Enterasys® Wireless

Outdoor Access Points

Installation Guide

AP2650
AP2660

P/N 9034543-01

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About This Guide

The guide describes how to mount and connect cables to the Enterasys Wireless Outdoor APs. In addition, this guide provides information on the product certifications and national approvals for the Enterasys Wireless Outdoor APs.

Note: This guide does not provide information on configuration of the Enterasys Wireless Outdoor APs. For information on how to configure the Enterasys Wireless Outdoor APs, see the *Enterasys Wireless Controller, Access Points and Convergence Software User Guide*.

Who Should Use This Guide

The intended audience for this guide is field technicians who install the Enterasys Wireless Outdoor APs.

What Is in This Guide

This guide contains the following:

- About This Guide describes the target audience, the formatting conventions used in the guide and the safety information.
- Chapter 1, **Introduction**, provides an overview of the Enterasys Wireless Outdoor APs, their physical characteristics and the scope of delivery.
- Chapter 2, **Mounting the Enterasys Wireless Outdoor APs**, describes how to mount the Enterasys Wireless Outdoor APs.
- Chapter 3, **Connecting Cables to the Enterasys Wireless Outdoor AP**, describes how to hook up the cables to the Enterasys Wireless Outdoor APs.
- Chapter 4, **Technical Specifications**, provides the technical specifications of the Enterasys Wireless Outdoor APs.
- Chapter 5, **Certification**, provides the certifications and national approvals for the Enterasys Wireless Outdoor APs.

Formatting Conventions

The *Enterasys Wireless Outdoor AP Installation Guide* uses the following formatting conventions to make it easier to find information and follow procedures:

- **Bold** text is used to identify components of the management interface, such as menu items and section of pages, as well as the names of buttons and text boxes.

  For example: Click **Logout**.

- `Monospace` font is used in code examples and to indicate text that you type.

  For example: Type `https://<hwc-address>[:mgmt-port>]`

- The following notes are used to draw your attention to additional information:

Warning: Indicates that death or severe personal injury may result if proper precautions are not taken.

Caution: With a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

Note: Notes identify useful information, such as reminders, tips or other ways to perform a task.

Getting Help

For additional support related to the product or this document, contact Enterasys Networks using one of the following methods:

World Wide Web	www.enterasys.com/support
Phone	1-800-872-8440 (toll-free in U.S. and Canada) or 1-978-684-1000 To find the Enterasys Networks Support toll-free number in your country: www.enterasys.com/support
Internet mail	support@enterasys.com To expedite your message, type **[insert correct indicator here]** in the subject line.
To send comments concerning this document to the Technical Publications Department: techpubs@enterasys.com Please include the document Part Number in your email message.	

Before contacting Enterasys Networks for technical support, have the following information ready:

- Your Enterasys Networks service contract number
- A description of the failure
- A description of any action(s) already taken to resolve the problem (for example, changing mode switches or rebooting the unit)
- The serial and revision numbers of all involved Enterasys Networks products in the network
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load and frame size at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this a recurring problem)
- Any previous Return Material Authorization (RMA) numbers

Safety Information

Qualified Personnel

The device/system must only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by qualified personnel. Within the context of the safety notes in this documentation qualified persons are defined as

persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

Warning: The device/system must be installed and used strictly in accordance with this document.

Prescribed Usage

Note the following:

Warning: This device may only be used for the applications described in the catalog or the technical description and only in connection with devices or components from other manufacturers which have been approved or recommended by Enterasys Networks. Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance.

Warning: When installing this device/system in hazardous environments, you must strictly follow the Danger, Warning and Cautionary notes, and the procedures as stipulated in this document.

Biological Compatibility

With regard to the question of whether electromagnetic fields (for example in association with industrial wireless LANs) can put human health at risk, we refer to a publication of BITKOM (German Association for information Technology, Telecommunication and New Media e. V.), dated December 2003:

The same health guidelines apply to WLAN devices as to all other radio applications. These regulations are based on the protection concept of ICNIRP (International Council on Non-ionizing Radiation Protection) or the corresponding recommendation of the European Council.

The independent German radiation protection commission (SSK) was commissioned by the federal German ministry of the environment to investigate the possible dangers - thermal and non-thermal - resulting from electromagnetic fields and came to the following conclusions:

“The German Commission on Radiological Protection concludes that according to the latest scientific literature no new scientific research is available with respect to proven health hazards which would throw doubt upon the scientific evaluation which serves as the basis for the ICNIRP safety concepts and the recommendations of the EU commission”.

The SSK also concludes that below the current limit values, these is also no scientific suspicion of health risks.

This assessment agrees with those of other national and international scientific commissions and of the WHO (www.who.int/emf).

Accordingly and in view of the fact that WLAN devices are significantly below the scientifically established limit values, there are no health risks from the electromagnetic fields of WLAN products.

You will find further information on this topic under the following URL: www.bitkom.org

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Enterasys Networks has reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, Enterasys Networks cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

1

Introduction

Product Overview

The Enterasys Wireless Outdoor AP enables you to extend your Wireless LAN beyond the boundaries of indoor locations. They are resistant to harsh outdoor conditions and extreme temperatures. Using the advanced wireless distribution feature of the Enterasys Wireless LAN, the Enterasys Wireless Outdoor AP can extend your Wireless LAN to outdoor locations without Ethernet cabling. A mounting bracket is available to enable quick and easy mounting of the Enterasys Wireless Outdoor APs to walls, rails, and poles.

The Enterasys Wireless Outdoor AP supports the 802.11a, 802.11g and full backward compatibility with legacy 802.11b devices. It is delivered in a rugged enclosure and is available in two versions — internal antenna and external antenna. The Enterasys Wireless Outdoor AP2660 with external antenna connectors supports a variety of antennas, providing range and coverage versatility.

The Enterasys Wireless Outdoor AP interoperates fully with the Enterasys Wireless LAN, including support for Enterasys VoWLAN, branch office mode, availability and mobility features.

Figure 1-1 Enterasys Wireless Outdoor AP

Note: The Enterasys Wireless Outdoor APs do not work without the Enterasys Wireless Controller.

Warning: The Enterasys Wireless Outdoor AP must not be installed in an explosive atmosphere.

You do not have to carry out any extra configuration to work with the Enterasys Wireless Outdoor APs. For more information, see the *Enterasys Wireless Controller, Access Points and Convergence Software User Guide.*

The following table illustrates the differences between the variants of the Enterasys Wireless Outdoor APs:

Table 1-1 Differences Between Variants of the Enterasys Wireless Outdoor APs

Type	Number of WLAN ports	Number and type of Ethernet ports	Number of internal antennas	Number of R-SMA sockets for external antennas
Enterasys Wireless Outdoor AP2650	2	1 RJ-45	2 (diversity)	N/A
Enterasys Wireless Outdoor AP2660	2	1 RJ-45	N/A	4

Note: The Enterasys Wireless Outdoor APs are equipped with two internal antennas per WLAN port. The antenna used is always the one that provides the best possible data transmission (diversity).

Package Contents

The following components are supplied with the Enterasys Wireless Outdoor AP package:

- Five caps for the cover screws
- Depending on the version, up to 8 plugs for sealing the housing.
- Depending on the version, up to 8 strain relief clamps
- One connector for the 48 V DC power supply
- A printed copy of the *Enterasys Wireless Outdoor AP Installation Instructions.*

Confirm that each Enterasys Wireless Outdoor AP package is complete. If the package is not complete, contact your supplier or your local Enterasys sales office.

Enterasys Wireless Outdoor AP Accessories List

The following is the accessories list for the Enterasys Wireless Outdoor AP. You can order accessories from Siemens A&D.

Table 1-2 Enterasys Wireless Outdoor AP Accessories List

Product	Description	Order # (ordered from Siemens A&D)
Power Module PM2	Power Supply Input: 110-240VACOutput: 48VDC	6GK5791-2AC00-0AA0
Mounting Set MS1	Mounting material specifically for the Enterasys Wireless Outdoor AP (wall, S7-300 and 35mm DIN rail, Mastmontageple mounting)	6GK5798-8MG00-0AA0
Antenna Mounting Tool	IWLAN Antenna Mounting Tool	6GK5795-6MN01-0AA6
IWLAN Lightning Protector LP798-1N	Lightning protector N/N female/female	6GK5798-2LP00-2AA6

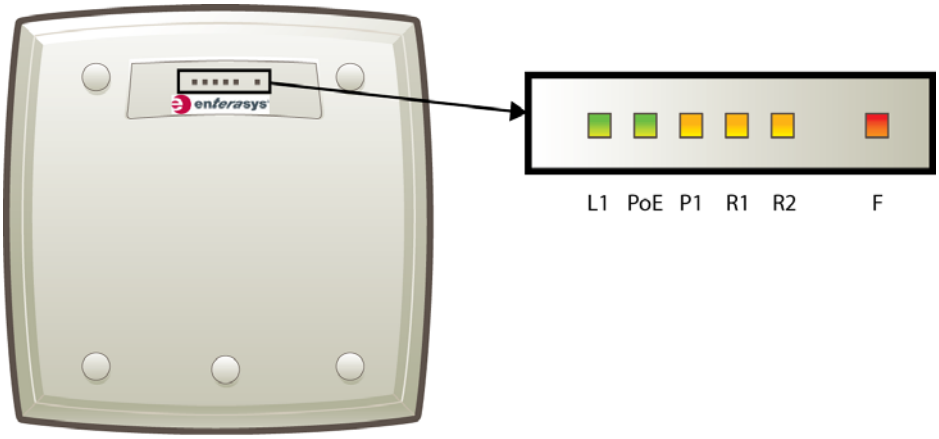
Table 1-2 Enterasys Wireless Outdoor AP Accessories List (continued)

Product	Description	Order # (ordered from Siemens A&D)
IWLAN Rcoax N-Connect/SMA Female/ Female Panel Feedthrough	Cabinet feedthrough (SMA female to N female)	6GK5798-0PT00-2AA0
IWLAN Termination ImpedanceTI795-1R (Three pieces)	Termination Impedance (terminator)	6GK5795-1TR10-0AA6

Enterasys Wireless Outdoor APs LEDs

The frontal view of the housing cover displays six LEDs. These LEDs provide information on operating status. For more information, see the *Enterasys Wireless Controller, Access Points and Convergence Software User Guide*.

Figure 1-2 Enterasys Wireless Outdoor AP LEDs



Note: Although the Enterasys Wireless Outdoor AP has six LEDS, only R1, R2 and F LEDs are used in the current release. The remaining LEDs are disabled.

Reset Button

The reset button is located below the housing cover beside the sockets for external antennas as depicted in Figure 1-3 on page 1-4. You must remove the housing cover to gain access to the reset button.

Warning: You must remove the housing cover only after you have turned off the power supply of the Enterasys Wireless Outdoor AP. After you have removed the housing cover, you must turn the power on to use the reset button.

Figure 1-3 reset Button, with the Housing Cover Removed

The reset button is used to reset the Enterasys Wireless Outdoor AP to its factory defaults. For more information, see the *Enterasys Wireless Controller, Access Points and Convergence Software User Guide*.

2

Mounting the Enterasys Wireless Outdoor APs

The first step to mounting the Enterasys Wireless Outdoor AP is to remove the Wireless AP housing cover.

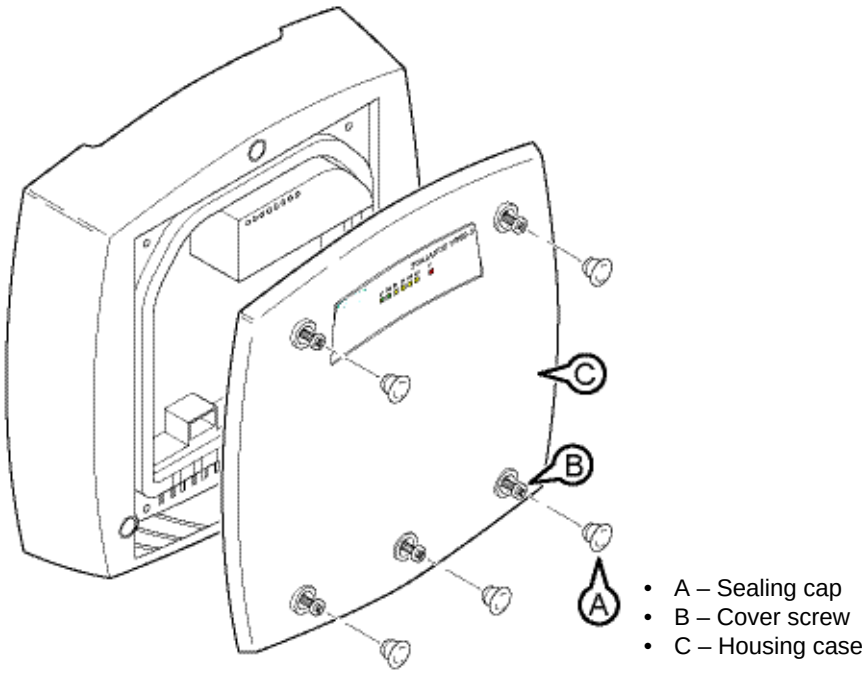
Removing the Housing Cover

You have to remove the housing over if you want to carry out any of the following activities:

- Mount the Enterasys Wireless Outdoor AP to a wall or to the optional mounting plate
- Connect the power supply cables, Ethernet cable, or external antennas cable to the Enterasys Wireless Outdoor AP
- Use the reset button on the Enterasys Wireless Outdoor AP

Warning: You must remove the housing cover only after you have turned off the power supply of the Enterasys Wireless Outdoor AP.

Figure 2-1 Removing the Housing Cover



To remove the housing cover:

1. Remove the sealing caps from the housing cover (Position A in Figure 2-1)
2. Loosen the screws in the cover (Position B in Figure 2-1).

Note: These screws remain in the cover after they have been loosened (this design element prevents them from being lost). Never attempt to remove these screws from the housing cover using force, otherwise the housing cover will be damaged.

3. Remove the housing cover with the captive screws (Position C in Figure 2-1).

Fitting the Housing Cover

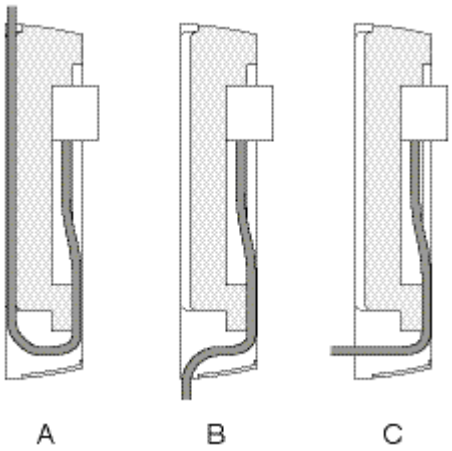
Fitting the housing cover is carried out in the reverse order of the sequential steps of removing the housing cover. The tightening torque for the cover screws is 1.8 Nm.

Attaching Cables

Attaching Cables Prior to Mounting

Before you screw the Enterasys Wireless Outdoor AP to a wall or to the optional mounting plate, you must connect the power supply cables, Ethernet cable, or external antenna cables to the Enterasys Wireless Outdoor AP.

Figure 2-2 Side View of Outdoor AP with Cables Entering from Different Directions



The available options are as follows:

- The cables are inserted from above (Position A in Figure 2-2). The housing of the Enterasys Wireless Outdoor AP has an opening at the top for this purpose.
- The cables are inserted from below (Position B in Figure 2-2). There is an opening at the bottom for this purpose.
- Cables inserted through a wall behind the Enterasys Wireless Outdoor AP (Position C in Figure 2-2). You will need to mount the Enterasys Wireless Outdoor AP so that the opening in the wall is located above the lower edge of the device.

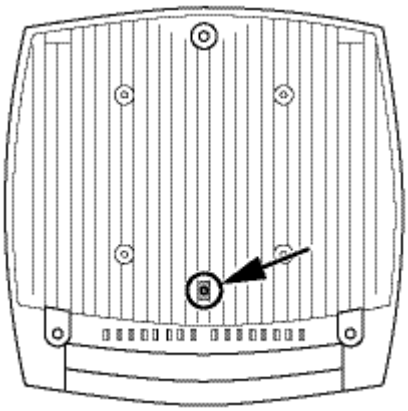
Grounding Terminal

Warning: To operate the Outdoor Wireless safely, the chassis ground connector must have a suitable cable connected to it. Do not use the Enterasys Wireless Outdoor AP without a connected ground cable.

The chassis ground connector is located on the rear of the device (M4 thread). Connect the ground cable before you mount the Enterasys Wireless Outdoor AP on the wall or on the optional mounting plate. Once the Wireless AP is mounted, the connector is no longer accessible.

Place the supplied toothed washer directly on the rear of the device before screwing on the ground cable. Only then you can be sure that there is ideal contact with the screwed-on cable.

Figure 2-3 Chassis Ground Connector

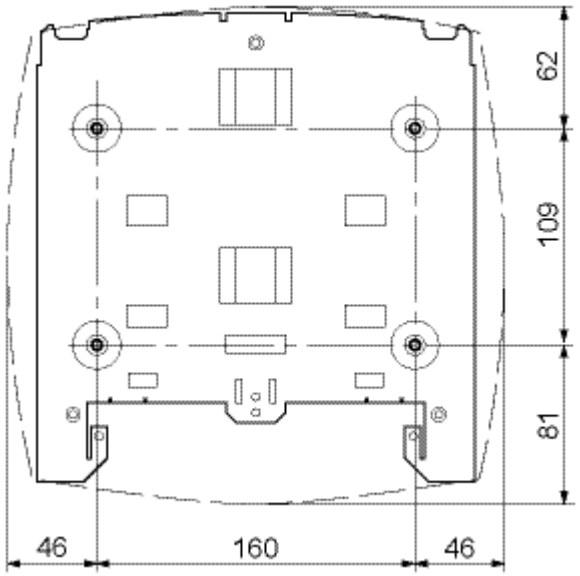


Mounting Without an Adapter (Wall Mounting Only)

Drilling Template

The location of the holes for mounting the Enterasys Wireless Outdoor AP on a wall is depicted in Figure 2-4:

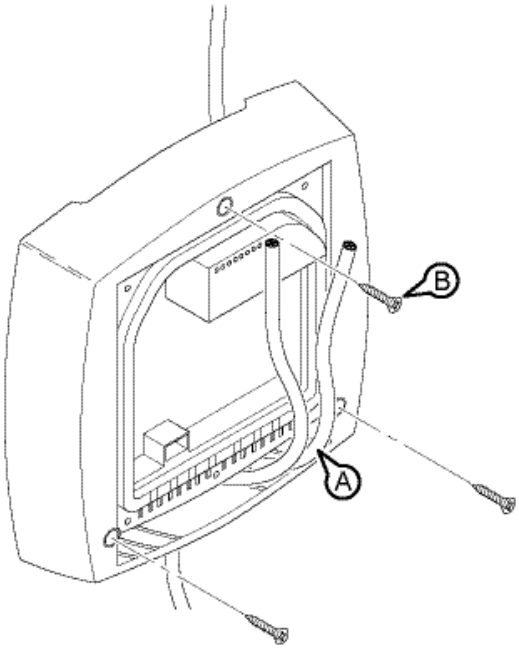
Figure 2-4 Drilling Template for Wall Mounting



To mount the Outdoor AP without an adapter (wall mounting only):

1. Lead the cables into the housing of the Enterasys Wireless Outdoor AP (Position A in Figure 2-5).

Figure 2-5 Enterasys Wireless Outdoor AP Wall Mounting



2. Secure the Enterasys Wireless Outdoor AP to the wall with three screws (Position B Figure 2-5). The screws are not supplied with the device. The type and length of the screws depend on the type of wall.

Option: Threaded Holes on Rear of Housing

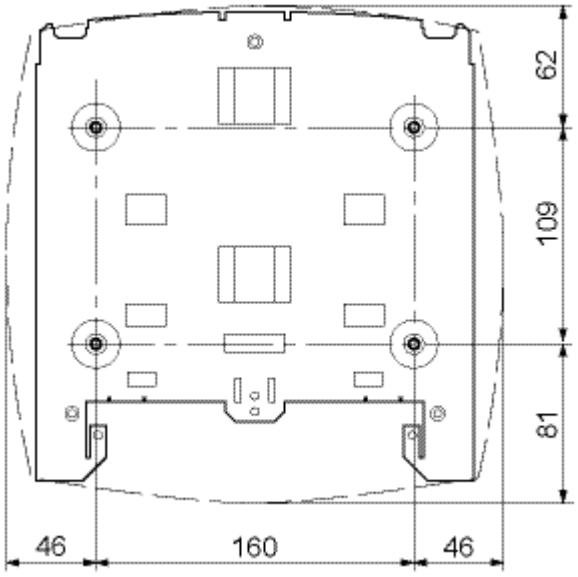
When a wall is extremely thin, it is often not possible to use wall plugs for the screws. To allow wall mounting in this situation, four M4 threaded holes are provided on the rear of the Enterasys Wireless Outdoor AP. The drilling template is a square with sides 100 mm long. The device can therefore be mounted on a wall with bolts through the wall.

Mounting the Enterasys Wireless Outdoor AP with Mounting Plate

Fitting the Mounting Plate to a Wall

The location of the holes for fitting the mounting plate to a wall is depicted in Figure 2-6:

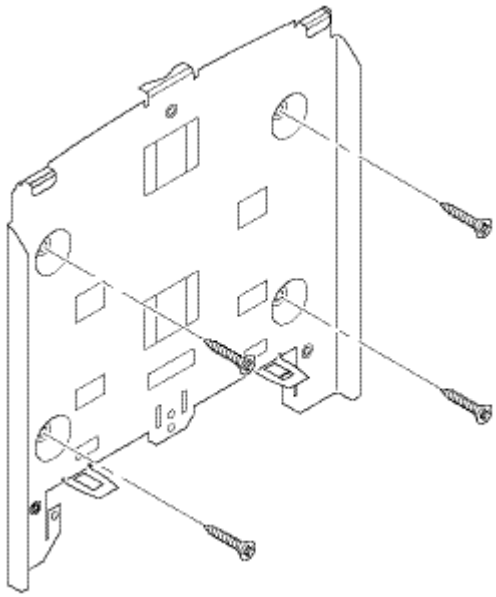
Figure 2-6 Drilling Template for Fitting the Mounting Plate to a Wall



To fit the mounting plate to a wall:

- Secure the mounting plate to the wall with four screws.

Figure 2-7 Fitting the Mounting Plate to a Wall



Note: The screws are not supplied with the device. The type and length of the screws depend on the type of wall.

Screwing the Cover Plate to the Mounting Plate for the Cable Feedthrough

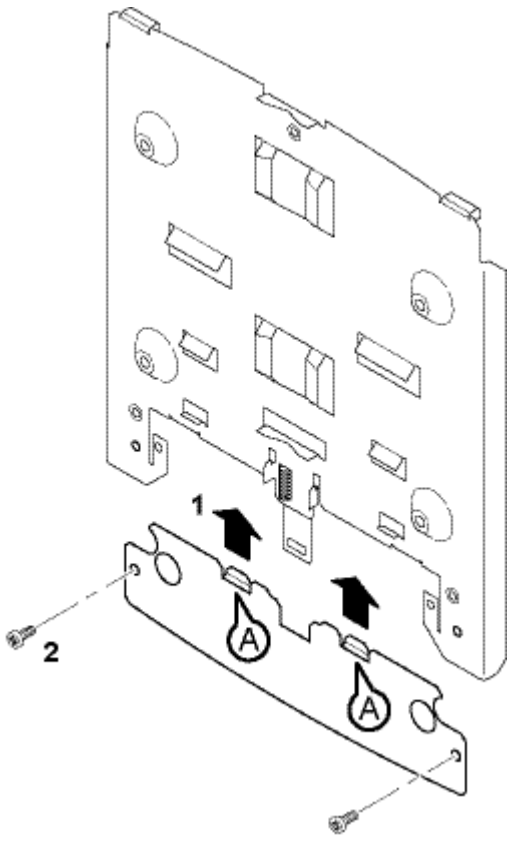
The cabling of the Enterasys Wireless Outdoor AP is led out of the rear of the device. The housing seal is effective only when it is not subjected to spray water. If the device is mounted on a wall, no further measures are necessary. When mounted in any other way, an additional cover plate must be screwed to the mounting plate.

Warning: If the cable feedthrough on the rear of the device is exposed to spray water, degree of protection IP65 no longer applies. In this case, water can penetrate the device and establish a live connection to the line voltage. There is then a risk of electric shock. Ensure that you use the cover plate for the cable feedthrough if you are not mounting the Enterasys Wireless Outdoor AP on a wall.

To screw the cover plate to the mounting plate for the cable feedthrough:

1. Fit the cover plate on the mounting plate from below until the two lugs (Position A in Figure 2-8) engage the lower edge of the mounting plate.

Figure 2-8 Fitting and Securing the Cover Plate for the Cable Feedthrough



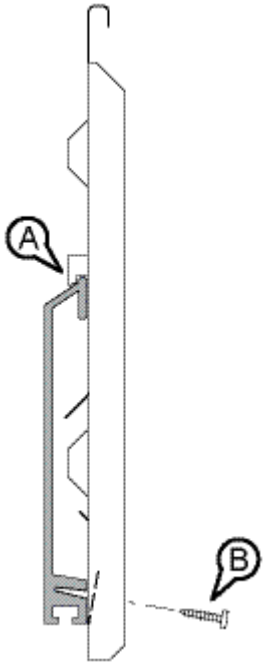
2. Secure the cover plate to the mounting plate with two M4 screws. The screws are supplied with the assembly kit.

Fitting the Mounting Plate to an S7 Standard Rail

To fit the mounting plate to an S7 standard rail:

1. Place the mounting plate with the two protruding catches on the top edge of the S7 standard rail (Position A in Figure 2-9).

Figure 2-9 Side View of a Mounting Plate on an S7 Standard Rail



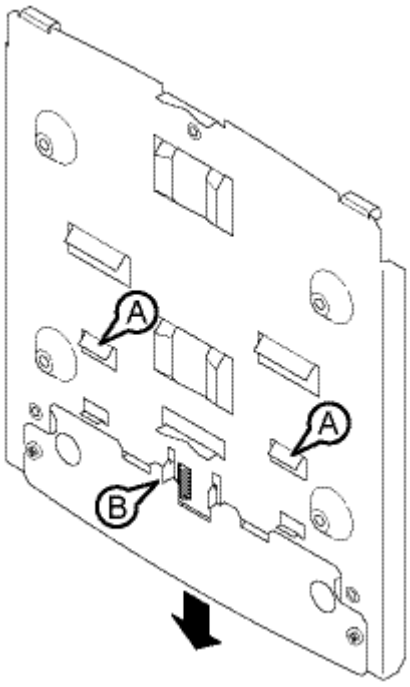
2. At the bottom, the mounting plate has two lugs with holes. Screw the lugs to the S7 standard rail (position B in Figure 2-9). The required screws are supplied with the mounting plate.

Fitting the Mounting Plate to a DIN Rail

To fit the mounting plate to a DIN rail:

1. Place the mounting plate with the two catches (Position A in Figure 2-10) on the upper edge of the DIN rail.

Figure 2-10 Mounting Plate with Fittings for DIN Rail Mounting



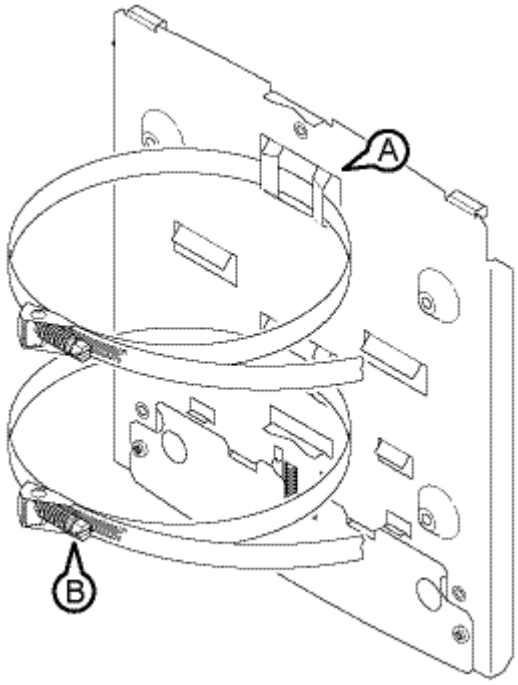
2. Pull down the DIN rail sliding catch (Position B in Figure 2-10) and press the mounting plate against the DIN rail until the sliding catch engages.

Fitting the Mounting Plate to a Mast

To fit the mounting plate to a mast:

1. Feed the fastening straps through the openings in the mounting plate (position A in Figure 2-11).

Figure 2-11 Mounting Plate with Fittings for Mast Mounting



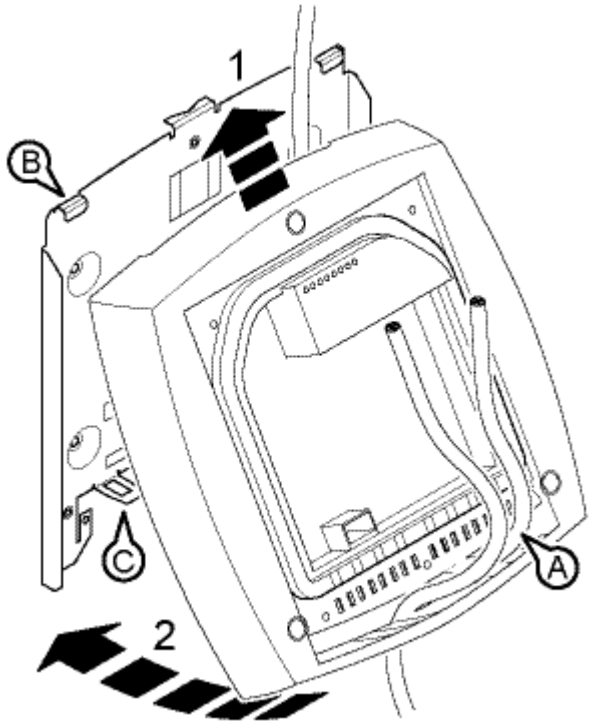
2. Place the fastening straps around the mast at the required position.
3. Feed the free end of the strap through the quick-release fastener. You can twist the tensioning screw (Position B in Figure 2-11) to the side to adapt a fastening strap to the diameter of the mast.
4. Press the tensioning screw against the fastening strap and tighten the tensioning screw, tightening torque 4.5 Nm.

Fitting the Enterasys Wireless Outdoor AP to a Mounting Plate

To fit an Enterasys Wireless Outdoor AP to a mounting plate:

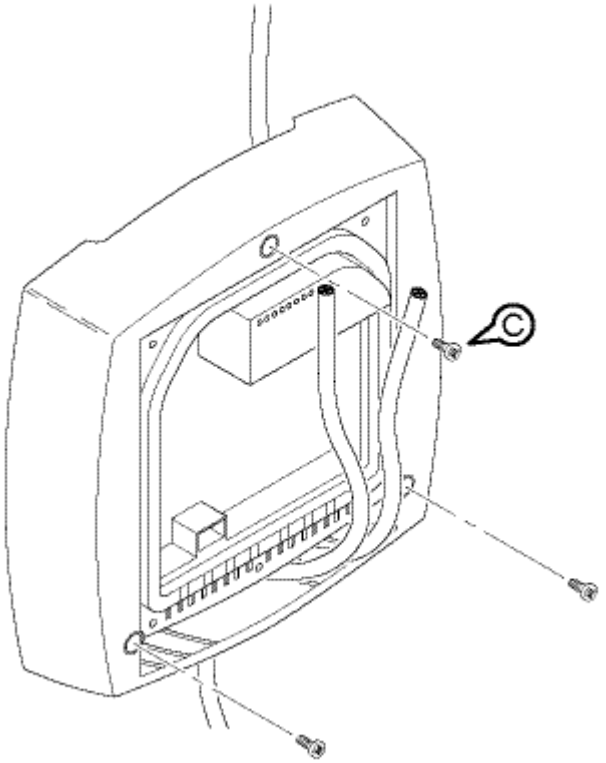
1. Lead the cables into the housing of the Enterasys Wireless Outdoor AP (Position A in Figure 2-12). For more information, see Chapter 3, **Connecting Cables to the Enterasys Wireless Outdoor AP**.

Figure 2-12 Fitting the Enterasys Wireless Outdoor AP to a Mounting Plate



2. Fit the Enterasys Wireless Outdoor AP so that the upper edge of the rear of the housing is below the two catches of the mounting plate (Position B in Figure 2-12).
3. Push in the Enterasys Wireless Outdoor AP until it engages in the notches at the lower edge of the mounting plate (Position C in Figure 2-12).
4. Screw the Enterasys Wireless Outdoor AP using the three M4 screws supplied with the mounting plate (Position C in Figure 2-13), tightening torque 1.8 Nm.

Figure 2-13 Screwing Enterasys Wireless Outdoor AP to a Mounting Plate



3

Connecting Cables to the Enterasys Wireless Outdoor AP

Safety Notices

Notes on Lightning Protection

Warning: Antennas installed outdoors must be within the area covered by a lightning protection system. Make sure that all conducting systems entering from outdoors can be protected by a lightning protection potential equalization system.When implementing your lightning protection concept, make sure you adhere to the VDE 0182 or IEC 62305 standard.

A suitable lightning conductor is available in the range of accessories for the Enterasys Wireless Outdoor AP (Lightning Protector LP798-1N, Order# 6GK5798-2LP00-2AA6 from Siemens A&D).

Warning: Installing this lightning protector between an antenna and an Enterasys Wireless Outdoor AP is not adequate protection against a lightning strike. The LP798-1N lightening protector only works within the framework of a comprehensive lightning protection concept. If you have questions, consult a qualified specialist company.

Note: The requirements of EN61000-4-5, surge immunity tests on power supply lines, are met only when a Blitzductor is used with 12 V DC and 48 V DC:
• 12 V DC: VT AD 24V type no. 918 402
• 48 V DC: Type no. 919 545 and 919 506 (holder)
Manufacturer: DEHN+SÖHNE GmbH+Co.KG Hans Dehn Str.1 Postfach 1640 D 92306 Neumarkt, Germany.

Safety Extra Low Voltage

Warning: Enterasys Wireless Outdoor APs are designed for operation with a directly connectable safety extra-low voltage or with the power supply adapters available as accessories (available only for Enterasys Wireless Outdoor AP devices). Therefore, only safety extra-low voltage (SELV) with limited power source (LPS) complying with IEC950/EN60950/VDE0805 may be connected to the power supply terminals (exception: Power supply adapter for 110 - 230 V AC for the Enterasys Wireless Outdoor AP).
The power supply unit to supply the Enterasys Wireless Outdoor AP must comply with NEC Class 2 (requirements of class 2 for power supply units of the "National Electrical Code, table 11 (b)") or SELV with LPS (Limited Power Source) EN 60950-1. If the power supply is designed redundantly (two separate power supplies), both power supplies must meet these requirements.
Exception:

- Power supply with PELV (according to VDE 0100-410 or IEC 60364-4-41) is also possible if the generated rated voltage does not exceed the voltage limits 25 V AC or 60 V DC.

Earthing

Caution: There must be no potential difference between the following parts, otherwise there is a risk that the device will be destroyed:

- Ground potential of the power supply and ground potential of the antenna ground.
- Ground potential of the power supply and a grounded housing.
- Ground potential of the power supply and the ground potential of the device connected to Industrial Ethernet (for example PC, AS-300, AS-400 etc.)

Connect both grounds to the same foundation earth or use an equipotential bonding cable.

Interruption of the Power Supply

Caution: Damage to the Ethernet interface

Repeated fast removal and insertion of the Ethernet cable when using Power-over-Ethernet and when there is a redundant power supply can cause damage to the Ethernet interface.

Avoid repeatedly removing and inserting the Ethernet cable when using Power-over-Ethernet and a redundant power supply.

Warning: Notices FM

While operating or servicing the Enterasys Wireless Outdoor AP in hazardous environments, you must strictly follow the warning notices given below:

- WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR DIVISION 2.
- WARNING: DO NOT OPEN WHEN ENERGIZED.
- WARNING: DO NOT DISCONNECT EQUIPMENT WHEN A FLAMMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.

Warning: Notices cULus haz.loc

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D; Class I, Zone 2, Group IIC or non-hazardous locations.

Warning: Cat. Nos. EAP-Wx-yy-zx (US installation only):

- PLTC cable type and manufacturer shall be specified: Listed (QPTZ), Type 5240U1 (Waterdog PLTC-ER) manufactured by Belden.
- The PLTC cable for the power supply must be installed in a manner to avoid tensile stress at the termination fittings in accordance with Article 501.10 (B)(1)(4) of the NEC.
- The PLTC cable for the power supply must be installed in accordance with Article 725.154 (D)(1) through (D)(4) of the NEC.

Warning: Cat. Nos. EAP-Wx-yy-zx (Canadian installation only):

- TC cable type and manufacturer shall be specified: Listed (QPOR), Type JZ-604 TC manufactured by Helukabel GmbH.
- The TC cable for the power supply must be installed in areas of industrial establishments that are inaccessible to the public and in a manner that meets the requirements in Rule 12- 2202(2) of the CEC: Installed in conduit, other suitable raceway, or direct buried, when not in cable tray. Provided with mechanical protection where subject to damage either during or after installation.Installed only where qualified persons service the installation.

  When operated in potential hazardous areas:

  WARNING - Explosion Hazard – Do not disconnect while circuit is live unless area is known to be non-hazardous

  WARNING - Explosion Hazard – Substitution of components may impair suitability for Class I, Division 2 or Zone 2

Enterasys Wireless Outdoor AP Cables

Cable Specification

The following table lists the requirements for a cable depending on the use case.

Table 3-1 Cable Specification

Application	Specification
Power supply adapter 110-230 V AC	• Round cable cross-section with 6 to 8 mm diameter. • Three-core cable with 0.5-1.5 mm cross-section of the individual cores. • Permitted tensile load at least 100 N.
Ethernet	IE FC TP Standard Cable GP 2 x 2 (type A) Order no. 6XV1 840-2AH10 IE TP Torsion Cable 2 x 2 (type C) Order no. 6XV1 870-2F IE FC TP Trailing Cable 2 x 2 (type C) Order no. 6XV1 840 3AH10

Warning: If temperatures in excess of 70 degrees occur on the cable or at the housing socket, or the temperature at the branching points of the cables exceeds 80 degrees, special measures need to be taken.

If the device is operated at an ambient temperatures of 55 degrees C – 70 degrees C, make sure that you use cables with a permitted ambient temperature of at least 90 degrees C.

Antenna Connector: N-Connect/R-SMA Connecting Cable

The N Connect/R SMA male/male flexible connecting cable is available as an accessory for direct connection of an antenna to an Enterasys Wireless Outdoor AP.

Table 3-2 Antenna Connector: N-connect/R-SMA Connecting Cable

Length in m	Order number (ordered from Siemens A&D)
1	6XV1875-5CH10
2	6XV1875-5CH20
5	6XV1875-5CH50
10	6XV1875-5CN10

Antenna Connector: N-Connect/ N-Connect Connecting Cable

The N Connect/N Connect male/male flexible connecting cable is available as an accessory for connection of an antenna to the lightning protector LP798 1N.

Table 3-3 Antenna Connector: N-connect/N-Connect Connecting Cable

Length in m	Order number (ordered from Siemens A&D)
1	6XV1875-5AH10
2	6XV1875-5AH20
5	6XV1875-5AH50
10	6XV1875-5AN10

Antenna Connector: R-SMA Male to SMA Male Connecting Cable

The R-SMA/SMA Male/Male flexible connecting cable is available as an accessory for connection of IWLAN link to cabinet feedthrough (pre-assembled R-SMA Male to SMA Male)

Table 3-4 Antenna Connector: R-SMA Male to SMA Male Connecting Cable

Length in m	Order number (ordered from Siemens A&D)
0,3	6XV1875-5DE30
2	6XV1875-5DH20

Connecting the Cables

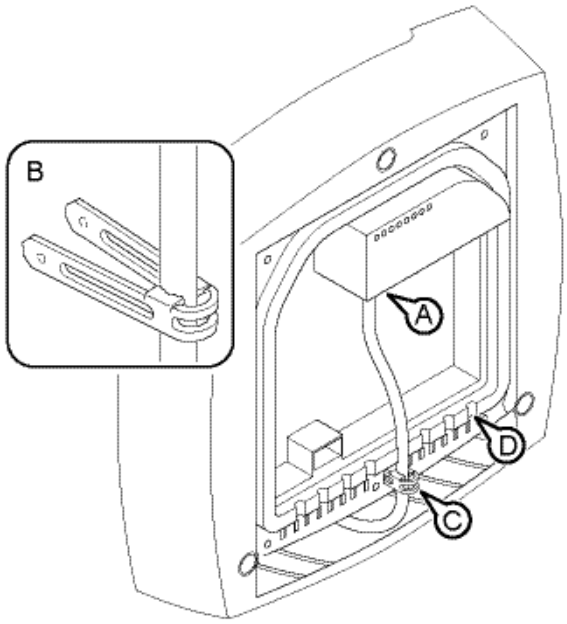
Warning: If the housing is not perfectly sealed and the Enterasys Wireless Outdoor AP is subjected to spray water or dampness, you will endanger your life. Ensure that you adhere to the following safety rules.

- Before connecting up, turn off the power supply.
- The sealing of the cable feedthroughs of the Enterasys Wireless Outdoor AP is only assured when the cable has a suitable diameter and adequate tensile strength. Only use cables that meet the specifications as mentioned in “Enterasys Wireless Outdoor AP Cables” on page 3-3.
- Never wrap insulating tape, adhesive tape or other materials around thinner cables to achieve the required diameter. In this case, neither the housing seal nor the strain relief clamps can fulfill their function
- Close all unused openings in the housing seal with the sealing plugs supplied with the Outdoor Wireless. Do not use fillers or any other material under any circumstances

To connect the cables to the Enterasys Wireless Outdoor AP:

1. Connect the cables to the appropriate contacts. (Position A in Figure 3-1.)

Figure 3-1 Connecting a Cable and Fitting the Strain Relief Clamps



You have the following options:

– Connect cables pre-assembled with a connector (Ethernet, antennas) by inserting the connector into the appropriate socket. Secure antenna cables by tightening the sleeve nut of the connector (key size SW8). For more information, see “Connecting an Ethernet Cable to the Enterasys Wireless Outdoor AP” on page 3-9 and “Connecting an External Antenna Cable to the Enterasys Wireless Outdoor AP” on page 3-9.

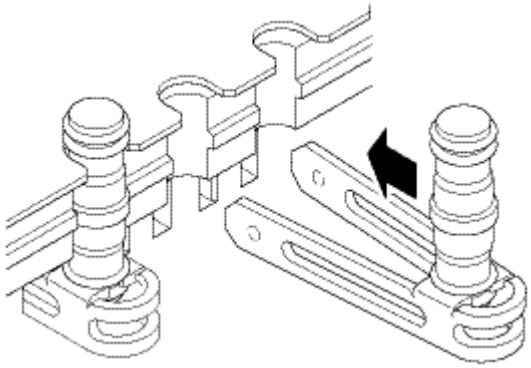
– 48 V DC power supply. Use the connector supplied with the Enterasys Wireless Outdoor AP.

– 110 - 230 V AC power supply. You will require a power supply adapter to use this power supply.

2. Fit a strain relief clamp to the connected cable. The toothed part of the clamp must enclose the cable completely (is depicted by Position B Figure 3-1).

3. Press the strain relief clamp into the housing until the cable is located completely in the opening in the housing seal (Position C in Figure 3-1).
4. Seal all openings not required for cables with sealing plugs (Position D in Figure 3-1).
5. Fit these sealing plugs in a strain relief clamp. The lower surrounding notch must be enclosed by the toothing of the strain relief clamp (is depicted in Figure 3-2). Press the strain relief clamp into the housing until the sealing plug is located completely in the opening of the housing seal.

Figure 3-2 Securing a Sealing Plug with a Strain Relief Clamp



Note: Keep unused sealing plugs and strain relief clamps for later use.

Connecting a 48 V DC Cable to the Enterasys Wireless Outdoor AP

Possible Power Supplies

The following power supplies are suitable for the Enterasys Wireless Outdoor AP:

- 48 V DC direct voltage

  Use the two-pin connector supplied with the Enterasys Wireless Outdoor AP.

- 110 - 230 V DC direct voltage

  Use the power supply adapter 110 - 230 V DC available as an accessory.

- Power over Ethernet (PoE)

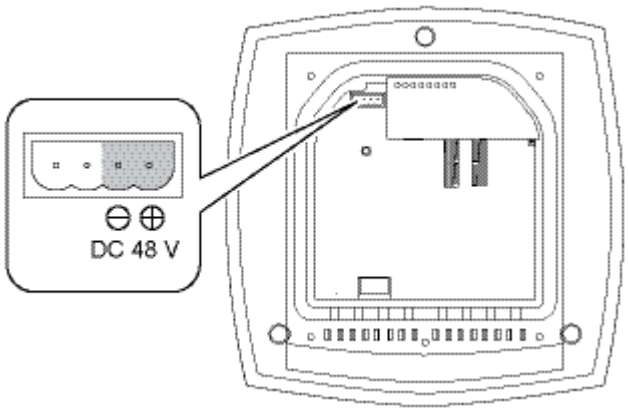
  If an eight-wire Ethernet cable is used, it is possible to supply power over the four wires that are not used as the data lines. As an alternative the voltage can be modulated onto the data lines ("phantom power").

  If Fast-Connect Ethernet connectors are used to allow assembly in the field or due their greater mechanical strength, only four-wire cables can be used. In this case, only phantom power is possible. This does not represent a restriction for the user since PoE-compatible power supply equipment must always provide both options.

To connect a 48 V DC cable to the Enterasys Wireless Outdoor AP:

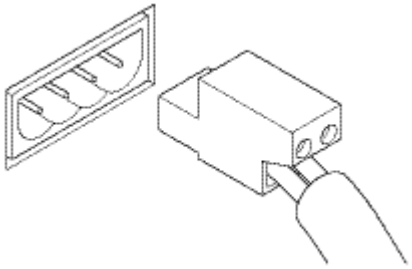
1. Connect the supplied connector to the 48 V DC cable. Figure 3-3 shows the location of the socket in the housing and the contact assignment. The connector is safe against polarity reversal and can only be inserted in the right-hand half of the housing

Figure 3-3 Position of the Opening in the Housing for the Power Supply with the Housing Cover Removed



When connecting the cores, you should therefore make sure that the connector is oriented as depicted in Figure 3-4.

Figure 3-4 Position of the Connector When Inserted in the Socket of the Housing



2. Press the connector into the socket in the housing until it engages.
3. Secure the power cable with a strain relief clamp.

Fitting a Power Supply Adapter

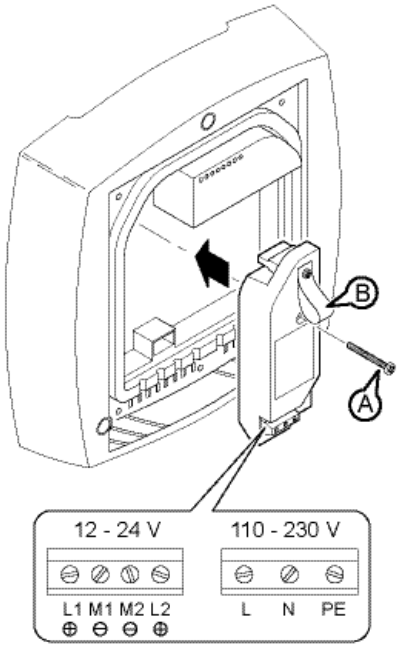
The Enterasys Wireless Outdoor AP supports only the 110-230 V AC power supply adapter.

Warning: Power supply cables may only be connected when the power is turned off. Start up the Enterasys Wireless Outdoor AP only after screwing the housing cover in place again so that protection from touching live parts is restored.

To fit and connect a power supply adapter:

1. Fit the power supply adapter in the Enterasys Wireless Outdoor AP, as depicted in Figure 3-5. The connector on the rear of the power supply adapter must engage fully in the socket of the housing. The entire rear surface of the power supply adapter must make contact with the inner surface of the Enterasys Wireless Outdoor AP.

Figure 3-5 Using a Power Supply Adapter in an Enterasys Wireless Outdoor AP



Caution: Only use the loop (Position B in Figure 3-5) to remove the power supply adapter from the Enterasys Wireless Outdoor AP. This prevents the connector skewing on the back of the power supply adapter and breaking off.

2. Connect the power supply adapter and the Enterasys Wireless Outdoor AP with the screw supplied with the power supply adapter (position A in Figure 3-5).
3. Connect the cable for the power supply. The assignment of the contacts is depicted in Figure 3-5.
4. Secure the power supply cable with a strain relief clamp.

Removing the Power Supply Adapter

To remove a power supply adapter from the Enterasys Wireless Outdoor AP:

1. Disconnect the power supply cable from the power supply adapter.

Warning: Disconnect power supply cables only when the power to the power supply adapter is turned off!

2. Loosen the securing screw of the power supply adapter (Position A in Figure 3-5).
3. Pull the loop (Position B in the Figure 3-5) to remove the connector on the rear of the power supply adapter from the socket in the housing and remove the power supply adapter.

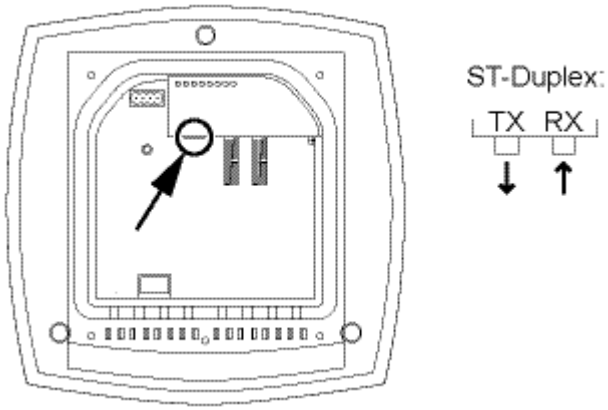
Connecting an Ethernet Cable to the Enterasys Wireless Outdoor AP

You can connect the Ethernet cable to the Enterasys Wireless Outdoor AP's RJ-45 jack.

To connect an Ethernet cable to the Enterasys Wireless Outdoor AP:

1. Insert the connector of the Ethernet cable in the corresponding socket of the Enterasys Wireless Outdoor AP. The location of the socket for RX and TX is depicted in Figure 3-6.

Figure 3-6 Position of the Ethernet Port with the Housing Cover Removed



2. Secure the Ethernet cable with a strain relief clamp.

Connecting an External Antenna Cable to the Enterasys Wireless Outdoor AP

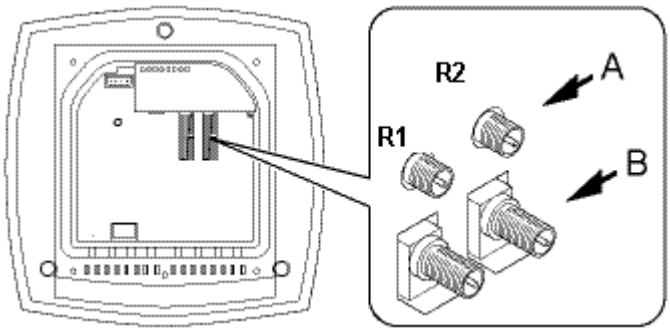
For each WLAN port, there are two R-SMA sockets on the Enterasys Wireless Outdoor AP to connect external antennas. Figure 3-7 shows how the R-SMA sockets are assigned to the WLAN ports.

To connect an external antenna cable to the Enterasys Wireless Outdoor AP:

1. Insert the connector on the antenna cable into the R-SMA socket and tighten the sleeve nut on the socket (key size SW8), tightening torque 0.6 Nm.

Note: First connect the cable for antenna "B" if you want to use two antennas for an interface. Once the cable for antenna "A" is connected, it is difficult to reach socket "B".

Figure 3-7 Ports for External Antennas, with the Housing Cover Removed



Note: "R1" is mapped to Radio 1 and "R2" is mapped to Radio 2 on the user interface of the Enterasys Wireless Controller.
The Antenna "A" connector is mapped to the Right antenna and the Antenna "B" connector is mapped to the Left antenna on the user interface of the Enterasys Wireless Controller.

2. Screw a terminating resistor to the unused socket if you use only one antenna on a port.
3. Secure the antenna cable(s) with a strain relief clamp.

4

Technical Specifications

Enterasys Wireless Outdoor AP Technical Specifications

Product Versions

The Enterasys Wireless Outdoor AP has two wireless interfaces and either two internal antennas (AP2650) or four external antenna connectors (AP2660).

Data Transfer

Table 4-1 Data Transfer

Ethernet Transfer Rate	10/100Mbps
Wireless Transmission Rate	1...54 Mbps
Power Supply Standards Supported	802.3af (Power over Ethernet)

Interfaces

Table 4-2 Interfaces

Power	• 48 V DC supply via supplied connector • RJ-45 jack Power over Ethernet (48 V DC) • 110 - 230 V AC with optional power supply adapter (available as accessory)
Data	• RJ-45 jack for Ethernet: 1 x 2 BFOC sockets • Depending on version, up to four R-SMA antenna sockets

Electrical Data

Table 4-3 Electrical Data

Power consumption depending on power supply	POE	12.9 W
	48 V DC	12.9 W
	110-230 V AC (Adapter)	15 W

Construction

Table 4-4 Construction

Dimensions (WxHxD)	251 mm x 251 mm x 72 mm	
Weight	Without power supply adapter	2241 g
	With power supply adapter 110-230 V AC	2433 g

Permitted Ambient Conditions

Table 4-5 Permitted Ambient Conditions

Operating Temperature	-40 °C to 70 °C
Operation with 100 V /240 V power supply	-40 °C to 60 °C
Transport/Storage Temperature	-40 °C to 85 °C
Degree of Protection	Tested to IP65

Note: Ensure that the temperature ranges specified in the approvals are maintained.

MTBF Information (mean Time Between Failure)

Table 4-6 MTBF Information

Enterasys Wireless Outdoor AP	MTBF 61 Years

Optional Third-party External Antennas

The Enterasys Wireless Outdoor AP2660 can also be used with optional certified third-party antennas. However, in order to comply with the local laws and regulations, an approval may be required by the local regulatory authorities. Table 4-7 on page 4-3 provides the list of third-party antennas that are permitted.

Note: When you select third-party permitted antennas, you must set the antenna's power according to the settings shown in "Antenna Channel Power Settings" on page 4-4.

Note: Third-party antennas must be professionally installed. The following are requirements for professional installation:

Equipment Marketing:

- The device can not be sold retail to the general public or by mail order. It must be sold to dealers.

Professional Installation:

- Installation must be controlled.
- Installed by licensed professionals (Equipment sold to dealers who hire installers).
- Installation requires special training (special programming) and antenna and cable installations.

Application:

- The intended use is generally not for the general public. Instead, it is generally for industry/ commercial use.

Table 4-7 Permitted Antennas

Characteristics	Antenna # and Type	Frequency/ GHz	Antenna gain/dBi	Impedence/W	Order No. (ordered from Siemens A&D)
Omni	Antenna # 1 ANT795-6MN	2,4	6	50	6GK5795-6MN00-0AA6
		5	8		
Omni	Antenna # 2 ANT792-6MN	2,4	6	50	6GK5792-6MN00-0AA6
Omni	Antenna # 3 ANT793-6MN	5	5	50	6GK5793-6MN00-0AA6
Patch	Antenna # 4 ANT795-6DN	2,4	9	50	6GK5795-6DN00-0AA6
		5	9		
Directional antenna	Antenna # 5 ANT792-8DN	2,4	14	50	6GK5792-8DN00-0AA6
Directional antenna	Antenna # 6 ANT793-8DN	5	18	50	6GK5793-8DN00-0AA6
Helix	Antenna # 7 ANT792-4DN	2.4	4	50	6GK5792-4DN00-0AA6
Omni	Antenna # 8 ANT793-4MN	5	5	50	6GK5793-4MN00-0AA6

Note: The antenna feedline of one metre used in testing are the minimum cable length. Longer cable may be used with losses greater than or equal to the cables used for testing. The maximum power settings must be adjusted according to “Antenna Channel Power Settings” on page 4-4.

Note: If one of the following antenna is used, you must select an operating channel (on the **Advanced 802.11b/g** and **Advanced 802.11a** tabs) and the corresponding allowed max power from the values listed in table Antenna channel-power information. Do not select a higher power than the value listed in “Antenna Channel Power Settings” on page 4-4.

Antenna Channel Power Settings

FCC Part 15.247 / IC RSS-210 Settings

To fulfill all the requirements according to FCC Part 15.24 and RSS-210, the following software power settings are necessary.

Mode	Channels	Antenna #1 ANT785-6MN	Antenna # 2 ANT792-6MN	Antenna # 4 ANT795-6DN	Antenna # 5 ANT792-8DN	Antenna # 7 ANT792-4DN
802.11b	1	20	20	20	11	20
	2-10	20	20	20	17	20
	11	20	20	20	11	20
802.11g	1	20	17	17	11	20
	2-10	20	17	20	14	20
	11	20	17	20	11	20

Mode	Channels	Antenna #1 ANT795-6MN	Antenna # 3 ANT793-6MN	Antenna # 4 ANT795-6DN	Antenna # 6 ANT793-8DN	Antenna # 8 ANT793-4MN
802.11a	149 -165	20	20	20	11	20

FCC Part 15.407 / IC RSS-210 Settings

To fulfill all the requirements according to FCC Part 15.407 and RSS-210, the following software power settings are necessary.

Mode	Channels	Antenna #1 ANT795-6MN	Antenna # 3 ANT793-6MN	Antenna # 4 ANT795-6DN	Antenna # 8 ANT793-4MN
802.11a	36	20	17	14	20
	40-48	20	17	17	20

ETSI EN 300 328 Settings

To fulfill all the requirements according to EN 300 328, the following software power settings are necessary.

Mode	Channels	Antenna #1 ANT795-6MN	Antenna # 2 ANT792-6MN	Antenna # 4 ANT795-6DN	Antenna # 5 ANT792-8DN	Antenna # 7 ANT792-4DN
802.11b	1-13	14	14	14	8	14
	1-13	11	11	11	8	14

ETSI EN 301 893 Settings

To fulfill all the requirements according to EN 301 893, the following software power settings are necessary.

Mode	Channels	Antenna #1 ANT795-6MN	Antenna # 3 ANT793-6MN	Antenna # 4 ANT795-6DN	Antenna # 6 ANT793-8DN	Antenna # 8 ANT793-4MN
802.11a	36-48	11	14	11	5	14
	52-64	14	17	14	5	17
	100-140	20	20	20	8	20

Auto Channel Selection

Note: If you select the **Auto** channel selection (on the Advanced 802.11 b/g and Advanced 802.11a tabs) you must also select the power values listed in Table 4-8 on page 4-5.

Table 4-8 Auto Channel Selection

Antenna	11a (dBm)	11 b/g (dBm)
Antenna # 1 ANT795-6MN	11	11
Antenna # 2 ANT792-6MN	N/A	11
Antenna # 3 ANT793-6MN	14	N/A
Antenna # 4 ANT795-6DN	11	11
Antenna # 5 ANT792-8DN	N/A	8
Antenna # 6 ANT793-8DN	5	N/A
Antenna # 7 ANT792-4DN	N/A	7
Antenna # 8 ANT793-4MN	14	N/A

Warning: RF Safety Distance
The antennas used for this transmitted must be installed to provide a separation distance of at least 20 cm from all persons and must be co-located or operating in conjunction with another antenna or transmitter.

5

Certification

Warning: The Enterasys Wireless Outdoor AP2650 is identical to the EAP-W2-RJ-I2 model and the Enterasys Wireless Outdoor AP2660 is identical to the EAP-W2-RJ-E2 model. The differences are in the software that communicate with the Enterasys Wireless Controller. The declaration of compliance is based on this similarity of hardware models.

CE Conformity

The product Enterasys Wireless Outdoor AP in the version put into circulation by Siemens A&D conforms to the regulations of the following European directive:

- 99/5/EC

  Directive of the European Parliament and of the Council on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

  Conformity with the basic requirement of the directive is attested by adherence to the following standards:

- EN 60950-1

  Safety of information technology equipment

- EN 301489-1 V1.6.1

  Electromagnetic compatibility for radio equipment and services

- EN 301489-17 V1.2.1

  Specific requirements for broadband data transmission systems and for equipment in local high-performance wireless networks (HIPERLAN)

- EN 300328 V1.6.1

  Electromagnetic compatibility and radio spectrum issues

- EN 301893 V1.3.1

  Broadband radio access networks (BRAN) – 5 GHz high-performance RLAN

- EN 50385:2002

  Generic standard to demonstrate the compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (110 MHz to 40 GHz)

- 1999/519/EC

  Council recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)

Devices connected to the system must meet the relevant safety regulations.

The EC Declaration of Conformity is available for the responsible authorities according to the above-mentioned EC Directive at the following address:

Siemens Aktiengesellschaft
Automation and Drives
Industrielle Kommunikation
Postfach 4848
D-90327 Nürnberg

This declaration certifies compliance with the directives named above, but does not guarantee any specific properties.

Declaration of Conformity

Manufacturer / responsible person	Dr. Heiner Roehrl
Address:	Siemens AG A&D SC IC Oestliche Rheinbrueckenstr. 50 76187 Karlsruhe Germany
Declares that the product:	
type:	Industrial WLAN Access Point EAP Family
model:	**EAP-W1-RJ-E1** **EAP-W1-RJ-I1** **EAP-W2-RJ-E2** **EAP-W2-RJ-I2** **EAP-W3-RJ-E3** **EAP-W1-MM-E1** **EAP-W1-MM-I1** **EAP-W2-MM-E2** **EAP-W2-MM-I2** **EAP-W3-MM-E3**
Intended use	Wireless Communication

Complies with the essential requirements of Article 3 of the R&TTE 1999/5/EC Directive, if used for its intended use and that the following standards has been applied:

1. Safety (Article 3.1.a of the R&TTE Directive)

Applied standard(s)	issue
EN 60950-1	2001

2. Electromagnetic compatibility (Article 3.1.b of the R&TTE Directive)

Applied standard(s)	issue
EN 301489-1 V1.6.1	2005-09
EN 301489-17 V1.2.1	2002-08

3. efficient use of the radio frequency spectrum (Article 3.2 of the R&TTE Directive)

Applied standard(s)	issue
EN 300 328 V1.6.1	2004-11
EN 301 893 V1.3.1	2003-08

4. Health (Article 3.1a of the R&TTE Directive)

Applied standard(s)	issue
EN 50385	2002
1999/519/EC	

Nuernberg,
11. April 2007
(Place and Date)

(Name and Signature)

European Spectrum Usage Rules

The Wireless AP configured with approved antennas can be used for indoor and outdoor transmissions throughout the European community as depicted in Table 5-1. Some restrictions apply in Belgium, France, Greece, and Italy.

Table 5-1 European Spectrum Usage Rules

Country	5.15-5.25 (GHz) Channels: 36,40,44,48	5.25-5.35 (GHz) Channels: 52,56,60,64	5.47-5.725 (GHz) Channels: 100,104,108,112,116, 120,124,128,132,136, 140	2.4-2.4835 (GHz) Channels: 1 to 13 (Except Where Noted)
Austria	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Belgium	Indoor only	Indoor only	Indoor or outdoor *	Indoor or outdoor
Bulgaria	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Denmark	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Croatia	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Cyprus	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Czech Rep.	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Estonia	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Finland	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
France	Indoor only	Indoor only	Indoor or outdoor	Indoor ch. 1-13 Outdoor 1-7 only
Germany	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Greece	Indoor only	Indoor only	Indoor (Outdoor w/License)	Indoor (Outdoor w/license)
Hungary	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Iceland	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Ireland	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Italy	Indoor only	Indoor only	Indoor or outdoor	Indoor (Outdoor w/license)
Latvia	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Liechtenstein	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Lithuania	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Luxembourg	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Netherlands	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Malta	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Norway	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Poland	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Portugal	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Romania	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Slovak Rep.	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor

Table 5-1 European Spectrum Usage Rules (continued)

Country	5.15-5.25 (GHz) Channels: 36,40,44,48	5.25-5.35 (GHz) Channels: 52,56,60,64	5.47-5.725 (GHz) Channels: 100,104,108,112,116, 120,124,128,132,136, 140	2.4-2.4835 (GHz) Channels: 1 to 13 (Except Where Noted)
Slovenia	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Spain	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Sweden	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Switzerland	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor
Turkey	Indoor only	Indoor only	n/a	Indoor or outdoor
U.K	Indoor only	Indoor only	Indoor or outdoor	Indoor or outdoor

Note: * Belgium requires notifying the spectrum agency if deploying > 300 meter wireless links in outdoor public areas.

This device has been designed to operate with the antennas listed in “Optional Third-party External Antennas” on page 4-2, and having a maximum gain of 18 dBi. Antennas not included in this list or having a gain greater than 18 dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

FCC

This device complies with Part 15 of the FCC Rules

Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

  IEEE802.11b or g operation of this product in the USA is firmware-limited to channels 1 through11.

Note: Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

  Consult the dealer or an experienced radio/TV technician for help.

Note: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This device has been designed to operate with the antennas listed in "Optional Third-party External Antennas" on page 4-2, and having a maximum gain of 18 dBi. Antennas not included in this list or having a gain greater than 18 dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

This Transmitter Must Not Be Co-located or Operating in Conjunction with Any Other Antenna or Transmitter.

Professional Installation Notice:

To comply with FCC part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

Industry Canada

"Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

"This device has been designed to operate with the antennas listed in "Optional Third-party External Antennas" on page 4-2, and having a maximum gain of 18 dBi. Antennas not included in this list or having a gain greater than 18 dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

"To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

"That the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

"Users should also be cautioned to take note that high power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices."

Brazil

Operation is limited to the following:

- 5.15-5.25 (GHz) channels: 36, 40, 44,and 48
- 5.25-5.35 (GHz) channels: 52, 56, 60, and 64
- 2.4-2.4835 (GHz) channels: 1 to 13

ATEX, FM and CULus Approvals

The products — Enterasys Wireless Outdoor AP2650 and Enterasys Wireless Outdoor AP2660 — have the following approvals:

- EN 60079-15 : 2005
  EN 60079-0 : 2006
  II 3 G Ex nA II T4
  KEMA 07 ATEX 0203 X
  Ta: -40°C to +60°C
- FM 3611
  CL. 1, Div. 2 GP.A.B.C.D T4
  CL. 1, Zone 2, GP.IIC. T4
  Ta: -40°C to +70°C
  100 V to 240 V Ta: -40°C to +60°C
- c-UL-us
  UL 60950-1, CSA C22.2 No. 60950-1
  Ta: -40°C to 70°C
  100 V to 240 V Ta: -40°C to +60°C
- c-UL-us for hazardous location:
  UL 1604, CSA C22.2 No. 213-M1987
  CL. 1, Div. 2 GP. A.B.C.D T4
  CL. 1, Zone 2, GP, IIC, T4
  Ta : -40°C to 70°C
  100 V to 240 V Ta: -40°C to +60°C

Note: The specified approvals apply only when the corresponding mark is printed on the product.

NEMA 4X

The products — Enterasys Wireless Outdoor AP2650 and Enterasys Wireless Outdoor AP2660 — have the following approval:

- NEMA 250: 2003

Note: The requirements are only met if the device is screwed to a mounting plate and a cover plate for the cable feedthrough. For more information, see “Mounting the Enterasys Wireless Outdoor AP with Mounting Plate” on page 2-6.

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Tables

Figures