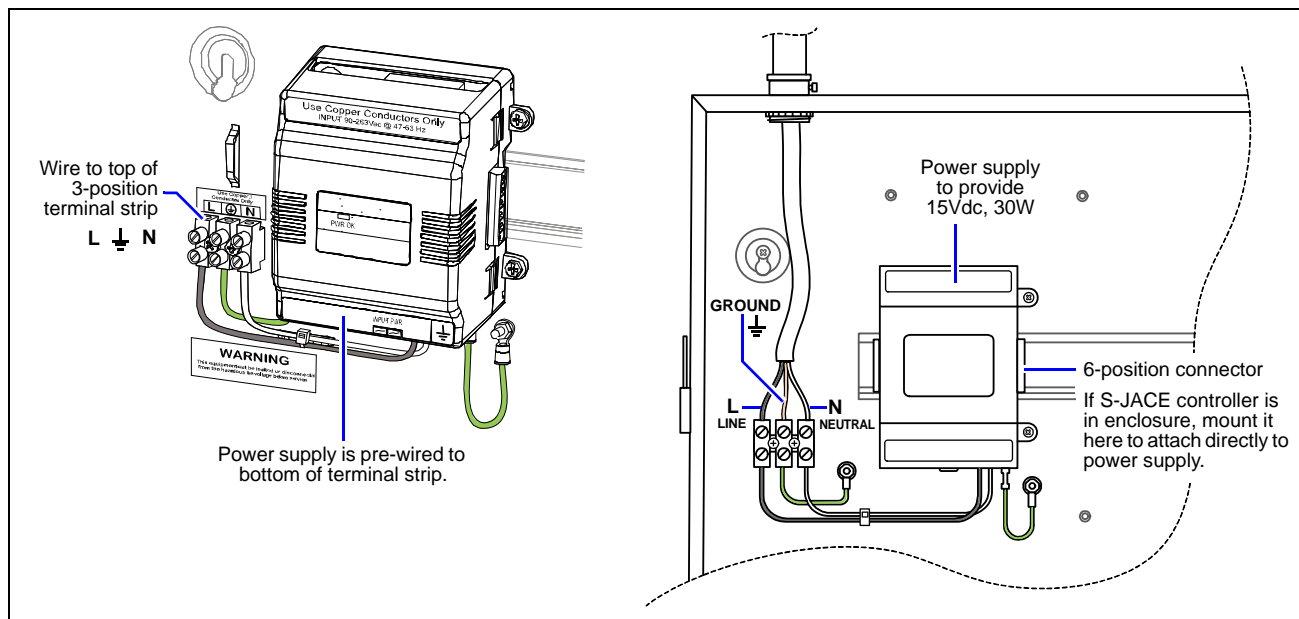
A 120Vac or 240Vac circuit powers the Security Enclosure power supply. Disconnect power to this circuit before installation to prevent electrical shock or equipment damage.



Caution

- AC power wiring must be routed in conduit. AC power cords routed through cable clamps are not permitted.
- Size power conductors in accordance with the local regulating authority, such as the NEC.
- Do not exceed the 30W supply capacity of the Security Enclosure power supply by the powered devices. Door strike power, as well as power for other loads switched by the S-JACE and/or its expansion modules, should always be provided from a different source.

Figure 4 Wire AC power circuit with ground to 3-position terminal strip (pre-wired to power supply).



Procedure 6 (SEC-ENC-MED or SEC-ENC-LRG only) Power and ground wiring.

- Step 1** Remove power from the AC circuit being wired to the Security Enclosure power supply—see previous [Warning](#) on page 8.
- Step 2** Route the AC circuit wiring (Line, Ground, Neutral) through conduit in the top left area of the enclosure, and terminate to the 3-position terminal strip. See [Figure 4](#) on page 8.



Note Do not remove the plastic cover of the power supply. The power supply is pre-wired to the 3-position terminal strip, along with the enclosure chassis.

- Step 3** Before restoring power to the Security Enclosure power supply, complete any other wiring connections on the S-JACE and its accessory modules.



Note 15Vdc output power is provided on the 6-position connector of the power supply. If installing an S-JACE controller, you mount it on the top DIN rail in the enclosure, plugged directly into the power supply connector. If the enclosure contains only expansion modules, you populate the top DIN rail first.

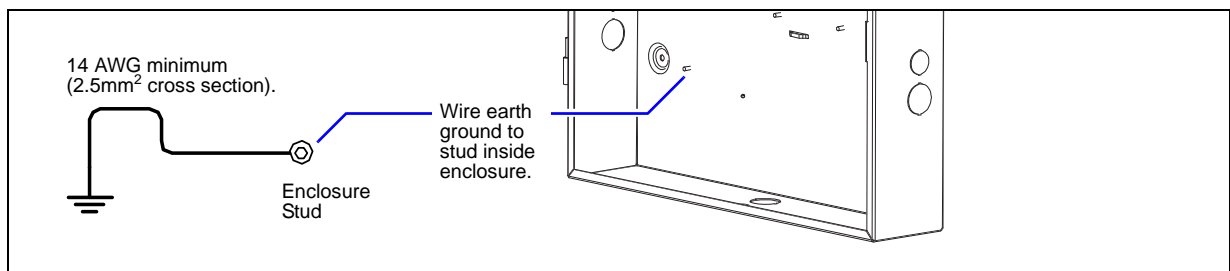
If installing an SEC-ENC-LRG enclosure, note the included 6-wire harness that supplies 15Vdc power and communications to any modules you mount on the lower DIN rail.

SEC-ENC-MNP and SEC-ENC-LNP Ground Wiring

For units without an integral power supply, wire earth ground to the enclosure as described below.

Procedure 7 Grounding the SEC-ENC-MNP or SEC-ENC-LNP enclosure.

- Wire earth ground to the enclosure, using a minimum 14 AWG (2.5mm² cross section) wire attached to a designated grounding stud inside the enclosure.



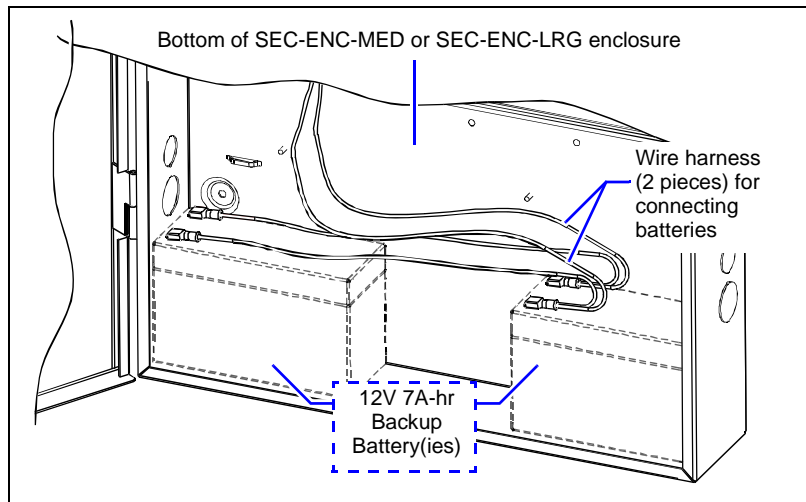
Backup Batteries

If the SEC-ENC-MED or SEC-ENC-LRG enclosure will house an S-JACE controller, after mounting it you can use the bottom of the enclosure to place one or two 12V sealed lead-acid backup batteries. See [Figure 5](#) for an example of locating two batteries.



Note Maintain a minimum 1/2 in.(13mm) spacing between battery leads and power-limited wiring.

Figure 5 (SEC-ENC-MED or SEC-ENC-LRG only) mounting 12V backup batteries--applies only if S-JACE controller.



See the “[Material and Tools Required](#)” section on page 2 for more details about backup batteries.



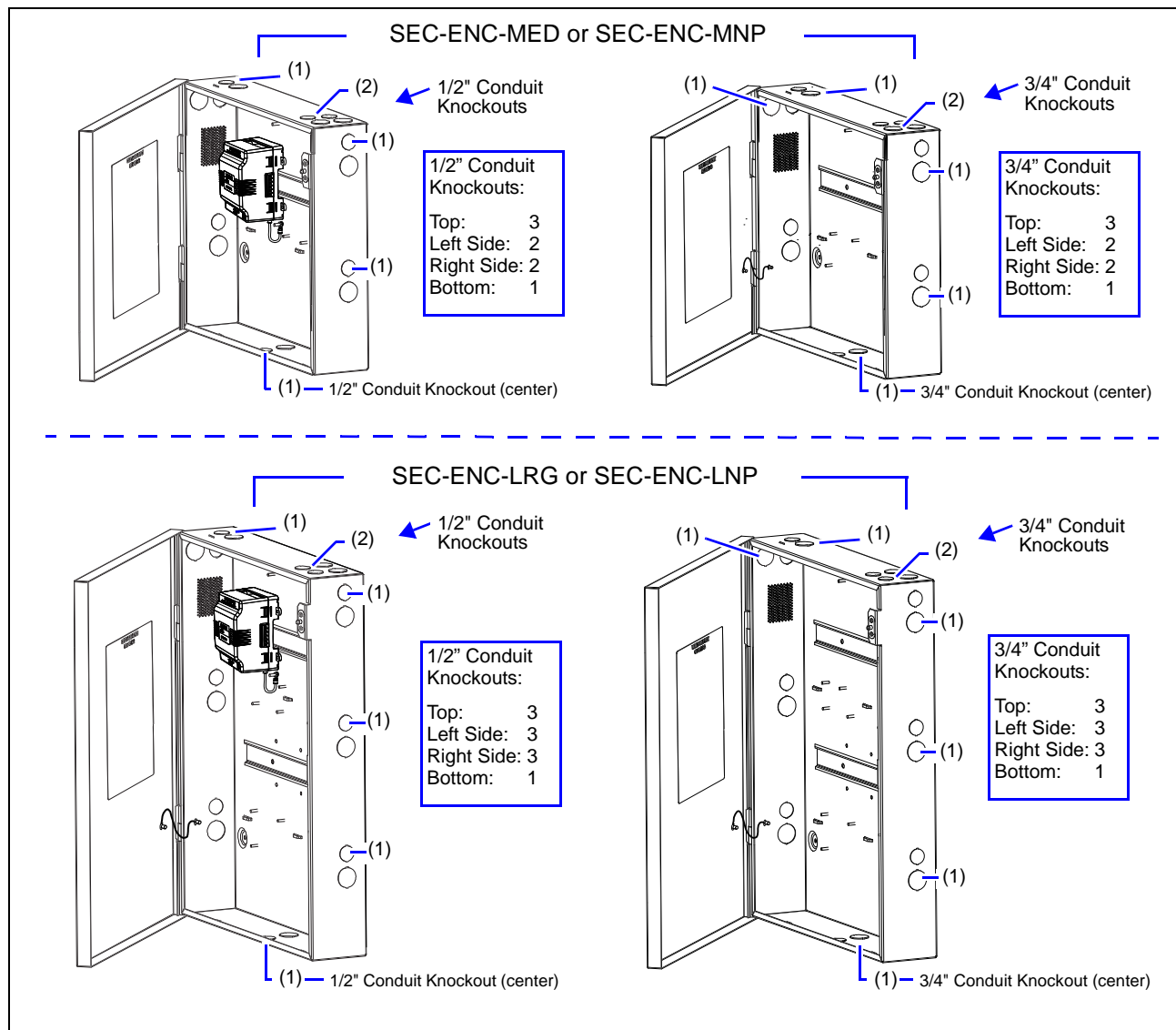
Caution

Before connecting the 12V backup battery(ies) to the supplied backup battery wires, remove the corresponding 4-position connector from the S-JACE controller, and wire the pre-stripped leads of the battery wires into the “BT+” and “BT-” terminals of that connector, observing the proper polarity. Otherwise, connecting the battery(ies) to these wires may result in a short. For related details, see “Connect the Backup Battery” in the *Security JACE (model) Mounting & Wiring Guide*.

Knockout Locations

Figure 6 provides the locations of knockouts in both the SEC-ENC-Mxx and SEC-ENC-Lxx enclosure models. Two knockout sizes are used: 0.95" (24.1mm) - for 1/2" conduit, and 1.20" (30.5mm) - for 3/4" conduit.

Figure 6 Knockout numbers and locations for SEC-ENC-Mxx and SEC-ENC-Lxx enclosures.



Replacement Parts

Standard replacement parts are listed in [Table 1](#) and can be ordered from stock without restriction. Standard replacement parts cannot be returned for credit and should be disposed of in an appropriate manner.

Table 1 **Standard replacement parts.**

Part Number	Description
10763	6-conductor wiring harness used between assemblies on the top and bottom DIN rails in the large size (SEC-ENC-LRG or SEC-ENC-LNP) security enclosure.
10764	Battery wiring harness.
10765	Enclosure door key lock with 2 keys.
10781	Replacement tamper switch.
NPB-PWR-UN	(only for SEC-ENC-MED or SEC-ENC-LRG enclosures with integral power supply) DIN-mountable 30W, 15Vdc power supply.

© 2013 Tridium, Inc.
3951 Westerre Parkway, Suite 350
Richmond, Virginia 23233 USA

Information and/or specifications published here are current as of the date of publication of this document. Tridium, Inc. reserves the right to change or modify specifications without prior notice. The latest product specifications can be found by contacting our corporate headquarters, Richmond, Virginia. Products or features contained herein are covered by one or more U.S. or foreign patents. This document may be copied by parties who are authorized to distribute Tridium products in connection with distribution of those products, subject to the contracts that authorize such distribution. It may not otherwise, in whole or in part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form without prior written consent from Tridium, Inc. Complete confidentiality, trademark, copyright and patent notifications can be found at: <http://www.tridium.com/galleries/SignUp/Confidentiality.pdf>.

JACE, Niagara Framework, Niagara AX Framework and the Sedona Framework are trademarks of Tridium, Inc.