



# Cisco 575 LRE CPE Hardware Installation Guide

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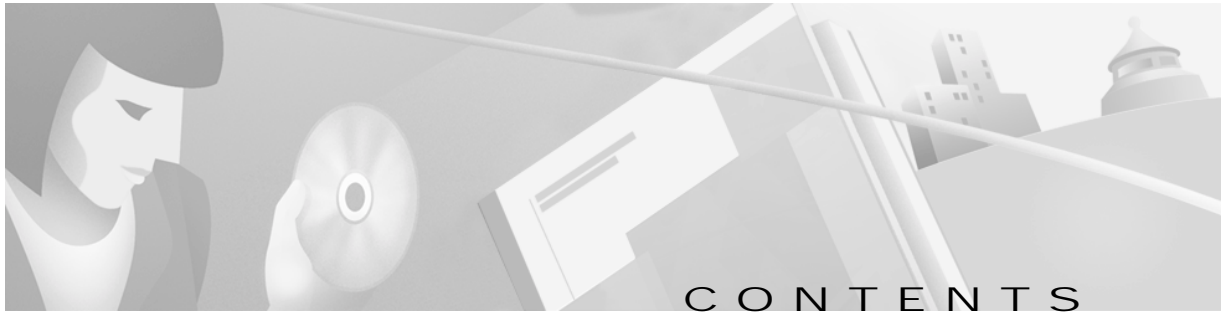
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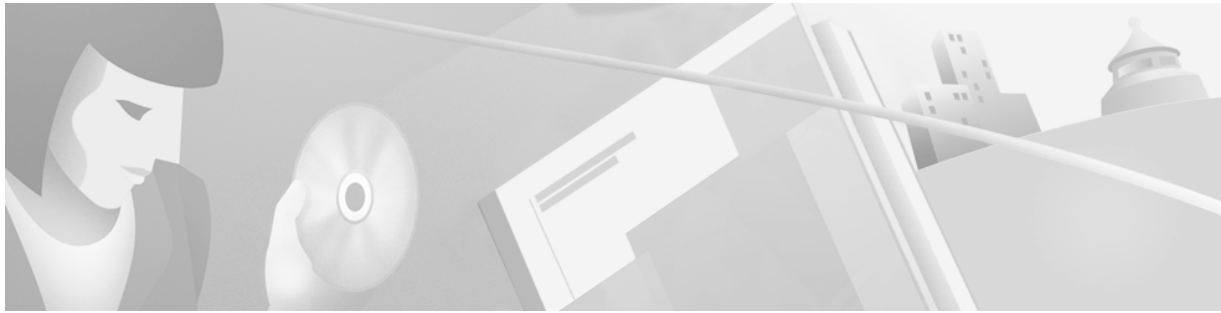
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# Preface

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## Audience

This guide is for the networking or computer technician responsible for installing the Cisco 575 LRE, a long-reach Ethernet (LRE) customer premises equipment (CPE) device. We assume that you are familiar with the concepts and terminology of Ethernet and local area networking.

## Purpose

The Cisco 575 LRE CPE Hardware Installation Guide documents the hardware features of the CPE. The guide describes the physical and performance characteristics of the CPE, explains how to install a CPE, and provides troubleshooting information and specifications.

# Organization

This guide is organized into the following chapters:

[Chapter 1, “Overview,”](#) is a physical and functional overview of the CPE. It describes the ports, the standards they support, and the LEDs.

[Chapter 2, “Installation,”](#) provides the procedures for installing the CPE on or under a desk or on a wall.

[Chapter 3, “Troubleshooting,”](#) describes how to identify and resolve some of the problems that might arise after you have powered on the CPE.

[Appendix A, “Technical Specifications,”](#) lists the CPE’s physical and environmental specifications and the regulatory agency approvals.

[Appendix B, “Connector and Cable Specifications,”](#) describes the cables, connectors, and adapters that are used to connect to the CPE.

[Appendix C, “Translated Safety Warnings,”](#) provides translations in various languages of the warnings in this guide.

# Conventions

This guide uses the following conventions to convey instructions and information:

Command descriptions use these conventions:

- Commands and keywords are in **boldface**.
- Arguments for which you supply values are in *italic*.

Examples use these conventions:

- Terminal sessions and system displays are in `screen font`.
- Information you enter is in **boldface screen font**.
- Nonprinting characters, such as passwords or tabs, are in angle brackets (<>).

Notes, tips, cautions, and warnings use the following conventions and symbols:




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**Note**

Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.

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**Tips**

Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information.

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**Caution**

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

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**Warning**

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. (To see translations of the warnings that appear in this publication, refer to the [Appendix C, “Translated Safety Warnings.”](#))

---

**Waarschuwing**

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen. (Voor vertalingen van de waarschuwingen die in deze publicatie verschijnen, kunt u het aanhangsel C “Translated Safety Warnings” (Vertalingen van veiligheidsvoorschriften) raadplegen.)

- Varoitus** Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. (Tässä julkaisussa esiintyvien varoitusten käännökset löydät liitteestä C "Translated Safety Warnings" (käännetyt turvallisuutta koskevat varoitukset).)
- Attention** Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures. Avant d'accéder à cet équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures courantes de prévention des accidents. Pour obtenir les traductions des mises en garde figurant dans cette publication, veuillez consulter l'annexe intitulée C « Translated Safety Warnings » (Traduction des avis de sécurité).
- Warnung** Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt. (Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise finden Sie im Anhang mit dem Titel C "Translated Safety Warnings" (Übersetzung der Warnhinweise).)
- Avvertenza** Questo simbolo di avvertenza indica un pericolo. Si è in una situazione che può causare infortuni. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. La traduzione delle avvertenze riportate in questa pubblicazione si trova nell'appendice C, "Translated Safety Warnings" (Traduzione delle avvertenze di sicurezza).

- Advarsel** Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. (Hvis du vil se oversettelser av de advarslene som finnes i denne publikasjonen, kan du se i vedlegget C "Translated Safety Warnings" [Oversatte sikkerhetsadvarsler].)
- Aviso** Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. (Para ver as traduções dos avisos que constam desta publicação, consulte o apêndice C "Translated Safety Warnings" - "Traduções dos Avisos de Segurança").
- ¡Advertencia!** Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes. (Para ver traducciones de las advertencias que aparecen en esta publicación, consultar el apéndice titulado C "Translated Safety Warnings.")
- Varning!** Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador. (Se förklaringar av de varningar som förekommer i denna publikation i appendix C "Translated Safety Warnings" [Översatta säkerhetsvarningar].)

## Related Publications

You can order printed copies of documents with a DOC-xxxxxx= number.

For more information about the Cisco 575 LRE and related products, refer to the following publications:

- *Catalyst 2900 Series XL Hardware Installation Guide* (order number DOC-786461=)
- *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL Cisco IOS Release 12.0(5)WC(1)* (not orderable but is available on Cisco.com)
- *Catalyst 2900 Series XL and Catalyst 3500 Series XL Software Configuration Guide*, Cisco IOS Release 12.0(5)WC(1) (order number DOC-786511=)
- *Catalyst 2900 Series XL and Catalyst 3500 Series XL Command Reference*, Cisco IOS Release 12.0(5)WC(1) (order number DOC-7812155=)
- *Installation Notes for the Cisco LRE 48 POTS Splitter* (order number DOC-7812550=)

## Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

## World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com>
- <http://www-china.cisco.com>
- <http://www-europe.cisco.com>

## Cisco Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Cisco Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

## Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:  
[http://www.cisco.com/cgi-bin/order/order\\_root.pl](http://www.cisco.com/cgi-bin/order/order_root.pl)
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:  
<http://www.cisco.com/go/subscription>
- Nonregistered CCO users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS(6387).

## Documentation Feedback

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You can e-mail your comments to [bug-doc@cisco.com](mailto:bug-doc@cisco.com).

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We appreciate your comments.

## Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

### Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

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Customers and partners can self-register on Cisco.com to obtain additional personalized information and services. Registered users can order products, check on the status of an order, access technical support, and view benefits specific to their relationships with Cisco.

To access Cisco.com, go to the following website:

<http://www.cisco.com>



## Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

### Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

### Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.



# Overview

---

This chapter provides the following topics that describe the Cisco 575 LRE CPE, a long-reach Ethernet (LRE) customer premises equipment (CPE) device.

- Features
- Front-panel description
- Rear-panel description

## Features

The Cisco 575 LRE CPE, hereafter referred to as *the CPE*, is based on very-high-data-rate digital subscriber line (VDSL) technology. The CPE connects a computer or laptop to a Catalyst 2912 XL LRE or 2924 LRE XL switch at distances of up to 4921 feet (1500 meters) by using Long-Reach Ethernet technology over ordinary telephone lines.



### Note

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A CPE connects a computer or LAN to a high-speed signal coming from a telephone data connection. The Cisco 575 LRE is a CPE that converts a VDSL-based signal on the telephone line to an Ethernet signal to the computer.

---

The CPE has the following features:

- IEEE 802.3 10BASE-T compliance
- Autonegotiating 10/100BASE-T Ethernet port
- Status LEDs showing Ethernet activity and LRE link status
- Data rates of up to 15 Mbps at distances of up to 4921 feet (1500 meters)



---

**Note** Data rates are reduced for longer distances. Data rates are configured through a Catalyst 2912 LRE XL or 2924 LRE XL switch. Refer to the *Catalyst 2900 Series XL Hardware Installation Guide* and the *Catalyst 2900 Series XL and Catalyst 3500 Series XL Software Configuration Guide*, for more information.

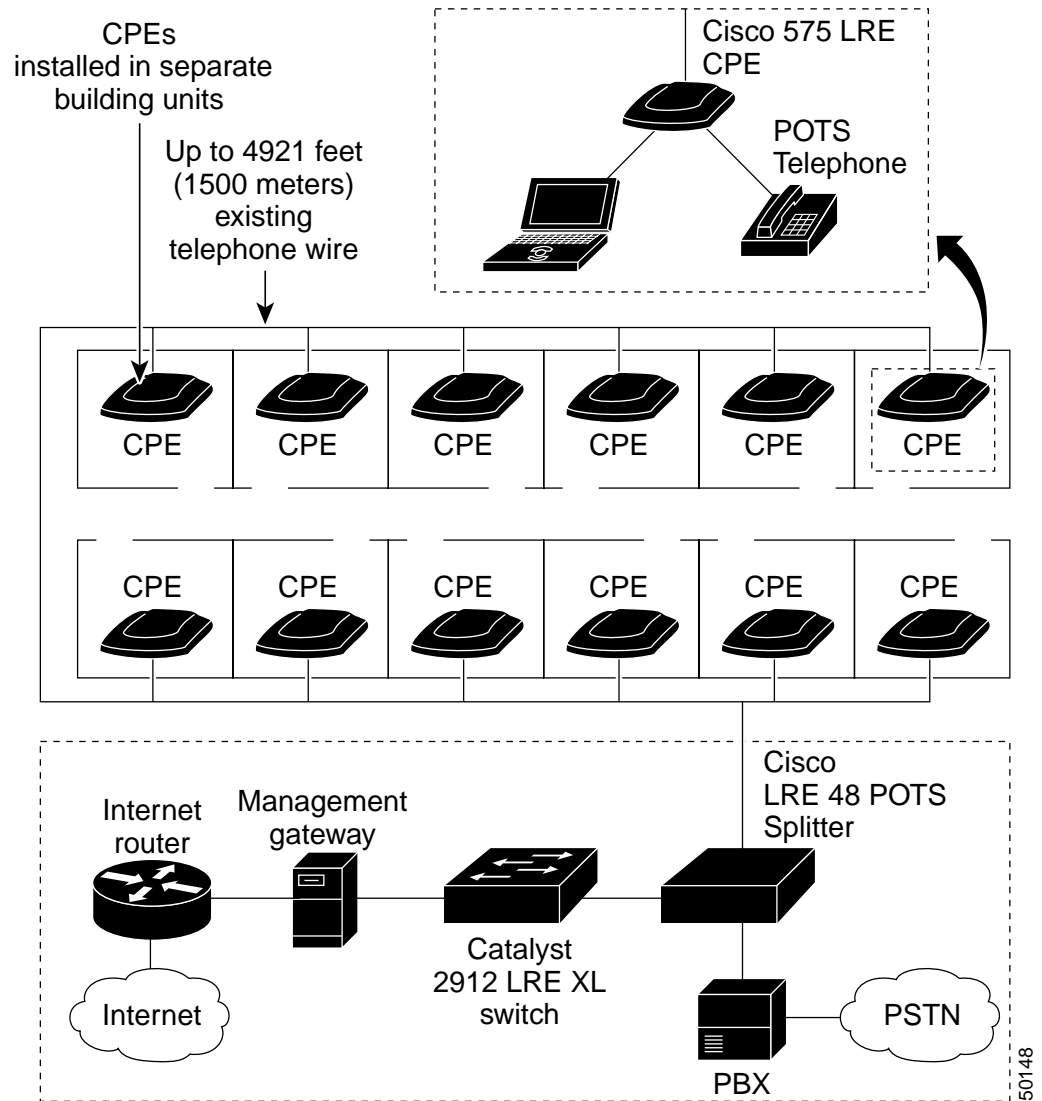
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- Can be co-located with standard asynchronous digital subscriber line (ADSL) or VDSL equipment
- Contains a splitter that allows regular telephone services, such as voice or integrated services digital network (ISDN), to travel on the same lines as LRE traffic

If additional telephone services such as voice or ISDN traffic will be carried on the same telephone lines, a *plain old telephone service* (POTS) splitter can be installed to separate LRE traffic from other telephone services. The splitter routes the high-frequency LRE data to the switch and the low-frequency telephone services to the private branch exchange (PBX) switch or public-switched telephone network (PSTN).

In a typical installation, CPEs are installed in rooms of a multidwelling tenant building. The CPE data rates and profile settings are controlled by a Catalyst 2912 LRE XL or 2924 LRE XL switch. [Figure 1-1](#) shows a typical LRE installation.

Figure 1-1 Typical LRE Installation



For installations where telephone services will be routed to a PBX switch, you can install a Cisco LRE POTS Splitter (PS-1M-LRE-48). For more information about this POTS splitter, refer to the *Installation Notes for the Cisco LRE 48 POTS Splitter*.

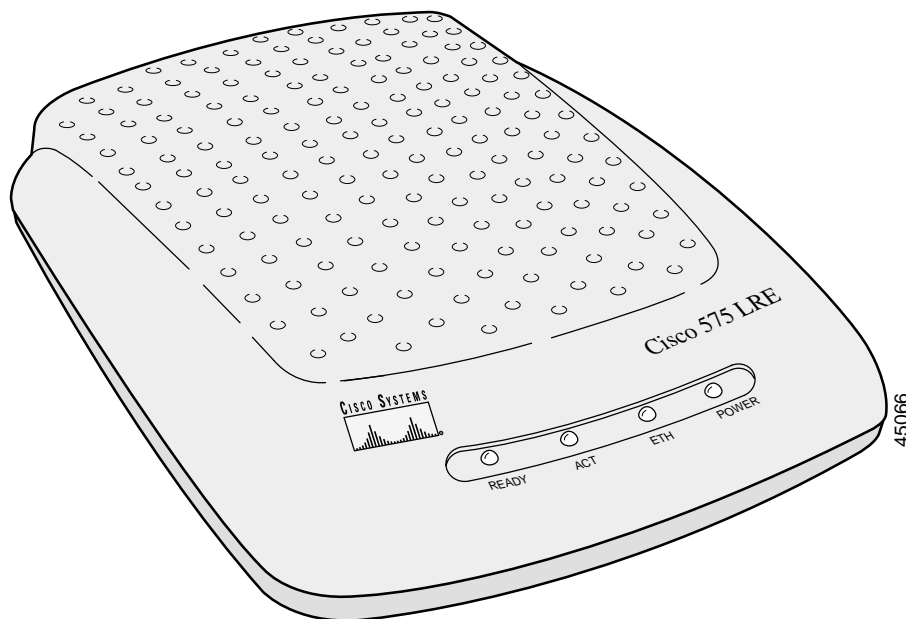
If the building does not use a PBX and telephone services are sent directly to an outside PSTN, you need to provide a homologated POTS splitter. For more information about homologated POTS splitters, contact your Cisco sales representative.

For more information about installing a Catalyst 2900 LRE XL switch, refer to the *Catalyst 2900 Series XL Hardware Installation Guide*.

## Front-Panel Description

Figure 1-2 shows the front-panel of the CPE. Table 1-1 lists the front-panel LEDs and their meanings.

**Figure 1-2** Front-Panel of the CPE



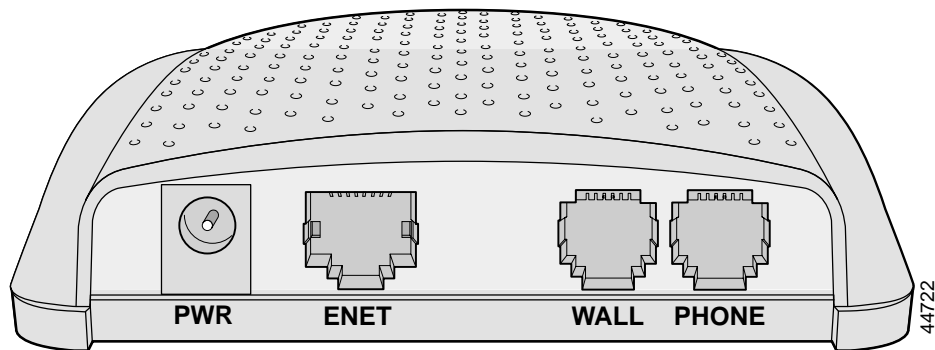
**Table 1-1** CPE Front Panel LEDs

LED	Function
READY	LRE link to base switch OK
ACT	Ethernet activity
ETH	Ethernet link OK
POWER	Power indicator

# Rear-Panel Description

Figure 1-3 shows the rear-panel of the CPE. Table 1-1 lists the rear-panel connector jacks and their descriptions.

**Figure 1-3** Rear-Panel of the CPE



**Table 1-2** Rear-Panel Connectors

Connector Label	Connector Description
PWR	Power connector
ENET	RJ-45 connector for the Ethernet port on your PC or laptop
WALL	RJ-11 connector for the telephone wall jack
PHONE	RJ-11 connector for a telephone

Rear-Panel Description





# Installation

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This chapter describes how to install your Cisco 575 LRE CPE and interpret the LEDs to ensure proper operation. Read the topics, and perform these procedures in the order that they are presented:

- Pre-installation information and guidelines
- Installation procedures
- Connection procedures
- Power-on procedures
- Where to go next

# Preparing for Installation



## Note

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If you mount the CPE under a desk or on a wall, use the screws supplied with the CPE.

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## Tips

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You can install the CPE on or under a desk or on a wall. Before you begin the installation, decide where to mount the CPE by reviewing the illustrations in the [“Installing the CPE On a Desk”](#), [“Installing the CPE Under a Desk”](#), and [“Installing the CPE On a Wall”](#) sections later in this chapter.

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## Caution

---

There are no serviceable parts inside the unit. Removing screws, cover, or otherwise dismantling the unit voids the warranty.

---

## Warnings

These warnings are translated into several languages in [Appendix C, “Translated Safety Warnings.”](#)



## Warning

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**Only trained and qualified personnel should be allowed to install or replace this equipment.**

---



## Warning

---

**Read the installation instructions before you connect the system to its power source.**

---



## Warning

---

**Before working on equipment that is connected to power lines, remove jewelry (including rings, necklaces, and watches). Metal objects will heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.**

---

  
Warning

---

The plug-socket combination must be accessible at all times because it serves as the main disconnecting device.

---

  
Warning

---

To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 104°F (40°C).

---

  
Warning

---

The device is designed to work with TN power systems.

---

  
Warning

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This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors).

---

  
Warning

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A voltage mismatch can cause equipment damage and may pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, *do not connect the chassis to that receptacle.*

---

  
Warning

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Do not work on the system or connect or disconnect cables during periods of lightning activity.

---

  
Warning

---

Ultimate disposal of this product should be handled according to all national laws and regulations.

---

  
Warning

---

Unplug the power cord before you work on a system that does not have an on/off switch.

---

**Warning**

The ports labeled "ENET" and "PWR" are safety extra-low voltage (SELV) circuits. Only connect SELV circuits to other SELV circuits. The ports labeled "PHONE" and "WALL" may be connected to telephone network voltage (TNV) circuits. Do not connect the SELV circuit to the TNV circuits. To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone network voltage (TNV) circuits. Although the ENET ports use RJ-45 connectors that will accept RJ-11 telephony plugs, TNV circuits must not be connected to the ENET ports. Use caution when connecting cables.

## EMC Regulatory Statements

### U.S.A.

U.S. regulatory information for this product is in the front matter of this manual.

### Taiwan

警告使用者：  
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

51495

## Package Contents

When you unpack the CPE, be sure that the package contains the items in the following list. If any items are missing, notify your authorized Cisco sales representative:

- Cisco 575 LRE CPE
- AC power cord and adapter

- Mounting kit containing these items:
  - Four rubber feet for installing the CPE on a desktop
  - Cable lock for securing cables to the CPE
  - Three number-8 Phillips pan-head screws for mounting the CPE under a desk or on a wall and attaching cable lock to the CPE
  - Screw template for aligning screws
- One RJ-45-to-RJ-45, straight-through Ethernet cable
- Cisco Information Packet, containing warranty, safety, and support information

**Note**

---

The CPE is sold individually or in multipackages of six and twenty-four. The multipackages include only one hardware installation guide, the release notes, and the Cisco Information Packet for every six CPEs.

---

## Installing the CPE On a Desk

- 
- |               |   |
|---------------|---|
| <b>Step 1</b> | Locate the adhesive strip with the rubber feet in the CPE mounting-kit.   |
| <b>Step 2</b> | Remove the four rubber feet from the adhesive strip and attach them to the recessed areas on the bottom of the unit. This prevents the CPE from sliding on the desktop. |
| <b>Step 3</b> | Place the CPE on the desktop.   |
- 

## Installing the CPE Under a Desk

**Tips**

---

We recommend that you attach the Ethernet, telephone, and power cables to the CPE before mounting it under a desk because the connectors are hidden from view after the CPE is installed. For more information, see the connection procedures beginning on page 12.

---

---

**Step 1** Position the desk so that it is at least 1/2-inch (12.7 millimeters) from the wall to allow space for the Ethernet cable between the wall and the desk. (See [Figure 2-1](#), [Figure 2-2](#), and [Figure 2-7](#).)

**Step 2** Locate the screw template. The template is used to align the mounting screw holes and is also used as a guide to make sure the screws are installed into the desktop with proper clearance.



---

**Note** The template has adhesive to hold it in place while you drill holes underneath the desktop. If you will be using the same screw template to install several CPEs, do not use the adhesive. In this case, hold the template against the bottom of the desk while you drill the screw holes and insert the screws.

---

**Step 3** Position the screw template underneath the desk so that the two side-by-side slots face the *front* of the desk (See [Figure 2-1](#).) This ensures that the cables will face the *rear* of the desk after the CPE is installed.



---

**Note** Do not attach the screw template to the desk yet.

---

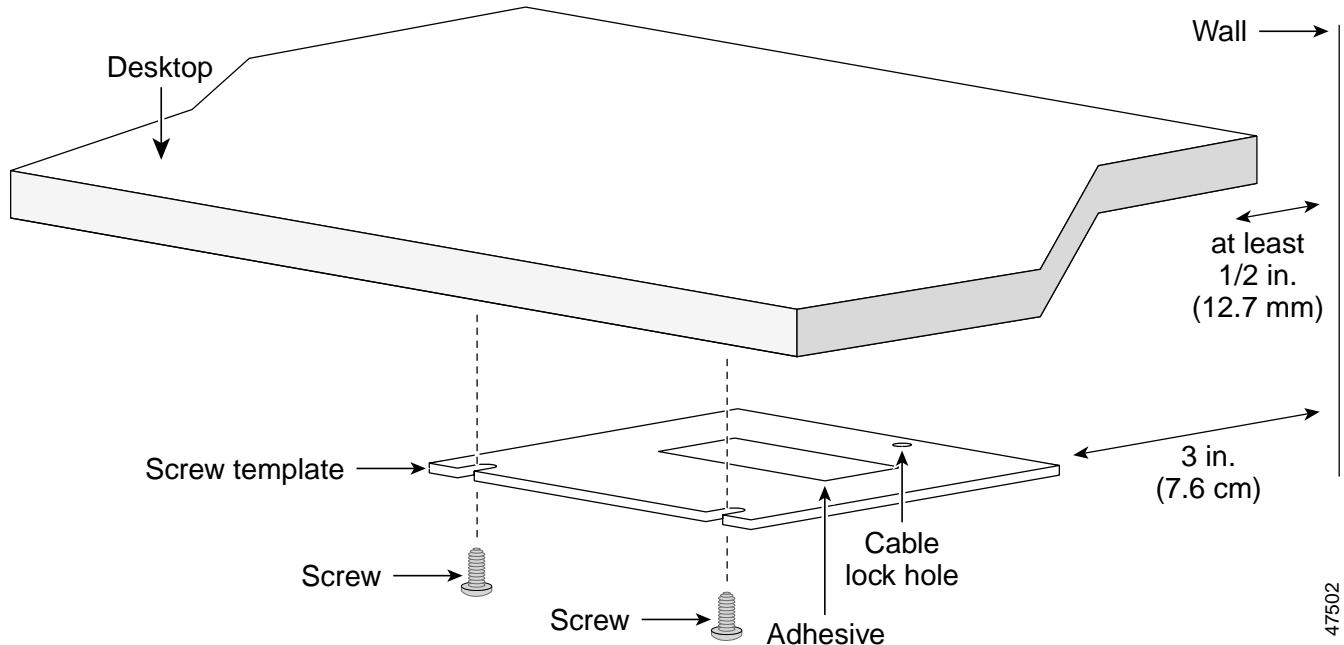


---

**Note** Allow a minimum of three inches (7.6 centimeters) between the rear of the desk and the screw template so that there is enough room for the cables to clear the wall. (See [Figure 2-1](#).)

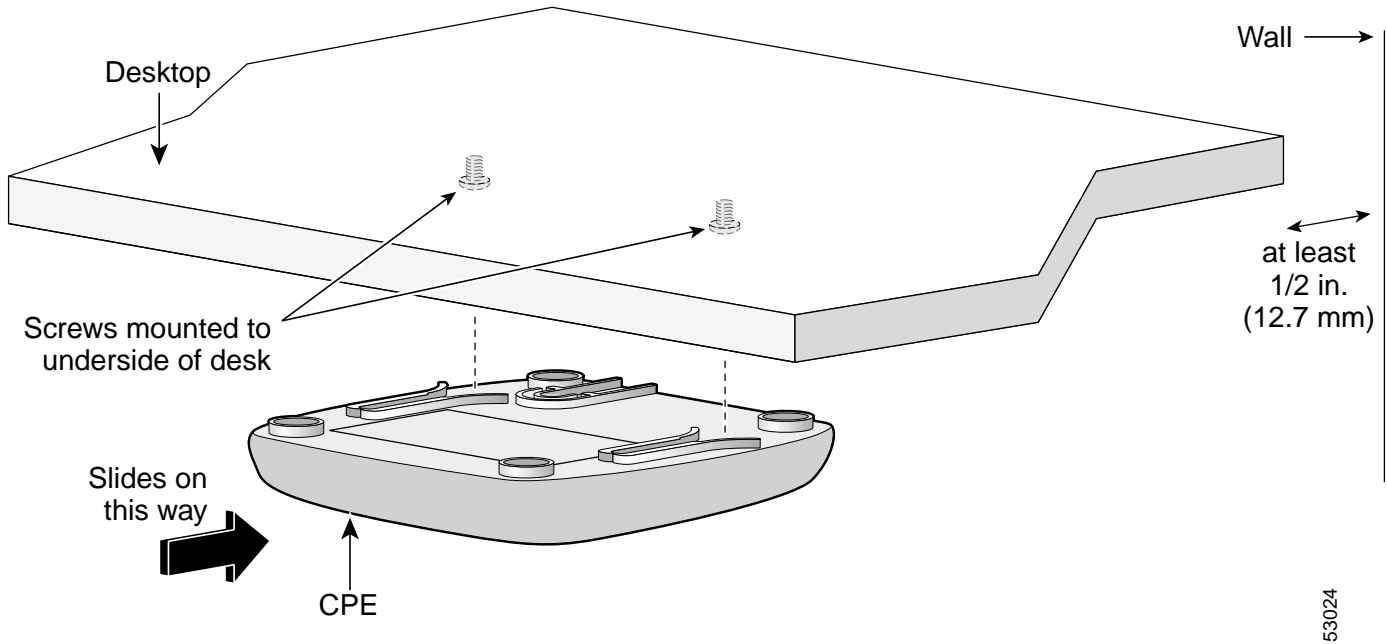
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Figure 2-1 Installing the Mounting Screws Under a Desk



- Step 4** Peel the adhesive strip off the bottom of the screw template, and attach it to the underside of the desk.
- Step 5** Use a 1/44-inch bit to drill a 1/2-inch-deep hole in the two screw template slots.
- Step 6** (Optional) If you wish to attach the cable lock after the cables are installed, drill a 1/2-inch-deep hole in the cable lock hole. For more information, see the [“Attaching the Cable Lock”](#) section on page 2-16.
- Step 7** Insert two screws in the slots on the screw template, and tighten until they touch the top of the screw template.
- Step 8** Remove the screw template from underneath the desk.
- Step 9** Slide the CPE onto the mounting screws until it locks in place. (See [Figure 2-2.](#))

Figure 2-2 Mounting the CPE Under a Desk



## Installing the CPE On a Wall



### Tips

We recommend that you attach the Ethernet, telephone, and power cables to the CPE before mounting it on wall because the connectors might be hidden from view after the CPE is installed. For more information, see the connection procedures beginning on page 12.



- 
- Step 1** Locate the screw template. The template is used to align the mounting screw holes and is also used as a guide to make sure the screws are installed into the desktop with proper clearance.



---

**Note** The template has adhesive to hold it in place while you drill holes underneath the desktop. If you will be using the same screw template to install several CPEs, do not use the adhesive. In this case, hold the template in place with your hand while you drill the screw holes and insert the screws.

---

- Step 2** Position the screw template so that the two side-by-side slots are facing *away* from the floor. (See [Figure 2-3](#).) This ensures the cables will face *towards* the floor after they are connected.

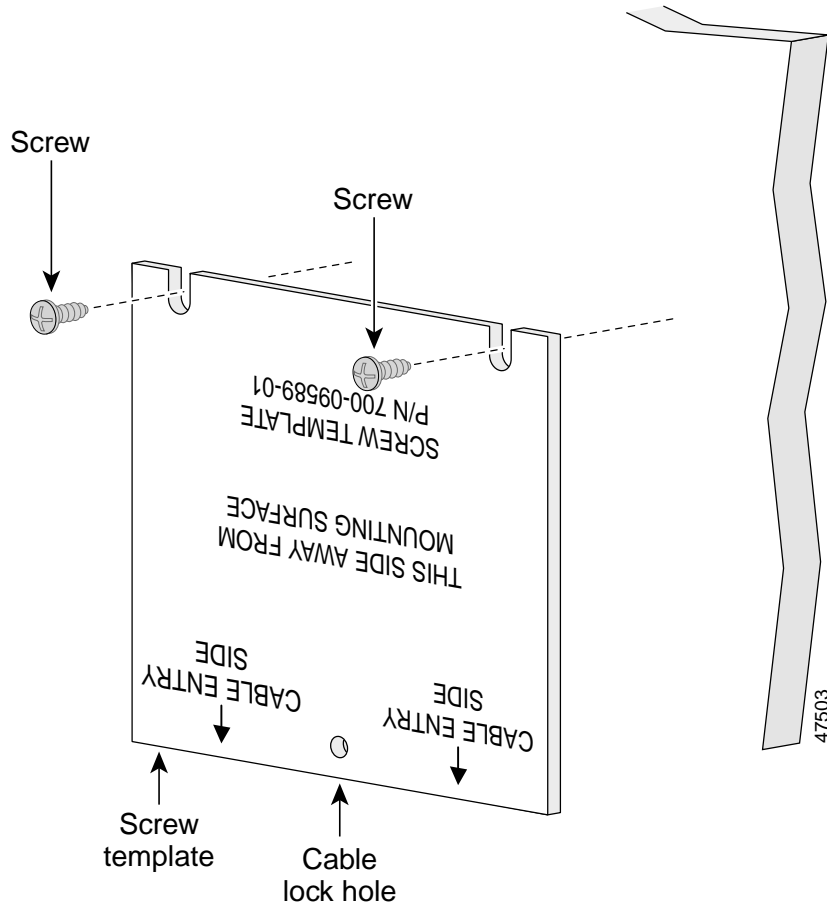


---

**Note** Do not attach the screw template to the wall yet.

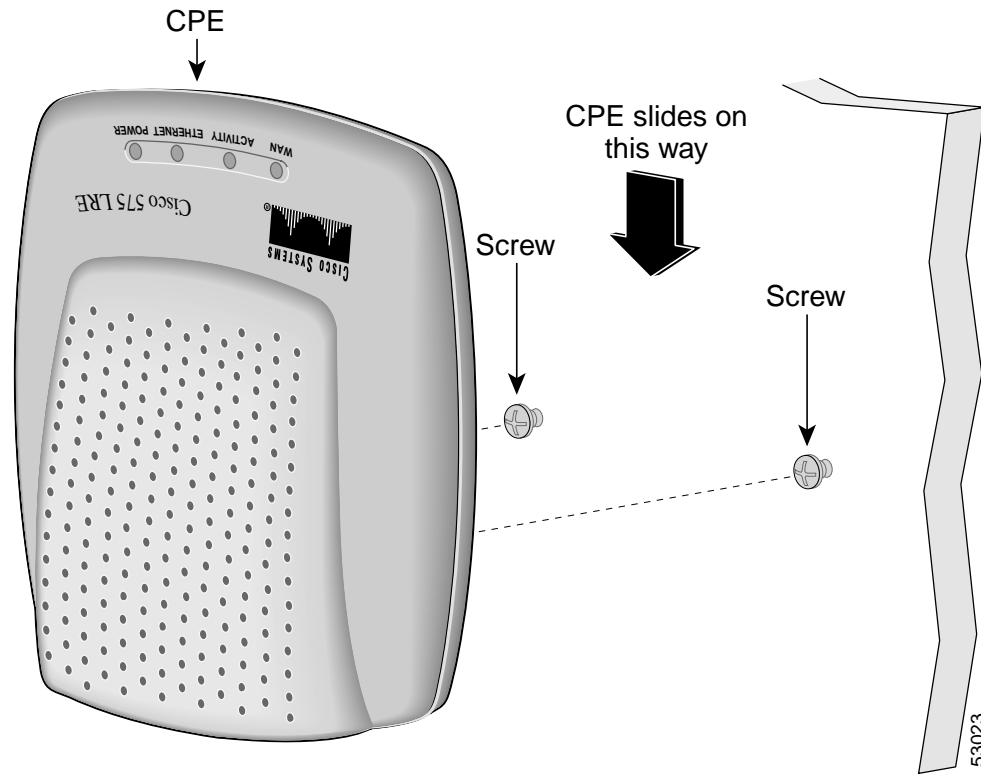
---

**Figure 2-3** Installing the Mounting Screws On a Wall



- Step 3** Peel the adhesive strip off the bottom of the screw template.
- Step 4** Attach the screw template to the wall.
- Step 5** Use a 1/44-inch bit to drill a 1/2-inch-deep hole in the two screw template slots.
- Step 6** (Optional) If you wish to attach the cable lock after the cables are installed, drill a 1/2-inch-deep hole in the screw template hole. For more information, see the [“Attaching the Cable Lock”](#) section on page 2-16.
- Step 7** Insert two screws in the slots on the screw template, and tighten until they touch the top of the screw template.
- Step 8** Remove the screw template from the wall.
- Step 9** Slide the CPE onto the screws until it locks in place. (See [Figure 2-4](#).)

Figure 2-4 Installing the CPE On a Wall

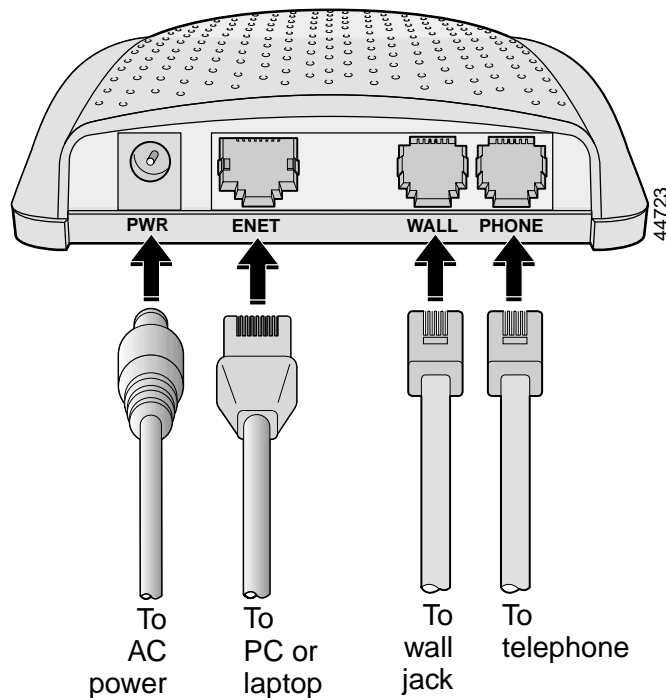


# Connecting to a PC or Laptop

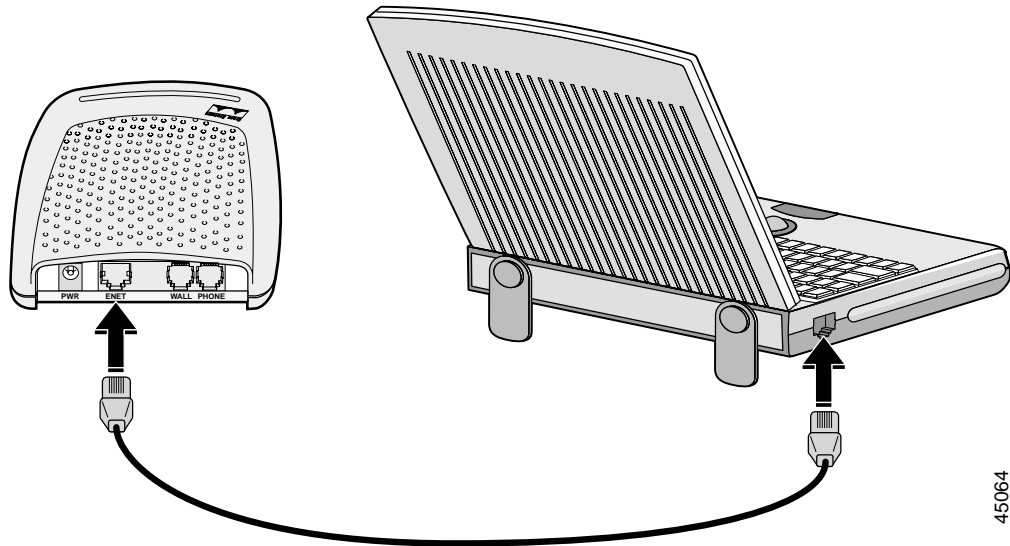
Follow these steps to connect the CPE to a PC or laptop:

- Step 1** Connect one end of the included Ethernet cable to the ENET port of the CPE. (See [Figure 2-5](#).)

**Figure 2-5** Connecting Cables to the CPE

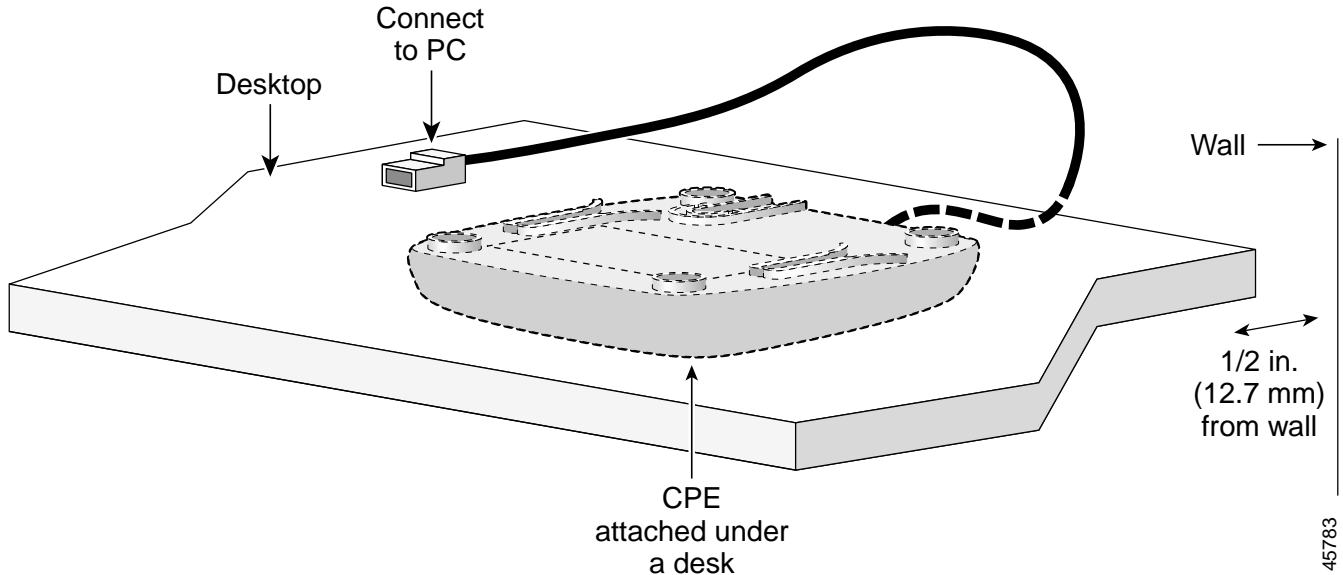


- Step 2** Connect the other end of the Ethernet cable to the RJ-45 connector of the Ethernet card in your PC or laptop. (See [Figure 2-6](#).)

**Figure 2-6** Connecting the CPE to a Computer**Note**

If you are installing several CPEs in different rooms of a building, laptop or desktop computers might not yet be available. If this is the case, connect one end of the Ethernet cable to the CPE and leave the other end of the Ethernet cable on top of the desk. (See [Figure 2-7](#).)

Figure 2-7 Ethernet Cable Lying On Desktop



## Connecting to a Wall-Mounted Telephone Jack

- Step 1** Connect one end of a telephone cord (not included) to the WALL port of the CPE. (See [Figure 2-5](#).)



**Note** Use a standard telephone cord with RJ-11 connectors on both ends.

- Step 2** Connect the other end of the telephone cord to the telephone jack in the wall.

## Connecting to a Telephone

- 
- Step 1** Connect one end of a telephone cord (not included) to the PHONE port of the CPE. (See [Figure 2-5](#).)



---

**Note** Use a standard telephone cord with RJ-11 connectors on both ends.

---

- Step 2** Connect the other end of the telephone cord to a telephone.



---

**Note** If you have other telephones that share the same line but that are not connected through the CPE, we recommend connecting those telephones through a microfilter with a 300-Ohm termination. Microfilters can improve voice call quality when voice and data equipment are using the same telephone line. They also prevent nonfiltered telephone rings or nonfiltered telephone transitions (such as on-hook to off-hook) from interrupting the LRE connection. For more information about microfilters, contact your Cisco sales representative.

---

## Connecting the Power Cord

- 
- Step 1** Connect the power cord to the power connector on the CPE rear panel. See ([Figure 2-5](#).)

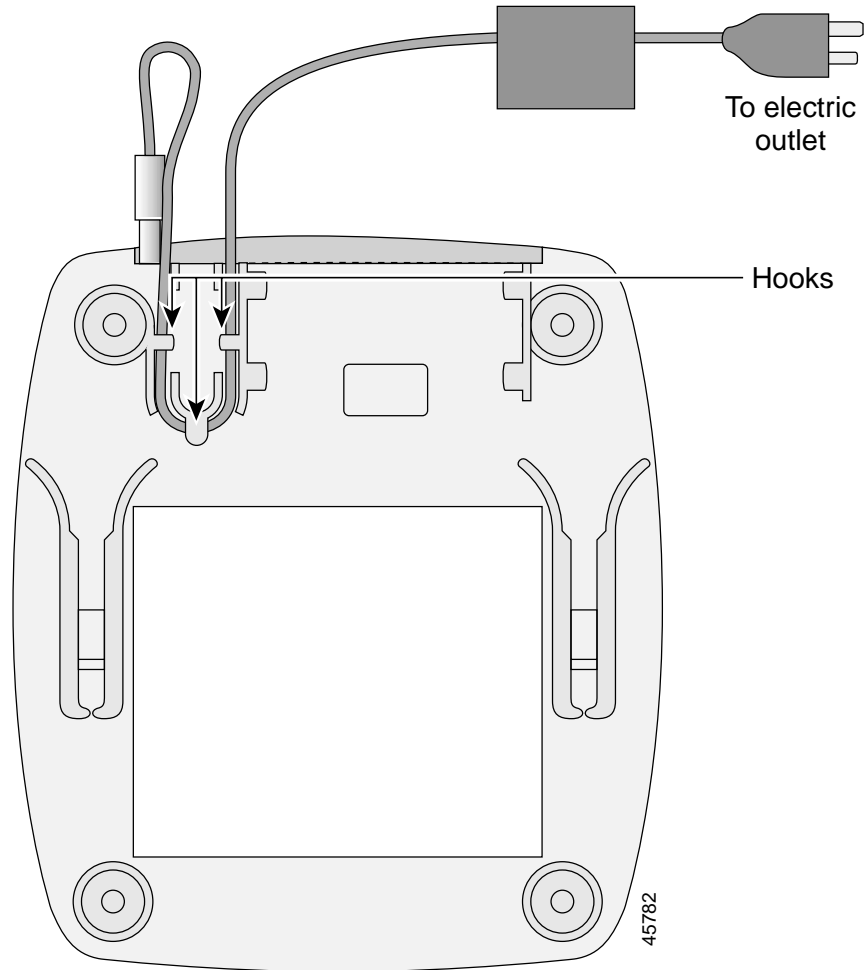


---

**Caution** Use only the AC power cord and adapter shipped with the CPE.

---

- Step 2** Slide the power cord under the hooks on the bottom of the CPE. (See [Figure 2-8](#).)
-

**Figure 2-8** Securing Power Cord to Bottom of the CPE

## Attaching the Cable Lock

The optional cable lock provides extra security to prevent someone from easily removing the CPE.

To install the cable lock, follow these steps:

- 
- Step 1 Locate the cable lock in the accessory kit.
  - Step 2 Slide the cable lock onto the CPE until it clicks in place. (See [Figure 2-9](#) and [Figure 2-10](#).)



Figure 2-9 Attaching the Cable Lock

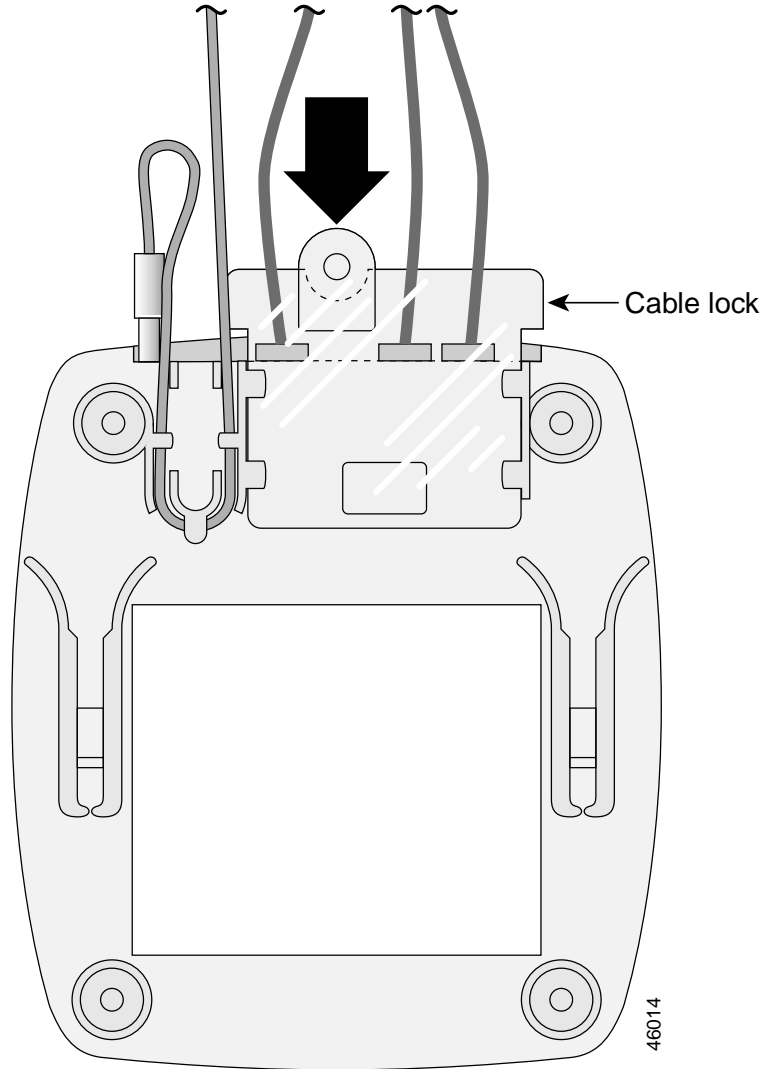
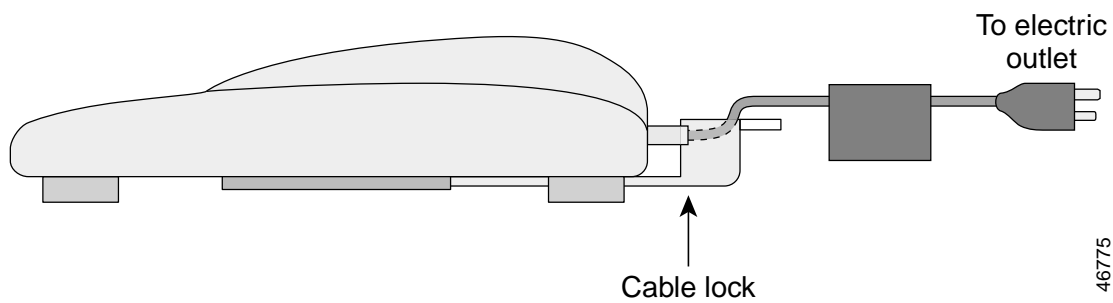


Figure 2-10 Cable Lock Installed on CPE (Side View)

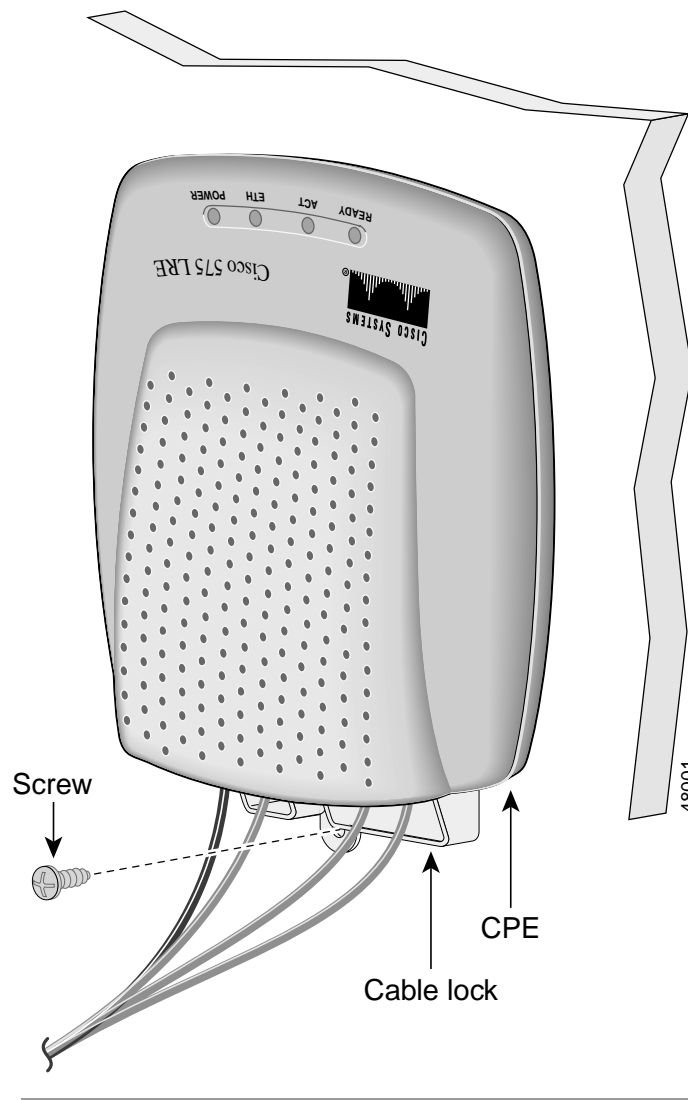


**Step 3** Insert the supplied screw into the cable-lock mounting hole. (See [Figure 2-11](#).)



**Note** We do not recommend drilling a hole for the cable lock if the CPE is sitting on top of a desk. The cable lock can still be installed into the CPE if it is mounted onto a desktop. Simply slide the cable lock into the CPE and snap it into place.

**Figure 2-11** Securing the Cable Lock with Mounting Screw



# Powering On the CPE

- 
- Step 1** Connect the AC cord to a power outlet.
- Step 2** Ensure that the power LED turns green. If the power LED does not turn green, refer to [Chapter 3, “Troubleshooting”](#) to determine a course of action.
- 

The READY link and ETH link LEDs turn on when the appropriate equipment is connected.

## Where to Go Next

CPE configuration, data speed settings, and monitoring are controlled from a Catalyst 2912 LRE XL or Catalyst 2924 LRE XL switch. Refer to the *Catalyst 2900 Series XL and Catalyst 3500 Series XL Software Configuration Guide* for additional information.





# Troubleshooting

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The LEDs on the CPE provide troubleshooting information. They show failures with power, port-connectivity problems, and overall CPE performance. For a full description of the LEDs, see the [“Front-Panel Description” section on page 1-4](#).

The LRE link between the CPE and the Catalyst 2900 LRE XL switch can be monitored from the switch. For more information, refer to the *Catalyst 2900 Series XL and Catalyst 3500 Series XL Software Configuration Guide*.

Table 3-1 lists the CPE problems that you might encounter and their solutions.

Table 3-1 Common Problems and Their Solutions


Symptom	Possible Cause	Resolution
POWER LED not turned on	AC power adapter and cable is loose or not plugged in properly.	Reconnect the power adapter and cable into the wall socket and the CPE.
	Defective AC power adapter and cable.  <b>Note</b> Do not attempt to open or repair the power adapter. Replace the AC power adapter and cable only with a new one ordered from your Cisco sales representative.	Replace the AC power adapter and cable.
READY LED not turned on	Telephone cable is loose or is not connected properly.	Reconnect the phone cable into the phone wall jack and CPE.
	Telephone cable is defective.	Replace the telephone cable.
	Cable trunking is defective.	Repair the cable trunking or select an alternative pair.
	CPE is not communicating with, or might be attempting to exceed the bandwidth selected by, the Catalyst 2900 LRE XL switch.	Verify switch and upstream network status.

Table 3-1 Common Problems and Their Solutions (continued)

Symptom	Possible Cause	Resolution
ETH LED not turned on	Ethernet cable is loose or is not connected properly.	Reconnect the Ethernet cable into the CPE and your PC or laptop.
	CPE is not communicating with the Ethernet card in your PC or laptop.	Reboot your PC or laptop.
	Incorrect or defective Ethernet cable. <ul style="list-style-type: none"> <li>• A crossover cable was used instead of the included straight-through cable.</li> <li>• The Ethernet cable is wired incorrectly or is defective.</li> </ul>	<ul style="list-style-type: none"> <li>• For the correct pinouts and the proper application of straight-through cables, see the <a href="#">“Straight-Through Cable Pinouts”</a> section on page B-3.</li> <li>• Replace with a tested good cable.</li> </ul>
ACTIVITY LED not blinking.	Data not being transferred between the CPE and PC or laptop	Verify laptop or PC network configuration.
No Connectivity.	Incorrect or bad Ethernet cable. <ul style="list-style-type: none"> <li>• A crossover cable was used when a straight-through cable was required or vice-versa.</li> <li>• The Ethernet cable is wired incorrectly or is defective.</li> </ul>	<ul style="list-style-type: none"> <li>• For the correct pinouts and the proper application of straight-through cables, see the <a href="#">“Straight-Through Cable Pinouts”</a> section on page B-3.</li> <li>• Replace with a tested good cable.</li> </ul>
	Data service unavailable.	Verify switch and upstream network status.







# Technical Specifications

[Table A-1](#) lists the technical specifications for the Cisco 575 LRE CPE, and [Table A-2](#) lists the agency approvals for EMI and safety.

**Table A-1** *Technical Specifications for the Cisco 575 LRE CPE*

<b>Environmental Ranges</b>	
Operating temperature	32 to 113°F (0 to 45°C)
Storage temperature	–13 to 158°F (–25 to 70°C)
Relative humidity	10 to 85% (noncondensing)
Operating altitude	Up to 10,000 ft (3,000 m)
Storage altitude	Up to 15,000 ft (4,570 m)
<b>Power Requirements</b>	
DC input voltages	+5V <sub>DC</sub> @ 1A
AC input voltage	100–240 VAC, 50–60 Hz
Power consumption	5W (maximum)
<b>Physical Dimensions</b>	
Weight	1.1 lb (0.5 kg)
Dimensions (H x W x D)	1.7 x 5 x 6 in. (4.3 x 12.7 x 15.2 cm)

**Table A-2 Cisco 575 LRE CPE Agency Approvals**

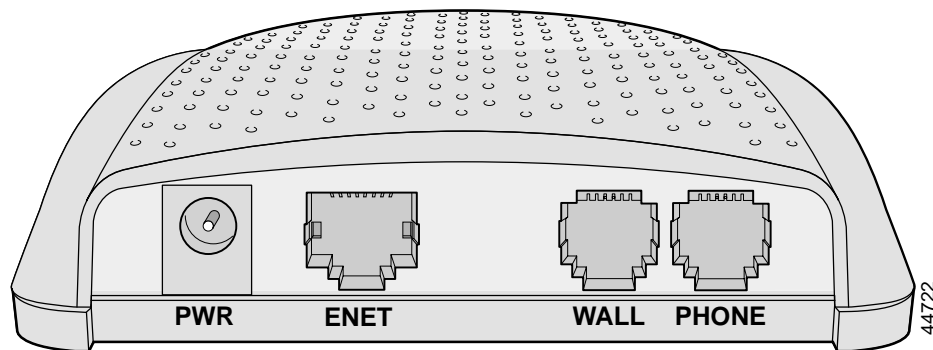
Safety	EMI
UL 1950/CSA 22.2 No. 950	FCC Part 15 Class B
IEC 950/EN 60950	EN 55022 Class B (CISPR 22 Class B)
AS/NZS 3260, TS001	VCCI Class B
CE	AS/NZS 3548 Class B
	BCIQ
	CE
CCIB/CCEE	CCIB/CCEE
NOM019-1988	



# Connector and Cable Specifications

This appendix describes the CPE connectors and the cables that you use to connect the CPE to other devices. See [Figure B-1](#).

*Figure B-1 CPE Connectors*

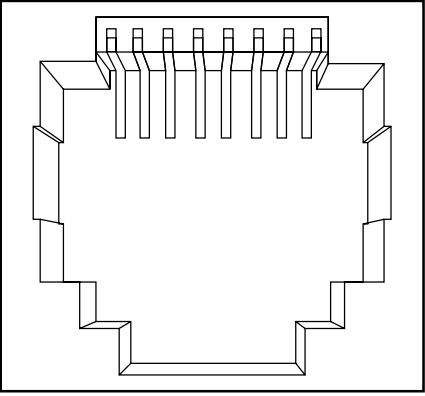


## Connector Specifications

### ENET Port

The ENET port is a 10/100 port that uses an RJ-45 connector with Ethernet pinouts. The ENET port has the transmit (TD) and receive (RD) signals internally crossed so that a straight-through cable (included) can be attached to the port. [Figure B-2](#) shows the pinouts.

**Figure B-2 RJ-45 Connector Pinouts**

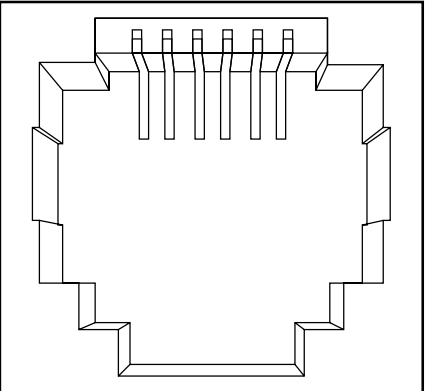
Pin	Label	1 2 3 4 5 6 7 8
1	RD+	
2	RD-	
3	TD+	
4	NC	
5	NC	
6	TD-	
7	NC	
8	NC	

When connecting the ENET port to a PC or laptop, you must use a straight-through cable wired for 10BASE-T or 100BASE-T. [Figure B-5](#) shows the straight-through cable schematics.

## WALL Port

The WALL port uses an RJ-11 telephone connector to connect to the LRE signal. See [Figure B-3](#) for the connector pinouts.

**Figure B-3 RJ-11 WALL Port Connector Pinouts**

Pin	Label	1 2 3 4 5 6
1	Pass-through 1	
2	Pass-through 2	
3	LRE tip	
4	LRE ring	
5	Pass-through 5	
6	Pass-through 6	

## PHONE Port

The PHONE port uses an RJ-11 connector. See [Figure B-4](#) for the pinouts.



### Note

Pins 1, 2, 5, and 6 on the wall port are connected internally to the corresponding pins of the phone port. This allows a second and third phone pair to pass through the CPE without affecting the LRE connection.

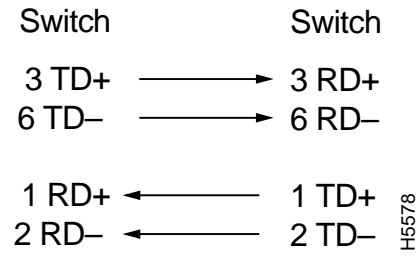
**Figure B-4** RJ-11 PHONE Port Connector Pinouts

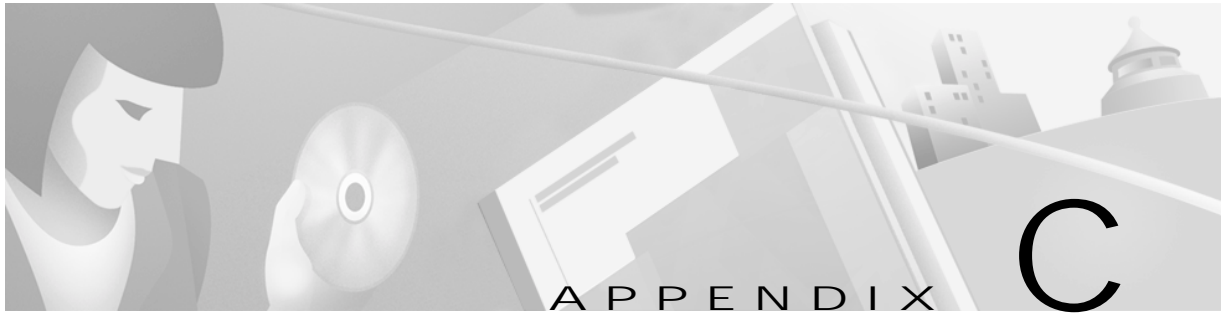
Pin	Label	1 2 3 4 5 6
1	Pass-through 1	
2	Pass-through 2	
3	Phone tip	
4	Phone ring	
5	Pass-through 5	
6	Pass-through 6	

## Cable Specifications

### Straight-Through Cable Pinouts

The schematics of the straight-through cable are shown in [Figure B-5](#).

*Figure B-5 Straight-Through Cable Pinouts*



# Translated Safety Warnings

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This appendix repeats in multiple languages the warnings in this guide.

# Qualified Personnel Warning




---

**Warning**

Only trained and qualified personnel should be allowed to install or replace this equipment

**Waarschuwing**

Installatie en reparaties mogen uitsluitend door getraind en bevoegd personeel uitgevoerd worden.

**Varoitus**

Ainoastaan koulutettu ja pätevä henkilökunta saa asentaa tai vaihtaa tämän laitteen.

**Avertissement**

Tout installation ou remplacement de l'appareil doit être réalisé par du personnel qualifié et compétent.

**Achtung**

Gerät nur von geschultem, qualifiziertem Personal installieren oder auswechseln lassen.

**Avvertenza**

Solo personale addestrato e qualificato deve essere autorizzato ad installare o sostituire questo apparecchio.

**Advarsel**

Kun kvalifisert personell med riktig opplæring bør montere eller bytte ut dette utstyret.

**Aviso**

Este equipamento deverá ser instalado ou substituído apenas por pessoal devidamente treinado e qualificado.

**¡Atención!**

Estos equipos deben ser instalados y reemplazados exclusivamente por personal técnico adecuadamente preparado y capacitado.

**Varning**

Denna utrustning ska endast installeras och bytas ut av utbildad och kvalificerad personal.

---



# Installation Warning



## Warning

Read the installation instructions before you connect the system to its power source.

## Waarschuwing

Raadpleeg de installatie-aanwijzingen voordat u het systeem met de voeding verbindt.

## Varoitus

Lue asennusohjeet ennen järjestelmän yhdistämistä virtalähteeseen.

## Attention

Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

## Warnung

Lesen Sie die Installationsanweisungen, bevor Sie das System an die Stromquelle anschließen.

## Avvertenza

Consultare le istruzioni di installazione prima di collegare il sistema all'alimentatore.

## Advarsel

Les installasjonsinstruksjonene før systemet kobles til strømkilden.

## Aviso

Leia as instruções de instalação antes de ligar o sistema à sua fonte de energia.

## ¡Advertencia!

Ver las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

## Varning!

Läs installationsanvisningarna innan du kopplar systemet till dess strömförsörjningsenhet.

**警告** システムを電源に接続する前に、インストラクションについての説明書を必ずお読みください。

# Jewelry Removal Warning



## Warning

Before working on equipment that is connected to power lines, remove jewelry (including rings, necklaces, and watches). Metal objects will heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.

## Waarschuwing

Alvorens aan apparatuur te werken die met elektrische leidingen is verbonden, sieraden (inclusief ringen, kettingen en horloges) verwijderen. Metalen voorwerpen worden warm wanneer ze met stroom en aarde zijn verbonden, en kunnen ernstige brandwonden veroorzaken of het metalen voorwerp aan de aansluitklemmen lassen.

## Varoitus

Ennen kuin työskentelet voimavirtajohtoihin kytkettyjen laitteiden parissa, ota pois kaikki korut (sormukset, kaulakorut ja kellot mukaan lukien). Metalliesineet kuumenevat, kun ne ovat yhteydessä sähkövirran ja maan kanssa, ja ne voivat aiheuttaa vakavia palovammoja tai hitsata metalliesineet kiinni liitännänpoihin.

## Attention

Avant d'accéder à cet équipement connecté aux lignes électriques, ôter tout bijou (anneaux, colliers et montres compris). Lorsqu'ils sont branchés à l'alimentation et reliés à la terre, les objets métalliques chauffent, ce qui peut provoquer des blessures graves ou souder l'objet métallique aux bornes.

## Warnung

Vor der Arbeit an Geräten, die an das Netz angeschlossen sind, jeglichen Schmuck (einschließlich Ringe, Ketten und Uhren) abnehmen. Metallgegenstände erhitzen sich, wenn sie an das Netz und die Erde angeschlossen werden, und können schwere Verbrennungen verursachen oder an die Anschlußklemmen angeschweißt werden.

- Avvertenza** Prima di intervenire su apparecchiature collegate alle linee di alimentazione, togliersi qualsiasi monile (inclusi anelli, collane, braccialetti ed orologi). Gli oggetti metallici si riscaldano quando sono collegati tra punti di alimentazione e massa: possono causare ustioni gravi oppure il metallo può saldarsi ai terminali.
- Advarsel** Fjern alle smykker (inkludert ringar, halskjeder og klokker) før du skal arbeide på utstyr som er koblet til kraftledninger. Metallgjenstander som er koblet til kraftledninger og jord blir svært varme og kan forårsake alvorlige brannskader eller smelte fast til polene.
- Aviso** Antes de trabalhar em equipamento que esteja ligado a linhas de corrente, retire todas as jóias que estiver a usar (incluindo anéis, fios e relógios). Os objectos metálicos aquecerão em contacto com a corrente e em contacto com a ligação à terra, podendo causar queimaduras graves ou ficarem soldados aos terminais.
- ¡Advertencia!** Antes de operar sobre equipos conectados a líneas de alimentación, quitarse las joyas (incluidos anillos, collares y relojes). Los objetos de metal se calientan cuando se conectan a la alimentación y a tierra, lo que puede ocasionar quemaduras graves o que los objetos metálicos queden soldados a los bornes.
- Varning!** Tag av alla smycken (inklusive ringar, halsband och armbandsur) innan du arbetar på utrustning som är kopplad till kraftledningar. Metallobjekt hettas upp när de kopplas ihop med ström och jord och kan förorsaka allvarliga brännskador; metallobjekt kan också sammansvetsas med kontakterna.

# Main Disconnecting Device



## Warning

The plug-socket combination must be accessible at all times because it serves as the main disconnecting device.

## Waarschuwing

De combinatie van de stekker en het elektrisch contactpunt moet te allen tijde toegankelijk zijn omdat deze het hoofdmecanisme vormt voor verbreking van de aansluiting.

## Varoitus

Pistoke/liitinkohta toimii pääkatkaisumekanismina. Pääsy siihen on pidettävä aina esteettömänä.

## Attention

La combinaison de prise de courant doit être accessible à tout moment parce qu'elle fait office de système principal de déconnexion.

## Warnung

Der Netzkabelanschluß am Gerät muß jederzeit zugänglich sein, weil er als primäre Ausschaltvorrichtung dient.

## Avvertenza

Il gruppo spina-presa deve essere sempre accessibile, poiché viene utilizzato come dispositivo di scollegamento principale.

## Advarsel

Kombinasjonen støpsel/uttak må alltid være tilgjengelig ettersom den fungerer som hovedfrakoplingsenhet.

## Aviso

A combinação ficha-tomada deverá ser sempre acessível, porque funciona como interruptor principal.

## ¡Advertencia!

El conjunto de clavija y toma ha de encontrarse siempre accesible ya que hace las veces de dispositivo de desconexión principal.

## Varning!

Man måste alltid kunna komma åt stickproppen i uttaget, eftersom denna koppling utgör den huvudsakliga frånkopplingsanordningen.

# Overtemperature Warning

**Warning**

To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 104°F (40°C).

**Waarschuwing**

Om te voorkomen dat het systeem oververhit raakt, dient u het systeem niet te gebruiken in een ruimte waar de maximaal aanbevolen omgevingstemperatuur van 40°C wordt overschreden.

**Varoitus**

Jotta järjestelmä ei kuumentuisi liikaa, sitä ei saa käyttää alueella, jonka lämpötila ylittää suositellun maksimiympäristölämpötilan 40°C.

**Attention**

Pour éviter toute surchauffe du système, il est recommandé de maintenir une température ambiante inférieure à 40°C.

**Warnung**

Um das System vor Überhitzung zu schützen, vermeiden Sie dessen Verwendung in einer Gegend, in der die Umgebungstemperatur das empfohlene Maximum von 40°C überschreitet.

**Avvertenza**

Per evitare che il sistema si surriscaldi, non utilizzatelo in una zona dove la temperatura ambiente ecceda la temperatura massima raccomandata di 40°C (104°F).

**Advarsel**

For å hindre at systemet blir overopphetet, må det ikke brukes i et område der temperaturen overstiger den maksimalt anbefalte temperaturen på 40°C.

**Aviso**

Para evitar o sobreaquecimento do sistema, não o utilize em áreas que excedam a temperatura ambiente máxima recomendada de 40°C (104°F).

## Power Warning

- ¡Advertencia!** Para impedir que el sistema se caliente, no lo utilice en zonas en las que la temperatura ambiente llegue a los 40°C (104°F).
- Varning!** Förhindra att systemet blir överhettat genom att inte använda det på en plats där den rekommenderade omgivningstemperaturen överstiger 40°C.
- 

# Power Warning



**Warning**

The device is designed to work with TN power systems.

**Waarschuwing**

Het apparaat is ontworpen om te functioneren met TN energiesystemen.

**Varoitus**

Koje on suunniteltu toimimaan TN-sähkövoimajärjestelmien yhteydessä.

**Attention**

Ce dispositif a été conçu pour fonctionner avec des systèmes d'alimentation TN.

**Warnung**

Das Gerät ist für die Verwendung mit TN-Stromsystemen ausgelegt.

**Avvertenza**

Il dispositivo è stato progettato per l'uso con sistemi di alimentazione TN.

**Advarsel**

Utstyret er utfomet til bruk med TN-strømsystemer.

**Aviso**

O dispositivo foi criado para operar com sistemas de corrente TN.

- ¡Advertencia! El equipo está diseñado para trabajar con sistemas de alimentación tipo TN.
- Varning! Enheten är konstruerad för användning tillsammans med elkraftssystem av TN-typ.
- 

## Circuit Breaker (15A) Warning



### Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 16A international) is used on the phase conductors (all current-carrying conductors).

### Waarschuwing

Dit produkt is afhankelijk van de installatie van het gebouw voor kortsluit- (overstroom)beveiliging. Controleer of er een zekering of stroomverbreker van niet meer dan 120 Volt wisselstroom, 15 A voor de V.S. (240 Volt wisselstroom, 16 A internationaal) gebruikt wordt op de fasegeleiders (alle geleiders die stroom voeren).

### Varoitus

Tämä tuote on riippuvainen rakennukseen asennetusta oikosulkusuojauksesta (ylivirtasuojauksesta). Varmista, että vaihevirtajohtimissa (kaikissa virroitetuissa johtimissa) käytetään Yhdysvalloissa alle 120 voltin, 15 ampeerin ja monissa muissa maissa 240 voltin, 16 ampeerin sulaketta tai suojakytkintä.

### Attention

Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifier qu'un fusible ou qu'un disjoncteur de 120 V alt., 15 A U.S. maximum (240 V alt., 16 A international) est utilisé sur les conducteurs de phase (conducteurs de charge).

■ Circuit Breaker (15A) Warning

- Warnung** Dieses Produkt ist darauf angewiesen, daß im Gebäude ein Kurzschluß- bzw. Überstromschutz installiert ist. Stellen Sie sicher, daß eine Sicherung oder ein Unterbrecher von nicht mehr als 240 V Wechselstrom, 16 A (bzw. in den USA 120 V Wechselstrom, 15 A) an den Phasenleitern (allen stromführenden Leitern) verwendet wird.
- Avvertenza** Questo prodotto dipende dall'installazione dell'edificio per quanto riguarda la protezione contro cortocircuiti (sovracorrente). Verificare che un fusibile o interruttore automatico, non superiore a 120 VCA, 15 A U.S. (240 VCA, 16 A internazionale) sia stato usato nei fili di fase (tutti i conduttori portatori di corrente).
- Advarsel** Dette produktet er avhengig av bygningens installasjoner av kortslutningsbeskyttelse (overstrøm). Kontroller at det brukes en sikring eller strømbryter som ikke er større enn 120 VAC, 15 A (USA) (240 VAC, 16 A internasjonalt) på faselederne (alle strømførende ledere).
- Aviso** Este produto depende das instalações existentes para protecção contra curto-circuito (sobrecarga). Assegure-se de que um fusível ou disjuntor não superior a 240 VAC, 16A é utilizado nos condutores de fase (todos os condutores de transporte de corrente).
- ¡Advertencia!** Este equipo utiliza el sistema de protección contra cortocircuitos (o sobrecorrientes) del propio edificio. Asegurarse de que se utiliza un fusible o interruptor automático de no más de 240 voltios en corriente alterna (VAC), 16 amperios del estándar internacional (120 VAC, 15 amperios del estándar USA) en los hilos de fase (todos aquellos portadores de corriente).
- Varning!** Denna produkt är beroende av i byggnaden installerat kortslutningsskydd (överströmsskydd). Kontrollera att säkring eller överspänningsskydd används på fasledarna (samtliga strömförande ledare) för internationellt bruk max. 240 V växelström, 16 A (i USA max. 120 V växelström, 15 A).



**警告** この装置はアースを必要とするものです。通常動作時は、ホストがアースされていることを確認してください。

## Voltage Warning



### Warning

A voltage mismatch can cause equipment damage and may pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, *do not connect the chassis to that receptacle.*

### Waarschuwing

Aansluiting op een verkeerd voedingsvoltage kan beschadiging van de apparatuur veroorzaken en tot brandgevaar leiden. *Het chassis mag niet aangesloten worden als de spanning die op het label staat aangegeven, anders is dan de spanning van het stopcontact.*

### Varoitus

Erisuuruisten jännitteiden yhdistäminen voi aiheuttaa laitevaurion ja tulipalon vaaran. Jos tarraan merkitty jännite eroaa pistorasian jännitteestä, *älä yhdistä asennuspohjaa pistorasiaan.*

### Avertissement

Une erreur de voltage risque d'endommager l'appareil et constitue un risque d'incendie. Si la tension indiquée sur l'étiquette est différente de la tension de l'alimentation, *ne connectez en aucun cas le châssis à la prise.*

### Achtung

Bei nicht übereinstimmender Spannung kann es zu Geräteschäden und Feuergefahr kommen. Wenn die auf dem Etikett angegebene Spannung nicht mit der Steckdosenspannung übereinstimmt, schließen Sie das Gerät nicht an diese Steckdose an.

## Voltage Warning

- Avvertenza** Una tensione inadeguata può causare danni all'apparecchio e rischio di incendio. Se la tensione riportata sulla targhetta è diversa da quella della presa di alimentazione, *non collegare lo chassis a tale presa.*
- Advarsel** Ulik spenning kan forårsake skade på utstyret og innebære brannfare. Dersom spenningen på merkelappen er forskjellig fra spenningen i stikkontakten, *må du ikke koble kabinettet til den stikkontakten.*
- Aviso** Uma voltagem incorrecta poderá causar danos no equipamento e constituir um risco de incêndio. Se a voltagem indicada na etiqueta for diferente da voltagem de saída de corrente da parede, *não ligue o chassis a esse receptáculo.*
- ¡Atención!** Las diferencias en el voltaje pueden causar daños a los equipos y presentar peligro de incendio. Si el voltaje indicado en la etiqueta es diferente al de la toma de alimentación, no conectar el chasis a dicha toma.
- Varning** Inkompatibla spänningar kan resultera i materiella skador samt utgör brandfara. Om den spänning som anges på etiketten skiljer sig från strömuttagets spänning *ska chassit inte anslutas till detta uttag.*
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# Lightning Activity Warning



<b>Warning</b>	<b>Do not work on the system or connect or disconnect cables during periods of lightning activity.</b>
<b>Waarschuwing</b>	<b>Tijdens onweer dat gepaard gaat met bliksem, dient u niet aan het systeem te werken of kabels aan te sluiten of te ontkoppelen.</b>
<b>Varoitus</b>	<b>Älä työskentele järjestelmän parissa äläkä yhdistä tai irrota kaapeleita ukkosilmalla.</b>
<b>Attention</b>	<b>Ne pas travailler sur le système ni brancher ou débrancher les câbles pendant un orage.</b>
<b>Warnung</b>	<b>Arbeiten Sie nicht am System und schließen Sie keine Kabel an bzw. trennen Sie keine ab, wenn es gewittert.</b>
<b>Avvertenza</b>	<b>Non lavorare sul sistema o collegare oppure scollegare i cavi durante un temporale con fulmini.</b>
<b>Advarsel</b>	<b>Utfør aldri arbeid på systemet, eller koble kabler til eller fra systemet når det tordner eller lyner.</b>
<b>Aviso</b>	<b>Não trabalhe no sistema ou ligue e desligue cabos durante períodos de mau tempo (trovoada).</b>
<b>¡Advertencia!</b>	<b>No operar el sistema ni conectar o desconectar cables durante el transcurso de descargas eléctricas en la atmósfera.</b>
<b>Varning!</b>	<b>Vid åska skall du aldrig utföra arbete på systemet eller ansluta eller koppla loss kablar.</b>

**警告** 雷電時には装置の取り扱い、またはケーブルの接続/切り離しを行わないでください。

# Product Disposal Warning




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**Warning**

Ultimate disposal of this product should be handled according to all national laws and regulations.

**Waarschuwing**

Het uiteindelijke wegruimen van dit product dient te geschieden in overeenstemming met alle nationale wetten en reglementen.

**Varoitus**

Tämä tuote on hävitettävä kansallisten lakien ja määräysten mukaisesti.

**Attention**

La mise au rebut ou le recyclage de ce produit sont généralement soumis à des lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.

**Warnung**

Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.

**Avvertenza**

Lo smaltimento di questo prodotto deve essere eseguito secondo le leggi e regolazioni locali.

**Advarsel**

Endelig kassering av dette produktet skal være i henhold til alle relevante nasjonale lover og bestemmelser.

**Aviso**

Deitar fora este produto em conformidade com todas as leis e regulamentos nacionais.

**¡Advertencia!**

Al deshacerse por completo de este producto debe seguir todas las leyes y reglamentos nacionales.

**Varning!**

Vid deponering hanteras produkten enligt gällande lagar och bestämmelser.

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# No On/Off Switch Warning



## Warning

Unplug the power cord before you work on a system that does not have an on/off switch.

## Waarschuwing

Voordat u aan een systeem werkt dat geen aan/uit schakelaar heeft, dient u de stekker van het netsnoer uit het stopcontact te halen.

## Varoitus

Ennen kuin teet mitään sellaiselle järjestelmälle, jossa ei ole kaksiasentokytintä, kytke irti virtajohto.

## Attention

Avant de travailler sur un système non équipé d'un commutateur marche-arrêt, débrancher le cordon d'alimentation.

## Warnung

Bevor Sie an einem System ohne Ein/Aus-Schalter arbeiten, ziehen Sie das Netzkabel heraus.

## Avvertenza

Prima di lavorare su un sistema che non è dotato di un interruttore on/off, scollegare il cavo di alimentazione.

## Advarsel

Før det skal utføres arbeid på et system som ikke har en av/på-bryter, skal strømleningen trekkes ut.

## Aviso

Antes de começar a trabalhar num sistema que não possua um interruptor ON/OFF, desligue o cabo de alimentação.

## ¡Advertencia!

Antes de trabajar sobre cualquier sistema que carezca de interruptor de Encendido/Apagado (ON/OFF), desenchufar el cable de alimentación.

## Varning!

Dra ur nätsladden innan du utför arbete på ett system utan strömbrytare.

# SELV Circuit Warning



## Warning

The ports labeled "ENET" and "PWR" are safety extra-low voltage (SELV) circuits. Only connect SELV circuits to other SELV circuits. The ports labeled "PHONE" and "WALL" may be connected to telephone network voltage (TNV) circuits. Do not connect the SELV circuit to the TNV circuits. To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone network voltage (TNV) circuits. Although the ENET ports use RJ-45 connectors that will accept RJ-11 telephony plugs, TNV circuits must not be connected to the ENET ports. Use caution when connecting cables.

## Waarschuwing

De poorten die gelabeld zijn met "ENET" en "PWR" zijn zogenaamde SELV-circuits (veiligheidscircuits met extra-laag voltage). Op SELV-circuits mogen alleen andere SELV-circuits worden aangesloten. De poorten die gelabeld zijn met "PHONE" en "WALL" mogen op circuits met een telefoonnetwerkvoltagage (TNV-circuits) worden aangesloten. Het SELV-circuit mag niet op een TNV-circuit worden aangesloten. Ter voorkoming van elektrische schokken mogen SELV-circuits niet op telefoonnetwerkvoltagage-circuits (TNV) worden aangesloten. Hoewel ENET-poorten gebruik maken van RJ-45-aansluitingen waarin RJ-11-telefoonstekkers passen, mogen TNV-circuits niet op een ENET-poort worden aangesloten. Wees voorzichtig tijdens het aansluiten van kabels.

- Varoitus** Portit, joissa on merkintä "ENET" ja "PWR" ovat suojattuja erittäin alhaisen jännitteen (SELV) piirejä. SELV-piirit tulisi liittää ainoastaan toisiin SELV-piireihin. Portit, joissa on merkintä "PHONE" ja "WALL", voidaan liittää puhelinverkkojännite (TNV) -piireihin. SELV-piiriä ei saa liittää TNV-piireihin. Sähköiskun välttämiseksi on tärkeää, ettei SELV-piirejä liitetä TNV-piireihin. Vaikka ENET-porteissa käytetäänkin RJ-45-liittimiä, joihin sopii RJ-11-puhelinpistokkeet, TNV-piirejä ei saa liittää ENET-portteihin. Ole varovainen liittäessäsi kaapeleita.
- Attention** Les ports portant les libellés « ENET » et « PWR » sont des circuits de sécurité à extra basse tension SELV (Safety Extra-Low Voltage). Les circuits SELV doivent être connectés uniquement à d'autres circuits SELV. Les ports libellés « PHONE » (téléphone) et « WALL » (mur) peuvent être connectés aux circuits (TNV) à tension correspondant au réseau téléphonique. Ne connectez pas le circuit SELV aux circuits TNV. Pour éviter une décharge électrique, ne connectez pas les circuits de sécurité à extra basse tension (SELV) aux circuits à tension de réseau téléphonique (TNV). Bien que les ports ENET utilisent des connecteurs RJ-45 compatibles avec les prises téléphoniques RJ-11, les circuits TNV ne doivent pas être connectés aux ports ENET. Faites attention lorsque vous connectez les câbles.
- Warnung** Die Anschlüsse mit den Bezeichnungen "ENET" und "PWR" sind Sicherheitsschaltungen mit Niedrigspannung (SELV). SELV-Schaltungen nur mit anderen SELV-Schaltungen verbinden. Die Anschlüsse mit den Bezeichnungen "PHONE" und "WALL" dürfen an Schaltungen mit Telefonnetz-Spannungen (TNV) angeschlossen werden. Die SELV-Schaltung darf nicht mit den TNV-Schaltungen verbunden werden. Um elektrischen Schlag zu vermeiden, SELV-Schaltungen nicht an TNV-Schaltungen anschließen. Die ENET-Anschlüsse verwenden zwar RJ-45-Steckverbindungen, die RJ-11- Telefoniestecker akzeptieren, jedoch dürfen TNV-Schaltungen nicht mit den ENET-Anschlüssen verbunden werden. Beim Anschließen der Kabel mit Vorsicht vorgehen.

## SELV Circuit Warning

- Avvertenza** Le porte etichettate "ENET" e " PWR" sono dei circuiti di sicurezza a bassissima tensione (SELV). I circuiti SELV possono essere collegati unicamente ad altri circuiti SELV. Le porte etichettate "PHONE" e "WALL" possono essere collegate a circuiti a tensione di rete telefonica (TNV). Non collegare il circuito SELV ai circuiti TNV. Per evitare scosse elettriche, non collegare circuiti di sicurezza a bassissima tensione (SELV) ai circuiti a tensione di rete telefonica (TNV). Sebbene le porte ENET utilizzino connettori RJ-45 che possono ricevere connettori telefonici RJ-11, i circuiti TNV non devono essere collegati alle porte ENET. Si consiglia di fare molta attenzione quando si collegano i cavi.
- Advarsel** Utgangene merket "ENET" og "PWR" er sikkerhetskretser med særlig lav spenning (safety extra-low voltage - SELV). SELV-kretser skal bare koples til andre SELV-kretser. Utgangene merket "PHONE" og "WALL" kan koples til telefonens nettverksspenningskretser (TNV). SELV-kretser skal ikke koples til TNV-kretser. For å unngå elektrisk støt, skal sikkerhetskretser med særlig lav spenning (SELV) ikke koples til telefonens nettverksspenningskretser (TNV). Selv om ENET-utgangene bruker RJ-45-koplinger som aksepterer RJ-11-telefonplugg, skal TNV-kretser ikke koples til ENET-utganger. Vis forsiktighet når du kopler sammen ledninger.
- Aviso** As portas intituladas "ENET" e "PWR" são circuitos de tensão extra-baixa de segurança (SELV). Os circuitos SELV apenas devem ser ligados a outros circuitos SELV. As portas intituladas "PHONE" (Telefone) e "WALL" (Parede), podem ser ligadas a circuitos de tensão de rede telefónica (TNV). Não ligue o circuito SELV aos circuitos TNV. Para evitar choques eléctricos, não ligue os circuitos de tensão extra-baixa de segurança (SELV) aos circuitos de tensão de rede telefónica (TNV). Embora as portas ENET utilizem conectores RJ-45 que aceitarão fichas telefónicas do tipo RJ-11, os circuitos TNV não devem ser ligados às portas ENET. Tenha o devido cuidado ao ligar os cabos.



- ¡Advertencia!** Los puertos con las etiquetas "ENET" y "PWR" son circuitos de seguridad de muy bajo voltaje (SELV). Conecte estos circuitos solamente a otros circuitos SELV. Los puertos con las etiquetas "PHONE" y "WALL" se pueden conectar a los circuitos de voltaje de la red telefónica (TNV). No conecte el circuito SELV a los circuitos TNV. Para evitar un choque eléctrico, no conecte los circuitos de seguridad de muy bajo voltaje (SELV) a los circuitos de voltaje de la red telefónica (TNV). Aunque los puertos ENET usan conectores RJ-45 que aceptan clavijas de telefonía RJ-11, los circuitos TNV no se deben conectar a los puertos ENET. Tenga cuidado cuando conecte los cables.
- Varning!** Portarna med beteckningen "ENET" och "PWR" är SELV-kretsar (skyddskretsar för mycket låg spänning). SELV-kretsar ska endast kopplas till andra SELV-kretsar. Portarna med beteckningen "TELEFON" och "VÄGG" kan kopplas till telefonnätspänning (TNV). Koppla ej SELV-kretsen till kretsar med telefonnätspänning (TNV). Undvik elektrisk stöt genom att inte koppla SELV-kretsar med telefonnätspänning (TNV). Även om ENET-portarna använder RJ-45 kontakter som accepterar RJ-11 telefonikontakter behöver inte telefonnätspänning (TNV) vara uppkopplad till ENET-portarna. Var försiktig när du kopplar ihop kablarna.

SELV Circuit Warning