SIEMENS

Installation Instructions
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PX Series
Service Box Assemblies

Product Description

The PX Series Service Box Assemblies transform 115 Vac or 230 Vac to 24 Vac that power HVAC control components. The 192 VA service boxes mount directly inside a 19-inch or 34-inch PX Series Enclosure or as a replacement in older MEC Enclosures. The 384 VA service boxes provide additional power for larger systems and mount only in the 34 inch PX Series Enclosure. The service boxes are Smoke Control and Energy Management listed when installed per this instruction.

The service box assemblies consist of:

- Chassis for mounting inside enclosure
- Transformer for converting either 115 Vac or 230 Vac to 24 Vac sized for either 192 VA or 384 VA
- ON/OFF Circuit breaker for transformer
- Two Class 1 power limited 24 Vac outputs including one terminal for earth ground for use inside enclosure only
- One Class 2 output with circuit breaker to distribute up to 96 VA for use outside the enclosure
- Duplex Service Outlet (115 Vac models only)
- Wire cover for field connections

Product Numbers

PXA-SB115V192VA	Service Box 115V, 24 Vac, 50/60 Hz, 192 VA
PXA-SB115V384VA	Service Box 115V, 24 Vac, 50/60 Hz, 384 VA
PXA-SB230V192VA	Service Box 230V, 24 Vac, 50/60 Hz, 192 VA
PXA-SB230V384VA	Service Box 230V, 24 Vac, 50/60 Hz, 384 VA

Warning/Caution Notations

WARNING:	⚠	Personal injury/loss of life may occur if you do not perform a procedure as specified.
CAUTION:	⚠	Equipment damage or loss of data may occur if you do not perform a procedure as specified.

Required Tools and Materials

- Medium Phillips screwdriver
- 11/32-inch nut driver
- 7/16-inch nut driver

Expected Installation Time

15 Minutes

Prerequisites

- Enclosure(s) installed.
- AC power brought to enclosure(s) and power turned OFF at the circuit breaker.
- If using optional TX-I/O Bus (not available on all hardware), it is pulled between enclosures using single 2 twisted pair (TP) or two 1 TP wire tied together. See TX-I/O Bus steps for maximum length by wire gauge.

Smoke Control Application Requirements

UL864 and NFPA92A compliant installations require the 115V or 230V PX Series Service Box Assembly installed inside the 19-inch or 34-inch PX Series Enclosure Assembly (PXA-ENC19 or PXA-ENC34). For more information, see *PX Series Enclosure Assemblies Installation Instructions* (553-130).

For smoke control installations, the 24 Vac Actuator Output is a supplementary circuit intended for general HVAC equipment only. It can not power smoke control devices.

Optional: See the Field Purchasing Guide for ordering the relay required for Smoke Control listing if a TX-I/O Bus is powered from multiple service boxes. (TX-I/O Bus not available on all hardware.)

RIB2401C UL864 Listed Relay, SPDT 24 Vac 10A

Energy Management Applications

For energy management installations the service box may be installed in any NEMA Type 1 enclosure if the optional side wall kit is installed (PXA-SW192VA or PXA-SW384VA). For more information, see *PX Series Service Box Sidewall Kit Installation Instructions* (553-135).

Optional: For TX-I/O Bus powered from multiple service boxes, use UL Listed relay RIB2401C. For more information, see manufacturer installation instructions.

Instructions

WARNING:

This installation should only be done by a qualified electrician.

WARNING:

Turn off AC power to the MEC enclosure at a circuit breaker panel.

1. Be sure the AC power to the enclosure is OFF at the circuit breaker panel.
2. Place the service box in the right side of the enclosure. See Figure 1 and Figure 3.
3. Fasten the service box inside the enclosure with the three locknuts (two on top and one on the bottom).
4. Connect the green/yellow wire at the marked earth ground lug on the enclosure.

CAUTION:

The green wire grounds the transformer secondary neutral. This is required whenever the primary side is greater than 150 Vac, required by local code or if used to power TX-I/O Modules.

5. If required connect the green wire at the marked earth ground lug on the enclosure. Otherwise, tape back the green wire terminal.
6. Do one of the following:

   - **115 Vac models:** Connect the AC hot (black wire) and AC neutral (white wire) with wire nuts.
   - **230 Vac models:** Screw the AC hot (black wire) and AC neutral (white wire) to the terminal block.

7. Fasten wire cover to the top of the service box.

For hardware without a TX-I/O Bus or TX-I/O Bus not extending between enclosures, skip to step 8; otherwise, choose Option 1 or Option 2 below:

Option 1: If powering both enclosures from a single service box, continue with the following:

a. Connect a twisted pair of TX-I/O Bus cable from the service box 24 Vac (~) and (⊥) terminals of the Class 2 output connector to the corresponding pins of TXS1.12F4, TXB1.P1, or TXS1.EF4 in the other enclosure.

b. Connect the second twisted pair between the CS and CD terminals of the TXS1.12F4, TXB1.P1, or TXS1.EF4 in each enclosure.

Option 2: If using multiple service boxes to power a TX-I/O Bus, continue with the following:

CAUTION:

DO NOT connect the 24 Vac (~) terminals between the multiple service boxes.

a. Do the steps for a single service box except do not connect the 24 Vac (~) wire and CS wire.

b. Screw the relay onto the enclosure backplane.

c. Connect the relay coil 24 Vac terminal to the service box 24 Vac (~) terminal.

d. Connect the relay coil neutral terminal to the service box neutral (⊥) terminal.

e. Connect the CS wire entering and/or leaving enclosure to the relay contact common terminal.

f. Connect the CS wire inside enclosure to the relay contact normally open terminal (NO).

8. If present, fasten wires from the component power connectors to connectors on the side of the service box. See Figure 2 and Figure 4.
9. Restore power to the enclosure at the circuit breaker panel.

The installation is now complete.

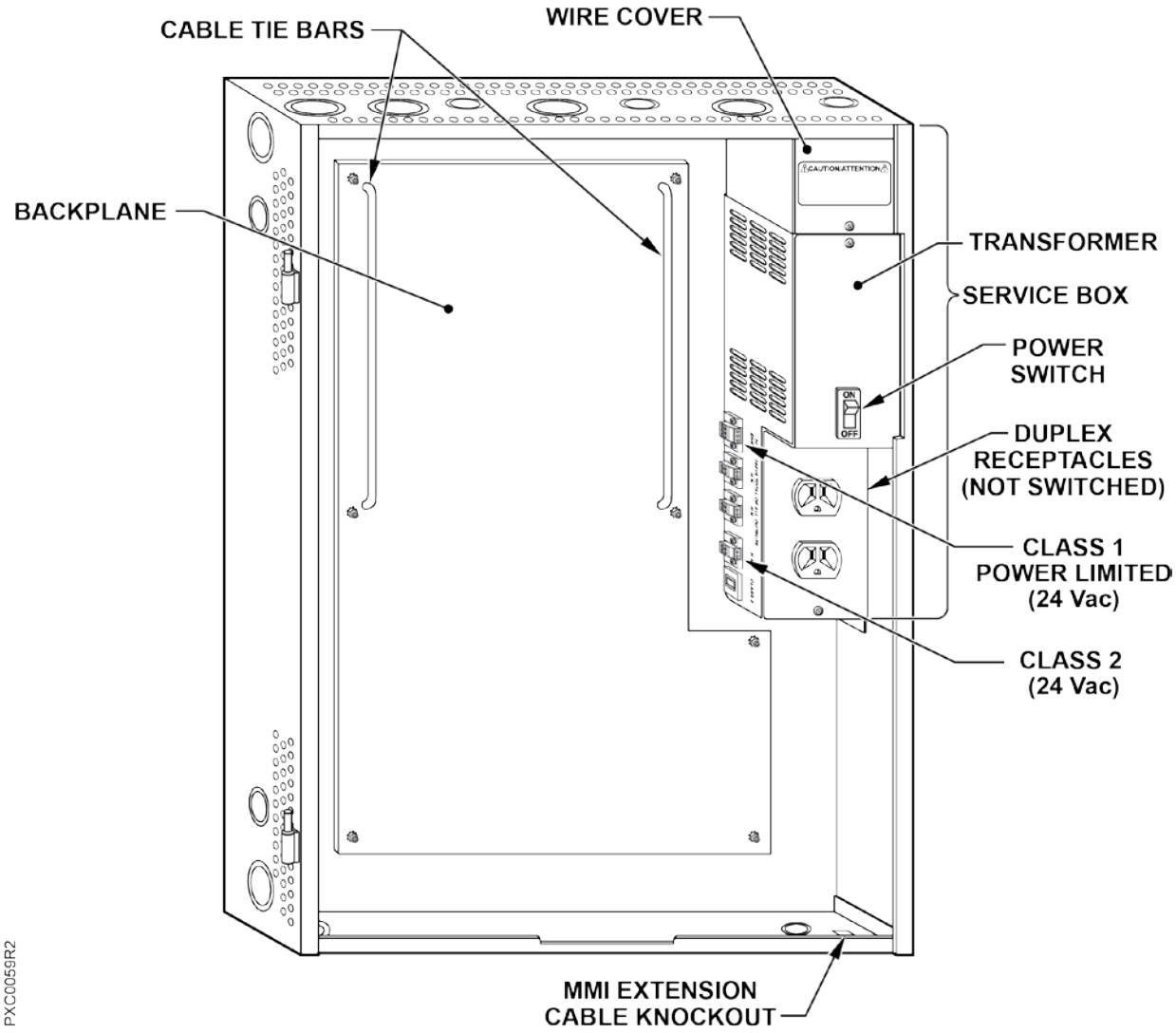

Figure 1. Placement of the 384 VA Service Box in a 34 inch PX Series Enclosure.

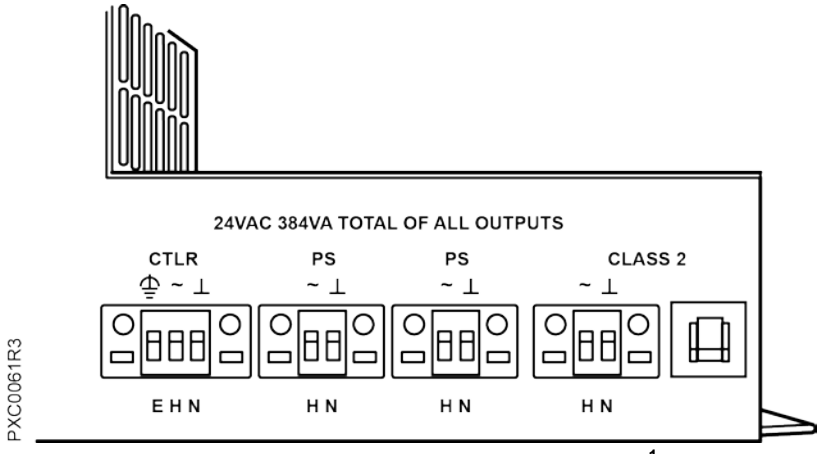

Figure 2. 384 VA Service Box Connections[1].

1. 384VA model connectors will fit one 12 gauge and one 14 gauge wire or three 14 gauge or smaller wires.

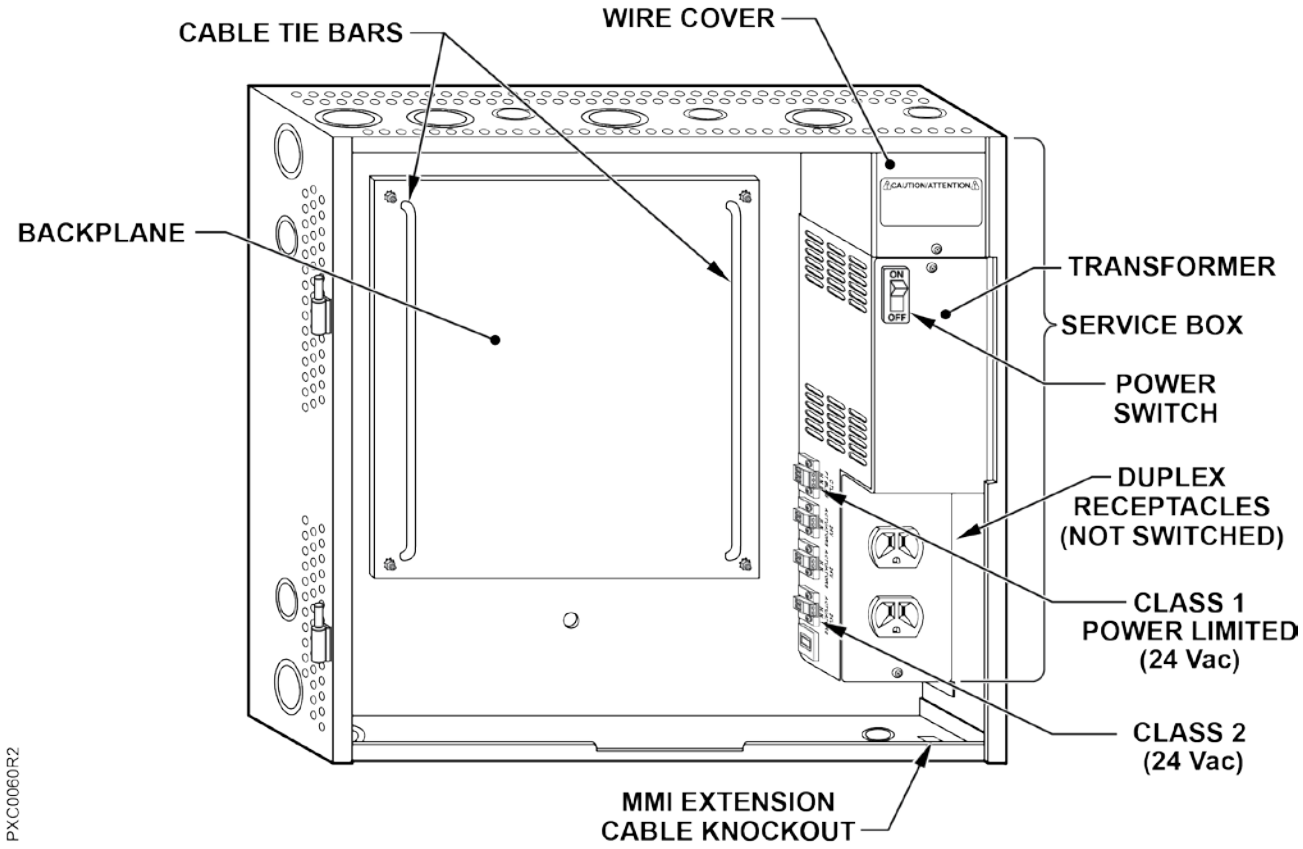

Figure 3. Placement of the 192 VA Service Box in a 19 inch PX Series Enclosure.

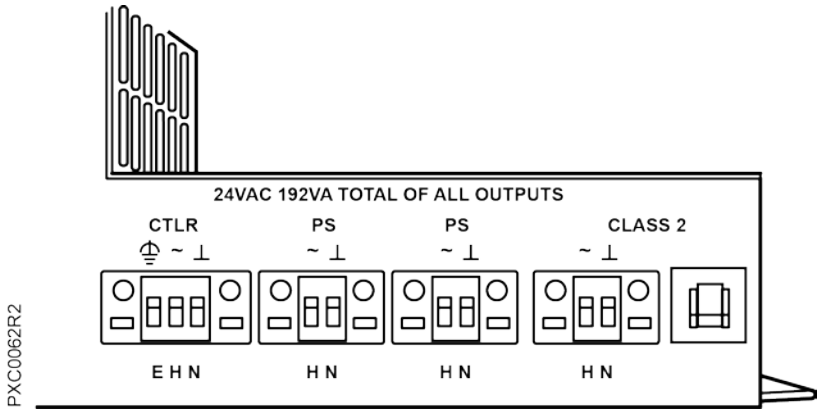

Figure 4. 192 VA Service Box Connections[2].

2. 192VA model connectors will fit one 12 gauge wire, one 14 and one 16 gauge wire or three 16 gauge or smaller wires.

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