



XD4-130 Installation Guide

November 2019



Accuracy

While reasonable efforts have been made to assure the accuracy of this document, Cambium Networks assumes no liability resulting from any inaccuracies or omissions in this document, or from use of the information obtained herein. Cambium reserves the right to make changes to any products described herein to improve reliability, function, or design, and reserves the right to revise this document and to make changes from time to time in content hereof with no obligation to notify any person of revisions or changes. Cambium does not assume any liability arising out of the application or use of any product, software, or circuit described herein; neither does it convey license under its patent rights or the rights of others. It is possible that this publication may contain references to, or information about Cambium products (machines and programs), programming, or services that are not announced in your country. Such references or information must not be construed to mean that Cambium intends to announce such Cambium products, programming, or services in your country.

Copyrights

This document, Cambium products, and 3rd Party software products described in this document may include or describe copyrighted Cambium and other 3rd Party supplied computer programs stored in semiconductor memories or other media. Laws in the United States and other countries preserve for Cambium, its licensors, and other 3rd Party supplied software certain exclusive rights for copyrighted material, including the exclusive right to copy, reproduce in any form, distribute and make derivative works of the copyrighted material. Accordingly, any copyrighted material of Cambium, its licensors, or the 3rd Party software supplied material contained in the Cambium products described in this document may not be copied, reproduced, reverse engineered, distributed, merged or modified in any manner without the express written permission of Cambium. Furthermore, the purchase of Cambium products shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license under the copyrights, patents or patent applications of Cambium or other 3rd Party supplied software, except for the normal non-exclusive, royalty free license to use that arises by operation of law in the sale of a product.

Restrictions

Software and documentation are copyrighted materials. Making unauthorized copies is prohibited by law. No part of the software or documentation may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, without prior written permission of Cambium.

License Agreements

The software described in this document is the property of Cambium and its licensors. It is furnished by express license agreement only and may be used only in accordance with the terms of such an agreement.

High Risk Materials

Cambium and its supplier(s) specifically disclaim any express or implied warranty of fitness for any high risk activities or uses of its products including, but not limited to, the operation of nuclear facilities, aircraft navigation or aircraft communication systems, air traffic control, life support, or weapons systems ("High Risk Use"). Any High Risk is unauthorized, is made at your own risk and you shall be responsible for any and all losses, damage or claims arising out of any High Risk Use.

Contacting Cambium Networks

Support website:	https://support.cambiumnetworks.com
Main website:	https://www.cambiumnetworks.com
Sales enquiries:	solutions@cambiumnetworks.com
Support enquiries:	https://support.cambiumnetworks.com
Repair enquiries:	https://support.cambiumnetworks.com
Telephone number list:	https://www.cambiumnetworks.com/support/contact-support
Address:	Cambium Networks Limited, Linhay Business Park, Eastern Road, Ashburton, Devon, UK, TQ13 7UP

Problems and warranty

Reporting problems

If any problems are encountered when installing or operating this equipment, follow this procedure to investigate and report:

1. Search this document and the software release notes of supported releases.
2. Visit the support website.
3. Ask for assistance from the Cambium Networks product supplier.
4. Gather information from affected units, such as any available diagnostic downloads.
5. Escalate the problem by emailing or telephoning support.

Repair and service

If unit failure is suspected, obtain details of the Return Material Authorization (RMA) process from the support website.

Hardware warranty

Cambium Networks's standard hardware warranty is for one (1) year from date of shipment from Cambium Networks or a Cambium distributor. Cambium Networks warrants that hardware will conform to the relevant published specifications and will be free from material defects in material and workmanship under normal use and service. Cambium Networks shall within this time, at its own option, either repair or replace the defective product within thirty (30) days of receipt of the defective product. Repaired or replaced product will be subject to the original warranty period but not less than thirty (30) days.

To register PTP products or activate warranties, visit the support website. For warranty assistance, contact the reseller or distributor.



CAUTION

Using non-Cambium Networks parts for repair could damage the equipment or void warranty. Contact Cambium Networks for service and repair instructions.

Portions of Cambium Networks equipment may be damaged from exposure to electrostatic discharge. Use precautions to prevent damage.

Security advice

Cambium Networks systems and equipment provide security parameters that can be configured by the operator based on their particular operating environment. Cambium recommends setting and using these parameters following industry recognized security practices. Security aspects to be considered are protecting the confidentiality, integrity, and availability of information and assets. Assets include the ability to communicate, information about the nature of the communications, and information about the parties involved.

In certain instances Cambium Networks makes specific recommendations regarding security practices, however the implementation of these recommendations and final responsibility for the security of the system lies with the operator of the system.

Warnings, cautions, and notes

The following describes how warnings and cautions are used in this document and in all documents of the Cambium Networks document set.

Warnings

Warnings precede instructions that contain potentially hazardous situations. Warnings are used to alert the reader to possible hazards that could cause loss of life or physical injury. A warning has the following format:



Warning: Warning text and consequence for not following the instructions in the warning.

Cautions

Cautions precede instructions and are used when there is a possibility of damage to systems, software, or individual items of equipment within a system. However, this damage presents no danger to personnel. A caution has the following format:



CAUTION: Caution text and consequence for not following the instructions in the caution.

Notes

A note means that there is a possibility of an undesirable situation or provides additional information to help the reader understand a topic or concept. A note has the following format:



Note text.

Caring for the environment

The following information describes national or regional requirements for the disposal of Cambium Networks supplied equipment and for the approved disposal of surplus packaging.

In EU countries

The following information is provided to enable regulatory compliance with the European Union (EU) directives identified and any amendments made to these directives when using Cambium Networks equipment in EU countries.



Disposal of Cambium Networks equipment

European Union (EU) Directive 2002/96/EC Waste Electrical and Electronic Equipment (WEEE)

Do not dispose of Cambium Networks equipment in landfill sites. For disposal instructions, refer to <http://www.cambiumnetworks.com/support/weee-compliance>.

Disposal of surplus packaging

Do not dispose of surplus packaging in landfill sites. In the EU, it is the individual recipient's responsibility to ensure that packaging materials are collected and recycled according to the requirements of EU environmental law.

In non-EU countries

In non-EU countries, dispose of Cambium Networks equipment and all surplus packaging in accordance with national and regional regulations.

Quick Installation Guide

For the XD4-130

XD4-130 High Density Access Points (APs) are zero touch APs within the cnPilotXirrus wireless portfolio. With four directional 802.11ac radios, a powerful integrated controller, application-level intelligence, automated provisioning, and optional cloud management, the APs deliver robust wireless connectivity in areas of medium to high user density. The XD4-130 has four 3x3 Wave 1 802.11ac radios.



This Guide covers the steps required to install and start the AP. For detailed configuration information, see the *Wireless Access Point User's Guide*.

1

You Need the Following Items

- ◆ Power and Ethernet connection(s) to your wired network using Cat 5e or Cat 6 cables. The AP has two Ethernet ports:
 - ◆ **GIG1/PoE**—This Gigabit port powers the AP via Power over Ethernet (PoE) using a Cat 5e or Cat 6 cable that also carries data traffic. See below for Power details. On the XD4-130, this is a one gigabit port.
 - ◆ (Optional) **GIG2**—Connection to this second, data-only one-gigabit port provides additional bandwidth. Use Cat 5E or Cat 6 cable.

AP must be connected to PoE networks without routing cabling to the outside plant. This ensures that cabling is not exposed to lightning strikes or possible crossover from high voltage lines. APs, PoE Injectors, or Switches must be installed and used indoors. The total Cat 5e or Cat 6 cable length from the switch to the AP must be no more than 100 m, including all cable segments.

- ◆ Power— See the matrix below to select a compatible PoE switch or Cambium Xirrus-supplied injector for your AP. If using an injector, you must provide a data connection from the switch to the injector as well as another cable from the injector's OUT port to the AP's GIGABIT1/PoE port. PoE injectors require an AC outlet.

AP Model	Maximum Power Consumption	Generic PoE Switch (802.3at)	Cambium Xirrus PoE Switch	XP1-MSI-30	XP1-MSI-75M	XP1-MSI-75 (POE-75U-1UP-X)	XP8-MSI-70M	XP2-MSI-95M
XD4-130	25.5W (PoE+)	✓	✓	✓	✓	✓	✓	✓

- ◆ Apply power to GIG1/POE port only—other AP Gigabit ports will not draw power if connected to a powered switch port, and AP LEDs will not light.
- ◆ For the XD4-130, if you are using an 802.3at PoE switch, it is imperative that you know that the switch has sufficient power budget to power all connected devices.
- ◆ The XD4-130 is a Type 2, Class 4 PoE device. If your switch provides a setting for the type of powered-device detection with options such as Legacy, 4-Point, or BOTH, set the port to BOTH or 4-Point. Do not use settings intended for legacy devices.

XD4-130 Installation Guide

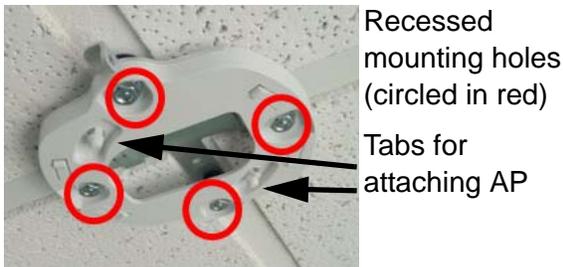
- ◆ Workstation with a Web browser to configure the AP via the Xirrus Management System or directly via the AP's Windows Management Interface (WMI).
- ◆ A 7/16" nut driver to attach the mounting plate to the bracket or clips. (See "Install Mounting Hardware and AP" on page 3.) Note that you cannot use old T-bar clips from XN or XS APs with the XD4.
- ◆ For a locked installation, supply a zip-tie, small lock, or other locking hardware.

NOTE: Leave protective plastic film on the AP until installation is complete, to avoid leaving marks on the AP.

Mounting Options

- ◆ Direct Ceiling Mount—for a more secure mount, use the furnished mounting plate with four user-supplied screws. Or you may mount directly to a ceiling with two user-supplied screws (we recommend max screw size #8, Pan Head type). You must use screws that are that are appropriate for the construction type of the mounting site.

AP Mounting Plate (front, mounted)

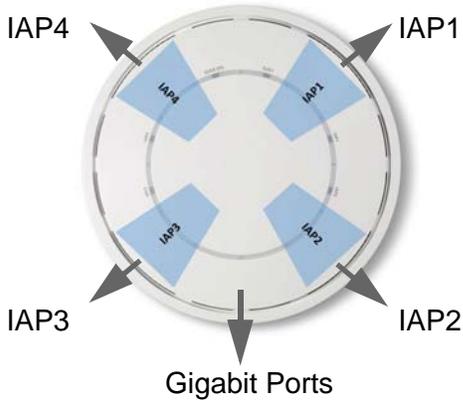


- ◆ Suspended Ceiling Grid Mount—See photos above and on [page 4](#). Use the mounting plate with the T-Bar Bracket for 15/16" ceiling grid or with T-Bar clips (for 15/16" ceiling grid).

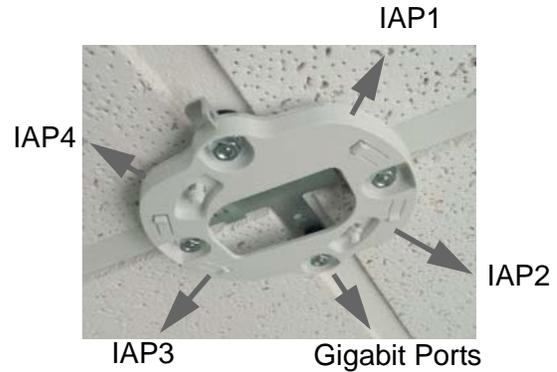
2

Choose a Suitable Location

- ◆ Choose an indoor location that is central to your users, and that is away from heat sources.
- ◆ The AP should be installed parallel to the ground (i.e., in a horizontal position, not tilted on its side). The AP should not be more than 30 feet above the ground (or the level at which receiving devices will be used). For atypical installations, please verify the resulting signal coverage.
- ◆ The location must be capable of supporting the weight of the AP and the mounting bracket (about 3 lb total).
- ◆ For optimal placement, we recommend that a predictive survey be performed by a qualified Cambium Xirrus partner.
- ◆ Maintain a distance of at least 50 feet between additional APs.
- ◆ Keep the unit away from electrical devices or appliances that generate RF noise—at least 3 to 6 ft (1m - 2m).
- ◆ To ensure good air flow, it is essential that the AP's vents are not blocked.
- ◆ XD4 radios are directional as indicated below.



ORIENTATION OF RADIOS



3

Install Mounting Hardware and AP

- ◆ 3A—Ceiling Mount with Mounting Plate
- ◆ 3B—Direct Ceiling Mount without Mounting Plate
- ◆ 3C—Ceiling Grid Mount with Mounting Plate

3A—Ceiling Mount with Mounting Plate

The following steps use a mounting plate, which offers a more secure mount, ease of dismount, and a locking option for the AP.

6. Use the four holes on the AP mounting plate to mark the placement of four user-supplied screws to install in the ceiling.
7. Drill and prepare holes for the screws as appropriate.
8. Cut an access hole for the cable(s) in the ceiling and draw enough cable through to attach to the AP after it is installed.
9. Align the AP mounting plate over the prepared holes. Secure the plate with the screws. Do not over-tighten.
10. Proceed to “Connect Cables and Install AP” on page 5.



3B—Direct Ceiling Mount without Mounting Plate

To attach the AP directly to the ceiling, use the mounting holes on the back of the AP, indicated in red in the photo.

You need two screws of an appropriate type for the construction type at the mounting site. We suggest screw size #8, Pan Head.

NOTE: *The AP must not be disassembled - do not remove the back of the AP to tighten the screws after mounting.*

1. If the mounting plate is attached to the back of the AP, remove it by pushing it down and rotating it to the left. Remove the locking slug, if any, from the



back of the AP. (See photo for Step 4 on page 5. If you ever need to reinstall the slug, push it in with the small protruding bump facing towards the nearer mounting slot.)

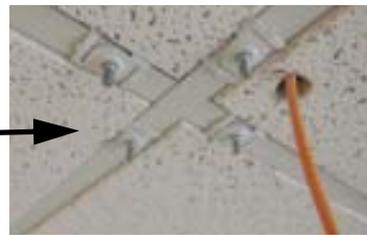
2. Mark the locations for the two mounting screws on the ceiling—the centers are 3.5" (8.9 cm) apart. You may use the "Direct Mounting Template" on page 7.
3. Cut an access hole for the cable(s) in the ceiling and draw enough cable through to attach to the AP after it is installed.
4. Install two screws in the ceiling so that they protrude 1/8" (.3 cm) between the mounting surface and the head of the screw.
5. Proceed to "Connect Cables and Install AP" on page 5.

3C—Ceiling Grid Mount with Mounting Plate

1. If using the T-Bar bracket for a standard 15/16" ceiling grid, just twist its built-in clips onto the grid with the bracket's bolts facing down. For a slotted grid, slide the heads of the T-bolts into the grid's slot (easiest to do at an intersection), position them for the two holes in the T-Bar Bracket, and twist bolts till snug in the slot. Secure bracket with nuts, with the bracket's bolts pointing down. Skip to Step 3 below.



T-Bar Bracket (with spacers installed)



T-Bar Clips

2. If using T-Bar clips, use the four holes on the AP mounting plate to mark the placement of the four T-bar clips on the metal ceiling support grid.

NOTE: You MUST use the mounting studs furnished with the T-BAR clips. You cannot use old T-bar clips from XN or XS APs with the XR or XD Series. Old clips and studs will damage the AP case.

Twist the four T-bar clips onto the metal ceiling grid at the marked locations and tighten the screw posts to 10-12 lbf.ft (1.38-1.66 kgf.m). Do not over-tighten the screw posts.

3. Cut an access hole in the ceiling tile and draw the cable(s) through.
4. Align the AP mounting plate over the screw posts of the T-Bar bracket or clips and secure it to the four posts using the nuts provided. Tighten the nuts to 10-12 lbf.ft (1.38-1.66 kgf.m), but do not over tighten.
5. Proceed to "Connect Cables and Install AP" on page 5.



4

Connect Cables and Install AP

NOTE: Once you connect GIG1/POE, an automatic upgrade typically starts soon after the AP has Internet connectivity. Do not unplug this port during the upgrade or the AP may become inoperable. The upgrade should take 10 minutes or less.

1. Connect the cable that carries power and data to **GIG1/PoE** (shown in red). If you use a Cambium Xirrus-supplied injector, its **CONNECT** LED should light (for 70W and higher injectors, it is OK if it blinks). If power is being properly supplied, the AP's LEDs will light and then commence blinking in their rotating boot pattern. A second data connection may be plugged into **GIG2** (optional).
2. Align the two slots on the back of the AP chassis with the corresponding tabs on the AP mounting plate, shown here. If using a mounting plate with a locking tab, make sure that the AP's locking slug (see photo in Step 4 below) will line up with the matching hole on the mounting plate's locking tab.
3. Push the AP chassis up on the mounting plate tabs (or the screw heads, if attaching directly to ceiling) and rotate the AP to the right until it snaps in place.
4. To secure the AP to the mounting plate for tamper evidence or to deter removal, feed a customer-provided zip tie or other locking hardware through the hole in the top of the locking slug (circled at right) and the matching locking tab on the mounting plate.
5. Remove the protective plastic film from the unit.



5

Zero-Touch Provisioning and Ongoing Management

Most customers use the Xirrus Management System (XMS) for the initial setup and continuing management of cnPilotXirrus APs. XMS users set up new APs for zero-touch provisioning via the following platforms. Wait five minutes after powering up the AP to automatically discover it, then use XMS to view and manage it. Newly discovered APs are automatically assigned to the XMS "default" profile, and receive the configuration defined for that profile.

- ◆ XMS-Cloud—performs zero-touch provisioning. Your new APs appear in XMS even before you receive your equipment. When the email arrives with your login information, use XMS-Cloud to specify the initial settings for your APs. A Guided Tour will walk you through the basic steps of creating a profile containing configuration settings, including creating SSIDs and firewall/application control rules. Once the installed AP has Internet connectivity, it will automatically contact Cambium Networks for cloud-based zero-touch provisioning per your settings, install the latest applicable license, and upgrade the AP to the latest software version as appropriate.
- ◆ XMS-Enterprise—detects and provisions new Cambium Xirrus devices deployed in your network. Create and configure a default profile for newly added APs, then set up discovery for the APs' subnetwork. New devices will automatically receive the configuration defined in the default profile.

If you are not using XMS, please see the *Wireless AP User's Guide* to configure the AP manually via the Express Setup menu. The User Guide is available from support.cambiumnetworks.com.

6

Using the Reset Button

The reset button returns the AP to factory default settings while rebooting. It is located on the bottom of the unit. Use the reset button as follows:

- ◆ Unplug the cable from the **GIG1/PoE** port.
- ◆ Press the reset button all the way (there should be a faint click) and hold it.
- ◆ Plug the cable back in and continue to keep the button pressed for 10 seconds. This triggers the factory default reset during the boot process.



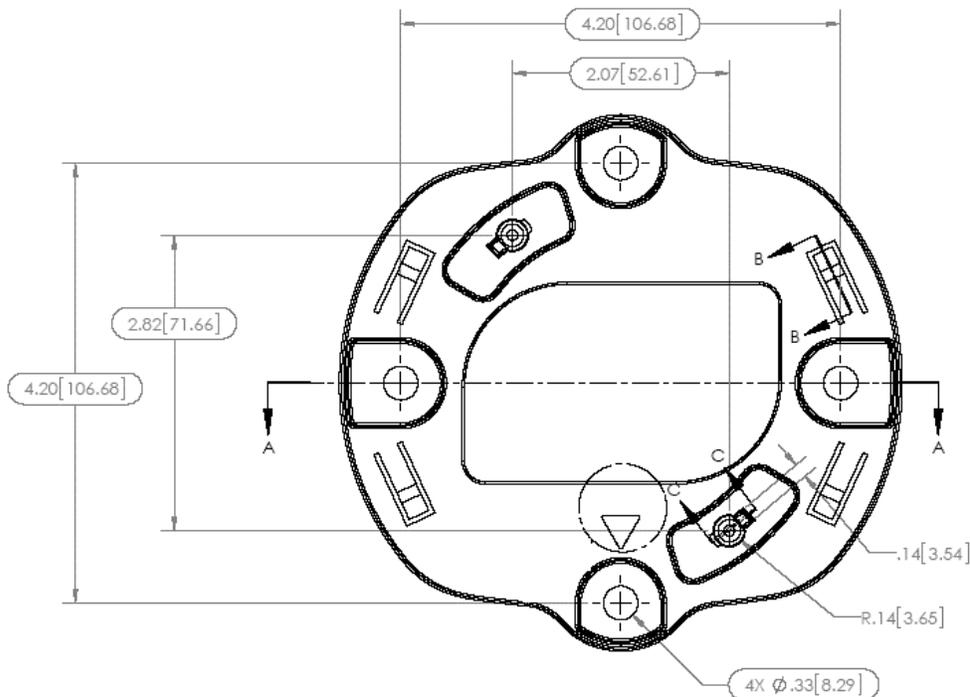
7

Specifications and Drawings

Physical/Environmental Specifications

- ◆ Dimensions (WxDxH): 10 x 10 x 2.5 in / 25.4 x 25.4 x 6.4 cm
- ◆ Weight: 2 lb / 0.9 kg
- ◆ Operating Temperature: 0-55°C / 32-131°F, 0-90% humidity, non-condensing.

XD4 Mounting Bracket



Direct Mounting Template

