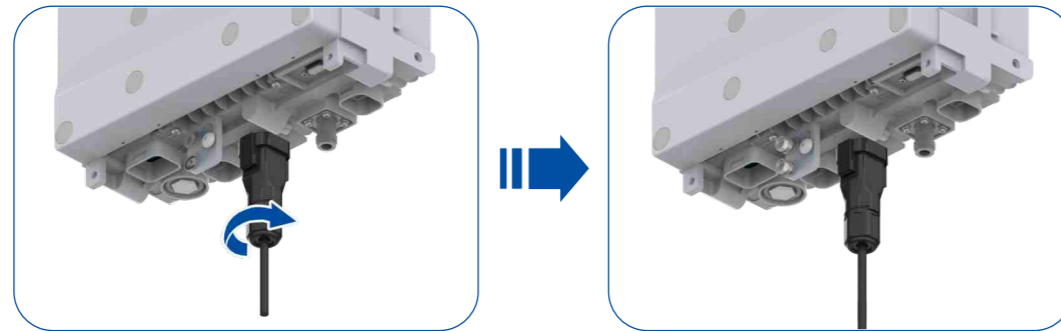**4** Fasten the nut at the end of the optical fiber sheath clockwise.

5 Connect end B of the optical fiber to the transmission device at the opposite end.

6 Paste labels at the two ends of the optical fiber. The optical fiber is installed successfully.

Installing Antenna Feeder Cables

Prerequisite: The ZXSDR BS8922 is connected to an antenna installed in separate-installation mode.

Installation Tools

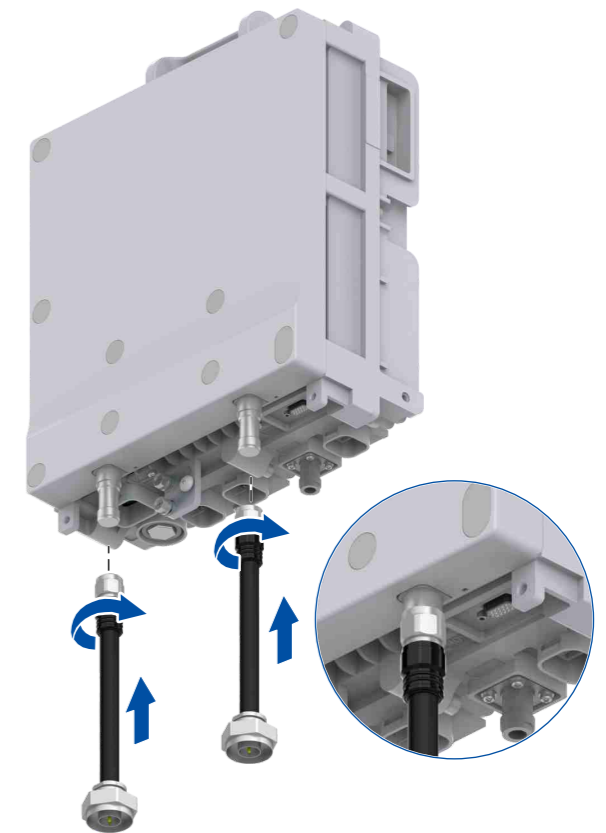| Operation	Tool
Fasten feeder connectors.	Cross-head screwdriver/Torque wrench
Waterproof feeder connectors.	PVC adhesive tape
	Waterproof cement
	Ultraviolet-proof tape

Antenna Feeder Cable

Steps

1 Connect end As of antenna feeder cables to ANT interfaces of the ZXSDR BS8922, see the Figure .

1 Connect end As of antenna feeder cables to ANT interfaces of the ZXSDR BS8922, see the Figure .

2 Connect end Bs of antenna feeder cables to the antenna installed in separate-installation mode.

3 Perform 1+3+3 waterproof handling for the cable connectors. For detailed information, refer to Appendix A Waterproof Handling.

4 Paste labels on the two ends of antenna feeder cables. The antenna feeder cables are installed successfully.

Installing the Monitoring Cable

Installation Tools

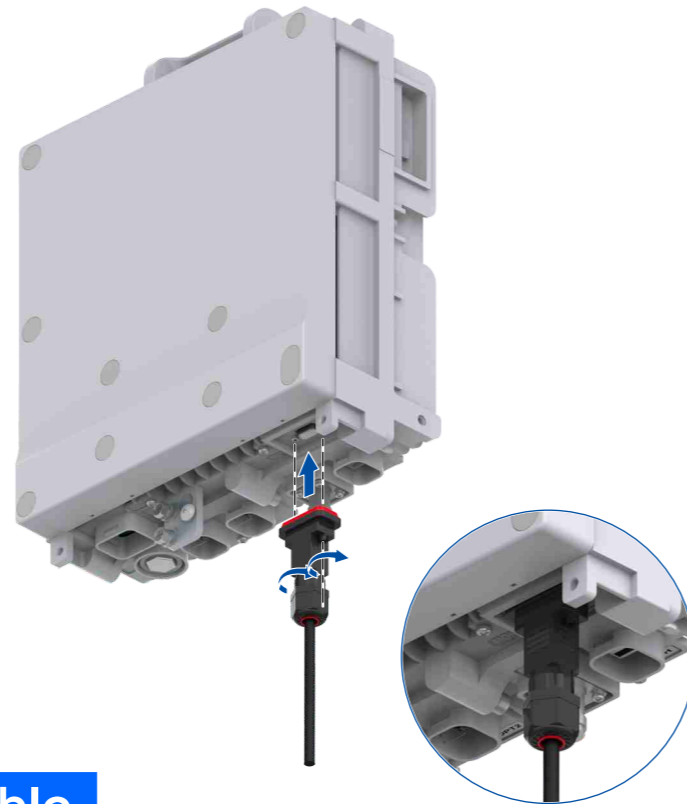| Operation	Tool
Fasten monitoring cable.	Cross-head screwdriver

Monitoring Cable

End B of the monitoring cable is a bare wire, and needs to be connected on site. For a description of the signal definitions and cable connections, refer to Table.

Pin No. at End A	Signal Name	Signal Description	Cable Color at End B
1	MON_RS485A	MONITOR interface RS485 bus signal, positive	Red
2	MON_RS485B	MONITOR interface RS485 bus signal, negative	Black
3	Dry_Node_In1+	Dry contact input, positive	Brown
8	GND	Grounding	Yellow
4	Dry_Node_In2+	Dry contact input, positive	Blue
10	GND	Grounding	White

Steps

1 Connect end A of the monitoring cable to the MON interface of the ZXSDR BS8922.

2 Connect end B of the monitoring cable to a monitoring device.

3 Paste labels on the two ends of the monitoring cable. The monitoring cable is installed successfully.

Installing the GPS Cable

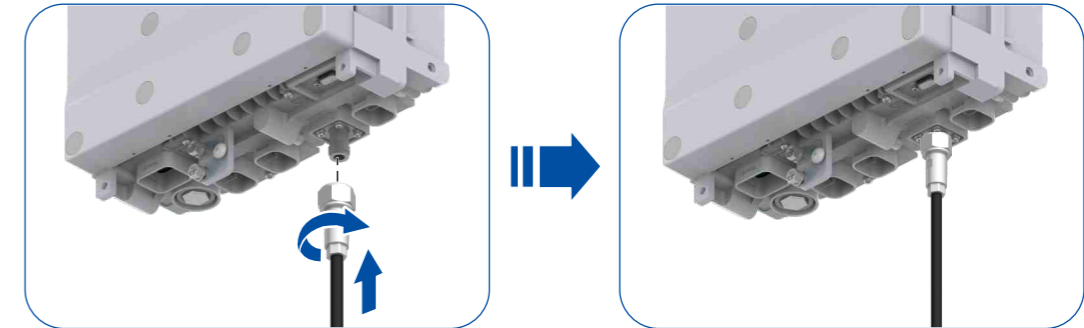**Prerequisite:** The GPS antenna is installed.

Installation Tools

Operation	Tool
Fasten GPS cable connectors.	Torque wrench
Waterproof GPS cable connectors.	PVC adhesive tape
	Waterproof cement
	Ultraviolet-proof tape

GPS Cable

1 Connect end A of the GPS cable to the GPS interface of the ZXSDR BS8922.

2 Connect end B of the GPS cable to the GPS antenna.

3 Perform 1+3+3 waterproof handling for the GPS cable connectors. For detailed information, refer to Appendix A Waterproof Handling.

4 Paste labels on the two ends of the GPS cable. The GPS cable is installed successfully.
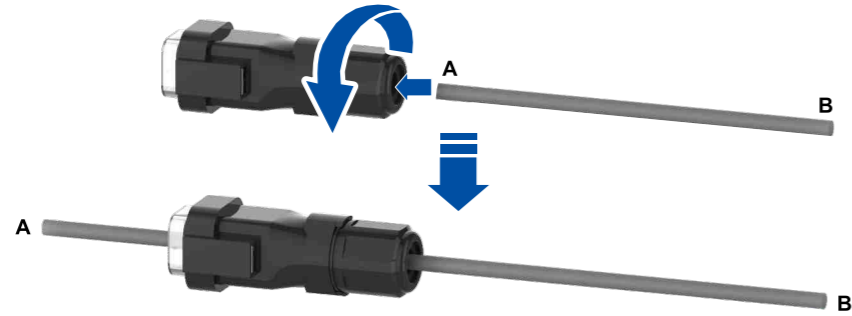
Installing the Ethernet Cable

Installation Tools

Operation	Tool
Crimp the crystal connector at end A and B.	Ethernet cable crystal-connector crimper
Test the Ethernet cable.	Network tester

The following describes how to make an Ethernet cable:
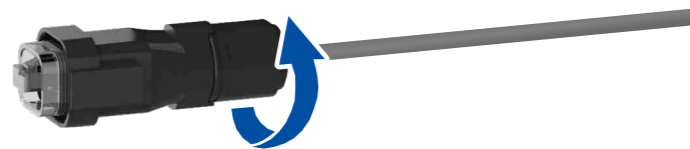
1 Loosen the Ethernet cable sheath counterclockwise, and lead end A of the Ethernet cable into the cable sheath.

2 Peel the Ethernet cable, and crimp the crystal connector at end A. For a description of the cable connections, refer to Table.

No.	Cable Color at End A	Cable Color at End B
1	White/Orange	White/Orange
2	Orange	Orange
3	White/Green	White/Green
4	Green	Blue
5	Blue	White/Blue
6	White/Blue	Green
7	White/Brown	White/Brown
8	Brown	Brown

3 Fasten the nut at the end of the Ethernet cable sheath clockwise.

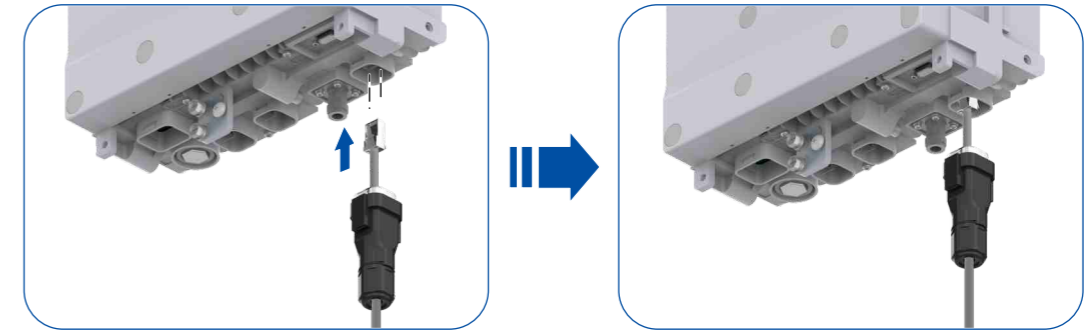**4** Crimp the crystal connector at end B of the Ethernet cable.

5 Use a network tester to verify that the wires of the Ethernet cable are crimped and connected properly. The Ethernet cable is made successfully.
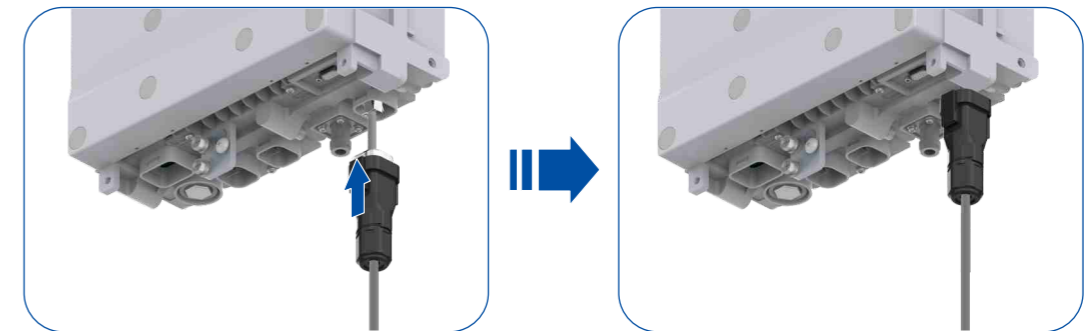
Steps

1 Loosen the nut at the end of the Ethernet cable sheath counterclockwise.

2 Insert end A of the Ethernet cable into the ETH interface of the ZXSDR BS8922.

3 Push the Ethernet cable sheath upwards until it fastens onto the slot of the ETH interface.

Note: When the Ethernet cable sheath is completely engaged in the ETH interface, two click sounds are heard.

4 Fasten the nut at the end of the Ethernet cable sheath clockwise.

5 Connect the other end of the Ethernet cable to the transmission device at the oppositeend.

6 Paste labels on the two ends of the Ethernet cable. The Ethernet cable is installed successfully.
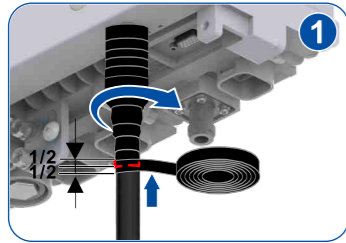
Waterproof Handling

Waterproof Handling Requirement

Item	Requirement
Antenna feeder cable	1+3+3 waterproof handling
GPS cable	1+3+3 waterproof handling

The following procedure describes how to waterproof a feeder connector.

Steps

**1** Wrap one layer of insulating tape from bottom to top, see Figure ❶ .

> Note: After a connector is connected, wrap insulating tape on the connector in the fastening direction, with the upper layer overlapping ½ of the lower layer. The wrapped insulating tape is 10 mm longer beyond the connector end. Keep enough stretching force when wrapping insulating tape.
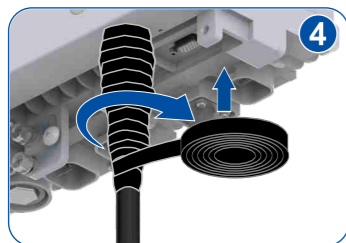
2 Wrap three layers of waterproof tape in the following manner: from bottom to top, from top to bottom, and from bottom to top, see Figure ❷ , ❸ , and ❹ .
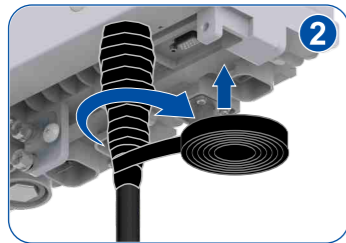
a Expand the waterproof tape, remove the release paper, and paste one end of the tape 20–50 mm below the connector. Make sure that the tape layer faces inwards.
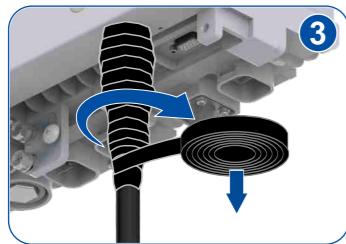
b Stretch the waterproof tape with even force to make its width 50% to 75% of its original width. Keep the stretching force and wrap the tape from bottom to top in overlapping mode, namely, each layer of the tape covers half of the previous layer.

c When the tape is wrapped 20–50 mm above the connector, use the same method to wrap the tape from top to bottom until the tape is 20–50 mm below the connector, then, wrap the tape from bottom to top.

d After the waterproof tape is wrapped properly, squeeze the tape by hand to make the layers stick firmly to the cable and connector.

3 Wrap three layers of ultraviolet-proof tape in the following manner: from bottom to top, from top to bottom, and from bottom to top, see Figure ❷ , ❸ , and ❹ .
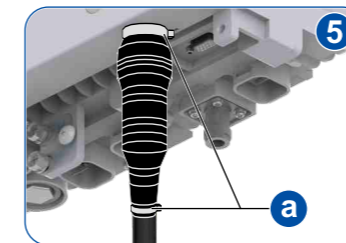
ⓐ Ultraviolet-proof cable tie

> Note: During the wrapping process, make sure that the two ends of the ultraviolet-proof tape are 20 mm beyond the previous layer of waterproof tape. First, the ultraviolet-proof tape is wrapped in overlapping mode from bottom to top, with each layer of the tape covering half of the previous layer. Second, the tape is wrapped three layers from top to bottom. Then, the tape is wrapped from bottom to top. Make sure that you wrap the tape with even force and do not stretch the tape too much. After the tape is wrapped, use both hands to squeeze the ultraviolet-proof tape and waterproof tape to make sure that they are stuck firmly.

4 Use ultraviolet-proof cable ties to bind the two ends of the tape tightly . Use ultraviolet-proof cable ties to bind the two ends of the tape tightly, see Figure ❺ .
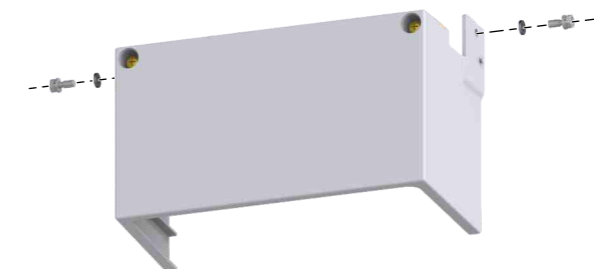
Concentrator Installation(Optional)

Prerequisite: The cables are installed.

Installation Tools

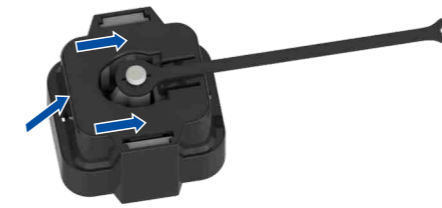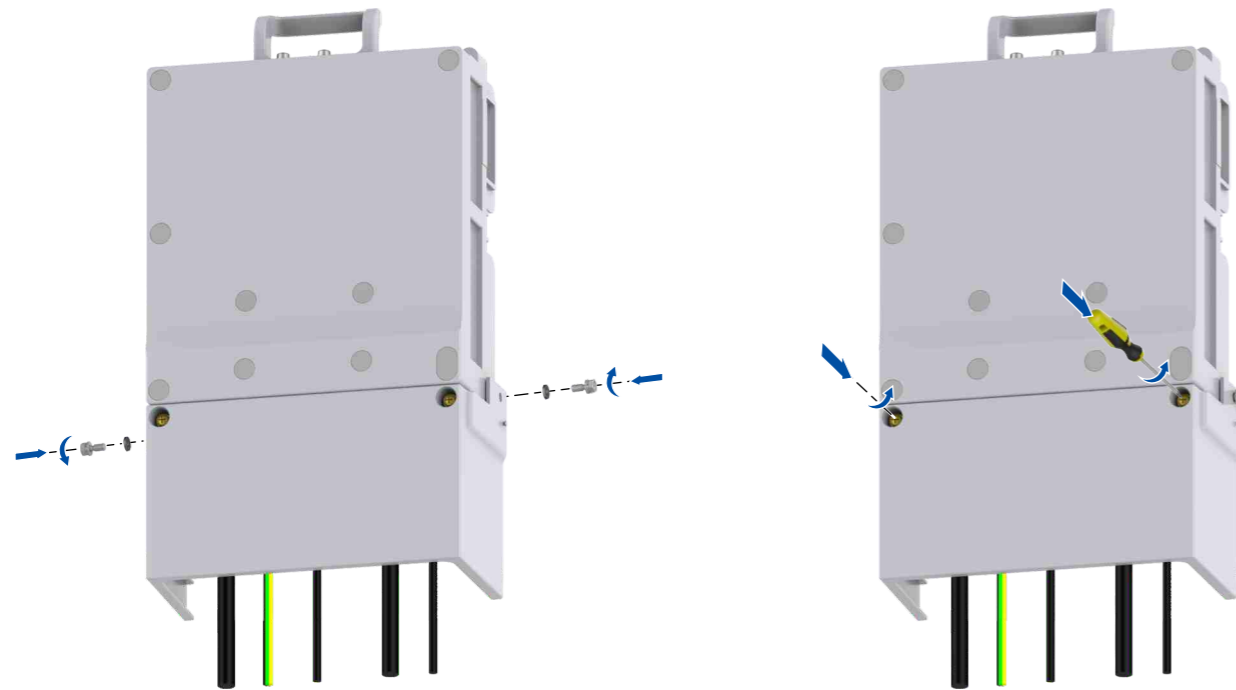| Operation	Tool
Fasten a Concentrator on the ZXSDR BS8922	Cross-head screwdriver

Concentrator

Steps

1 Clamp a concentrator to the ZXSDR BS8922, and fix it on the ZXSDR BS8922 with the screws on the two sides of it.

**2** Fasten the two captive screws on the front of the concentrator. The concentrator is installed successfully.

Installing the Waterproof Cover

A waterproof cover protects the device from water and ensures proper air tightness. This procedure uses a waterproof cover for the power supply as an example to describe how to install and remove a waterproof cover.

Steps for Installing the Waterproof Cover

1 Push the elastic barrier to unlock the inner and outer enclosures.

2 Pull the outer enclosure, and install the inner enclosure onto the power interface, until two click sounds are heard.

1 Inner enclosure
2 Outer enclosure
3 Protruding part of the power interface
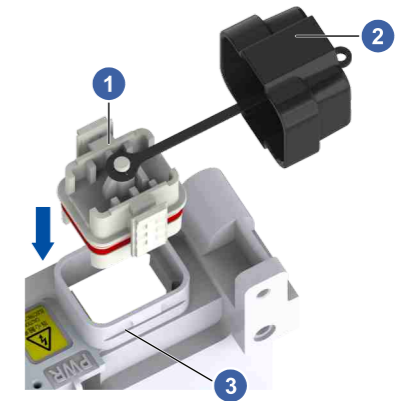
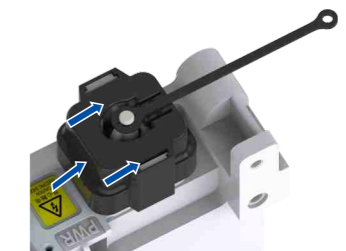**3** Cover the inner enclosure with the outer enclosure, until a click sound is heard.
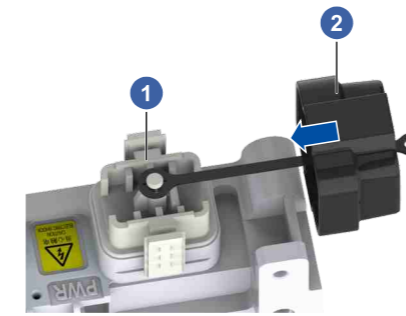
1 Inner enclosure
2 Outer enclosure

Note: ● If the outer enclosure cannot be installed, verify that the fasteners of the inner enclosure are in position, and install the outer enclosure again. ● After the outer enclosure is installed, slightly pull the outer enclosure to verify that the waterproof cover is properly installed.
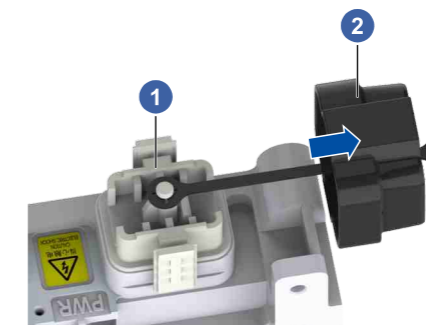
Steps for Removing the Waterproof Cover

4 Unlock the inner and outer enclosures by referring to the right Figure.

5 Pull the outer enclosure properly, and press the fasteners of the inner enclosure to remove the waterproof cover.

1 Inner enclosure
2 Outer enclosure

Installation Check

Item	No.	Requirement
Equipment installation	1	The installation components are installed in proper order, and the equipment is fixed securely without swaying.
	2	The independent pole is equipped with a lightning rod, and the equipment is within the protection scope of 45 degrees and grounded reliably.
Cable installation	3	The wire lugs and bare wires of the power cable and the grounding cable are wrapped with tubes or insulating tape. There are no exposed copper wires.The copper lug type is consistent with the cable diameter.
	4	The power supply is connected properly, and the terminals of the power cable and grounding cable are crimped tightly. The copper lugs are fastened on binding posts through flat washer and spring washer.
Cable installation	5	The surplus grounding cable and power cable are cut off. All cables are complete and their insulating layers are in good condition. It is prohibited to splice two cables.
	6	The power cable, signal cables, and fiber pigtails are bundled by category and routed separately, with a spacing of 5 cm between each other.
	7	All cable connectors are connected securely. All DIN-type connectors and N-type connectors are fastened properly.
	8	The bending radius of all cables satisfy the requirement.
	9	Unused optical cables, optical channels, and sockets are equipped with protective caps.
	10	Black cable ties and white cable ties cannot be interchanged. White cable ties are used indoors and must be cut off at the end, without leaving any sharp edge. Black cable ties are used outdoors, and must be cut off at the end with a 3-5 mm margin in case of expansion due to high temperature.
	11	All cable labels are correct and pasted in the same direction.
	12	The outdoor feeder cable and GPS cable are grounded in accordance with relevant specifications.

Grounding and waterproof handling	13	Rust and stains on the grounding terminal of the protective grounding cable are removed before the cable is connected. After the cable is connected, anticorrosion and antirust measures are taken properly.
	14	All cable connectors are wrapped for waterproof purposes. Insulating tape and waterproof tape are wrapped tightly and sequentially.
	15	The protective grounding cable of the equipment is installed properly, and cannot be cascaded with other protective grounding cables. The protective grounding cable is connected to the nearest copper grounding bar.

Equipment Power-on

ZXSDR BS8922 Power-On Procedure
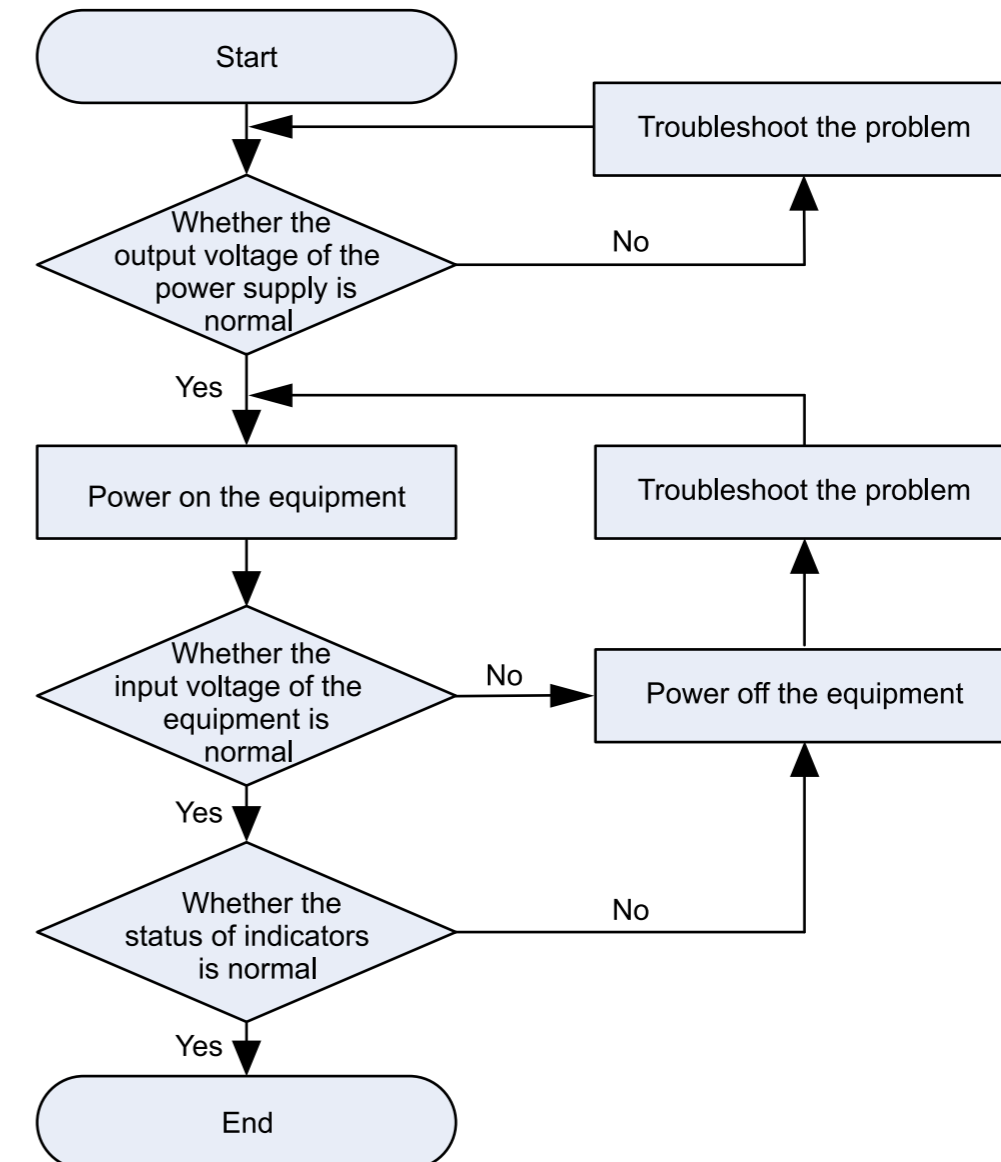
Power-On Steps:

1 Connect the power supply equipment to the junction box of the ZXSDR BS8922, or switch on the air circuit breaker of the lightning protection box.

2 Observe the indicators to determine whether the ZXSDR BS8922 is powered on successfully.

> **Note: The following describes the status of indicators when the ZXSDR BS8922 is operating properly:**
> - **RUN (operating status indicator): flashing (lit for 0.3 s and not lit for 0.3 s)**
> - **ALM (fault indicator): not lit**
> - **OPT1/ETH (link status indicator): flashing (lit for 0.3 s and not lit for 0.3 s)**
> - **OPT2 (link status indicator): flashing (lit for 0.3 s and not lit for 0.3 s)**
> - **VSWR (SWR indicator): not lit**
> - **ACT (cell status indicator): lit**
> - **REF (clock reference indicator): flashing (lit for 0.3 s and not lit for 0.3 s)**

Closure

Before leaving the installation site, make sure that the following jobs are completed:

Put away the tools.

Put away the installation tools.

Recycle redundant materials.

Recycle excess materials and hand them to the customer.

Clean up the installation site.

Remove trash from the installation site to keep a clean environment.

Complete the installation report.

Fill in the installation report and submit it to the person in charge.