



ZXSDR R8882

Macro Radio Remote Unit

Hardware Installation Guide

Hardware Version: HV2.0

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Revision History

Serial No.	Publishing Date	Publishing Reason
R1.1	2012-01-30	Modified the following sections: <ul style="list-style-type: none">● 1.1, Device Appearance● 1.5, Installation Flow● 3.2, Installation Assemblies● 4.3, Connecting the DC Power Cable● Appendix C, Assembling the Portal Frame
R1.0	2011-11-30	First Edition

Serial Number: SJ-20111021104623-004

Publishing Date: 2012-01-30 (R1.1)

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About This Manual

Purpose

This manual describes how to install the ZXSDR R8882 (take ZXSDR R8882 S9000(C) as an example) including installation overview, PIMDC installation, device installation, cabling, and post-installation check.

There are two types of protection shades which are optional parts, here we take the old type for example to describe installation steps.

Intended Audience

This manual is intended for the following personnel:

- Personnel who install ZXSDR R8882
- Maintenance engineers

Related Documents

Before installation, installation personnel must read and understand the following documents:

- Personal Health and Safety Information
- System Safety Information

Installation personnel should make sure that the following documents are kept handy:

- ZXSDR R8882 Product Description
- ZXSDR R8882 Hardware Description
- ZXSDR R8882 Project Survey Report
- ZXSDR R8882 Environment Acceptance Report
- ZXSDR R8882 Installation Design Drawing
- ZXSDR R8882 Parts List
- ZXSDR R8882 Tools and Meters List




What is in This Manual

Chapter	Summary
Chapter 1, Installation Overview	Describes the ZXSDR R8882 appearance, installation preparations, unpacking inspection and installation flow.
Chapter 2, PIMDC Installation	Describes the PIMDC installation.
Chapter 3, Device Installation	Describes three installation modes for R8882.
Chapter 4, Cabling	Describes R8882 external cables installation.
Chapter 5, Post-Installation Check	Describes post-installation check items.

Chapter	Summary
Chapter 6, Concluding Routines	Describes the follow-up tasks after installation.
Appendix A, Waterproofing Outdoor Connectors	Describes how to connect and seal outdoor connectors.
Appendix B, Labeling Specifications	Describes labeling specifications.
Appendix C, Assembling the Portal Frame	Describes how to install the portal frame.

Conventions

ZTE documents employ the following typographical conventions.

Typeface	Meaning
Italics	References to other Manuals and documents.
“Quotes”	Links on screens.
Bold	Menus, menu options, function names, input fields, radio button names, check boxes, drop-down lists, dialog box names, window names.
CAPS	Keys on the keyboard and buttons on screens and company name.
	Note: Provides additional information about a certain topic.
	Checkpoint: Indicates that a particular step needs to be checked before proceeding further.
	Tip: Indicates a suggestion or hint to make things easier or more productive for the reader.

Chapter 1

Installation Overview

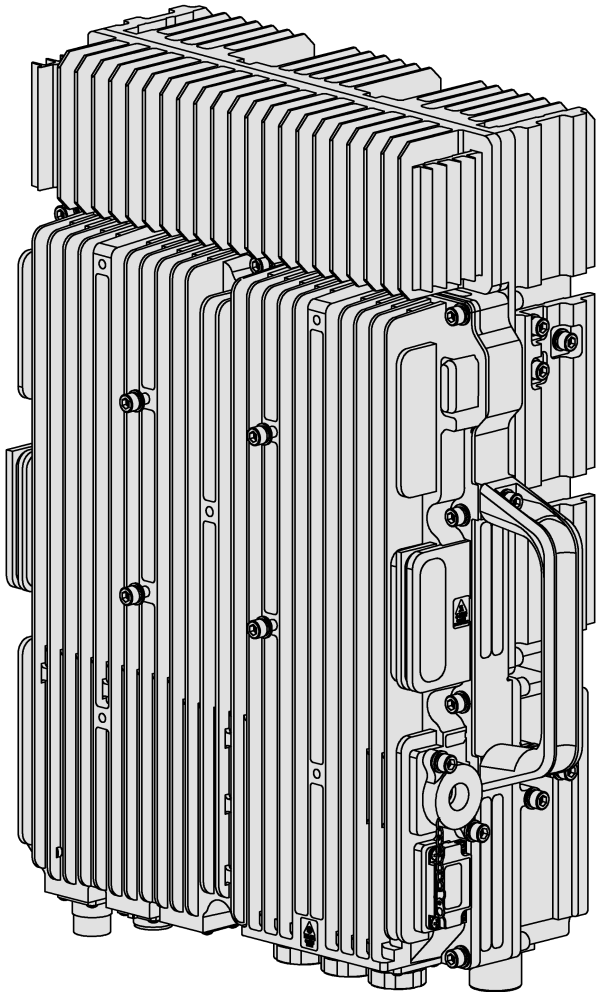
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1.1 Device Appearance

Figure 1-1 shows the ZXSDR R8882 device appearance.

Figure 1-1 ZXSDR R8882



Dimensions: 480 mm (height) × 320 mm (width) × 150 mm (depth)

Weight: 27 kg

1.2 Preparation for Installation

1.2.1 Environment Inspection

Before installing the device, installation personnel should make sure that the site environment is inspected and the Environment Acceptance Report is issued.

1.2.2 Equipment Table

This table gives the Materiel Description and Quantity required installing a ZXSDR R8882.

Table 1-1 ZTE Parts and Equipment List for a RRU

Material Name	Quantity
R8882 (RRU)	1
RRU engineering accessory	1
RRU installation assembly (wall-mounted installation assembly, pole-mounted installation assembly, or L-shaped portal frame)	1
Device hook (U-shaped hook)	0–2 (used for Mounting Kit 1)
RRU mounting piece	0–1 (used for Mounting Kit 2)
RRU protection shade	0–1 (used for the RRU base)
RRU external cable	1
PIMDC	0–1 (used when the R8882 has no built-in lightning arrester, currently does not supporting AC)
PIMDC mounting piece	0–1 (optional, used to secure the PIMDC to the front or flank sides of the R8882)

1.2.3 Tools and Meters List

This table lists tools and meters required installing ZXSDR R8882.

Table 1-2 Tools and Meters List

Item		List
General-purpose tools	Measuring and ruling tools	5 m steel tape, 1 m ruler, gradienter, marker, drilling template (delivered with the device)
	Drilling tools	Electric percussion drill (auxiliary drill bits) and vacuum cleaner
	Tightening tools	Cross screwdrivers (M3–M6), Allen key (M6), adjustable wrench (M10), and torque wrench
	Small tools	Snipe-nose pliers, diagonal pliers, vices, file, hacksaw, and hydraulic pressure pliers
	Auxiliary tools	Chain wheel, Ladder, Rope, scissors, slip-proof gloves, safety helmet, connector card, paintbrush, and hot air blower
Special-purpose tools		Multi-functional crimping pliers and feeder connector knife
Meters		Digital multimeter, VSWR tester, earth resistance tester, base station tester, compass, field strength tester (for special purpose), and spectrum analyzer (for special purpose)

1.3 Installation Space Requirement

Figure 1-2 shows the recommended space for installing ZXSDR R8882.

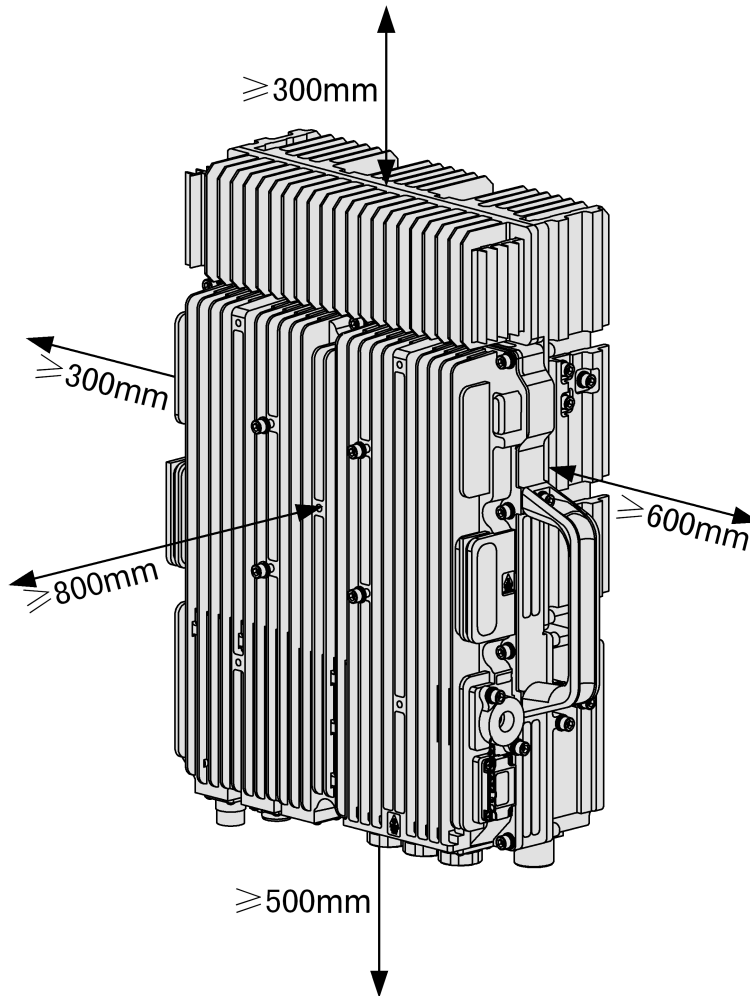
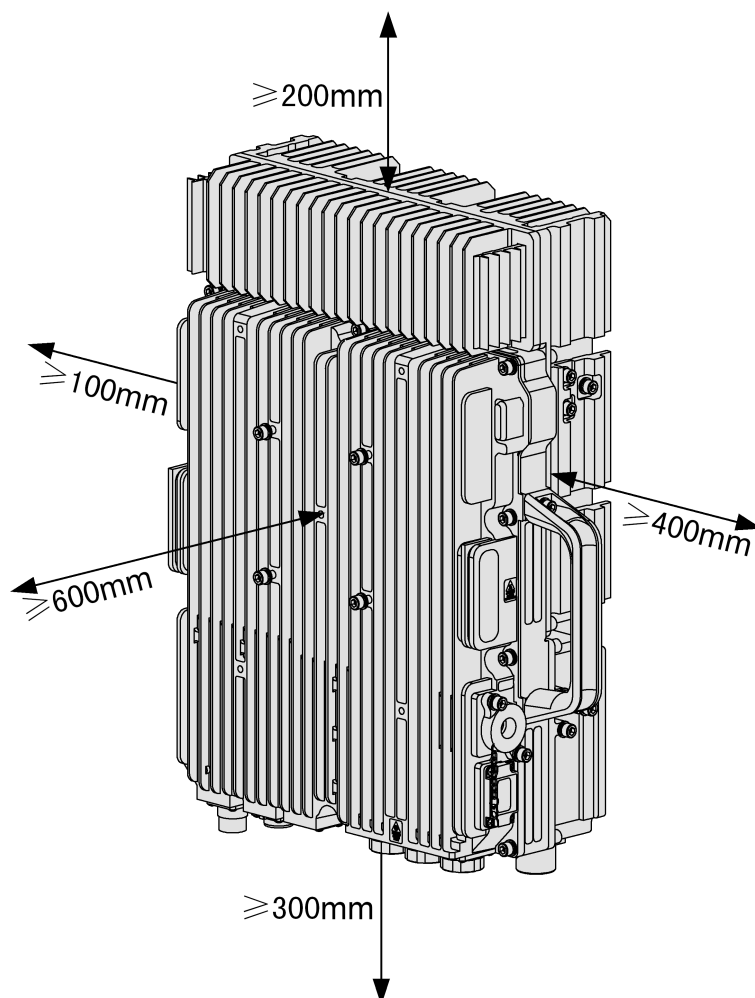
Figure 1-2 Recommended Space for Installing ZXSDR R8882 (Unit: mm)

Figure 1-3 shows the minimum space for installing ZXSDR R8882.

Figure 1-3 Minimum Space for Installing ZXSDR R8882 (Unit: mm)



1.4 Unpacking Inspection

1.4.1 Counting Goods

Prerequisite

The goods have been delivered to the site for installation.

Context

The goods counting needs to be jointly completed by the engineering technicians from both ZTE and the operator.

Steps

1. Count the total number of cargos, the status of packing crate and the shipping address on the cargo need to be checked. When all inspections are passed, start the unpacking inspection.

2. Equipment check list and unpacking inspection report are packed in crate #1. The unpacking inspection report need to be checked out and archived first.
3. If any goods missing, default, wrong equipments, inaccuracy in number or damages are found, the **Feedback For Unpacking Inspection** needs to be filled out by engineering supervisor with relevant reason. It should be send back to ZTE as soon as possible for processing.

– End of Steps –

1.4.2 Unpacking Crate

Context

The required tools are claw hammer, pliers, straight screw driver and crow bar.

Steps

1. Insert a straight screw driver or a claw hammer into the metal lock on the cover of the wooden crate. Rotate the screw driver or the claw hammer to loosen the iron sheet. Then open it with crow bar and pliers.
2. Open up all the other metal locks on the wooden crate top surface and remove the top cover.
3. Take out the carton from the wooden crate.

– End of Steps –

1.4.3 Unpacking Carton

Context

Cartons are generally used for packing spare parts for electronic equipments, terminal devices and ancillary materials. Spare parts for electronic equipments are delivered in static-free bags. The static-free protective measures are needed when unpacking.

Unpacking tools: Oblique clamp, paper cutter

Follow the two points during the unpacking process:

- The static-free bag should not be broken for future storage or repair purpose.
- Desiccant in the carton should be properly disposed and be kept away from children.

Steps

1. Cut off packing bands with the oblique clamp.
2. Slice along the tapes on the edges of the case cover and mind the depth when cutting.
3. Open up the carton and take out the bubbles.
4. Check out the goods according to the check list attached to the carton.

5. Take out the static-free bag.
6. Open up the static-free bag and take out the electronic device.

– End of Steps –

1.4.4 Acceptance and Handover

Steps

1. Inspection

Check the good's name, model, number etc against the packing list. Verify each goods according to the following items:

- Any concave, convex, scratches, peeling, blistering, blot outside the case.
- Any paint stripping, scratches on the case.
- Any loosing screw, drop bolts or dislocation.
- Any missing parts.

Place the goods inspected by categories.

2. Delivery

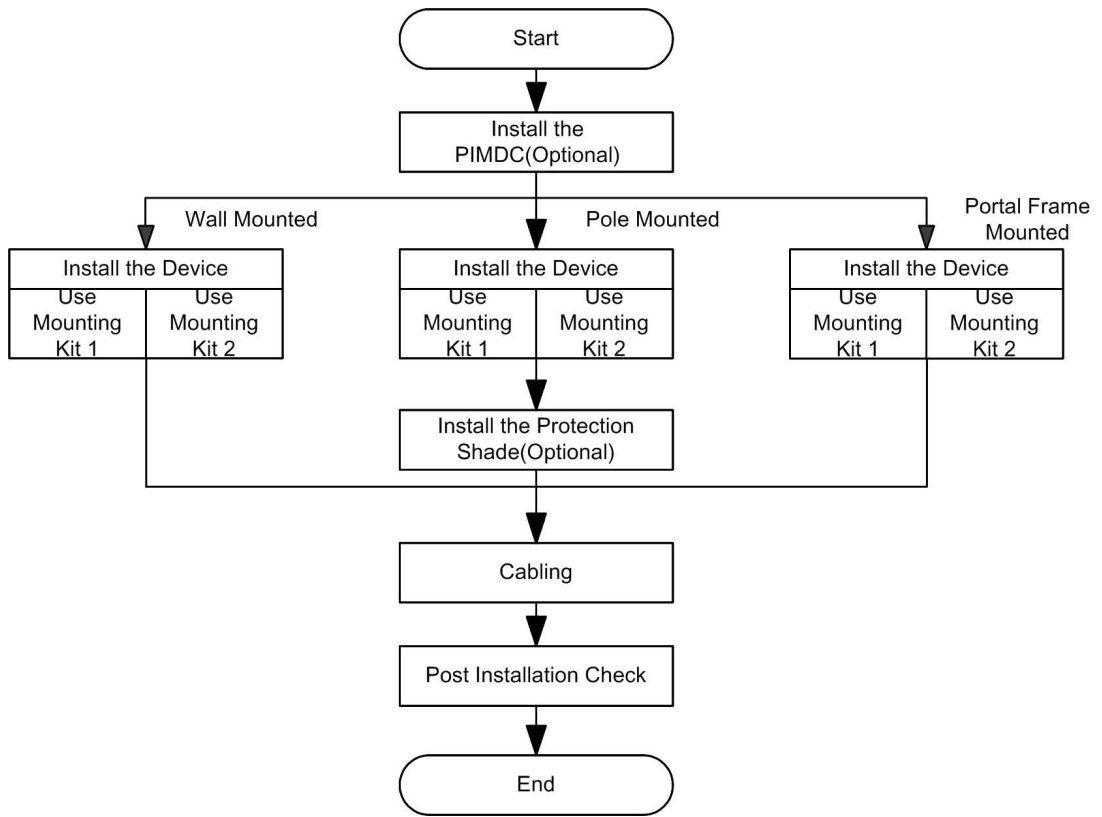
The customer representative and engineering supervisor need to sign on the Unpacking inspection report after the inspection. If the contract specifies the goods be kept by the customer after the inspection, both parties need to sign on the Unpacking Inspection Report and transfer the goods to the customer.

– End of Steps –

1.5 Installation Flow

Figure 1-4 shows the flowchart of installing ZXSDR R8882, including PIMDC installation, device installation, and cabling.

Figure 1-4 Flowchart of Installing ZXSDR R8882



Chapter 2

PIMDC Installation

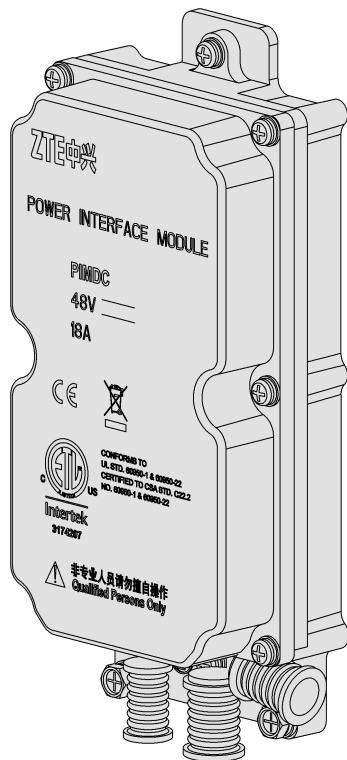
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2.1 Overview

Figure 2-1 shows the appearance of the power interface module DC (PIMDC).

Figure 2-1 PIMDC Appearance



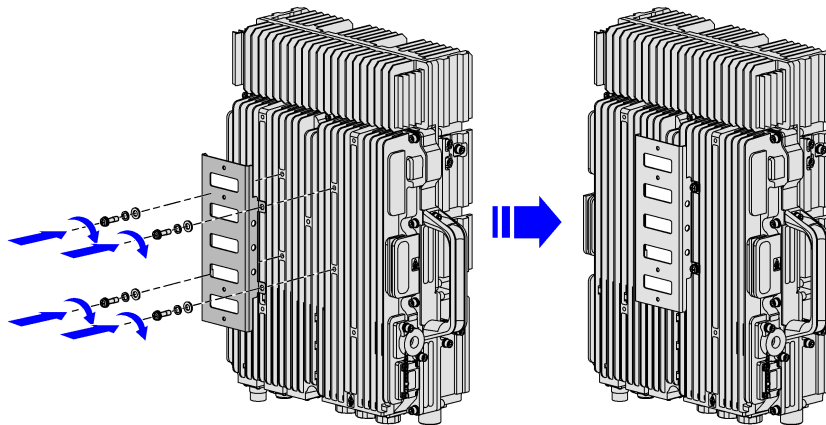
The dimensions of a PIMDC are 233.2 mm (Height) × 119 mm (Width) × 55 mm (Depth).
If the device is configured with a PIMDC , installation personnel can install the PIMDC onto the device before installing the device. The PIMDC can be installed on the front or side of the device.

2.2 Installing the PIMDC on the Front of the Device

Steps

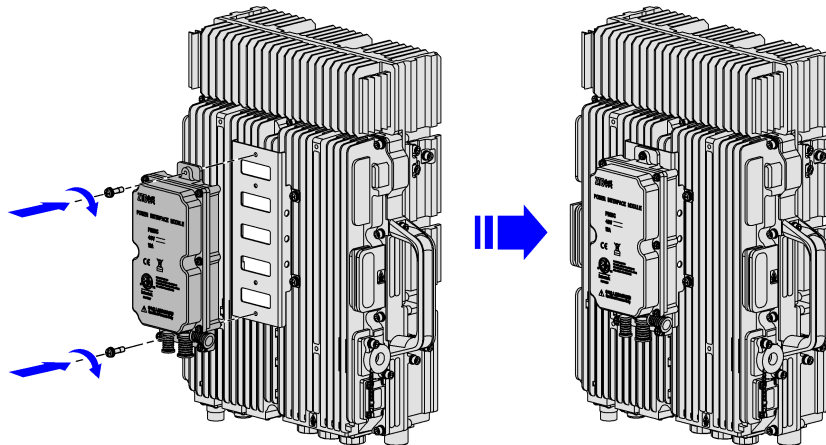
1. Put the PIMDC mounting piece in place and align the holes on the PIMDC mounting piece with the mounting holes on the device.
2. Tighten the four M6 screws with a screwdriver, as shown in [Figure 2-2](#).

Figure 2-2 Securing the PIMDC Mounting Base on the Front of the Device



3. Place the PIMDC on the mounting piece and tighten the two captive screws with a screwdriver, as shown in [Figure 2-3](#).

Figure 2-3 Securing the PIMDC on the Front of the Device



– End of Steps –

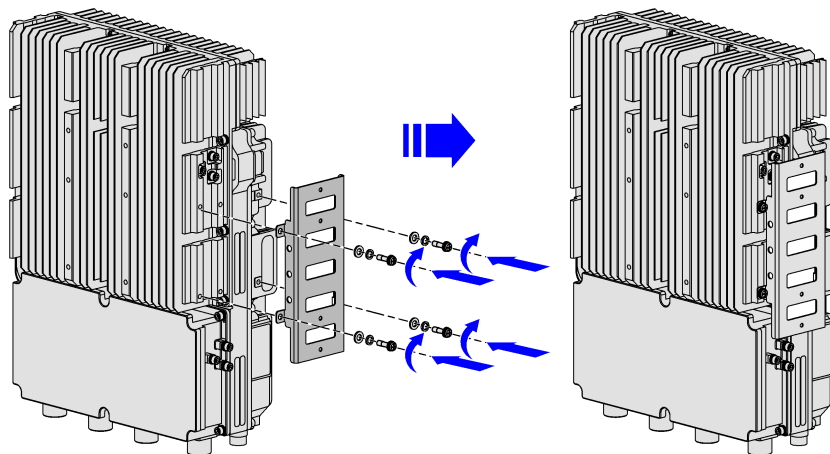
2.3 Installing the PIMDC on the Side of the Device

Steps

1. Unscrew the four screws on the left side of the RRU with an Allen key.

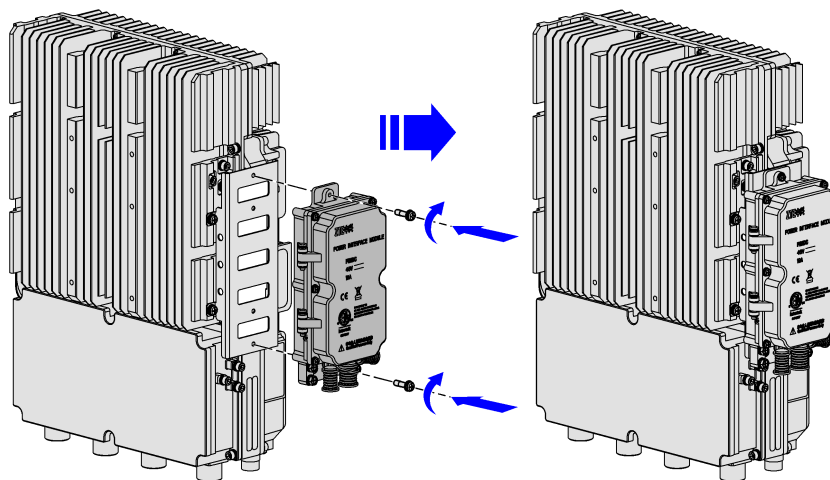
- Put the PIMDC mounting piece in place and tighten the four M6 screws with an Allen key, as shown in Figure 2-4.

Figure 2-4 Securing the PIMDC Mounting Base on the Side of the Device



- Place the PIMDC on the mounting piece and tighten the two captive screws with a screwdriver, as shown in Figure 2-5.

Figure 2-5 Securing the PIMDC on the Side of the Device



- End of Steps -

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Chapter 3

Device Installation

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3.1 Overview

Depending on the configured installation assemblies, installation personnel can install ZXSDR R8882 in one of the following modes:

- Wall-mounted installation
- Pole-mounted installation
- Portal frame-mounted installation

The following table describes the installation positions supported by the installation assemblies of ZXSDR R8882.

Table 3-1 Installation Positions Supported by the Installation Assemblies of ZXSDR R8882

Installation Position	Description
Round pole	$\phi 60$ mm– $\phi 120$ mm (GB/T8162-99, $\phi 60$, $\phi 76$, $\phi 89$, and $\phi 114$): supports single-unit, double-unit, triple-unit, and quadro-unit solutions. $\phi 40$ mm– $\phi 60$ mm: supports only single-unit and double-unit solutions.
Channel steel	60 mm–100 mm (GB/T707—1988 6.3, 6.5, 8, and 10): supports the single-unit solution.
Angle steel	63 mm–100 mm (angle steel No. 6.3, 7, 7.5, 8, 9, and 10): supports the single-unit solution.
High-speed railway tunnel	Supports the single-unit solution. Installation personnel can use some assembly parts of the wall-mounted mode and design some new assembly parts as required. The designed assembly parts should support the RRU installation interfaces.

Installation Position	Description
Indoor/Outdoor wall	Supports the single-unit solution. The assembly parts are the same as that in pole-mounted mode.
Indoor portal frame	Supports four RRUs. The assembly parts are the same as that in pole-mounted mode.

3.2 Installation Assemblies

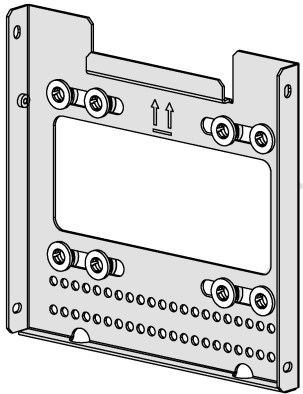
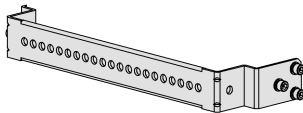
Based on the installation mode and installation assembly, installation personnel can install ZXSDR R8882 in one of the following six ways:

- Use mounting kit 1 to mount the device on a wall.
- Use mounting kit 2 to mount the device on a wall.
- Use mounting kit 1 to mount the device on a pole.
- Use mounting kit 2 to mount the device on a pole.
- Use mounting kit 1 to mount the device on a portal frame.
- Use mounting kit 2 to mount the device on a portal frame.

Installation Assembly of Mounting Kit 1 (Wall-Mounted)

Table 3-2 describes the installation assembly of mounting kit 1 for wall-mounted installation.

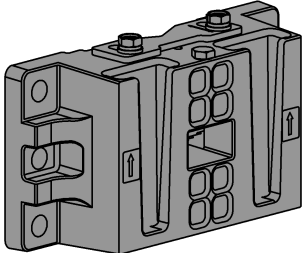
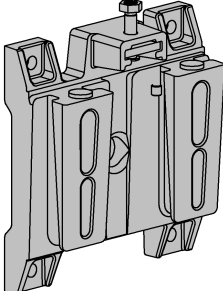
Table 3-2 Installation Assembly of Mounting Kit 1 (Wall-Mounted)

Name	Appearance	Function
Wall mounting assembly		It is used to mount ZXSDR R8882 on a wall.
Device hook (U-shaped hook)		Install two U-shaped hooks at the back of the device to connect and secure ZXSDR R8882

Installation Assemblies of Mounting Kit 2 (Wall-Mounted)

Table 3-3 describes the installation assemblies of mounting kit 2 for wall-mounted installation.

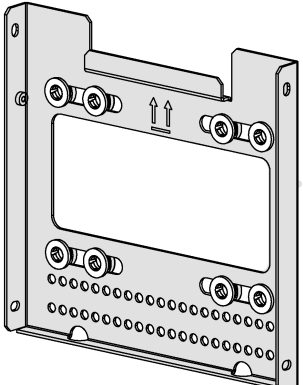
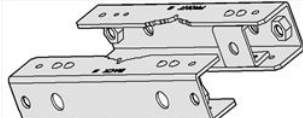
Table 3-3 Installation Assemblies of Mounting Kit 2 (Wall-Mounted)

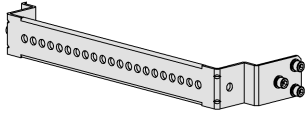
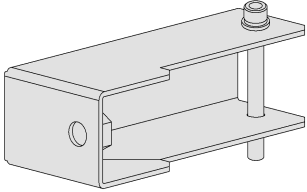
Name	Appearance	Function
Wall mounting assembly		It is used to mount ZXSDR R8882 on a wall.
RRU mounting base		It is installed on the back or side of ZXSDR R8882 to secure ZXSDR R8882 on the wall mounting assembly, pole mounting assembly, parallel mounting base, or pole mounting clamp.

Installation Assemblies of Mounting Kit 1 (Pole-Mounted)

Table 3-4 describes the installation assemblies of mounting kit 1 for pole-mounted installation.

Table 3-4 Installation Assemblies of Mounting Kit 1 (Pole-Mounted)

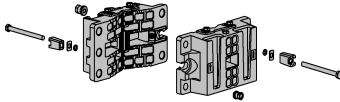
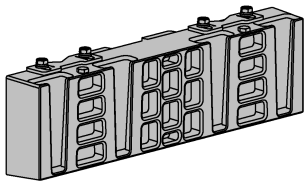
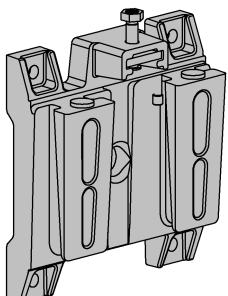
Name	Appearance	Function
Wall mounting assembly		It is used to mount ZXSDR R8882.
Pole mounting piece		It is used to secure ZXSDR R8882 on a pole.

Name	Appearance	Function
Device hook (U-shaped hook)		Install two U-shaped hooks at the back of the device to connect and secure ZXSDR R8882
Extension piece		It is used to extend the pole mounting piece to mount ZXSDR R8882 with the wall mounting assembly.

Installation Assemblies of Mounting Kit 2 (Pole-Mounted)

Table 3-5 describes the installation assemblies of mounting kit 2 for pole-mounted installation.

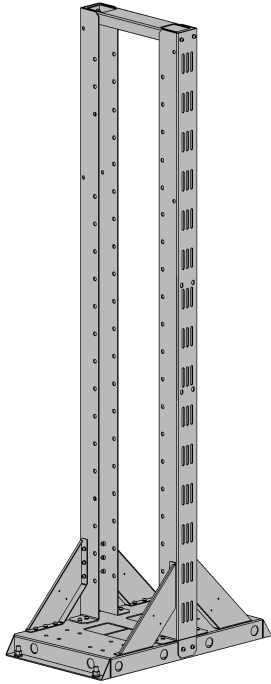
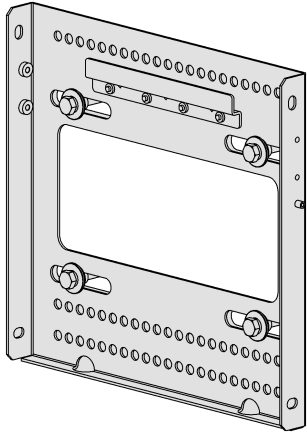
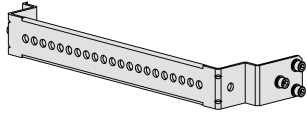
Table 3-5 Installation Assemblies of Mounting Kit 2 (Pole-Mounted)

Name	Appearance	Function
Pole mounting assembly		It is used to secure ZXSDR R8882 on a pole.
Parallel mounting base		It is used to mount three ZXSDR R8882s on a pole. One parallel mounting base can mount two ZXSDR R8882s. The parallel mounting base is located between the RRU mounting base and pole mounting piece.
RRU mounting base		It is installed on the back or side of ZXSDR R8882 to secure ZXSDR R8882 on the wall mounting assembly, pole mounting assembly, parallel mounting base, or pole mounting clamp.

Installation Assemblies of Mounting Kit 1(Portal Frame-Mounted)

Table 3-6 describes the installation assemblies of the mounting kit 1 for portal frame-mounted installation.

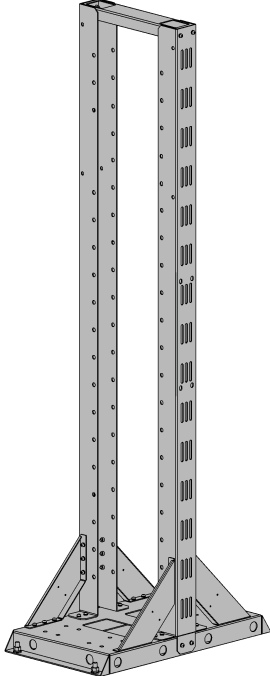
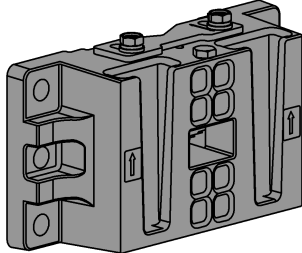
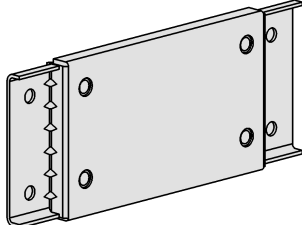
Table 3-6 Installation Assemblies of the Mounting Kit 1 (Portal Frame-Mounted)

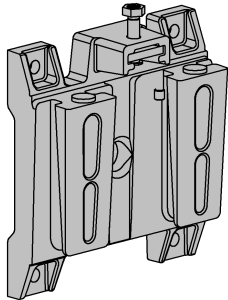
Name	Appearance	Function
Portal frame		It is fixed on the indoor floor to mount the mounting panel.
Mounting panel		It is installed on the portal frame to secure ZXSDR R8882.
Device hook (U-shaped hook)		Install two U-shaped hooks at the back of the device to connect and secure ZXSDR R8882

Installation Assemblies of Mounting Kit 2 (Portal Frame-Mounted)

Table 3-7 describes the installation assemblies of mounting kit 2 for portal frame-mounted installation.

Table 3-7 Installation Assemblies of Mounting Kit 2 (Portal Frame-Mounted)

Name	Appearance	Function
Portal frame		It is fixed on the indoor floor to mount the pole mounting clamp.
Pole mounting clamp		It is installed on the portal frame to secure ZXSDR R8882.
Transition board		It is used to secure the pole clips to the portal frame.

Name	Appearance	Function
RRU mounting base		It is installed on the back or side of ZXSDR R8882 to secure ZXSDR R8882 on the wall mounting assembly, pole mounting assembly, parallel mounting base, or pole mounting clamp.

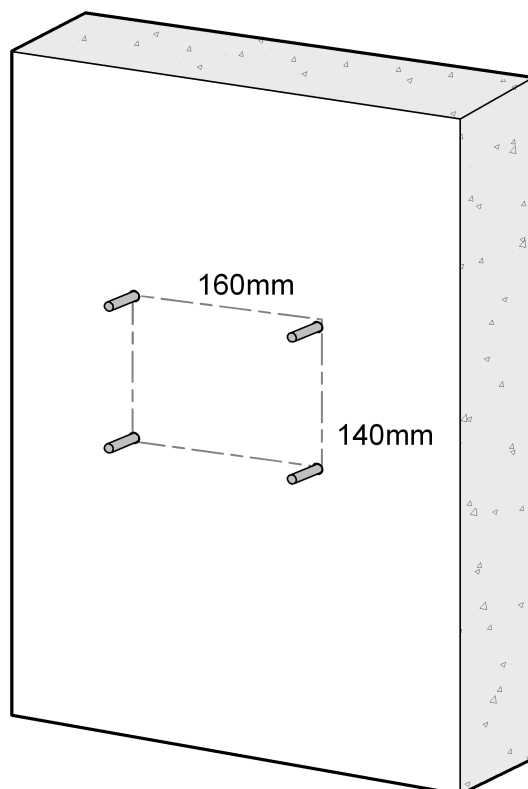
3.3 Wall-Mounted Installation

3.3.1 Using Mounting Kit 1 to Mount the Device on a Wall

Steps

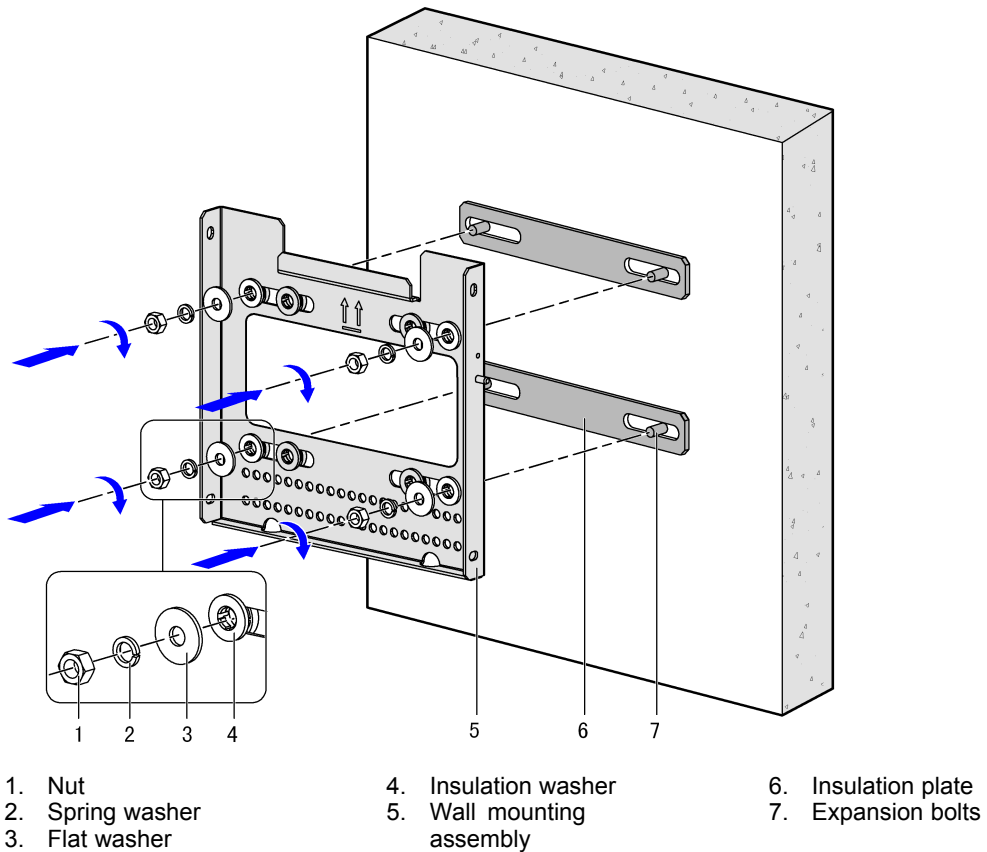
1. *Identify the installation position on the wall and draw lines:* Draw lines on the wall by using the drilling template and mark the four drilling positions, as shown in [Figure 3-1](#).

Figure 3-1 Drilling Positions

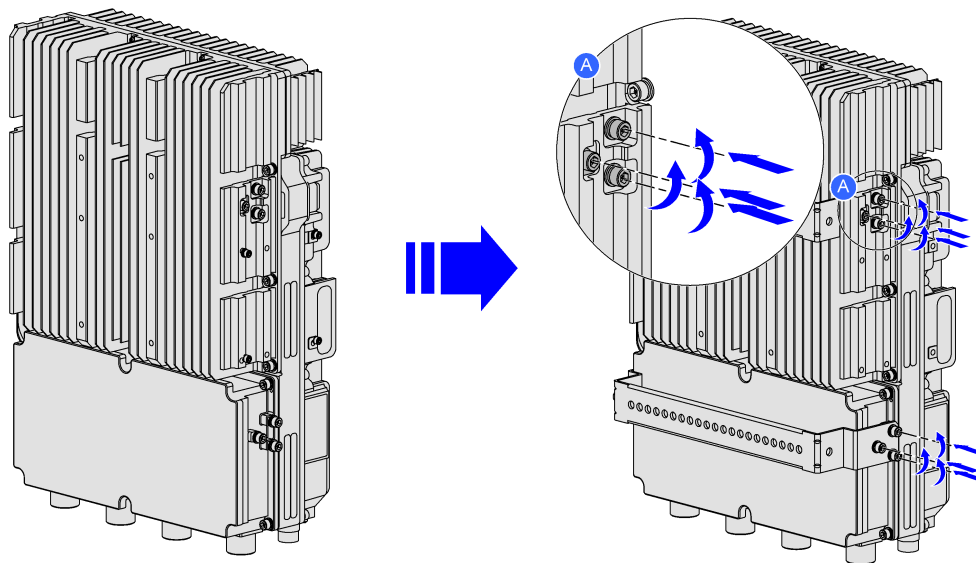


2. *Drill holes and install expansion bolts:* Drill four $\Phi 16$ mm \times 80 mm holes at the marked drilling positions by using a percussion drill and install expansion bolts. Use a vacuum cleaner to clean the dust when drilling holes.
3. *Secure the wall mounting assembly:* Secure the wall mounting assembly on the wall with the nuts removed from the expansion bolts, as shown in [Figure 3-2](#).

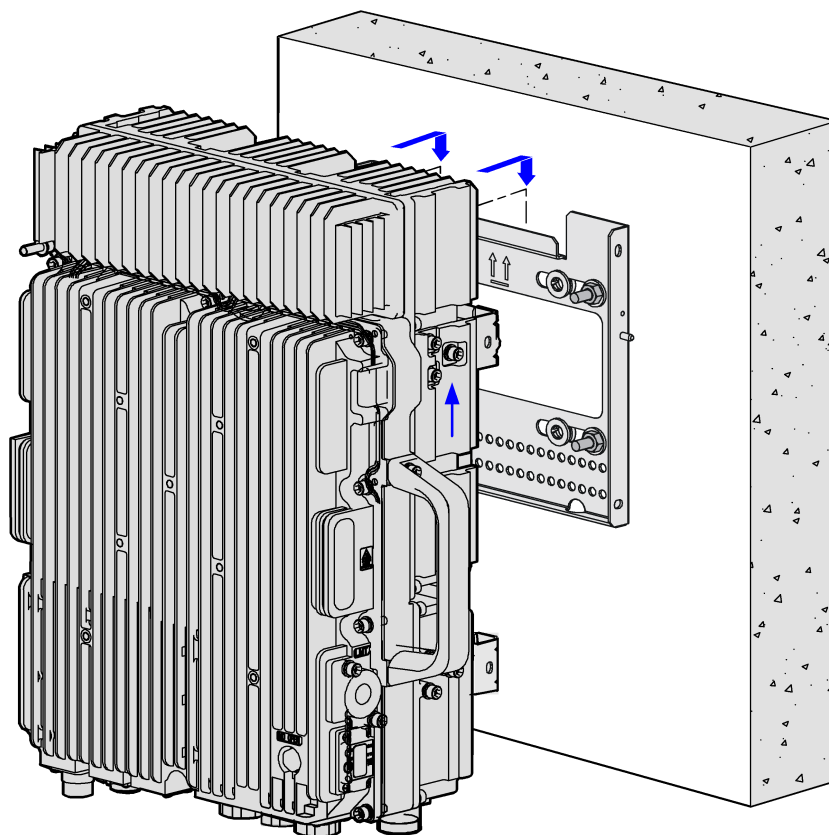
Figure 3-2 Securing the Wall Mounting Assembly



4. *Install device hooks (two U-shaped hooks):* Use the 12 M16 bolts disassembled from the ZXSDR R8882 to secure the two U-shaped hooks to the back of the device. See [Figure 3-3](#).

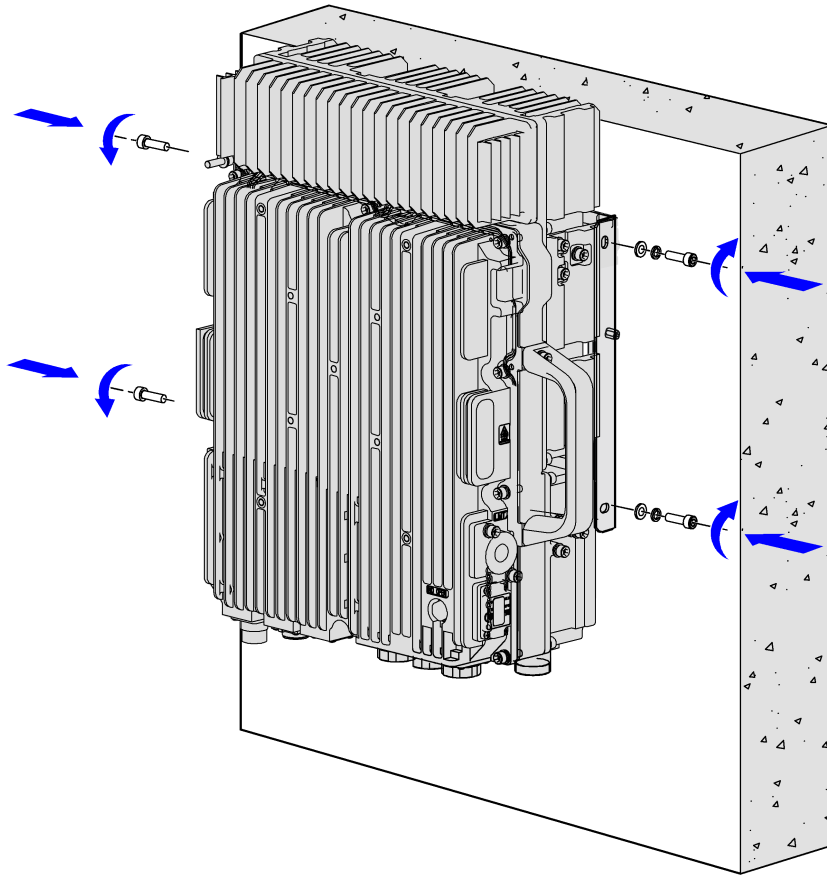
Figure 3-3 Install Device Hooks (Two U-shaped Hooks)

5. *Mount the device on the wall mounting assembly:* Hang ZXSDR R8882 on the hook on the wall mounting assembly, as shown in [Figure 3-4](#).

Figure 3-4 Mounting the Device on the Wall Mounting Assembly

6. *Secure the device:* Secure ZXSDR R8882 on the wall mounting assembly with four M6 screws, as shown in [Figure 3-5](#).

Figure 3-5 Securing the Device

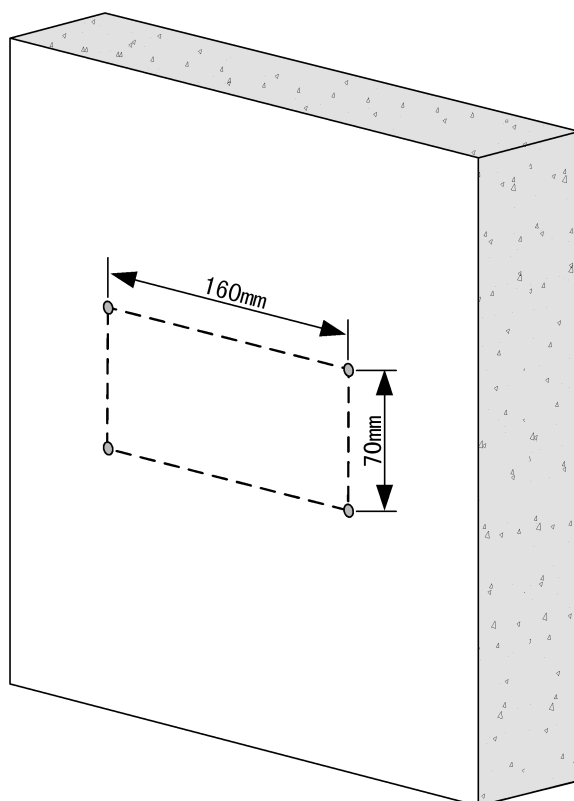


– End of Steps –

3.3.2 Using Mounting Kit 2 to Mount the Device on a Wall

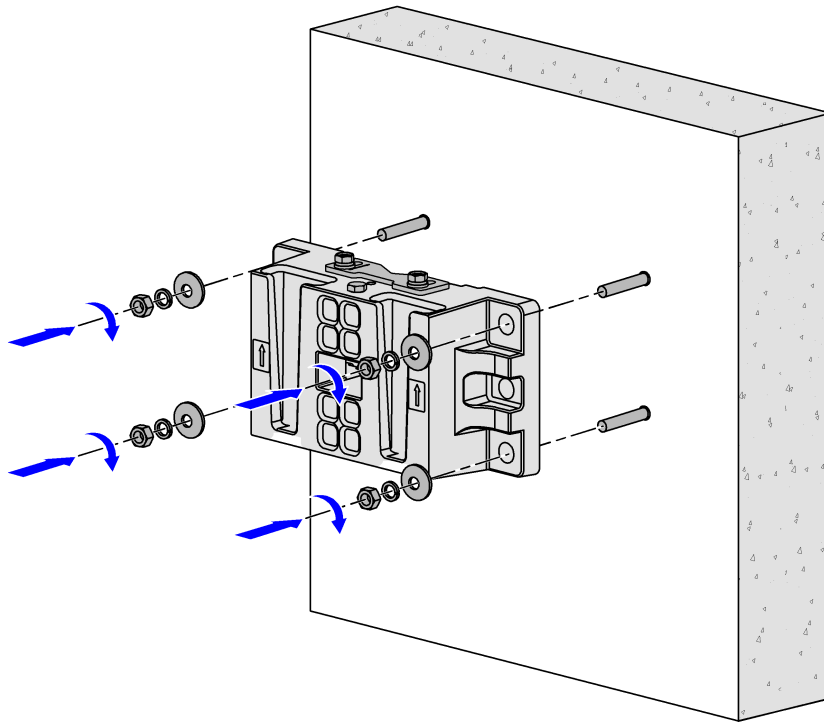
Steps

1. *Identify the installation position on the wall and draw lines:* Draw lines on the wall by using the drilling template and mark the four drilling positions, as shown in [Figure 3-6](#).

Figure 3-6 Drilling Positions

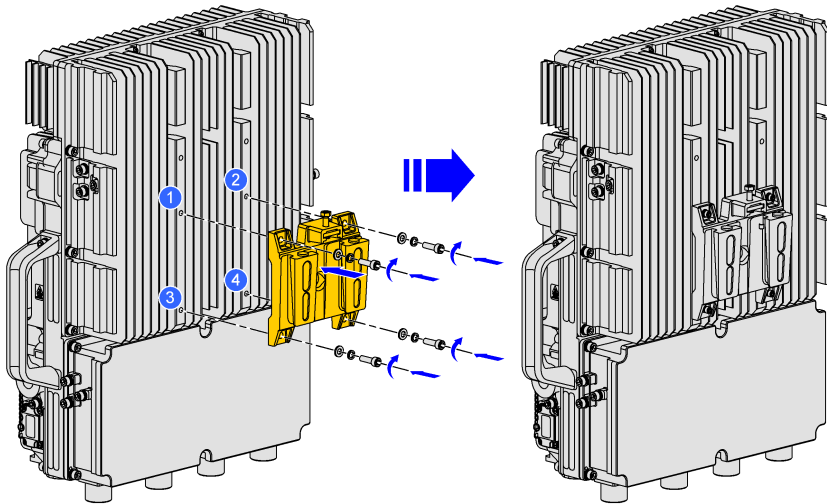
2. *Drill holes and install expansion bolts:* Drill four $\Phi 16$ mm \times 80 mm holes at the marked drilling positions by using a percussion drill and install expansion bolts. Use a vacuum cleaner to clean the dust when drilling holes.
3. *Secure the wall mounting assembly:* Secure the wall mounting assembly on the wall with the nuts removed from the expansion bolts, as shown in [Figure 3-7](#).

Figure 3-7 Securing the Wall Mounting Assembly



4. *Install the RRU mounting base on the back of the device:* Align the holes on the back of the device with the holes on the RRU mounting base and secure the RRU mounting base on the back of the device with four M6 screws, as shown in [Figure 3-8](#).

Figure 3-8 Installing the RRU Mounting Base on the Back of the Device



5. *Mount and secure the device:* Mount the RRU mounting base on the wall mounting assembly, push the locking shim to lock the RRU mounting base, and then tighten the two screws on the locking shim, as shown in [Figure 3-9](#) and [Figure 3-10](#).