PowerLogic™ Series E4800
Multi-Circuit Meters

Installation Guide

Schneider Electric

Hazard Categories and Special Symbols

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **can result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in** minor or moderate injury.

CAUTION

CAUTION, used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, **can result in** property damage.

NOTE: Provides additional information to clarify or simplify a procedure.

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. This Class A digital apparatus complies with Canadian ICES-003.

INDUSTRY CANADA CLASS A EMISSION COMPLIANCE STATEMENT

This equipment does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian ICES-003.

Avis de conformité aux normes d'Industrie Canada. Cet appareil numérique de la classe A est conforme a la norme NMB-003 du Canada.

TUV

TUV Rheinland of North America is listed by the American Federal Occupational Safety and Health Administration (OSHA) under NRTL (Nationally Recognized Testing Laboratory) program. It is also accredited by Standards Council of Canada. This equipment complies with UL 61010-1 Second Edition and CSA C22.2 No. 61010-1-04.

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INTRODUCTION

This document describes the PowerLogic E4800 meter (PowerLogic E4833, E4880 and E4805 meters), including procedures to install and start up the unit, and complete the initial configuration:

- "System Description" on page 1
- "Pre-Installation" on page 7
- "Installation Procedures" on page 8
- "Start-Up Sequence" on page 21
- "Fuse Replacement" on page 25

This documentation is intended for those responsible for installing and configuring the PowerLogic E4833, E4880 and E4805 meters. Installers must be qualified electricians with knowledge of local and national code requirements. See "Safety Precautions" on page 6.

System Description

The PowerLogic E4833, E4880 and E4805 meters support:

- single-phase, 2-wire
- single-phase, 3-wire
- three-phase devices

Depending on how the meters are installed and configured, they can meter 8, 12, or 24 individual meter points. The PowerLogic E4833, E4880 and E4805 meters are designed for residential, commercial, and industrial use and display the power and consumption readings for each measurement point.

PowerLogic E4800 System Specifications

The PowerLogic E4800 system architecture includes:

- single-phase, 2-wire; single-phase, 3-wire (network); and three-phase compatibility
- 208Y/120V and 120/240V configurations
- 8, 12, or 24 individual meter points
- 10/100 BaseTX Ethernet port with web browser
- V.90 telephone port and Ethernet port for remote reporting
- RS232 serial port for external display
- 2 pulse inputs to connect metering devices

Table 1 on page 2 lists the system specifications of the PowerLogic E4833, E4880 and E4805 meters.

Table 1: PowerLogic E4800 meter specifications

Specification	PowerLogic E4833 meter	PowerLogic E4880 meter	PowerLogic E4805 meter
Dimensions	Height: 13.125 in. (33.5 cm) Width: 12 in. (30.5 cm) Depth: 2.125 in. (5.5 cm)	Height: 13.125 in. (33.5 cm) Width: 12 in. (30.5 cm) Depth: 2.125 in. (5.5 cm)	Height: 13.125 in. (33.5 cm) Width: 17 in. (44 cm) Depth: 2.125 in. (5.5 cm)
Weight	8.77 lb (3.98 kg)	8.77 lb (3.98 kg)	11.9 lb (5.4 kg)
Reference input voltage	208Y/120V, 3W+N+Protective Earth 208Y/120V, 2W+N+Protective Earth 120/240V, 2W+N+Protective Earth	208Y/120V, 3W+N+Protective Earth 208Y/120V, 2W+N+Protective Earth 120/240V, 2W+N+Protective Earth	208Y/120V, 3W+N+Protective Earth 208Y/120V, 2W+N+Protective Earth 120/240V, 2W+N+Protective Earth
Reference voltage tolerance	+/-10%	+/-10%	+/-10%
Supply voltage and current	North America: 120V 125 mA 60 Hz International: 230-240V 63 mA 50/60 Hz	North America: 120V 125 mA 60 Hz International: 230-240V 63 mA 50/60 Hz	North America: 120V 125 mA 60 Hz International: 230-240V 63 mA 50/60 Hz
Current transformers Measurement Category III	0.333 V secondary CT	200 A primary CT 80 mA secondary CT	5 A secondary CT
Measurement accuracy	ANSI C12.20 .5 Accuracy Class	ANSI C12.20 .5 Accuracy Class	ANSI C12.20 .5 Accuracy Class
Pulse inputs 1 and 2	Dry form A and solid-state form A compatible Maximum frequency 10 Hz Minimum pulse width 20 ms	Dry form A and solid-state form A compatible Maximum frequency 10 Hz Minimum pulse width 20 ms	Dry form A and solid-state form A compatible Maximum frequency 10 Hz Minimum pulse width 20 ms
Non-volatile memory storage	120 days in 15-minute intervals	120 days in 15-minute intervals	120 days in 15-minute intervals
Onboard modem	V.90, RJ11	V.90, RJ11	V.90, RJ11
Onboard Ethernet port	10/100 BaseTX	10/100 BaseTX	10/100 BaseTX
Serial port	115 kb/s	115 kb/s	115 kb/s
Fuse rating (F1)	North America: 120V: F125 mA H 250V International: N/A	North America: 120V: F125 mA H 250V International: N/A	North America: 120V: F125 mA H 250V International: N/A
Environmental			
Operating temperature	-40 to 70°C	-40 to 70°C	-40 to 70°C
Operating humidity	0 to 90% non-condensing	0 to 90% non-condensing	0 to 90% non-condensing
Usage environment	Indoor or enclosed outdoor environment	Indoor or enclosed outdoor environment	Indoor or enclosed outdoor environment
Maximum altitude	6562 ft (2000 m)	6562 ft (2000 m)	6562 ft (2000 m)
Pollution degree	2	2	2
Regulatory Compliance United States and Canada			
Safety	TUV and UL certified to IEC/EA/UL/CSA 61010-1 2nd Edition CSA-C22.2 No. 61010-1-04	TUV and UL certified to IEC/EA/UL/CSA 61010-1 2nd Edition CSA-C22.2 No. 61010-1-04	TUV and UL certified to IEC/EA/UL/CSA 61010-1 2nd Edition CSA-C22.2 No. 61010-1-04
Emissions (EMC)	FCC Part 15 Class A, ICES-003 EN55022, IEC 6100-4-5	FCC Part 15 Class A, ICES-003 EN55022, IEC 6100-4-5	FCC Part 15 Class A, ICES-003 EN55022, IEC 6100-4-5
Surge power/telephone lines	ANSI/TIA968-A: 2002	ANSI/TIA968-A: 2002	ANSI/TIA968-A: 2002

Front Panel Display

The PowerLogic E4833, E4880 and E4805 meters have the following front panel features (Figure 1 shows the PowerLogic E4880 front panel):

- **LCD** — displays 2 rows of 16 characters for each of the meter points (8, 12, or 24)
- **Display button** — cycles through the available information for each of the meter points
- **Left and right arrow buttons** — selects the meter point to display

Figure 1: PowerLogic E4880 front panel

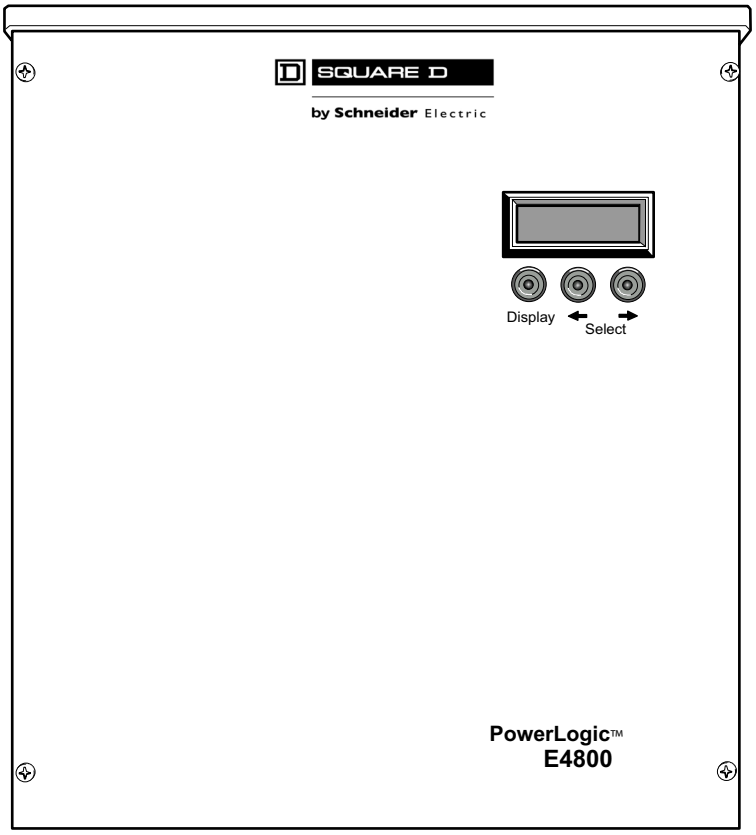
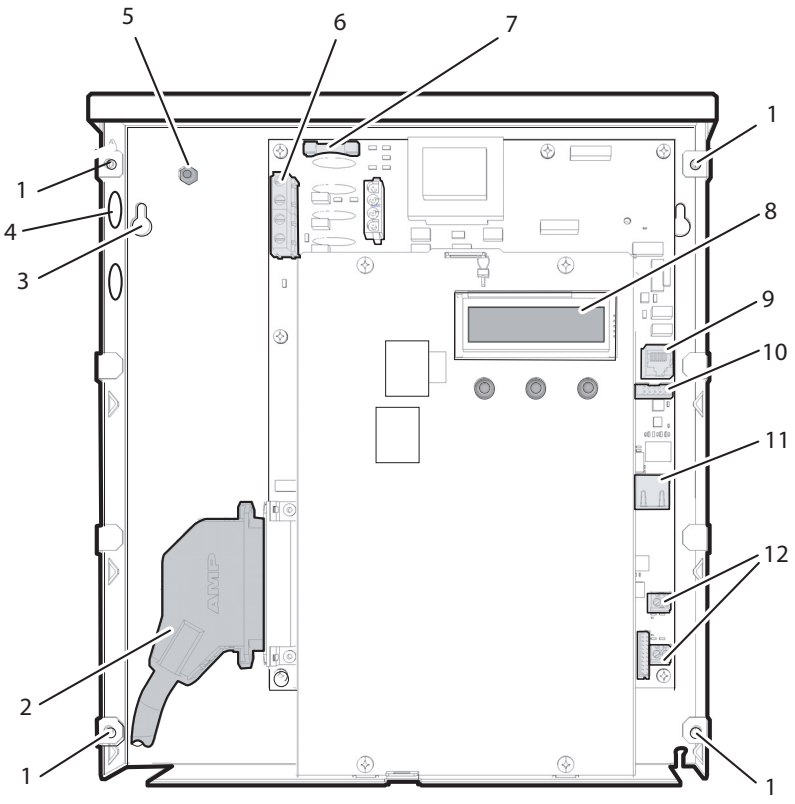


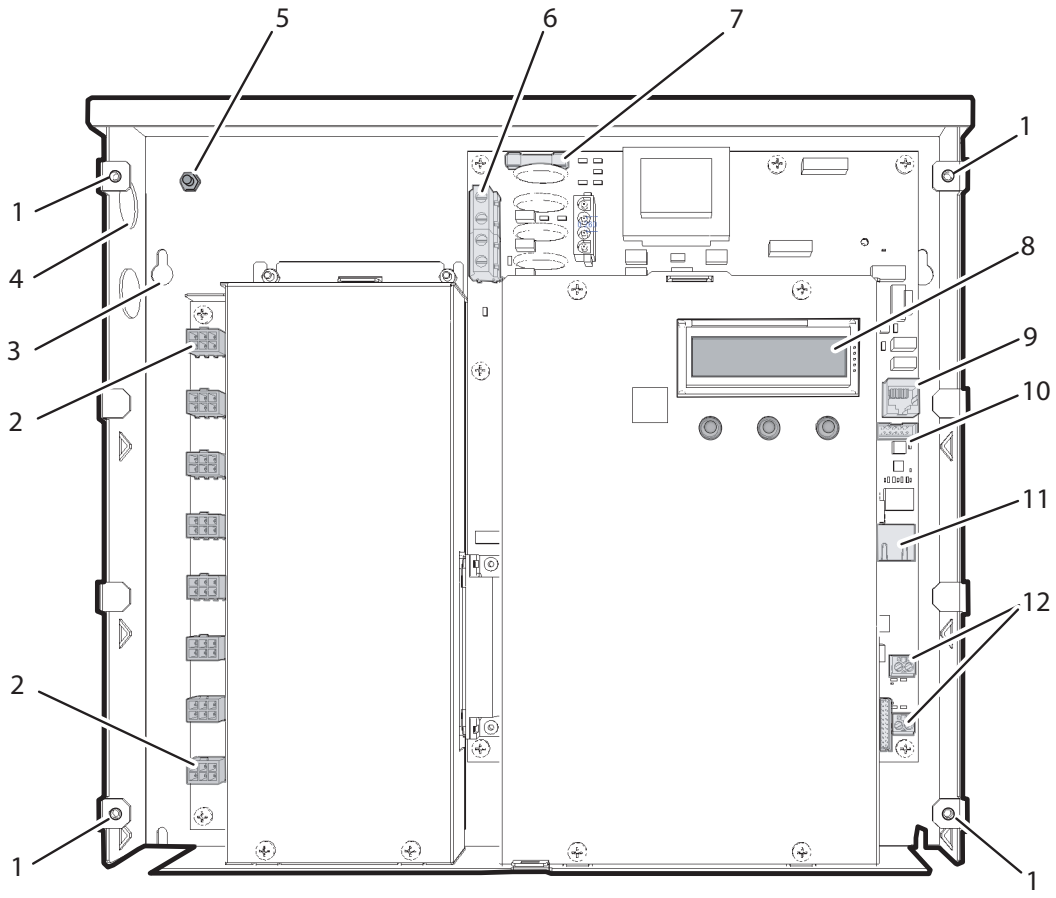
Figure 2 shows the internal view of the PowerLogic E4833 and PowerLogic E4880. See Figure 3 for the internal view of the PowerLogic E4805.

Figure 2: PowerLogic E4833 and PowerLogic E4880 internal view



Legend:
1 Cover screw location
2 Current transformer input connector
3 Mounting keyhole
4 Conduit knockout
5 Earth connection
6 Voltage input terminal block
7 Fuse
8 Display
9 Modem port
10 RS232 for remote display
11 Ethernet port
12 Pulse in terminal blocks

Figure 3: PowerLogic E4805 internal view



Legend:

1 Cover screw location
2 Current transformer input connector
3 Mounting keyhole
4 Conduit knockout
5 Earth connection
6 Voltage input terminal block
7 Fuse
8 Display
9 Modem port
10 RS232 for remote display
11 Ethernet port
12 Pulse in terminal blocks

SAFETY PRECAUTIONS

Carefully observe these safety instructions.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- Only qualified electrical workers should install this equipment. Such work should be performed only after reading this entire set of instructions.
- The equipment must be accessible to authorized personnel only. Equipment must be installed in areas where access can be restricted.
- NEVER work alone.
- Before performing visual inspections, tests, or maintenance of this equipment, disconnect all sources of electric power. Assume that all circuits are live until they have been completely de-energized, tested, and tagged. Pay particular attention to the design of the power system. Consider all sources of power, including the possibility of backfeeding.
- Turn off all power supplying the meter and the equipment in which it is installed before working on it.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Before closing all covers and doors, carefully inspect the work area for tools and objects that may have been left inside the equipment.
- Successful equipment operation requires proper handling, installation, and operation. Neglecting fundamental installation requirements can lead to personal injury as well as damage to electrical equipment or other property.
- NEVER bypass external fusing.
- NEVER short the secondary of a Voltage Transformer (VT).
- Always short the secondary of a current transformer prior to disconnecting current input loads.

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

Electrical Standards Compliance

- Use the unit only in accordance with the electrical power rating.
- Install the unit in compliance with the following local and national electrical codes:
  - Canada: Canadian Electrical Code, Part I, CSA C22.1
  - United States: National Fire Protection Association (NFPA) 70; US National Electrical Code
  - Elsewhere: International Electrotechnical Commission (IEC) 364, Part 1-7
- Ensure that the unit is properly earthed.
- If the equipment is installed or used in a manner other than that specified in this document, it may void your warranty or impair the protection of the equipment.

INSTALLATION

This section contains the following installation topics:

- "Pre-Installation" on page 7
- "Installation Procedures" on page 8
- "Start-Up Sequence" on page 21

Pre-Installation

The pre-installation checklst and site planning must be performed before installing the equipment at the site.

Receiving

The equipment required for each installation includes:

- PowerLogic E4800 meter (PowerLogic E4833, PowerLogic E4880 or PowerLogic E4805)
- for the PowerLogic E4833 and PowerLogic E4880, one 12-ft (4-m) AMP cable with one 50-pin connector supplied with each unit
- for the PowerLogic E4805, two Mate-n-Lok™ wiring harnesses supplied with each unit
- CD containing meter configuration software, this installation manual and an installation record form

When you receive your order, verify that the items listed above are included with the shipment, and visually inspect them for damage. If any parts are missing or damaged, contact your Schneider Electric representative.

Pre-Installation Checklist

The installer must provide the following information, tools, and equipment before proceeding with the installation:

- certified current transformers for metering (not supplied)
- an appropriate 20-Amp maximum circuit breaker or a fused disconnect switch for the type of panel
- current/voltage meter to test the phasing of panels
- RJ45 Ethernet patch cable
- 4-wire 14 AWG (1.63 mm^2) cable for three-phase wye connected circuits, or 3-wire 14 AWG (1.63 mm^2) cable for a single-phase wye connected circuits
- small flat-head screwdriver
- #2 Phillips screwdriver
- crimping tool
- 18 AWG butt splice connector
- wire strippers
- four 1-inch (25 mm) #8 mounting screws suitable for selected mounting surface

If using a modem, these items are also required:

- phone or butt set to test the phone line
- RJ11 patch cable
- xDSL filter if required (many businesses have their internet access on the same line as the fax)

Site Planning

1. Determine the number of PowerLogic E4800 meters to be installed and ensure adequate mounting space. For clearances, see Figure 4 on page 9.
2. Determine the number of analog phone lines or Ethernet connections required, and ensure they are installed before installing the meters. The recommended maximum number of meters per phone line is 50.
3. Determine the number and types of meters or monitors required.
4. Determine the model number and correct input voltage based on the voltage label on the top right side of the unit.

Access to Power and Lighting

The installation site must be supplied with access to the main electrical panel and any sub-panels. Portable or permanent lighting must be available to provide the installers with a clear view of the equipment and of the installation environment. Each installation may vary depending on physical site restrictions.

Installation Procedures

This section provides information about activities that must be performed to install the PowerLogic E4800 meter in a single-phase 2-wire, single-phase 3-wire, or three-phase 4-wire application (208Y/120V). The installation procedures must be performed in the following order:

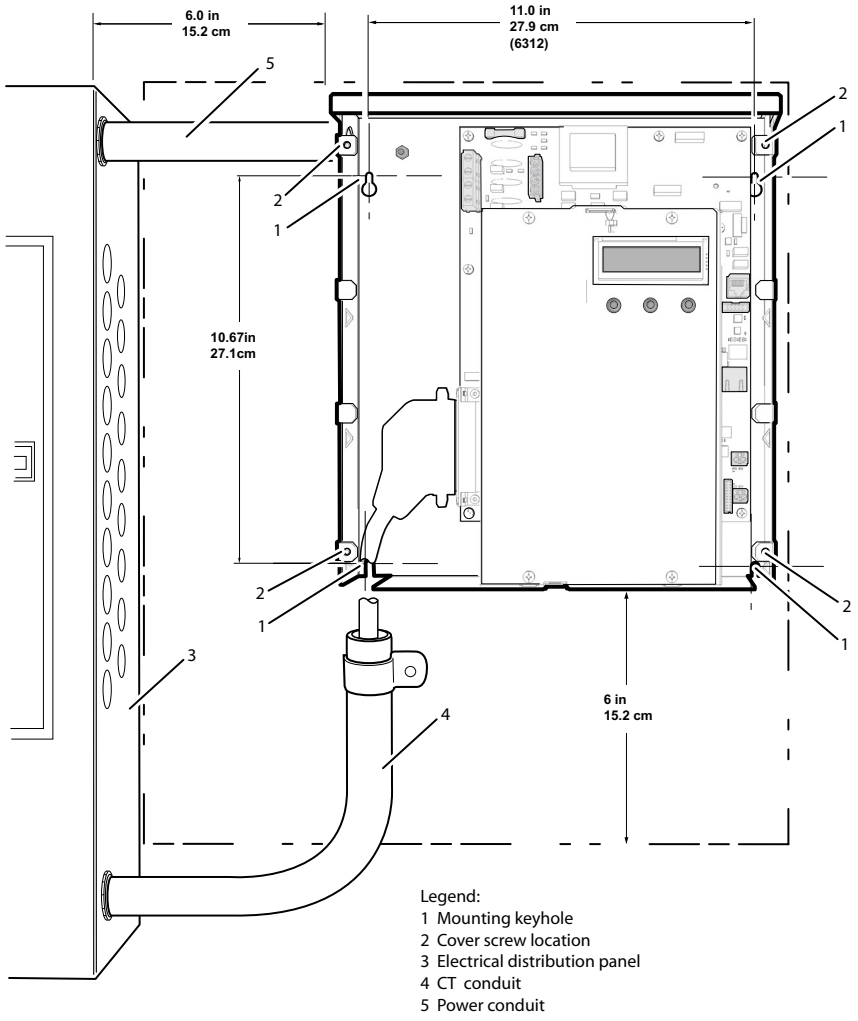
1. “Mounting the PowerLogic E4800 meter” on page 9
2. “Installing Voltage Transformers for Service Greater Than 120V” on page 10
3. “Installing the Reference Voltage and Power Cable in a 120V Application” on page 11
4. “Installing the Current Transformers” on page 14
5. “Connecting the Phone Line” on page 21
6. “Connecting the Ethernet Cable” on page 21
7. “Manually Testing Communications” on page 21
8. “Recording the Meter Map” on page 24

Mounting the PowerLogic E4800 meter

Mount the PowerLogic meter adjacent to the electrical distribution panel using the 1-inch (25 mm) #8 screws as shown in Figure 4. If mounting the unit on a plasterboard surface, use appropriate hardware.

1. Remove the front cover from the meter by removing the four screws with a #2 Phillips screwdriver. Retain the cover and screws for later re-installation.
2. Mount the PowerLogic meter on the wall and secure it by inserting a screw in each mounting keyhole and tightening the screws.

Figure 4: Mounting Dimensions and Clearances



Installing Voltage Transformers for Service Greater Than 120V

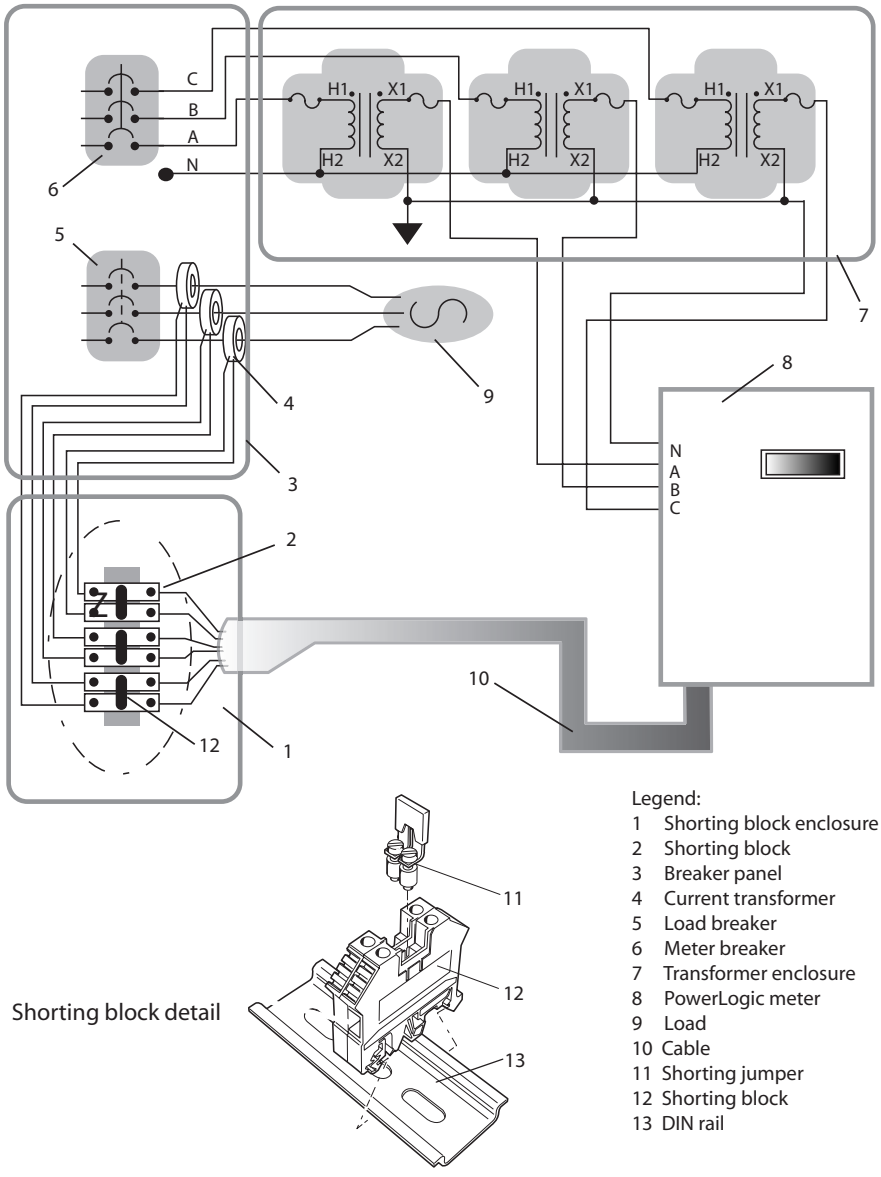
Voltage transformers are required when metering services greater than 120V to reduce the line-to-neutral voltage of the service to 120V. The accuracy class should be 0.3% or better, with a burden rating of 30VA.

For applications in Canada, Measurement Canada approved voltage transformers are required. Measurement Canada requires an accuracy class of 0.3% or better, with a 150VA rating.

Voltage transformers must be mounted in a listed electrical enclosure. Mount the voltage transformer enclosure between the supply voltage and the PowerLogic meters. Transformer configuration must be Y||Y (wye-wye).

Figure 5 shows a block diagram of a complete three-phase 277/480V installation.

Figure 5: Typical three-phase 277/480V installation



Installing the Reference Voltage and Power Cable in a 120V Application

The reference voltage (A, B, C, N) provides phase voltages for metering. The configuration depends on the type of service being metered:

- single-phase with 1 CT
- single-phase with 2 CTs
- three-phase 3 CTs

The PowerLogic E4833, E4880 and E4805 meters are shipped from the factory with an AC power block between the control power input and the reference voltage inputs to provide control power to the unit. The following procedures explain how to connect the reference voltage inputs for each of the service types.

For a single-phase panel, use a 3-wire (red, black, white), 14 AWG (1.63 mm^2), 90°C (194°F) cable. For a three-phase panel, use a 4-wire (red, black, blue, white), 14 AWG (1.63 mm^2) cable. Metallic, flexible armored cable (BX cable) is recommended for commercial installations as shown in Figure 6 on page 12.

The PowerLogic E4833, E4880 and E4805 meters must be connected to the reference voltage and control power through a properly rated voltage disconnect that disconnects all line and neutral wires, so it can be powered down. The disconnect must be located within easy reach of the meter operator, and must be labeled as such. Opening the disconnect or breaker is the disconnect device. For multiple PowerLogic meter installations, the same disconnect can be used to power all meters, and must be labeled for all meters it supplies power to. The disconnect device must meet IEC 60947-1, IEC 60947-3 and/or comply with the local electrical code.

To install the reference voltage wiring in a 208Y/120V or 120/240V application:

⚠ DANGER

HAZARD 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 only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- 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.
- The meters must be connected to the reference voltage and control power through a properly rated disconnect.

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

NOTE: If the electrical distribution panel does not designate phase A, phase B and phase C feeds, make your own designation and use it for the rest of the installation.

1. Before connecting the reference voltages, ensure the power is OFF to the circuit being connected.

2. Always use a properly rated voltage sensing device to confirm power is off.

3. Connect the reference voltages phase A, B, C, and N leads from the voltage disconnect to the meter as described in Figures 6 on page 12 and 7 on page 13.

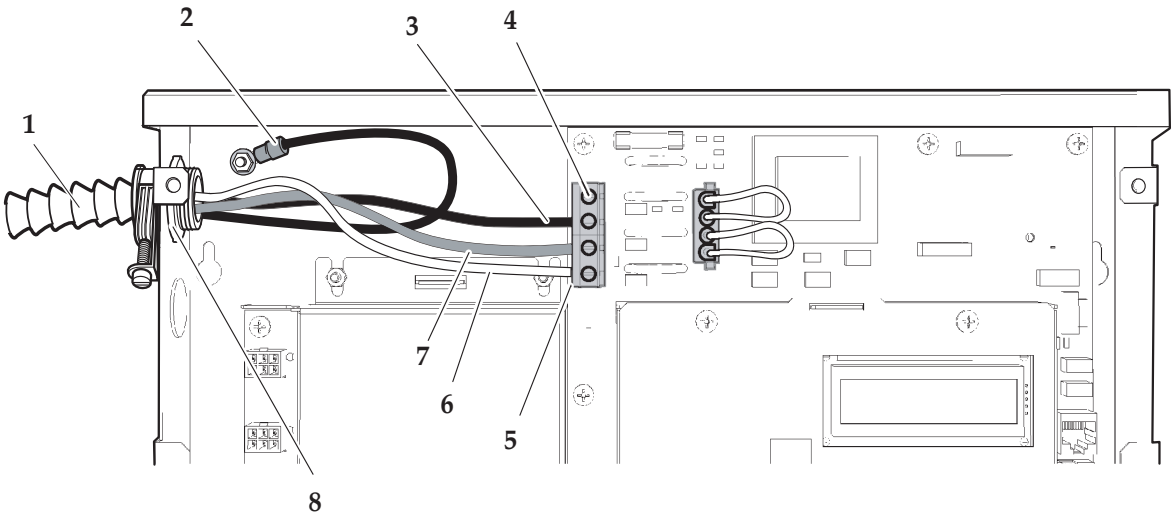
   NOTE: The phase wiring sequence A, B, C between the PowerLogic E4800 meter and the panel must match or the measurement readings will be wrong.

4. If more than one meter is being installed, repeat this procedure for each additional meter.

For a single-phase panel (see Figure 6), connect:

- meter terminal A to the voltage disconnect phase A (red wire)
- meter terminal B to the voltage disconnect phase B (black wire)
- meter neutral terminal to neutral bar in the voltage disconnect panel (white wire)
- earth wire to earth post using lug provided
- meter terminal C is not connected

Figure 6: PowerLogic E4800 meter in a 120/240V single-phase connection

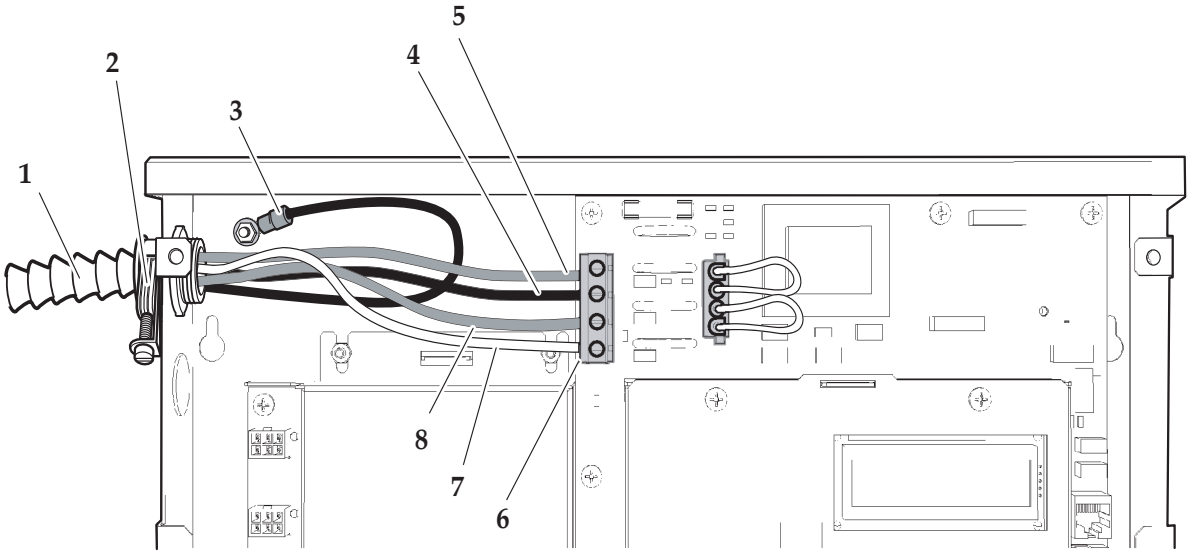


Legend:
1 BX cable
2 Earth terminal
3 Phase B (black)
4 Phase C not connected
5 Voltage input terminal block (J3)
6 Neutral (white)
7 Phase A (red)
8 0.75-inch (1.9-cm) strain relief

For a three-phase wye panel (see Figure 7), connect:

- meter terminal A to the voltage disconnect phase A (red wire)
- meter terminal B to the voltage disconnect phase B (black wire)
- meter terminal C to the voltage disconnect phase C (blue wire)
- meter neutral terminal to neutral bar in the voltage disconnect panel (white wire)
- earth wire to earth terminal using lug provided

Figure 7: PowerLogic E4800 meter 208Y/120V three-phase wye service connection



Legend:
1 BX cable
2 0.75-inch (1.9-cm) strain relief
3 Earth terminal
4 Phase B (black)
5 Phase C (blue)
6 Terminal block (J3)
7 Neutral (white)
8 Phase A (red)

Installing the Current Transformers

The three models of PowerLogic E4800 meter use current transformers (CTs) with different secondary outputs. The PowerLogic E4833 meter uses split-core 0.333V CTs (see Figure 8), and the PowerLogic E4880 meter uses 80mA CTs only (see Figure 9) and is typically used where accuracy is important and long secondary CT wiring is required (up to 300 feet [91.44 meters]). For instructions, see “Installing CTs on the PowerLogic E4833 and PowerLogic E4880” on page 15.

The PowerLogic E4805 uses 5A secondary CTs. For instructions, see “Installing 5A CTs on the PowerLogic E4805” on page 18.

Current transformers connect to the PowerLogic E4833 and PowerLogic E4880 meters through the 50-conductor CT cable provided with the meter. Table 2 describes the CT wire pairs and the cable color scheme for each meter point. You can also find this information on the inside of the meter’s outer cover.

Each CT has a black (positive) and white (neutral) wire pair. Typically, butt-splice connectors are used to attach the CT to a specific meter input. The direction of the energy flow is indicated on the CT.

Figure 8: PowerLogic E4833 split-core 0.333V current transformer

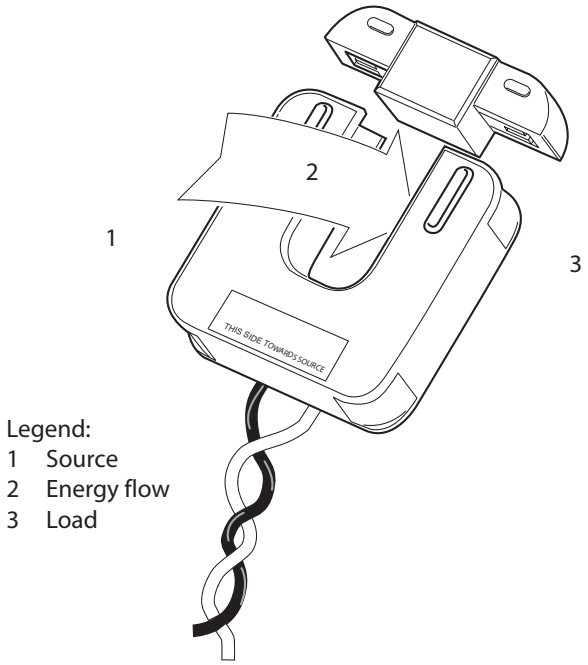
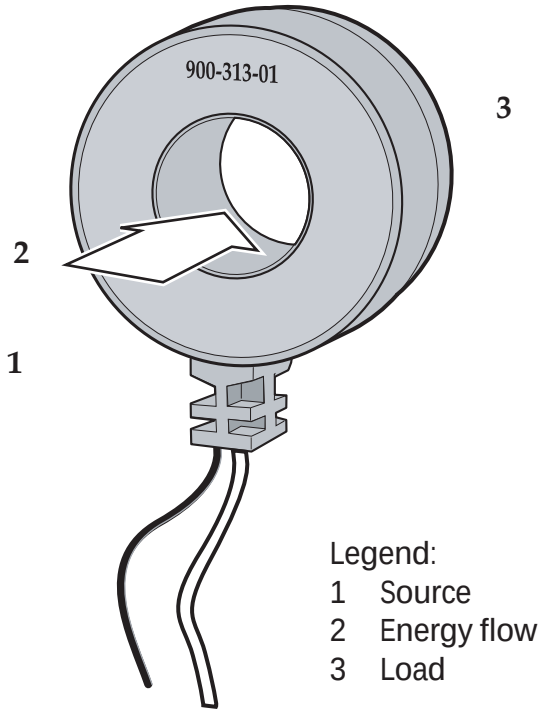


Figure 9: PowerLogic E4880 80mA current transformer



Installing CTs on the PowerLogic E4833 and PowerLogic E4880

Do not apply power until you have made these connections and followed all of the instructions below:

- connect all CTs to the appropriate circuits
- connect the CTs to the cables
- connect the cables to the PowerLogic E4800 meter

To install the mA current transformers on the PowerLogic E4880 or the 0.333V current transformers on the PowerLogic E4833, follow these steps:

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Turn off all power supplying this equipment before working on or inside the equipment.
- Always use a properly rated voltage sensing device to confirm the power is off.
- Do not crimp the insulation when making the wire connections.

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

1. Connect the 50-conductor cable to the meter CT input connector located at the bottom side of the unit, and secure it in place with the retaining clips.

2. Feed the free end of the cable through the bottom left of the meter enclosure.

   This cable is made up of twisted-pair wires for connecting the individual CTs to the current inputs. The color codes for the black (positive or X1) and white (neutral or X2) connections for each CT are listed in Table 2 on page 17.

   NOTE: The direction of the energy flow is indicated on the CT.

3. Turn off all power to the distribution panel where the CTs are being installed. Always use a properly rated voltage sensing device to confirm power is off.

4. Feed the CT cable into the distribution panel through an appropriate punch-out with an approved strain relief.

5. Strip the plastic sheaths back on the cable to an appropriate length to expose the wire pairs. Cut and strip the CT leads and wire pair leads to an appropriate length. Crimp the CT leads to the wire pairs for each meter point.

6. When using solid-core CTs, remove the feed cable from the circuit breaker, place the CT over the wire, and reconnect feed cable to the circuit breaker. Ensure that the arrow on the CT label is pointing in the direction of the energy flow (toward the load).

7. When using split-core CTs, separate the halves of the CT and place the CT over the cable to the circuit breaker. Ensure that the CT is facing the source as shown on the label. Install cable ties to ensure that the CT halves are held together securely.

8. Repeat steps 5 to 7 for the remaining CTs.

Table 2: PowerLogic E4833 and PowerLogic E4880 CT color pair identification

3-phase, 3 CTs, 8 meter points			1-phase, 2 CTs, 12 meter points			1-phase, 1 CT, 24 meter points		
Meter point ID	**Connect black CT lead to:**	**Connect white CT lead to:**	**Meter point ID**	**Connect black CT lead to:**	**Connect white CT lead to:**	**Meter point ID**	**Connect black CT lead to:**	**Connect white CT lead to:**
MP1-1	Black	Green	MP1-1	Black	Green	MP1-1	Black	Green
MP1-2	Black	White	MP1-2	Black	White	MP2-1	Black	White
MP1-3	Black	Red	MP2-1	Black	Red	MP3-1	Black	Red
MP2-1	Red	Green	MP2-2	Red	Green	MP4-1	Red	Green
MP2-2	Red	White	MP3-1	Red	White	MP5-1	Red	White
MP2-3	Black	Orange	MP3-2	Black	Orange	MP6-1	Black	Orange
MP3-1	Black	Brown	MP4-1	Black	Brown	MP7-1	Black	Brown
MP3-2	Black	Yellow	MP4-2	Black	Yellow	MP8-1	Black	Yellow
MP3-3	Black	Blue	MP5-1	Black	Blue	MP9-1	Black	Blue
MP4-1	Green	Yellow	MP5-2	Green	Yellow	MP10-1	Green	Yellow
MP4-2	Green	Blue	MP6-1	Green	Blue	MP11-1	Green	Blue
MP4-3	Green	White	MP6-2	Green	White	MP12-1	Green	White
MP5-1	Blue	White	MP7-1	Blue	White	MP13-1	Blue	White
MP5-2	Green	Orange	MP7-2	Green	Orange	MP14-1	Green	Orange
MP5-3	Green	Brown	MP8-1	Green	Brown	MP15-1	Green	Brown
MP6-1	Blue	Yellow	MP8-2	Blue	Yellow	MP16-1	Blue	Yellow
MP6-2	Brown	White	MP9-1	Brown	White	MP17-1	Brown	White
MP6-3	Orange	White	MP9-2	Orange	White	MP18-1	Orange	White
MP7-1	Red	Orange	MP10-1	Red	Orange	MP19-1	Red	Orange
MP7-2	Red	Yellow	MP10-2	Red	Yellow	MP20-1	Red	Yellow
MP7-3	Red	Brown	MP11-1	Red	Brown	MP21-1	Red	Brown
MP8-1	Blue	Orange	MP11-2	Blue	Orange	MP22-1	Blue	Orange
MP8-2	Yellow	White	MP12-1	Yellow	White	MP23-1	Yellow	White
MP8-3	Blue	Brown	MP12-2	Blue	Brown	MP24-1	Blue	Brown

Installing 5A CTs on the PowerLogic E4805

Use the two 12-pair wiring harnesses provided with the meter to connect the 5A CTs to the PowerLogic E4805.

For wire color coding, see Table 3 or the label inside the outer cover of the meter. Follow these instructions to install the 5A CTs on the PowerLogic E4805:

Do not apply power until you have made these connections and followed all instructions below:

- connect all CTs to shorting blocks to the appropriate circuits
- connect the shorting blocks to the cables
- connect the cables to the PowerLogic E4805.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Turn off all power supplying this equipment before working on or inside the equipment.
- Always use a properly rated voltage sensing device to confirm the power is off.
- NEVER open circuit a CT; use the shorting block to short circuit the leads of the CT before removing the connection from the meter.
- Do not crimp the insulation when making the wire connections.

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

1. Connect the two wiring harnesses to the PowerLogic E4805.

   The connectors are labeled Plug 1/Plug 5 to Plug 4/Plug 8 on the cable. This is also labeled on the meter. Ensure the connectors are inserted in the proper order and that the connectors are securely locked in place.

   a. Connect the first wiring harness to the Mate-n-Lok™ connectors 1 to 4, and secure the cables to the PowerLogic E4805 chassis with cable ties.

   b. Connect the second wiring harness to the Mate-n-Lok™ connectors 5 to 8, and secure the cables to the PowerLogic E4805 chassis with cable ties.

2. Turn off the power feed to the distribution panel where the CTs are being installed.

3. Route the free end of the cable out of the meter enclosure through the slot in the base of the chassis.

4. Strip the plastic sheaths back to an appropriate length to expose the wire pairs. Cut and strip the wire pair leads to an appropriate length.

5. Connect the wire pair leads from the meter to the CT shorting block. See Table 3 for the color pair assignment of each meter point. Ensure that the CT shorting block is in the shorted position.

6. Connect the CT wire pair leads to the input of the CT shorting block. See Table 3 for the color pair assignment of each meter point.

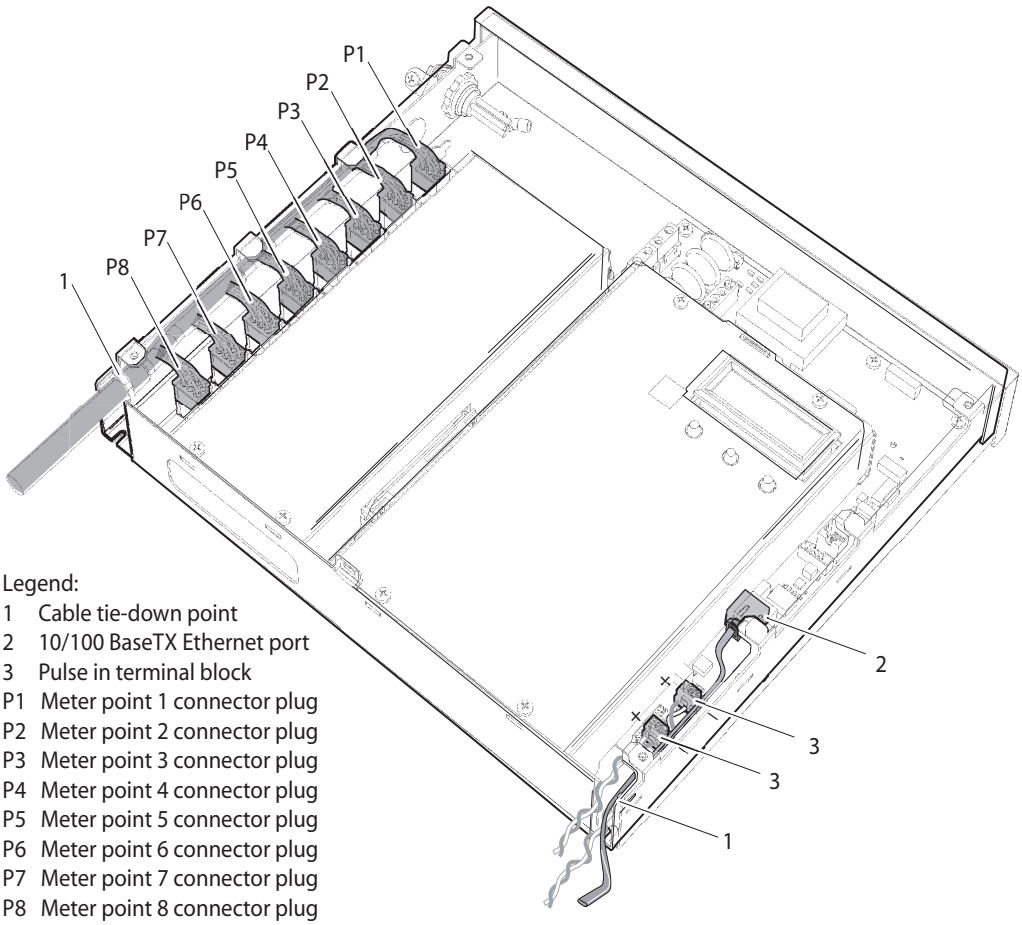
7. Remove the feed wire from the circuit breaker, place the CT over the wire, and reconnect to the circuit breaker. Ensure that the arrow on the CT label is pointing in the direction of the energy flow (toward the load).

   NOTE: The direction of the energy flow is indicated on the CT.

8. Repeat steps 5 to 7 for remaining CTs.

Figure 10 shows the 5A CT wiring harness connected to the PowerLogic E4805.

Figure 10: Connecting the 5A CT wiring harness



Legend:
1 Cable tie-down point
2 10/100 BaseTX Ethernet port
3 Pulse in terminal block
P1 Meter point 1 connector plug
P2 Meter point 2 connector plug
P3 Meter point 3 connector plug
P4 Meter point 4 connector plug
P5 Meter point 5 connector plug
P6 Meter point 6 connector plug
P7 Meter point 7 connector plug
P8 Meter point 8 connector plug

Table 3: PowerLogic E4805 CT color pair identification

3-phase, 3 CTs, 8 meter points			1-phase, 2 CTs, 12 meter points			1-phase, 1CT, 24 meter points		
Meter point ID	**Connect black CT lead to:**	**Connect white CT lead to:**	**Meter point ID**	**Connect black CT lead to:**	**Connect white CT lead to:**	**Meter point ID**	**Connect black CT lead to:**	**Connect white CT lead to:**
Cable 1			**Cable 1**			**Cable 1**		
MP1-1	Black	Red	MP1-1	Black	Red	MP1-1	Black	Red
MP1-2	Black	White	MP1-2	Black	White	MP2-1	Black	White
MP1-3	Black	Green	MP2-1	Black	Green	MP3-1	Black	Green
MP2-1	Black	Blue	MP2-2	Black	Blue	MP4-1	Black	Blue
MP2-2	Black	Yellow	MP3-1	Black	Yellow	MP5-1	Black	Yellow
MP2-3	Black	Brown	MP3-2	Black	Brown	MP6-1	Black	Brown
MP3-1	Black	Orange	MP4-1	Black	Orange	MP7-1	Black	Orange
MP3-2	Red	White	MP4-2	Red	White	MP8-1	Red	White
MP3-3	Red	Green	MP5-1	Red	Green	MP9-1	Red	Green
MP4-1	Red	Blue	MP5-2	Red	Blue	MP10-1	Red	Blue
MP4-2	Red	Yellow	MP6-1	Red	Yellow	MP11-1	Red	Yellow
MP4-3	Red	Brown	MP6-2	Red	Brown	MP12-1	Red	Brown
Cable 2			**Cable 2**			**Cable 2**		
MP5-1	Black	Red	MP7-1	Black	Red	MP13-1	Black	Red
MP5-2	Black	White	MP7-2	Black	White	MP14-1	Black	White
MP5-3	Black	Green	MP8-1	Black	Green	MP15-1	Black	Green
MP6-1	Black	Blue	MP8-2	Black	Blue	MP16-1	Black	Blue
MP6-2	Black	Yellow	MP9-1	Black	Yellow	MP17-1	Black	Yellow
MP6-3	Black	Brown	MP9-2	Black	Brown	MP18-1	Black	Brown
MP7-1	Black	Orange	MP10-1	Black	Orange	MP19-1	Black	Orange
MP7-2	Red	White	MP10-2	Red	White	MP20-1	Red	White
MP7-3	Red	Green	MP11-1	Red	Green	MP21-1	Red	Green
MP8-1	Red	Blue	MP11-2	Red	Blue	MP22-1	Red	Blue
MP8-2	Red	Yellow	MP12-1	Red	Yellow	MP23-1	Red	Yellow
MP8-3	Red	Brown	MP12-2	Red	Brown	MP24-1	Red	Brown

Connecting the Communications

Connections for communications using the modem or Ethernet are described in this section.

Connecting the Phone Line

If the modem reporting option is being used, an analog telephone patch cable and a splitter may be required to connect the customer phone line to the PowerLogic E4800 meter.

1. Connect the patch cable between the termination block of the phone line and the PowerLogic E4800 meter.
2. Route the cable through the slot in the PowerLogic E4800 meter enclosure.
3. See the PowerLogic E4800 meter Configuration Guide for instructions on how to program the meter for dial-out operation before performing a manual configuration test.

Connecting the Ethernet Cable

If the Ethernet port is used to report data, an RJ45 patch cable is required to connect the Ethernet port to the local Ethernet network.

1. Route the cable through the slot in the PowerLogic E4800 meter enclosure.
2. If the local network automatically assigns IP addresses through a DHCP server, the PowerLogic E4800 meter will be able to report using its factory default IP settings. If the local network is configured for static IP addresses, refer to the PowerLogic E4800 meter Configuration Guide for instructions on how to configure default static IP addresses.

Start-Up Sequence

Use the following procedure to start up the PowerLogic E4800 meter.

1. Ensure that all CT and reference voltage wiring is securely installed.
2. Remove all tools from the work area.
3. Re-install all cover plates and equipment covers.
4. Power up the meter. The LCD on the front panel of the meter indicates the operating status of the unit as follows:
   a. Initial power up message “PowerLogic E48XX”
   b. After the internal configuration is complete, the display shows default information for the first meter.

Manually Testing Communications

This procedure clears the meter memory, manually tests the communications from the PowerLogic E4800 meter, and updates the meter clock. To force the meter to send data, follow these steps:

1. Press and hold the Display button for 5 to 7 seconds until the diagnostics mode is displayed, then release.
2. If communicating via Ethernet, press the Display button until "Local IP Address" appears on the display.
   a. If the IP address is 169.254.0.10, the meter has not found a DHCP server. As a result, the meter will use its default IP configuration and may not be able to report. See the PowerLogic E4800 meter Configuration Guide for instructions on how to program default IP addresses.
   b. If the IP address is not 169.254.0.10, the meter has acquired an IP address from the local network, and will be able to report data and synchronize time.

3. Press the Display button until the “Send” command appears on the display.

4. Press the center or the right arrow button to manually force the PowerLogic E4800 meter to report metering data using the Ethernet or modem connection. This clears data from the PowerLogic E4800 meter memory, and ensures the time is set correctly.

Pulse Inputs

There are two pulse in terminal blocks in the PowerLogic meter, as shown in Figure 10. Each terminal block has a negative terminal pin on the right and a positive terminal pin on the left. The pulse inputs are compatible with both dry form A contacts, and solid-state form A contacts. The inputs are not polarity-sensitive to dry relay contacts. When the pulsing device provides solid-state form A outputs, the negative terminal from the source device must be connected to the negative terminal of the PowerLogic meter pulse in terminal block.

Display Navigation

The PowerLogic E4800 meter has three buttons to control the information presented on the LCD. The display has a normal and a diagnostics mode. The PowerLogic E4800 meter display starts in normal mode, and enters diagnostics mode when the Display button is pressed and held for 5 seconds. To adjust the contrast, hold down the Display button, and use the right and left arrow buttons to increase and decrease the contrast respectively.

Normal Mode

In Normal mode, the Display button scrolls one or more of the following information elements:

- Real Energy Delivered kWh D
- Real Energy Received kWh R
- Real Power Watts
- Reactive Energy Delivered KVarhD
- Reactive Energy Received KVarhR
- Reactive Power Var

In Normal mode, the right and left arrow buttons scroll the display from meter points 1 to 8, 1 to 12, or 1 to 24, depending on your configuration.

Diagnostics Mode

Diagnostics mode is accessed by pressing and holding the Display button for 5 seconds. In Diagnostics mode, press the Display button to scroll through the following information:

- Real energy consumption in kWh for the selected meter
- Real power in Watts for the selected meter
- Apparent power in VA for the selected meter
- Voltage for the selected meter
- Current in amperes for the selected meter
- Configuration information showing phase setting and CT rating in amperes
- Local IP address
- Send command
- Set default IP address
- Date and time (UTC)

In Diagnostics mode, the right and left arrow buttons scroll the display from meter 1 through N. When the local IP address is shown on the LCD, use the right and left arrow buttons to scroll through the following information:

- Remote host IP address
- Default IP address
- Default NetMask
- Default gateway
- PPP user name
- Phone number
- AT command string
- Alternate phone number
- Unit serial number
- Firmware build number
- Ethernet port MAC address
- Firmware revision
- Voltage transformer ratio

Recording the Meter Map

The final step in the installation process is to complete the Installation Record, and record the mapping of the meters to the wired points. A copy of Table 4, which is organised to resemble a breaker panel, is provided with each PowerLogic E4800 meter, and is to be completed and delivered to your system administrator.

Installation Record

Distributor:	
Customer:	
Address:	
City:	Province or State:
Phone Number:	Postal Code:
Installation Date:	Installer Name:
PowerLogic E4800 meter MAC:	PowerLogic E4800 meter Serial Number:
Unit Name:	

Table 4: PowerLogic E4800 meter Wire Identification Map

Meter Point ID	Phase	Position	Meter ID	Slot	Slot	Meter ID	Position	Phase	Meter Point ID
		1		1	2		2		
		3		3	4		4		
		5		5	6		6		
		7		7	8		8		
		9		9	10		10		
		11		11	12		12		
		13		13	14		14		
		15		15	16		16		
		17		17	18		18		
		19		19	20		20		
		21		21	22		22		
		23		23	24		24		
		25		25	26		26		
		27		27	28		28		
		29		29	30		30		
		31		31	32		32		
		33		33	34		34		
		35		35	36		36		
		37		37	38		38		
		39		39	40		40		
		41		41	42		42		
		43		43	44		44		
		45		45	46		46		
		47		47	48		48		
		49		49	50		50		

MAINTENANCE

Do not perform any operation or maintenance procedures that are not described in this product documentation. No preventive maintenance is required on any of the equipment. Visually inspect the equipment yearly and ensure it is free of dust or other particles. If necessary, wipe with a clean cloth. Individual components are not user-serviceable and must be returned to Schneider Electric for repair.

Fuse Replacement

⚠ DANGER

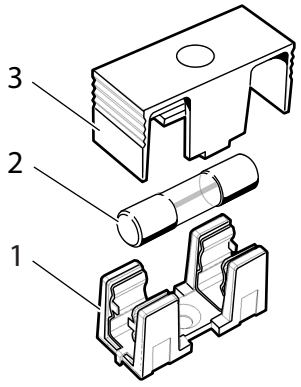
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- Turn off all power supplying this equipment before working on or inside equipment.
- 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 will result in death or serious injury.

1. Turn off all sources of power before attempting to replace the fuse.
2. Remove the outer cover from the unit.
3. Locate fuse F1 at the top left corner inside the unit.
4. Remove the fuse cover, then remove the fuse from the holder as shown in Figure 11.
5. Replace fuse F1 with a fuse that meets the specifications listed in Table 1 on page 2.
6. Replace the fuse cover.
7. Re-install the cover and turn on the power source.

Figure 11: Replacing the fuse



Legend:
1 Fuse holder
2 Fuse
3 Fuse cover

Equipment Servicing and Access

The information in this section must be considered as a mandatory requirement, and must be strictly adhered to when installing and operating PowerLogic E4833, E4880 and E4805 meters.

Access to equipment

The equipment must be accessible to authorized personnel only. Equipment must be installed in areas where access can be restricted.

Servicing the equipment

No preventive maintenance is required on any of the equipment. Visually inspect the equipment yearly and ensure it is free of dust or other particles. If necessary, wipe with a clean cloth.

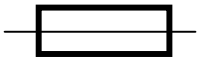
Component servicing

Individual components are not user-serviceable, and must be returned to Schneider Electric for repair. If an equipment fault occurs, do not attempt to repair the faulty component.

Electrical Standards Compliance

- Use the unit only in accordance with the electrical power rating
- The unit is only to be installed by a qualified electrician
- Initial installation of the unit must be inspected by the local electrical Inspection Authority
- Install the unit in compliance with the following local and national electrical codes:
  - Canada: Canadian Electrical Code, Part I, CSA C22.1
  - United States: National Fire Protection Association (NFPA) 70; US National Electrical Code
  - Elsewhere: International Electrotechnical Commission (IEC) 364, Part 1-7
- Ensure that the unit is properly earthed
- If the equipment is installed or used in a manner other than that specified in this document, it may void your warranty or impair the protection of the equipment.

Table 5: Graphical symbols that appear on equipment

Symbol	Description
	Indicates the supply wire protective earth, also known as chassis ground, for the primary ground.
	This symbol indicates a replaceable fuse.

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weight
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PowerLogic™ E4800 Series
Installation Guide

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