

Certified Electrician's Instructions

How to Connect Mains and an Emergency Power Off (EPO) Switch to the InfraStruXure PDU

Connection to be performed by a licensed electrician only!



The following procedures require a licensed electrician:

- Connection of Mains conductors
- Installation of an upstream circuit breaker
- Connection to the Main Input switch
- Wiring under the floor
- Connecting an Emergency Power Off switch

Procedures in this instruction sheet

The procedures in this sheet provide instruction for electricians on how to connect Mains conductors to the Main Input switch and an Emergency Power Off switch to the PDU user connection plate. Review the information provided in your InfraStruXure Configure-To-Order (CTO) report and accompanying documentation for instructions specific to your installation, and always follow national and local standards. Before an electrician begins connecting your system, an APC Field Service Engineer must:

- Position and level the Symmetra PX UPS, InfraStruXure PDU, and, if applicable, the XR Battery Enclosure.
- Exchange side panels and attach the Symmetra PX UPS, InfraStruXure PDU, and XR Battery Enclosure.
- Connect the AC and DC power and control wiring.



Note

You can check for updates to this instruction sheet by clicking on the **User Manuals** link on the **Support** page of the APC Web site (**www.apc.com**). In the list of InfraStruXure manuals, look for the latest letter revision (A, B, etc.) of the part number of this sheet.



This manual is available in English on the enclosed CD.

Dieses Handbuch ist in Deutsch auf der beiliegenden CD-ROM verfügbar.

Este manual está disponible en español en el CD-ROM adjunto.

Ce manuel est disponible en français sur le CD-ROM ci-inclus.

Questo manuale è disponibile in italiano nel CD-ROM allegato.

Instrukcja Obsługi w języku polskim jest dostępna na CD.

Инструкция по использованию на русском языке прилагается на диске (CD)

您可以从包含的 CD 上获得本手册的中文版本。

Electrical requirements

Service distribution breaker †‡	100 A (125 A if upstream selectivity is required)
Conductors to Main Input switch †‡	Transformer: L1, L2, L3, PE No Transformer: L1, L2, L3, N, PE
Min./Max. input conductor size accepted by the main input switch †	Rigid: 6–185mm ² ; Flexible: 6–150mm ²
Lug type for input conductor	Saddle lugs
Recommended wire sizing †‡	35mm ² , 90°C, XLPE or 50mm ² , 70°C, PVC insulation

†The above specifications are recommendations. Cable sizing must comply with IEC/EN 60364-5-52. Consult national and local standards for requirements specific to your installation.

‡ Provided by customer.

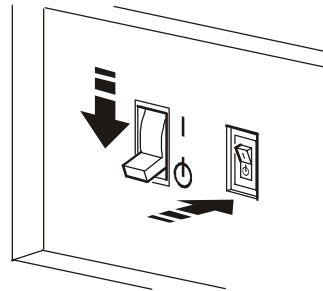
Torque specs and tools required

Terminal	Torque	Tool
L1, L2, L3	10Nm	6mm Allen wrench
N†	14Nm	13mm Socket wrench
PE	14Nm	3/16 Allen wrench

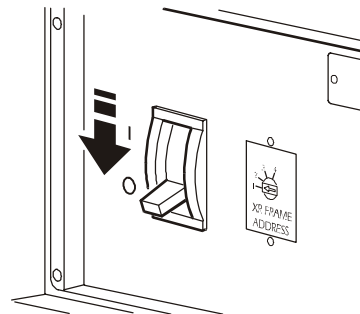
†Only on PDUs without a transformer

Ensure Total Power Off

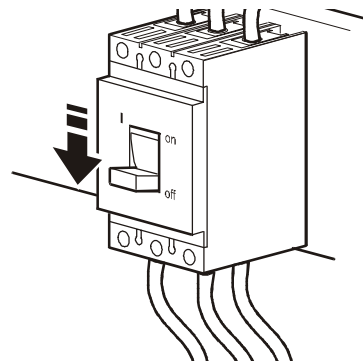
1. Open (turn OFF) the UPS **DC Disconnect** circuit breaker and set the **System Enable** switch to OFF.



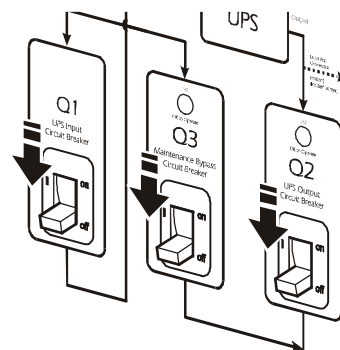
2. If applicable, open (turn OFF) the XR Battery Enclosure **DC Disconnect** circuit breaker.



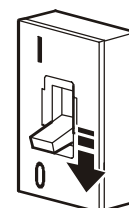
3. Set the PDU **Main Input** switch to OFF.



4. Open (turn OFF) the **Q1**, **Q2**, and **Q3** circuit breakers on the PDU.

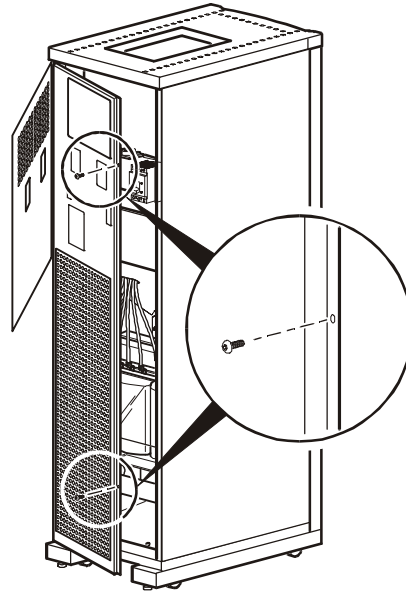


5. Set the upstream input **Mains** circuit breaker to the OFF or Locked Out position.



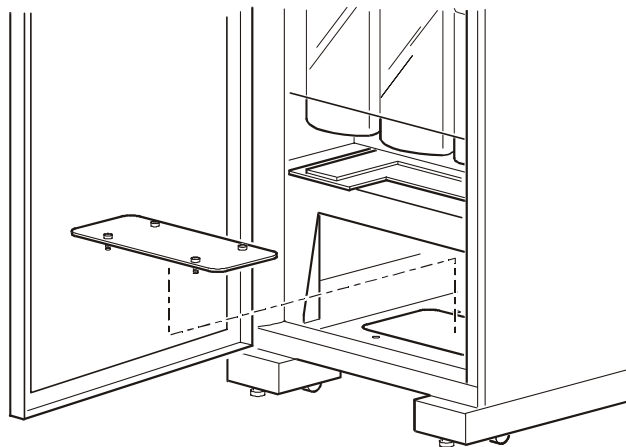
Access the PDU Main Input switch

1. Open the back doors of the PDU, unlock the top, smaller door, using the provided red key.
2. Loosen the two screws holding the larger, hinged door in place.

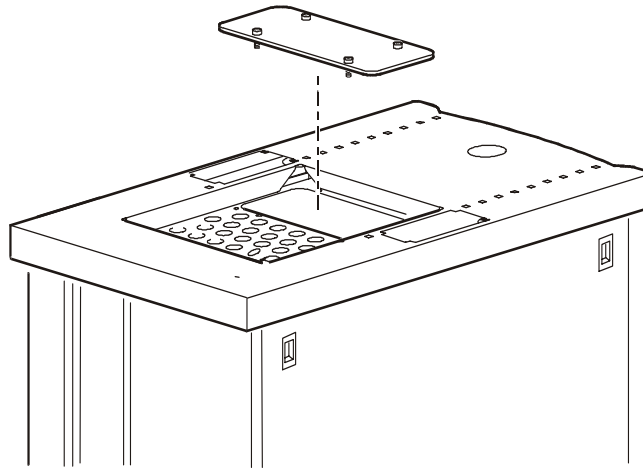


Prepare the PDU for the input conductors

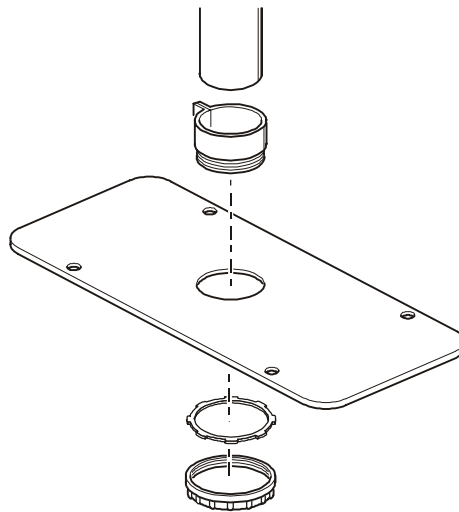
1. Remove the rectangular gland plate by loosening the captive screws, using a Phillips or standard screwdriver:
 - *In the bottom of the PDU for wiring under a raised floor, or*



– In top of the PDU for overhead wiring.



2. Cut an appropriately-sized hole in the gland plate for the cable.
3. Re-attach the gland plate.
4. Install a lock-nut and bushing to the cable.
5. Thread the cable through the hole.



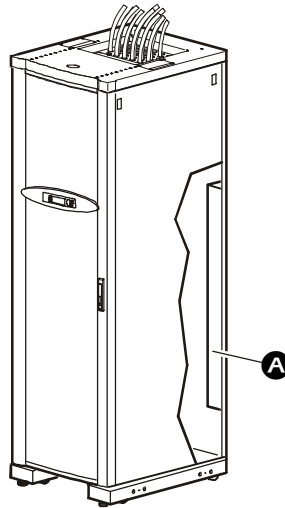
Install a circuit breaker



When you connect the PDU to Mains, you must install a 100 A (minimum) circuit breaker to protect the InfraStruXure PDU against over-current. This circuit breaker must have a CE Mark and a certification mark by a certified body such as VDE, SEV, BSI, KEMA, or Semko.

Route the input conductors to the Main Input switch

1. Route the input conductors to the Main Input switch of the PDU, as follows:
 - a. For overhead wiring, run the input conductors directly to the Main Input switch.
 - b. For wiring under a raised floor, run the input conductors through the wireway (A) within the PDU to the Main Input switch.



Connect input conductors



A licensed electrician must connect input conductors to the PDU!

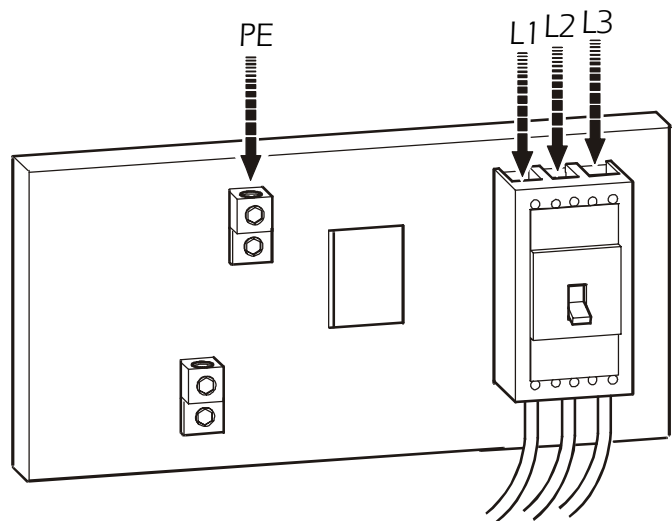
At the Main Input switch, connect the input wiring according to the labels on the switch and the illustrations below. See the table “Torque specs and tools required” on page 3 for specific information about connecting to each terminal.



Connect the conductors to the terminals according to the labels on the terminals. Use copper conductors only.

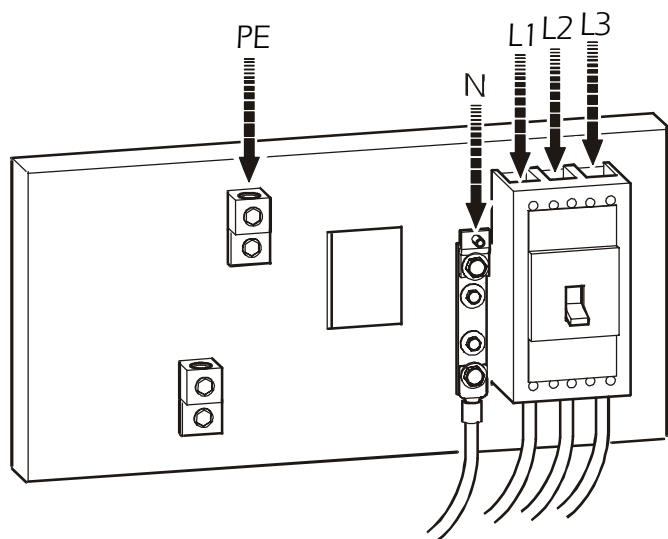
400 V input with an isolation input transformer:

L1, L2, L3, PE



400 V input without an isolation input transformer:

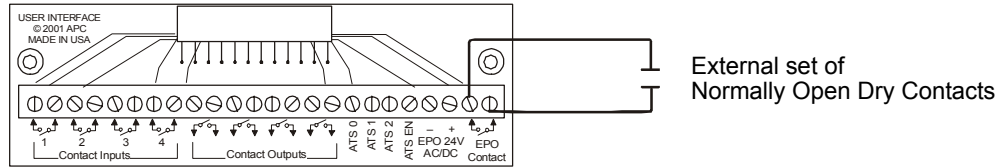
L1, L2, L3, N, PE



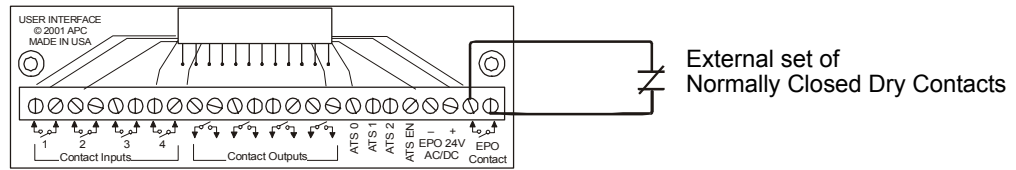
Connect an Emergency Power Off (EPO) switch

1. Connect the switch to the EPO connection point terminals located on the bottom side of the PDU user connection plate. Read the label next to the terminal block to determine which terminals to connect to for the signal type you are using:

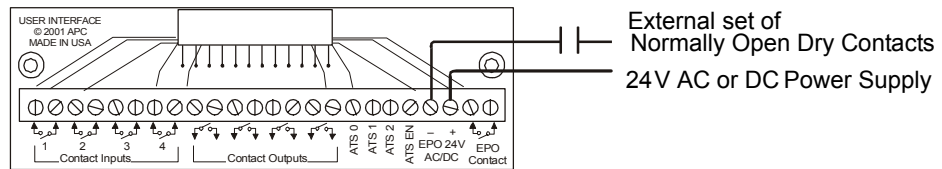
– **Contact Closure—Normally Open**



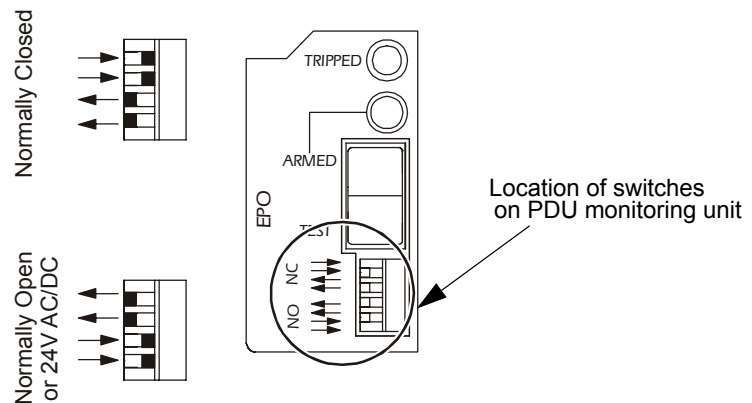
– **Contact Closure—Normally Closed**



– **24VAC/VDC—Normally Open**



2. Verify that the EPO DIP switches on the PDU monitoring unit are configured properly for the signal type you are using. The labels above the switches and the figure below show the correct settings for both the Normally Open (NO) and Normally Closed (NC) position.



The default setting on the EPO interface on the PDU monitoring unit is for a **Normally Open (NO)** switch.



See also

For information on testing the Emergency Power Off (EPO) switch, see the *InfraStruXure PDU Operation and Configuration* manual included with your system.

APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to access documents in the APC Knowledge Base and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC Web sites for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
Global support searching APC Knowledge Base and using e-support.
- Contact an APC Customer Support center by telephone or e-mail.
 - Regional centers:

InfraStruXure Technical Support	(1)(877)537-0607 (toll free)
APC headquarters U.S., Canada	(1)(800)800-4272 (toll free)
Latin America	(1)(401)789-5735 (USA)
Europe, Middle East, Africa	(353)(91)702020 (Ireland)
Australia, New Zealand, Pacific	(61)(2)9955-9366 (Australia)

- Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

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