



ZXSDR R8119

Pico Remote Radio Unit

Hardware Installation

Version: V2.0

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Revision History

Revision No.	Revision Date	Revision Reason
R1.3	2016-08-18	Updated Chapter 2 Device Installation.
R1.2	2016-03-30	Modified the way of description
R1.1	2016-01-10	● Modified “2 Device Installation”. Add the caution: “The device does not need to be grounded.” ● Modified “3 Cables”. Modified “CAT5 Ethernet cables” to “CAT5e UTP Ethernet cables”. Add the caution: “Do not use STP Ethernet cables.”
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About This Manual

Purpose

This manual describes how to install the ZXSDR R8119 Pico Remote Radio Unit.

Intended Audience

- Installation engineers
- Device supervision engineers
- Maintenance engineers

What Is in This Manual

This manual contains the following chapters.

Chapter 1, Installation Interfaces	Describes the interfaces involved in installation.
Chapter 2, Installing the ZXSDR R8119	Describes how to install the ZXSDR R8119.
Chapter 3, Installing a Cable	Describes how to install cables.

Conventions

This manual uses the following conventions.

	Caution: indicates a potentially hazardous situation. Failure to comply can result in moderate injury, equipment damage, or interruption of minor services.
	Note: provides additional information about a topic.

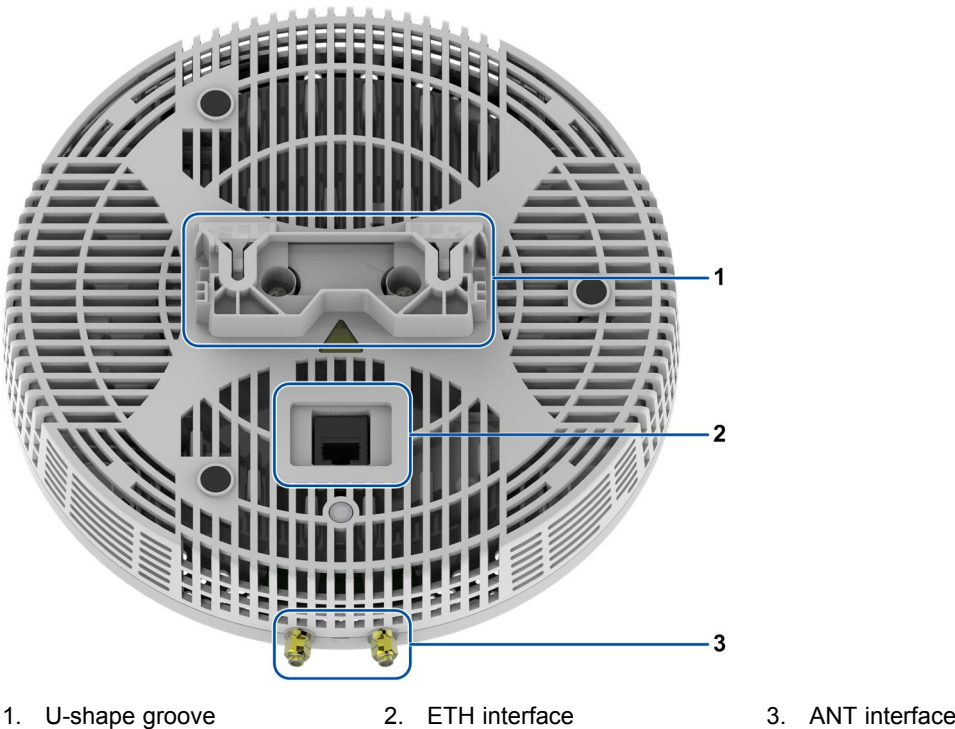
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Chapter 1

Installation Interfaces

Figure 1-1 shows the external interfaces of the ZXSDR R8119.

Figure 1-1 External Installation Interfaces



For a description of the interfaces, refer to [Table 1-1](#).

Table 1-1 Interface Descriptions

No.	External Interfaces	Description
1	U-shape grooves	Mounts the ZXSDR R8119 to installation components.
2	ETH interface	RJ45 network interface, supports the PoE function, used for the ZXSDR R8119 to connect to the ETH interface of the Pbridge (a remote convergence unit) through an Ethernet cable.
3	ANT interface	Interface complete with external antenna connection

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Chapter 2

Installing the ZXSDR R8119

For installation modes available for the ZXSDR R8119, refer to [Table 2-1](#).

Table 2-1 ZXSDR R8119 Installation Mode

Installation Type	Installation Mode
Installing the ZXSDR R8119 against a pole	2.1 Installing the Device on a Pole
Installing the ZXSDR R8119 against a wall	2.2 Installing the Device on a Concrete Wall
Installing the ZXSDR R8119 against a ceiling	2.3 Installing the Device on a Concrete Ceiling
	2.4 Installing a Removable Ceiling



Caution!

The device does not need to be grounded.

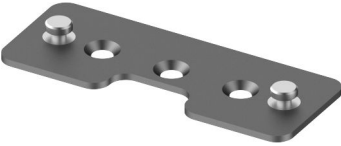
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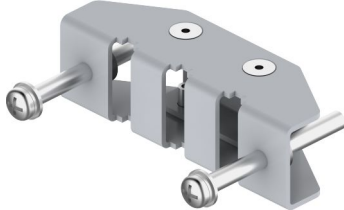
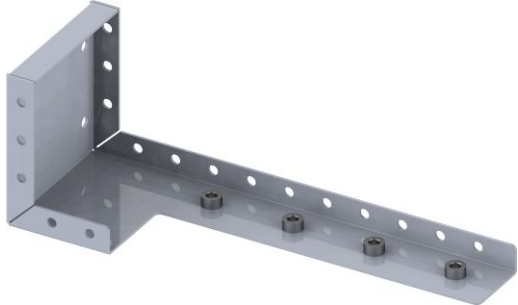
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2.1 Installing the Device on a Pole

This procedure describes how to install the ZXSDR R8119 against a vertical pole. The diameter of a pole is 8 to 30 mm.

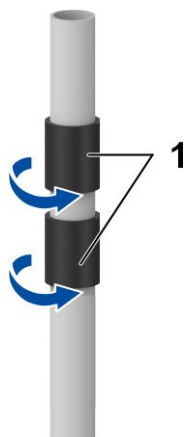
For the installation components, refer to the following table.

Component	Quantity	Overview
Two-point hanging plate	1	

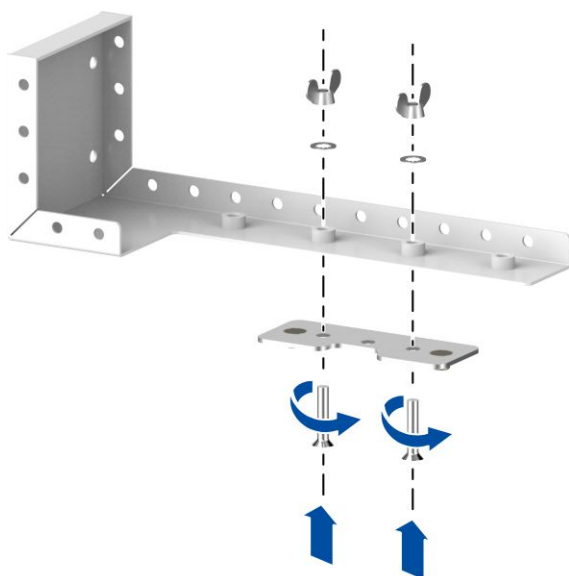
Component	Quantity	Overview
Pole holder	2	
Vertical pole fixture	1	
M5 × 25 countersunk screw	2	
Wing nut and washer	2	
Slide-proof rubber mat	2	

Steps

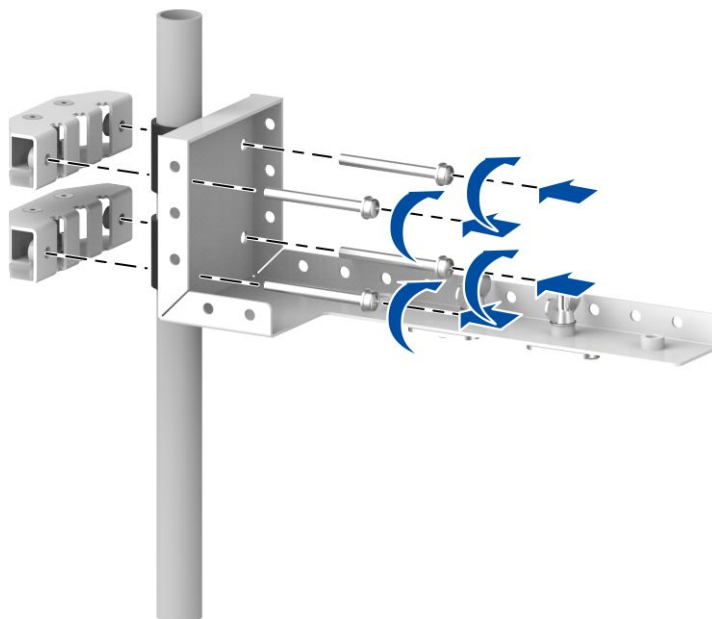
- 1. Wrap the slide-proof rubber mat around the pole, see [Figure 2-1](#).

Figure 2-1 Wrapping the Slide-Proof Rubber Mat Around the Pole

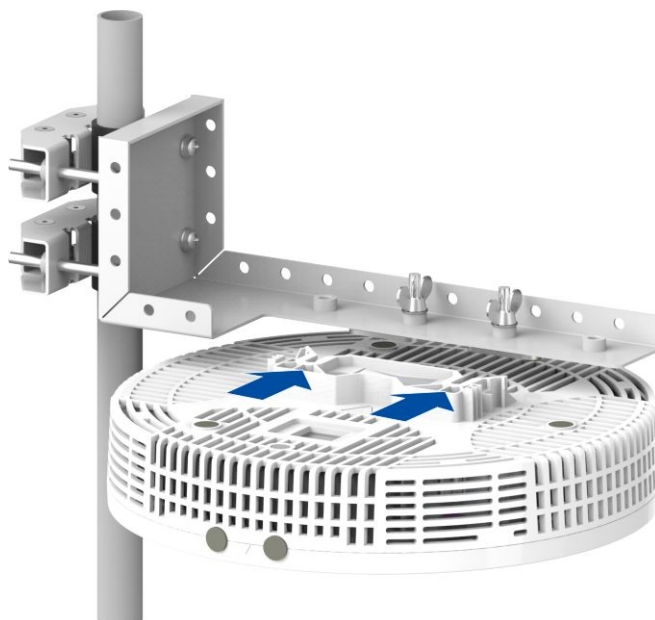
2. Secure the two-point mounting plate to the L-shaped bracket with two countersunk-head screws (M5 × 25) and two wing nuts and washers, see [Figure 2-2](#).

Figure 2-2 Securing the Two-Point Mounting Plate to the L-shaped Bracket

3. Install the L-shaped bracket and the Pole holder on the pole and tighten the screws, see [Figure 2-3](#).

Figure 2-3 Securing the Pole Bracket to the Pole

4. Align the two U-shape grooves of the ZXSDR R8119 with the two rivets on the two-point hanging board and push the ZXSDR R8119 to the end to fix it on the two-point hanging plate, see [Figure 2-4](#).

Figure 2-4 Mounting the ZXSDR R8119

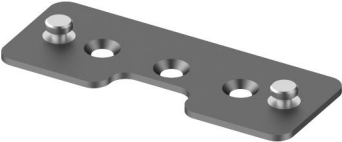
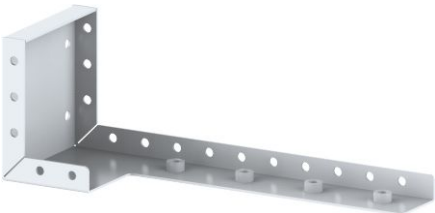
– End of Steps –

2.2 Installing the Device on a Concrete Wall

This procedure describes how to install the ZXSDR R8119 against a wall.

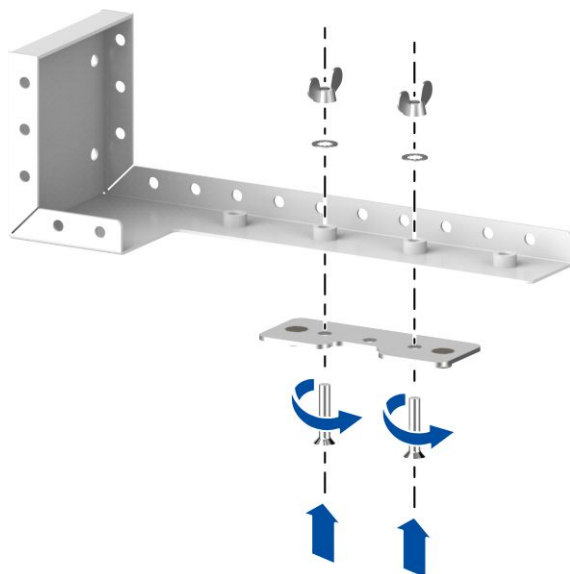
Context

For the installation components, refer to the following table.

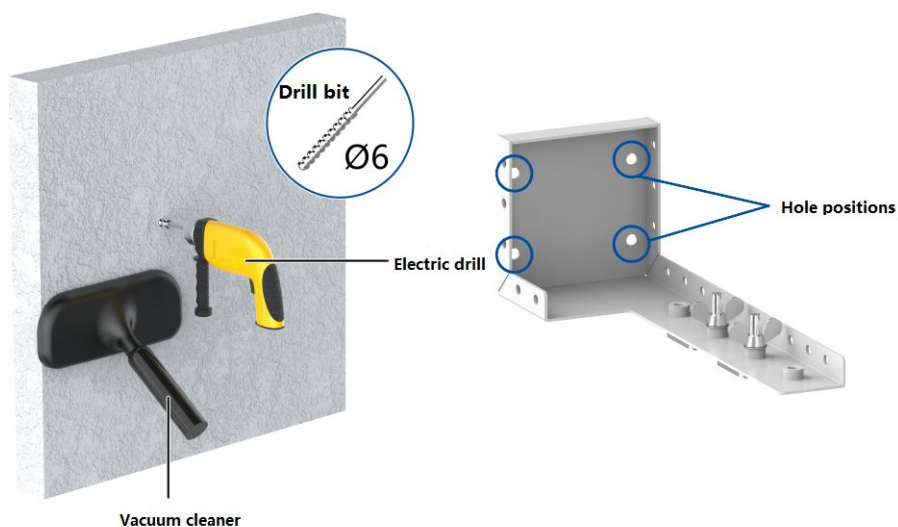
Component	Quantity	Overview
Two-point hanging plate	1	
L-shaped bracket	1	
Wing nut and washer	2	
M5 × 25 countersunk screw	2	
ST4.2 × 32 countersunk self-tapping screws	3	
φ6×30 Expansion pipe	3	

Steps

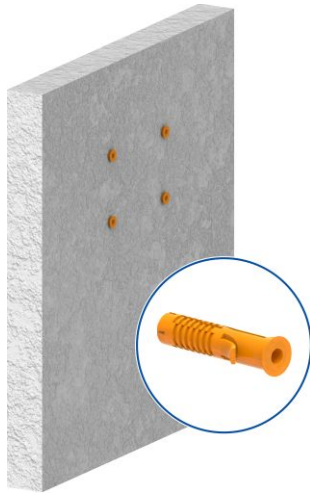
1. Secure the two-point mounting plate to the horizontal mounting bracket with two countersunk-head screws (M5 × 25) and two wing nuts and washers, see [Figure 2-5](#).

Figure 2-5 Securing the Two-Point Mounting Plate to the L-shaped Bracket

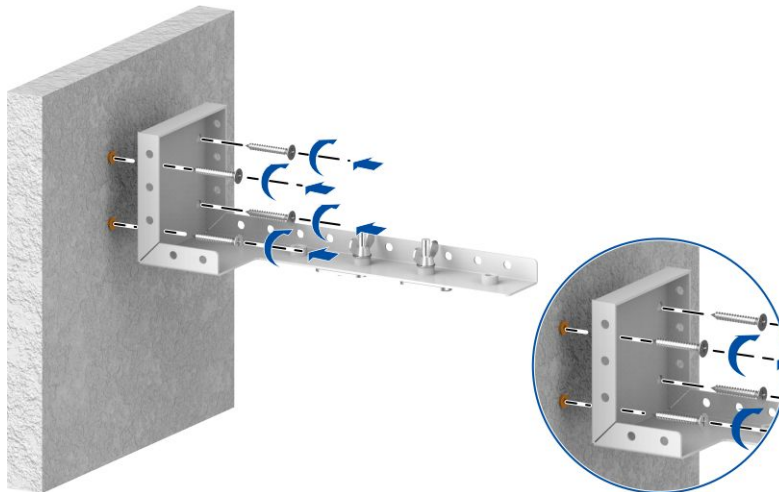
2. On the wall, mark locations for drilling holes based on the hole positions of the L-shaped bracket, and drill four holes at the marks with an electric drill. The holes must be at least 55 mm deep, see [Figure 2-6](#).

Figure 2-6 Drilling Holes

3. Hammer the expansion tubes into the holes with a rubber hammer, see [Figure 2-7](#).

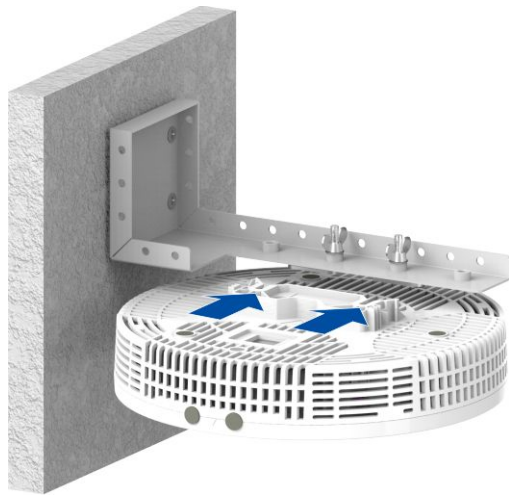
Figure 2-7 Installing the Expansion Tubes

4. Secure the L-shaped bracket to the wall with four countersunk-head self-tapping screws (ST4.2 × 32), see [Figure 2-8](#).

Figure 2-8 Securing the L-shaped Bracket to the Wall

5. Align the two U-shape grooves of the ZXSDR R8119 with the two rivets on the two-point hanging plate, and push the ZXSDR R8119 to the end to fix it on the two-point hanging plate, see [Figure 2-9](#).

Figure 2-9 Mounting the ZXSDR R8119



– End of Steps –

2.3 Installing the Device on a Concrete Ceiling

When installing the ZXSDR R8119 against a cement ceiling, ensure that the distance between the plastic shell top of the ZXSDR R8119 and the ceiling is not less than 40 mm. This requirement can be met through the wall-mount fixture between the ZXSDR R8119 and the cement ceiling.

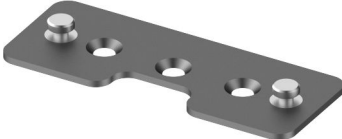


Note:

For non-cement ceilings, for example, irremovable plasterboard ceiling and PVC board ceiling, you must fix a wooden bar on the ceiling. For how to install the wooden bar, refer to “Figure 2-15”. It is not allowed to fix the two-point hanging board to the ceiling by using self-tapping screws.

Context

For the installation components, refer to the following table.

Component	Quantity	Overview
Two-point hanging plate	1	

Component	Quantity	Overview
Wall-mount fixture	1	
ST4.2 × 19 countersunk self-tapping screws	2	
ST4.2 × 32 countersunk self-tapping screws	3	
φ6×30 Expansion pipe	3	

Steps

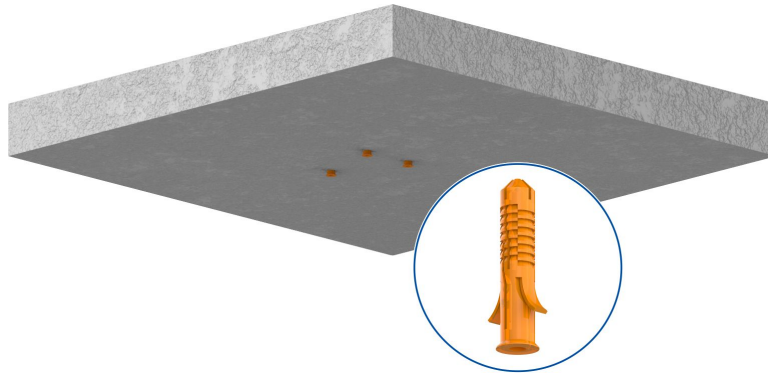
1. Drill holes in the ceiling.
 - a. Make marks on the cement ceiling in accordance with the holes of the wall-mount fixture to determine the locations of the holes to be drilled.
 - b. Use an electric hammer drill to make three holes in the cement ceiling in accordance with the marks made on the cement ceiling. The holes must be at least 35 mm deep.



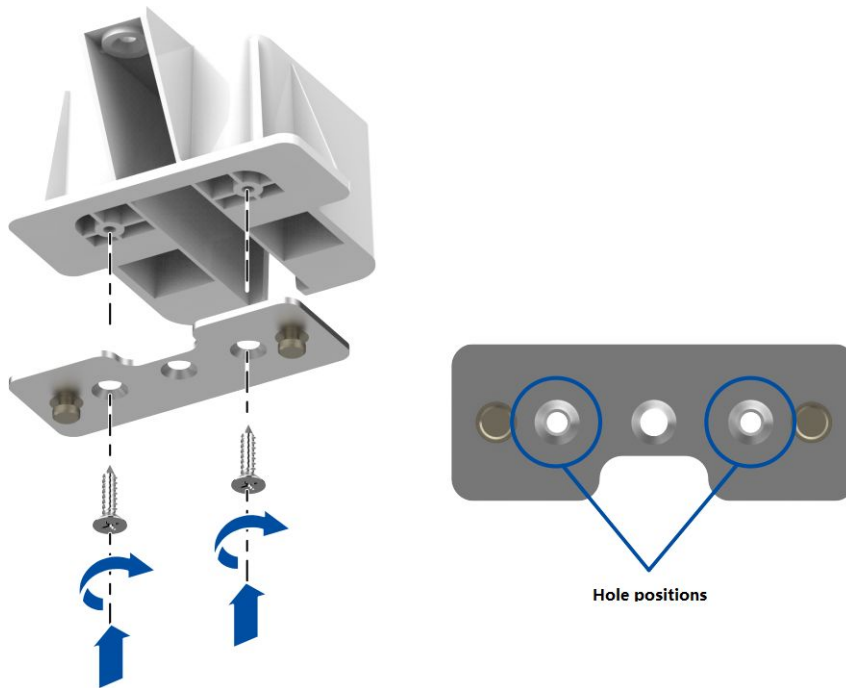
Note:

After the holes are drilled, clear the dust by using a dust collector.

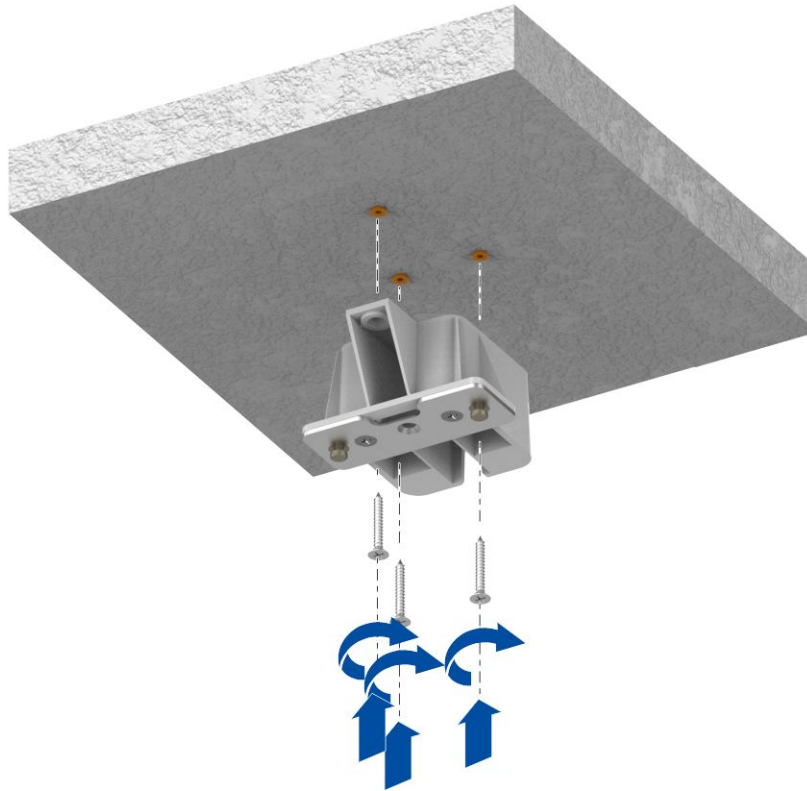
2. Hammer expansion pipes into the holes in the ceiling by using a rubber hammer, see [Figure 2-10](#).

Figure 2-10 Installing Expansion Pipes

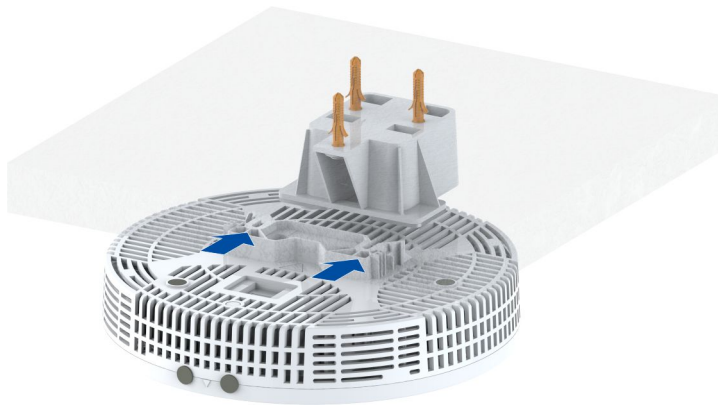
3. Use two countersunk self-tapping screws (ST4.2 × 19) to fix the two-point hanging board to the wall-mount fixture, see [Figure 2-11](#).

Figure 2-11 Fixing Two-Point Hanging Plate to the Wall-Mount Fixture

4. Use three ST4.2 × 32 countersunk self-tapping screws to fix the wall-mount fixture to the expansion pipes on the ceiling (torque: 2.4 N×m), see [Figure 2-12](#).

Figure 2-12 Fixing the Wall-Mount Fixture to the Ceiling

5. Align the two U-shape grooves of the ZXSDR R8119 with the two rivets on the two-point hanging plate, and push the ZXSDR R8119 to the end to fix it on the two-point hanging plate, see [Figure 2-13](#).

Figure 2-13 Mounting the ZXSDR R8119

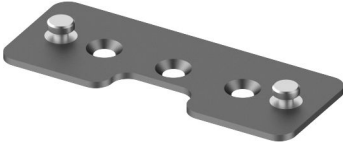
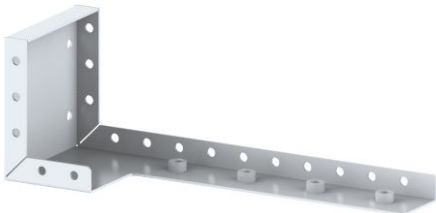
– End of Steps –

2.4 Installing a Removable Ceiling

This procedure describes how to install the ZXSDR R8119 against a removable ceiling board.

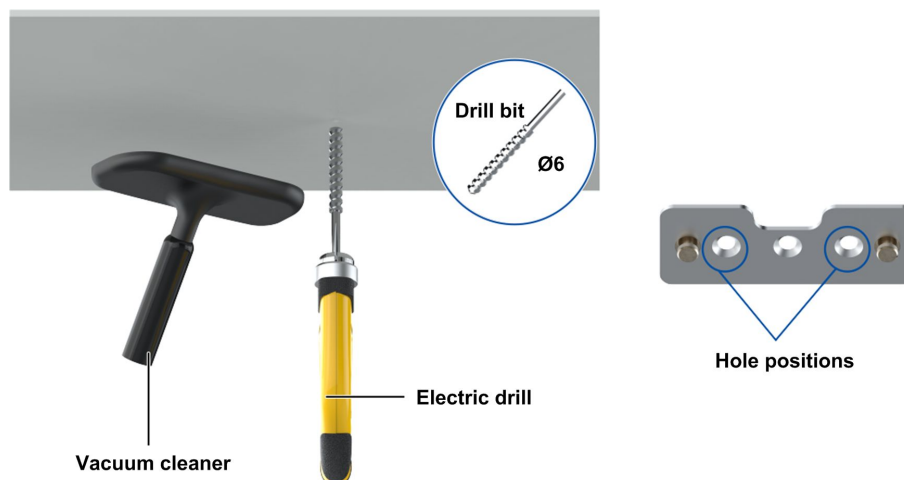
Context

For the installation components, refer to the following table.

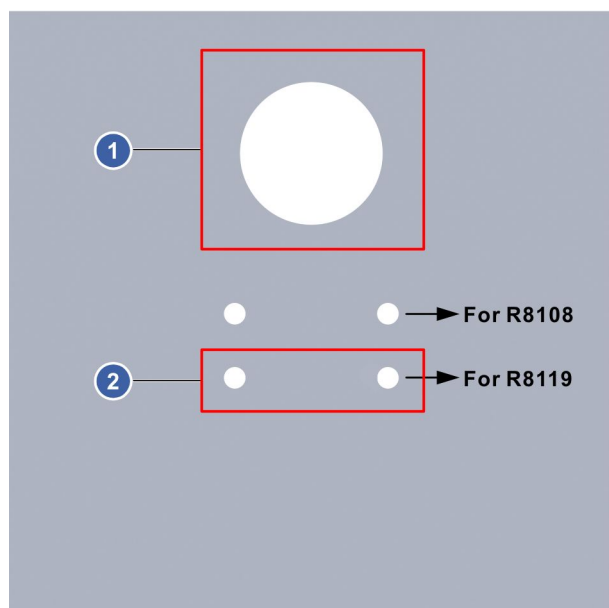
Component	Quantity	Overview
Two-point hanging board	1	
L-shaped bracket	1	
M5 × 25 countersunk- head screw	2	
Wing nut and washer	2	

Steps

1. Remove the ceiling, mark the positions for drilling holes on the wall based the hole positions of the L-shaped bracket, see [Figure 2-14](#).

Figure 2-14 Marking Holes

2. On the removed ceiling, drill two mounting holes and one network cable hole, see [Figure 2-15](#).

Figure 2-15 Hole Template of the Removable Ceiling Board

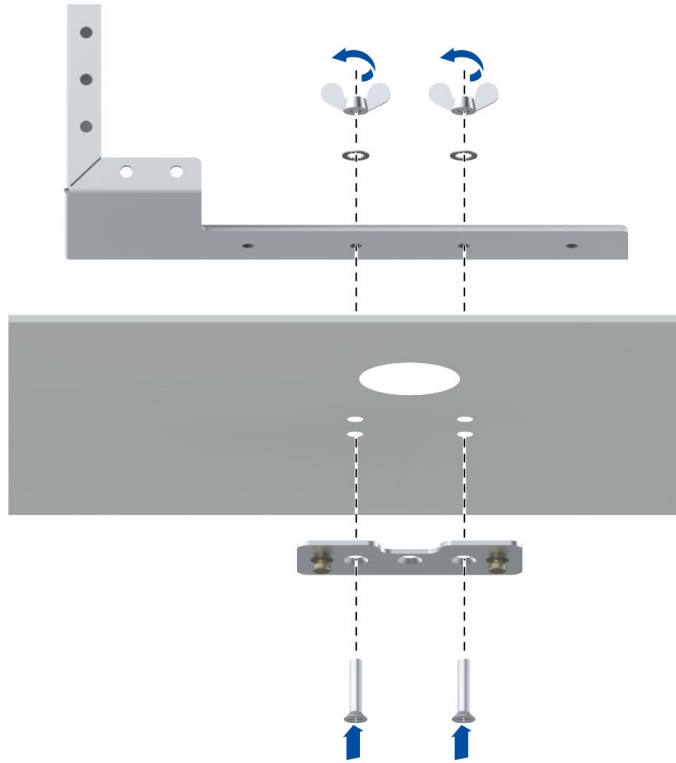
1. Installation hole of the network cable
2. Installation hole of the two-point hanging board

**Caution!**

The network cable hole must be drilled in accordance with the size specified on the hole template. If the hole size is smaller than that of the template hole, the network cable will be stuck when the ZXSDR R8119 is dismantled.

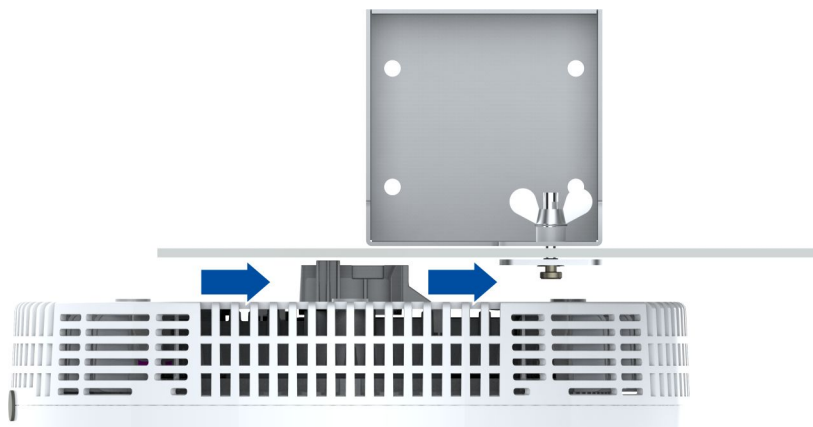
- Secure the two-point mounting plate and the L-shaped bracket to the ceiling with two countersunk-head screws (M5 × 25) and two wing nuts and washers, see [Figure 2-16](#).

Figure 2-16 Securing the Bracket



- Align the two U-shape grooves of the ZXSDR R8119 with the two rivets on the two-point hanging plate, and push the ZXSDR R8119 to the end to fix it on the two-point hanging plate, see [Figure 2-17](#).

Figure 2-17 Mounting the ZXSDR R8119



- Install the ceiling board to the original location.

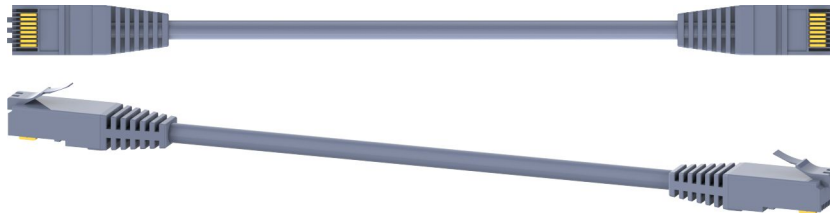
– End of Steps –

Chapter 3

Installing a Cable

A CAT5e UTP cable is used as the Ethernet cable. For the cable overview, see [Figure 3-1](#).

Figure 3-1 CAT5e Ethernet Cable



Prerequisite

The Ethernet cable is as long as needed.

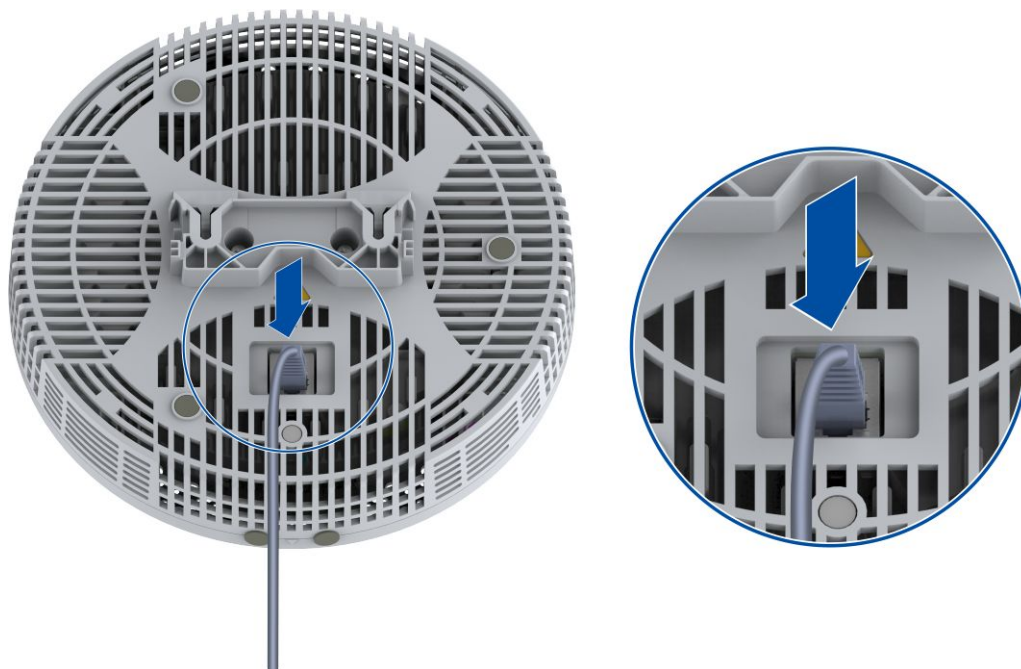


Caution!

- Do not use STP Ethernet cables.
- The maximum length of an Ethernet cable from the ZXSDR R8119 to the Pbridge should be less than 100 m.

Steps

1. Connect one end of the Ethernet cable to the **ETH** interface of the ZXSDR R8119, see [Figure 3-2](#).

Figure 3-2 Connecting the Ethernet Cable

2. Connect the other end of the Ethernet cable to the Ethernet electrical interface of the Pbridge, which is a remote convergence unit.

**Note:**

Bind the cable with cable ties orderly, reserve an equal distance between every two cable ties, with a proper tension and towards the same direction. Cut up extra ties smoothly and cleanly.

3. Root and bind the cable.
4. Stick a label on the cover of the ZXSDR R8119 and write information on the label to indicate the port and Pbridge that the ZXSDR R8119 is connected.

For example, PB1-PORT1 indicates that the ZXSDR R8119 is connected to the first port on the first Pbridge.

– End of Steps –

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Glossary

PoE