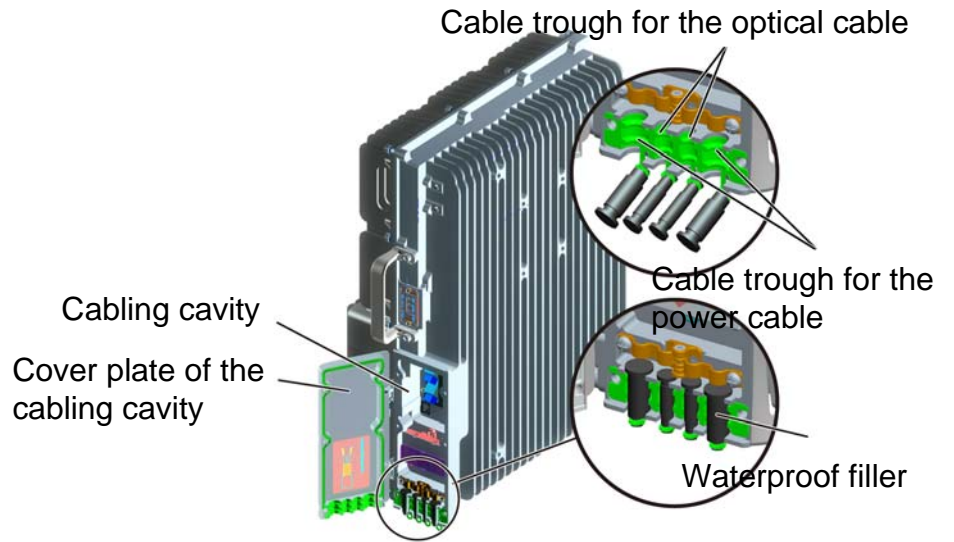# Installing the RRU Cables
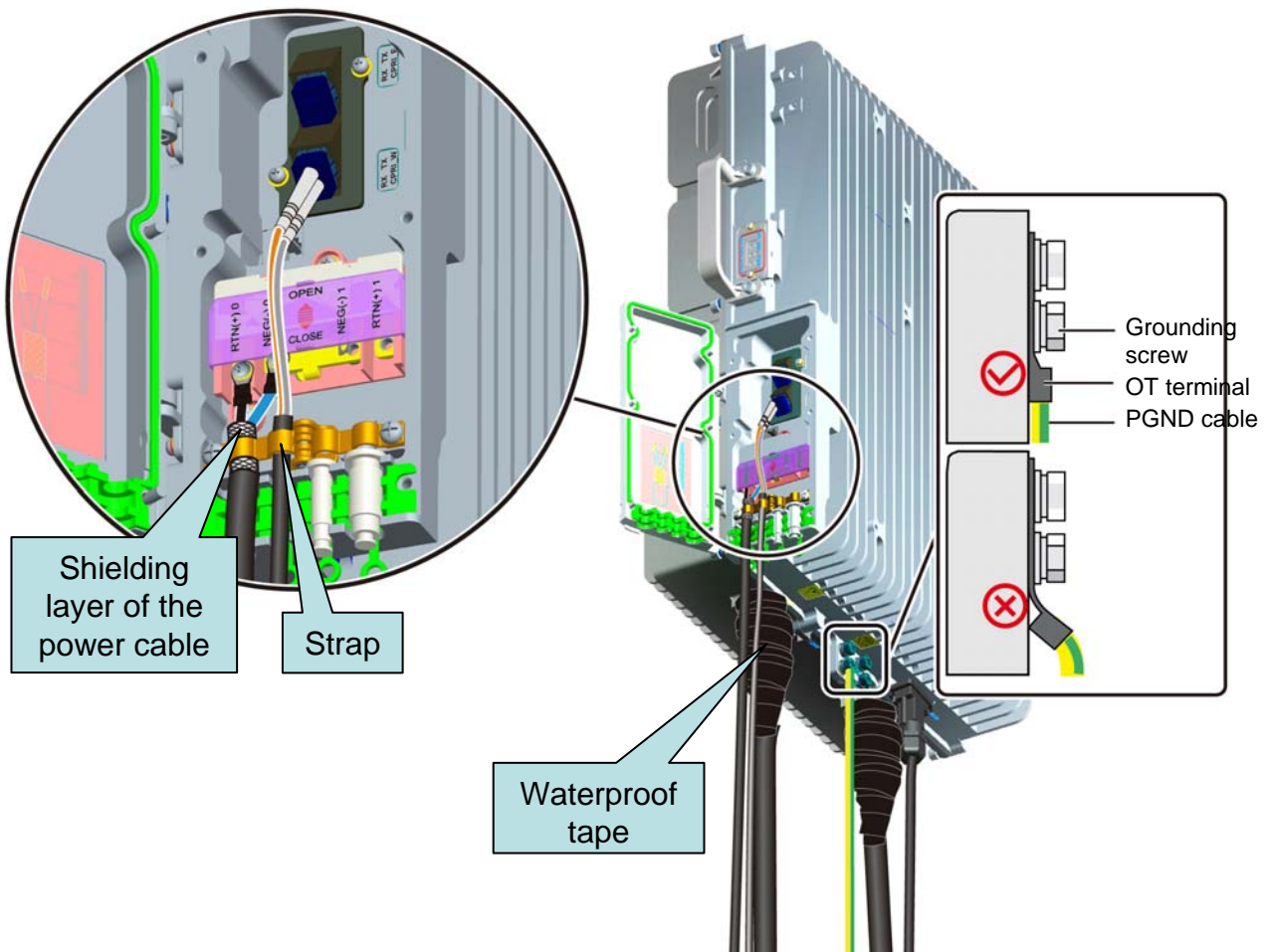
b Open the cover plate of the RRU cabling cavity

c Cabling Cavity of the RRU

Cable trough for the optical cable

Cable trough for the power cable

Cabling cavity

Cover plate of the cabling cavity

Waterproof filler

d Cable Connections of the RRU

OPEN
CLOSE

RTN(+)0   NEG(-)0   NEG(-)1   RTN(+)1

Shielding layer of the power cable

Strap

Waterproof tape

Grounding screw
OT terminal
PGND cable

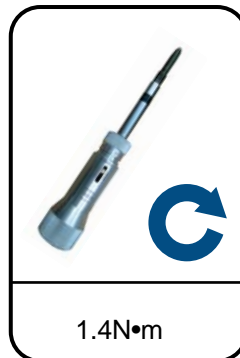# Installing the RRU Cables

d   Cable Connections of the RRU

📖 **NOTE**

● When wrapping the waterproofing tape, apply even force to extend the tape until the width of the tape is 1/2 of the original width.

● Wrap the joint spirally upward, downward, and then upward again. In other words, the joint is wrapped by three layers of the tape. Ensure that the upper layer of the tape covers about half of the lower layer when wrapping up the tape.

● Do not remove the dustproof cap from the idle antenna port. Perform the waterproof, dustproof, and smokeproof treatment if necessary. Use the waterproof tape to wrap the joints in outdoor applications.

For details on how to add the OT terminals to the power cable, see pages 22 to 23 Adding OT Terminals to the Power Cable of the RRU.

For details installing the Optical Module, see page 24 Installing the Optical Module.

## e   Close the cover plate of the RRU cabling cavity

1.4N•m

⚠ **CAUTION**

1. The screw on the cover plate is tightened until the fastening torque is 1.4 N• m.
2. The screws on the cover plate are tightened in the order shown in the preceding figure.

Installing the RRU Cables

f RRU+APM30H

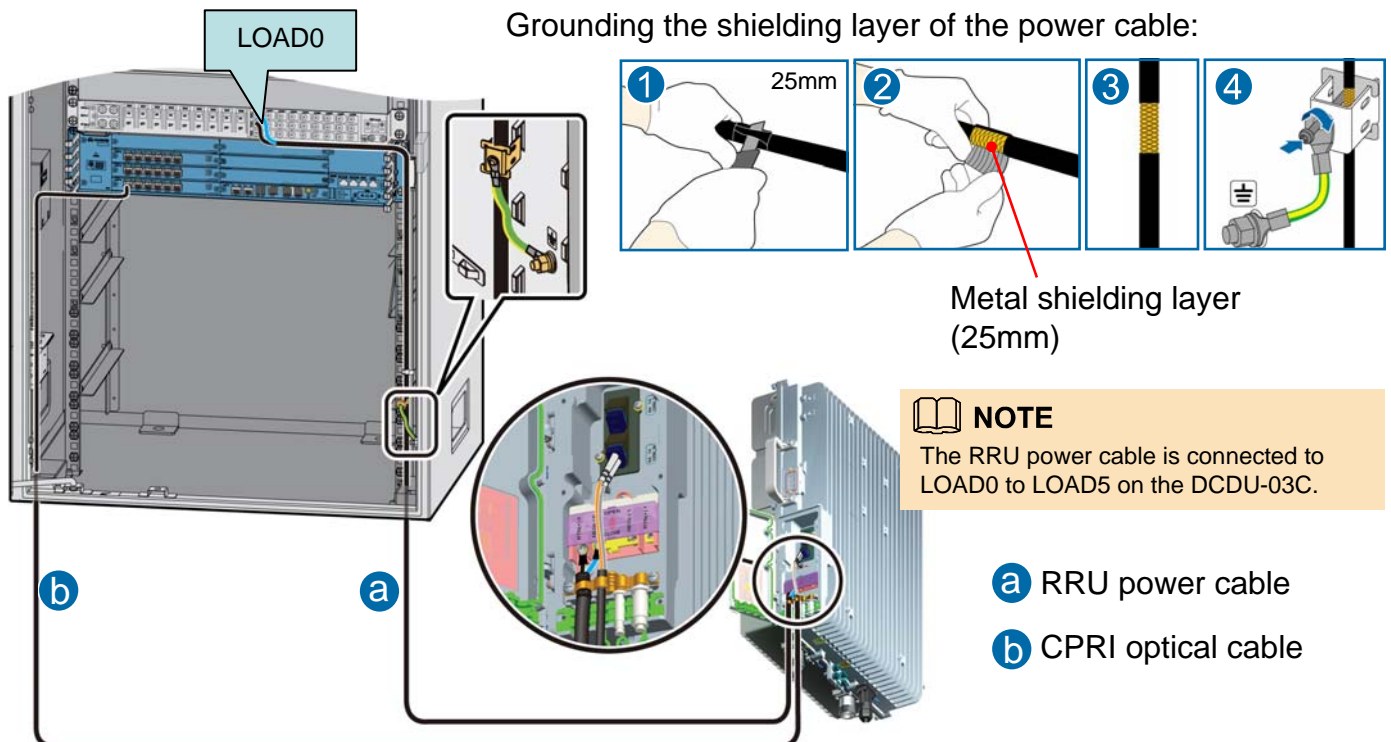Grounding the shielding layer of the power cable:

Metal shielding layer (25mm)

a RRU power cable

b CPRI optical cable
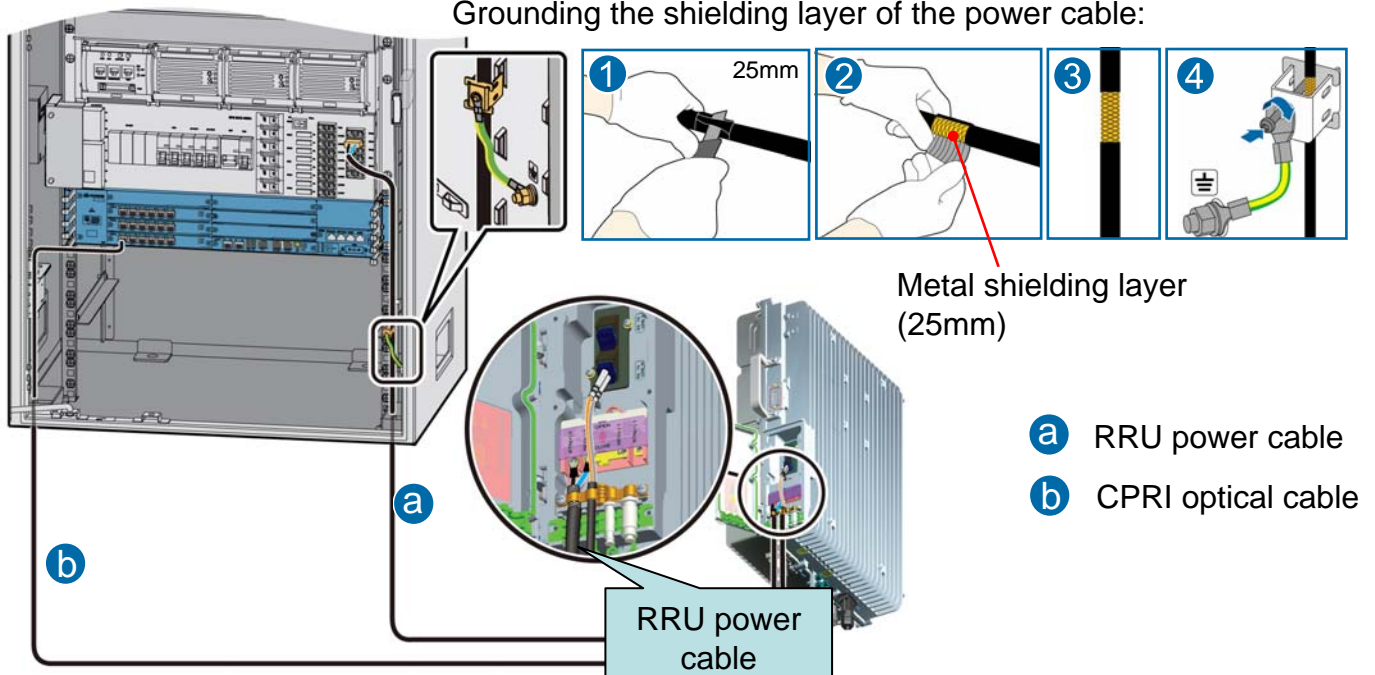
RRU power cable

📖 **NOTE**

1. The RRU power cable is connected to one group of the RRU0 to RRU5 terminals of the PDU.
2. Strip the jacket off the RRU power cable for a small part, press the exposed shielding layer on the strap, and then connect the PGND cable on the strap to the nearest grounding bolt on the side in the APM30/APM30H.
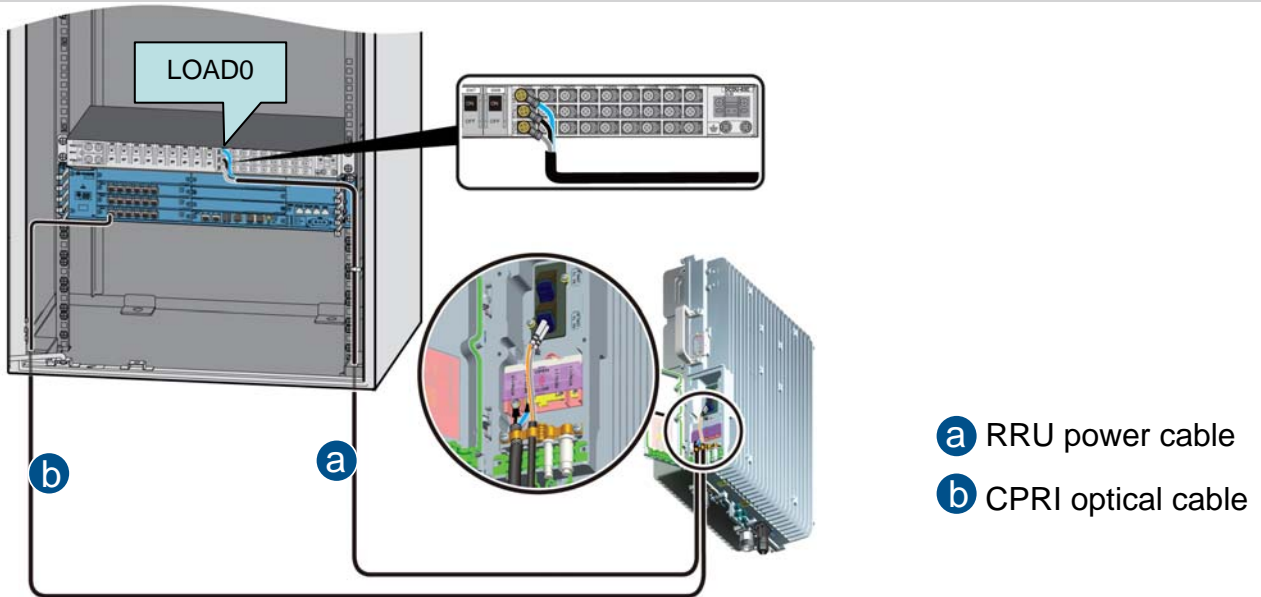
g RRU+TMC/TMC11H

LOAD0

Grounding the shielding layer of the power cable:

Metal shielding layer (25mm)

📖 **NOTE**

The RRU power cable is connected to LOAD0 to LOAD5 on the DCDU-03C.

a RRU power cable

b CPRI optical cable

Installing the RRU Cables

h RRU+19-Inch cabinet

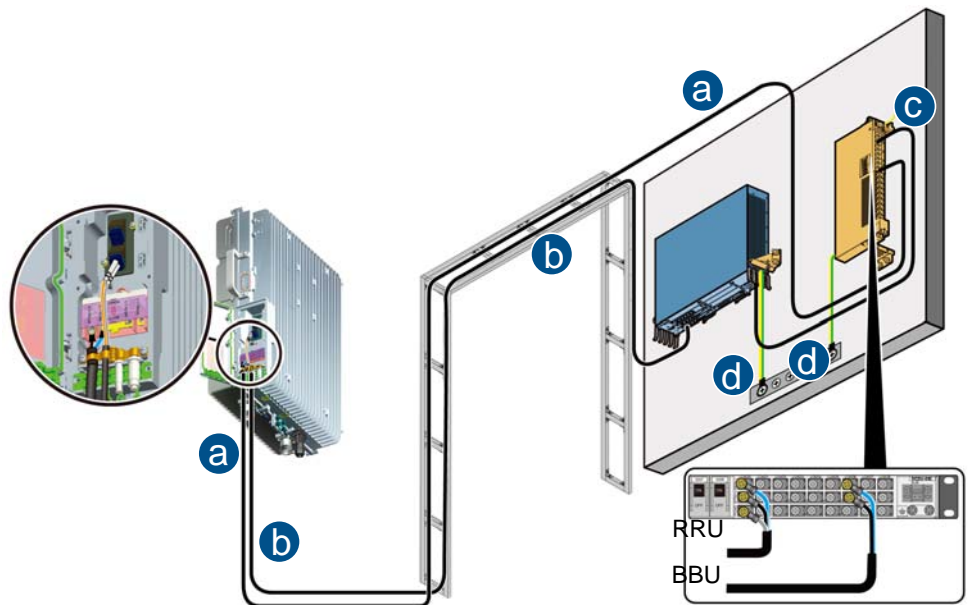
LOAD0

a RRU power cable

b CPRI optical cable

📖 **NOTE**
- At the end of the RRU power cable connected to the DCDU-03C, you need to make the shielding layer of the power cable into an OT terminal, and then connect the OT terminal to the PGND terminal of the corresponding port on the DCDU-03C. For details about making an OT terminal, see pages 26 and 27.
- The RRU power cable is connected to LOAD0 to LOAD5 on the DCDU-03C.

i RRU+BBU Installed Against the Wall

a RRU power cable

b CPRI optical cable

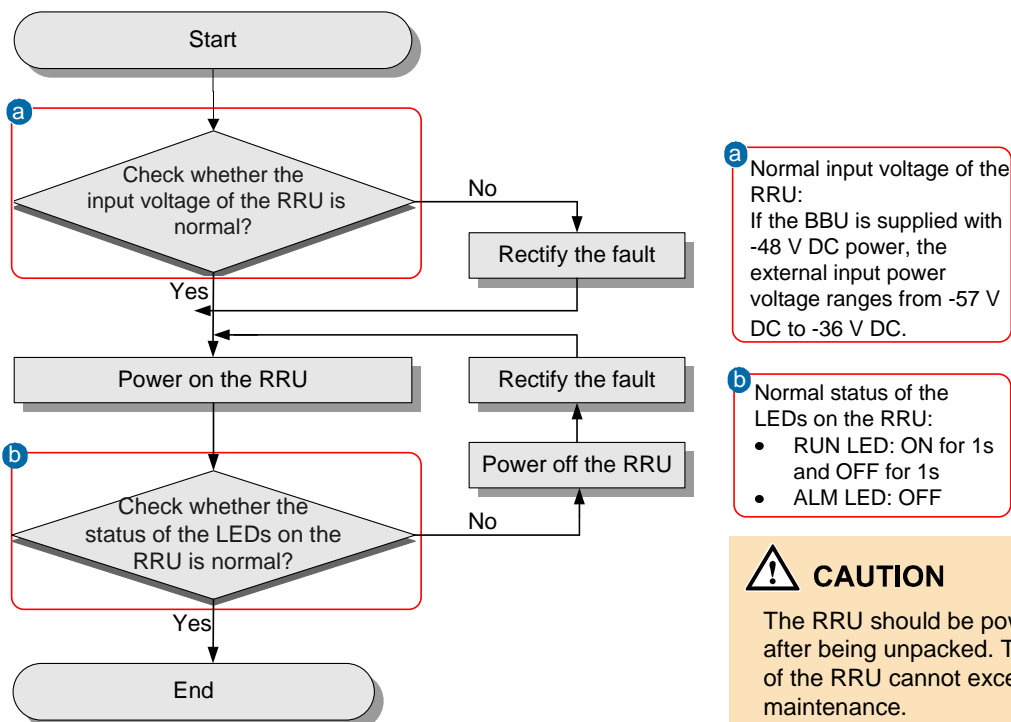**c** BBU power cable

d PGND cable

RRU

BBU

📖 **NOTE**
- The RRU power cable is connected to LOAD0 to LOAD5 on the DCDU-03C.

RRU Hardware Installation Checklist

| No.	Items
1	The position for each equipment conforms to the engineering design and meets the space requirement. Sufficient space is reserved for equipment maintenance.
2	The RRU is properly installed.
3	The cover plate is fastened to the RRU cabling cavity.
4	Waterproof check: The empty cable troughs in the cabling cavity of the RRU are waterproofed. The cover plate is tightly buckled on the cabling cavity of the RRU. The RF ports that are not connected with RF cables are capped and waterproofed. The waterproof caps are fastened.
5	No joint lies in the middle of the power cable or the PGND cable.
6	The lugs at both ends of the power cable or the PGND cable are securely soldered or crimped.
7	The power cable and PGND cable are not short-circuited or reversely connected and are not damaged or broken.
8	The power cable, PGND cable and other cables need to be bound separately.
9	The operating grounding and protection grounding of the base station and the lightning protection grounding of the building share one group of grounding conductors.
10	The connectors of signal cables are intact and securely linked. And the signal cables are not damaged or broken.
11	All labels, tags, and nameplates are correct, legible, and complete. All the labels at both ends of the cables, jumpers and feeders should match.

Powering On the RRU

a Normal input voltage of the RRU:
If the BBU is supplied with -48 V DC power, the external input power voltage ranges from -57 V DC to -36 V DC.

b Normal status of the LEDs on the RRU:
- RUN LED: ON for 1s and OFF for 1s
- ALM LED: OFF

⚠ **CAUTION**

The RRU should be powered on in 24 hours after being unpacked. The power off duration of the RRU cannot exceed 24 hours during maintenance.

Reference

a · Lift the RRU and installation components to the tower.

1. Lead the lifting rope along the lower part of the adapting piece and then bind the RRU by using the lifting rope at the handle of the RRU. Bind the main fixture and auxiliary fixture by using the lifting rope. Bind the handle of the RRU by using the pulling rope. See the following figure.

Lifting rope

Steering rope

Lower part of the adapting piece
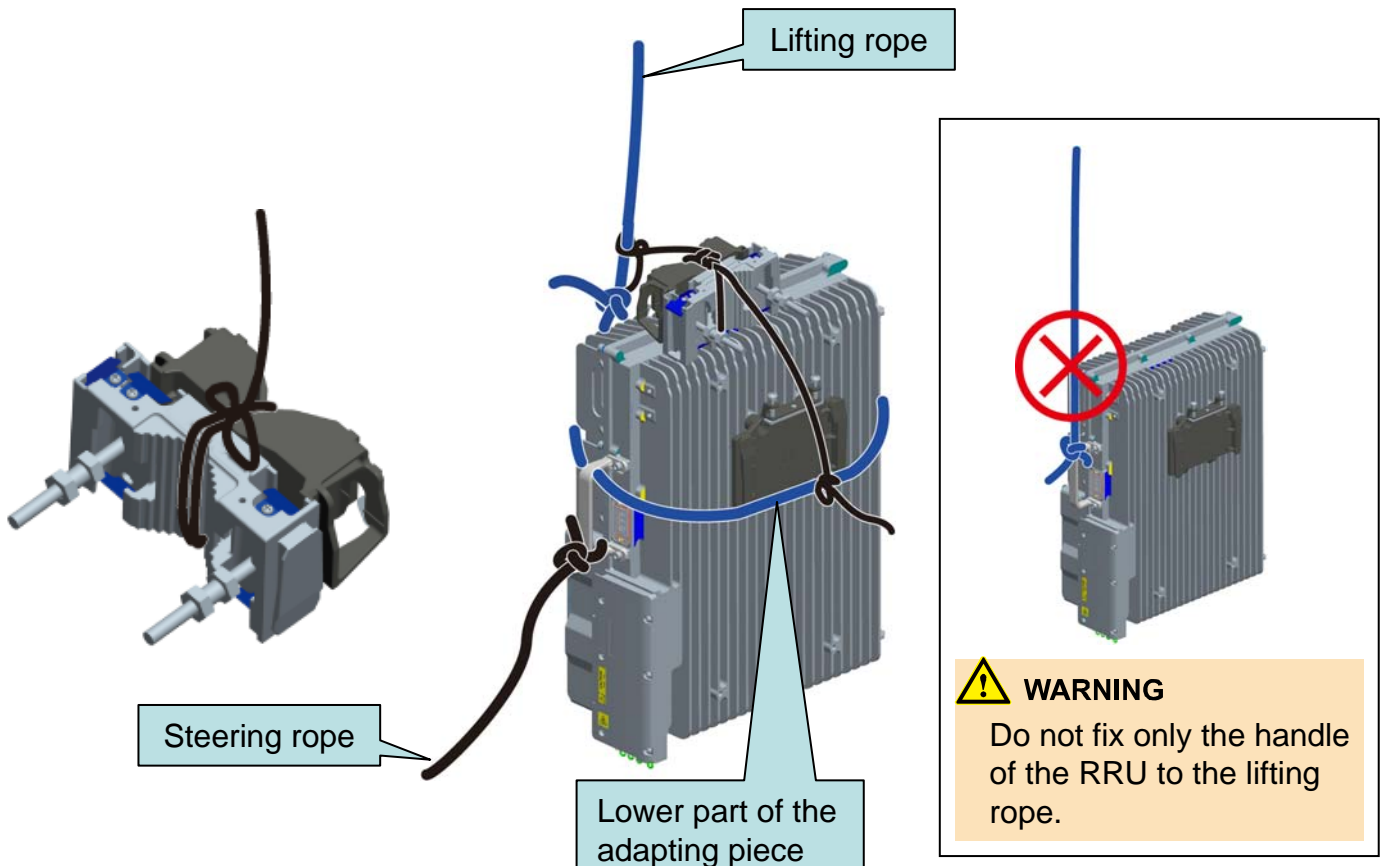
⚠ **WARNING**

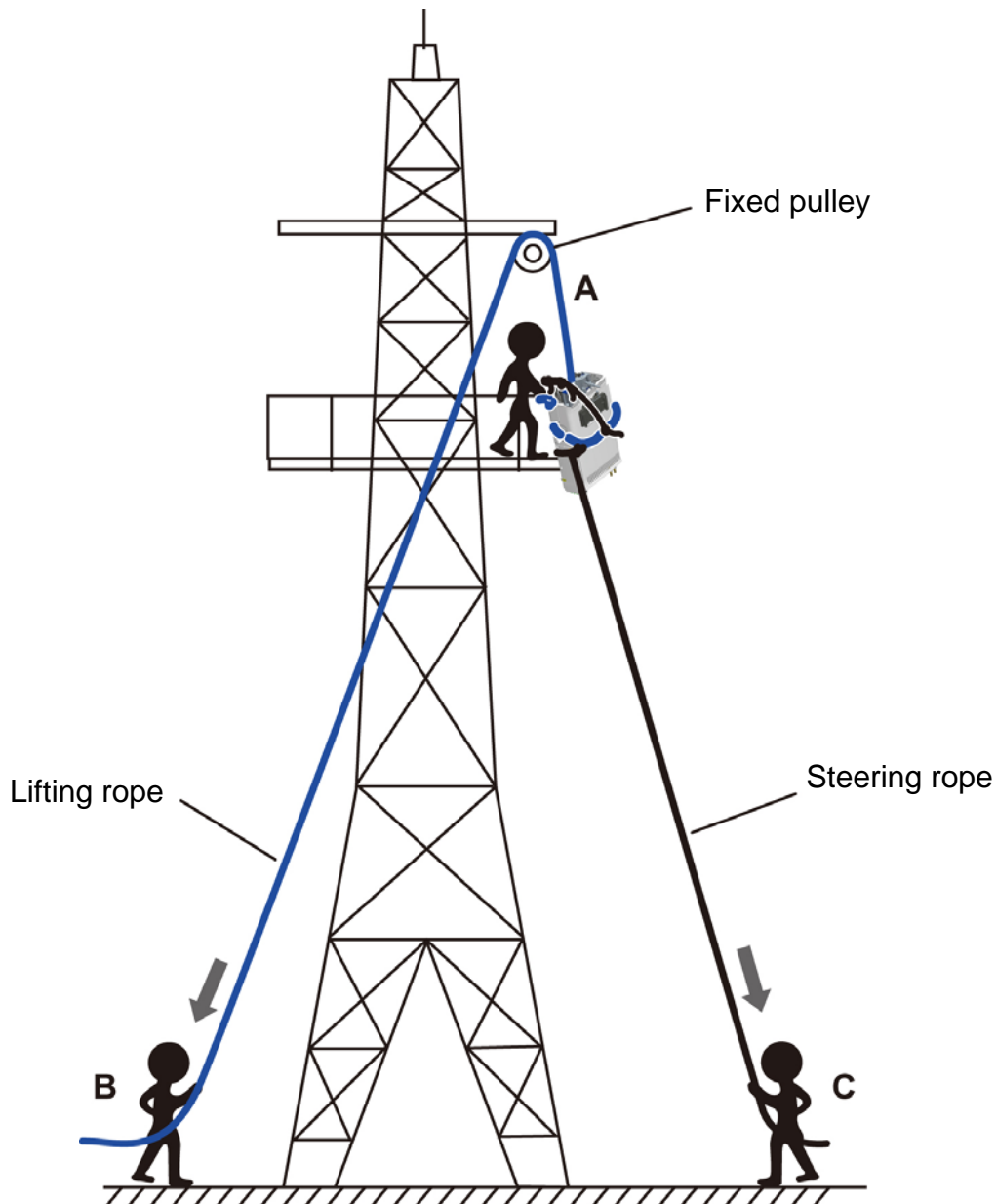Do not fix only the handle of the RRU to the lifting rope.

⚠ **CAUTION**

- When lifting the RRU to the tower, avoid collision of the RRU with the tower.
- Lift the RRU to the tower before it is installed on the metal pole, angle steel, or U-steel.

Reference

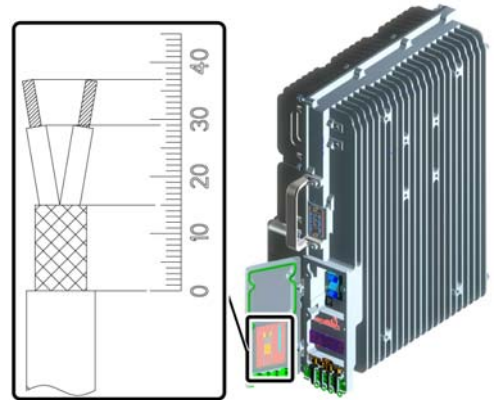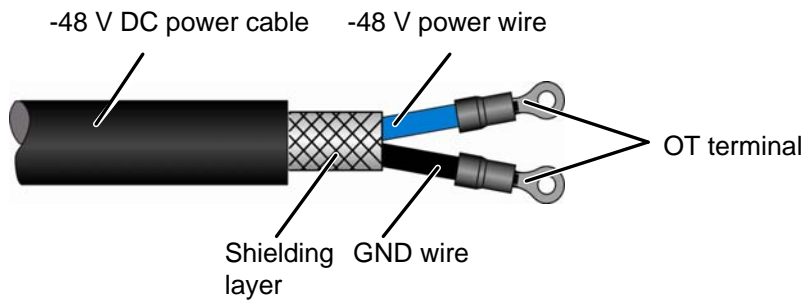## 2. Lift the RRU and installation components to the tower.

📖 **NOTE**

● Installer A climbs up to the tower, installs the fixed pulley on the support of the tower platform, and then leads the lifting rope through the fixed pulley.

● Installer C binds the RRU and installation parts using the lifting rope and fixes the handle of the RRU to the pulling rope.

● Installer B pulls the lifting rope downwards. At the same time, installer C pulls the steering rope outwards to avoid collision of the RRU with the installation parts or tower.

● Installers A catches the RRU and installation parts and then loosen the rope.

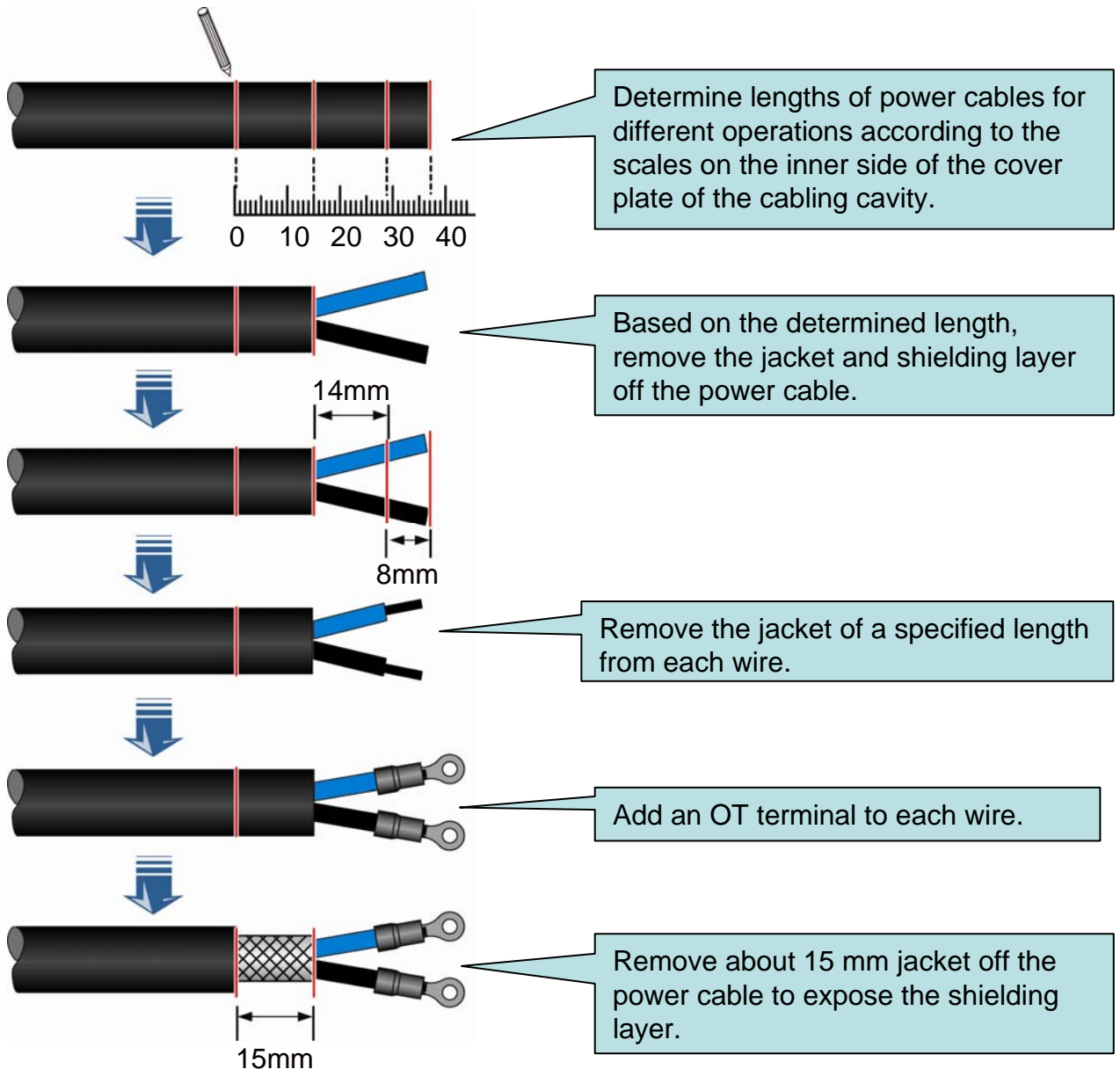● On a tower, multiple RRUs cannot be installed in centralized mode.

Reference

b   Adding OT Terminals to the Power Cable of the RRU

1. OT terminals on the power cable:

-48 V DC power cable   -48 V power wire

OT terminal

Shielding layer   GND wire

To assemble the OT terminals, perform the following steps:

Determine lengths of power cables for different operations according to the scales on the inner side of the cover plate of the cabling cavity.

0   10   20   30   40

Based on the determined length, remove the jacket and shielding layer off the power cable.

14mm

8mm

Remove the jacket of a specified length from each wire.

Add an OT terminal to each wire.

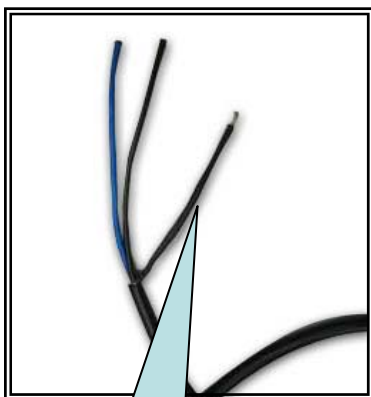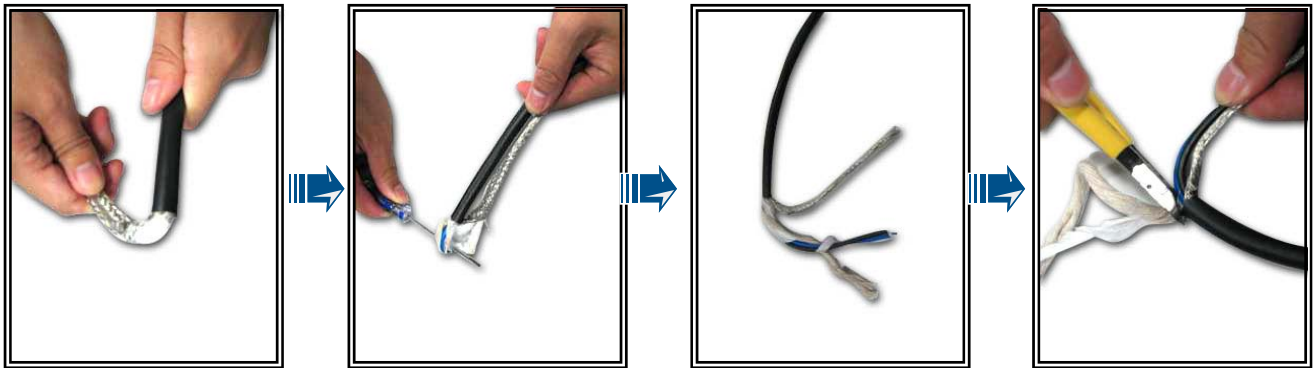Remove about 15 mm jacket off the power cable to expose the shielding layer.

15mm

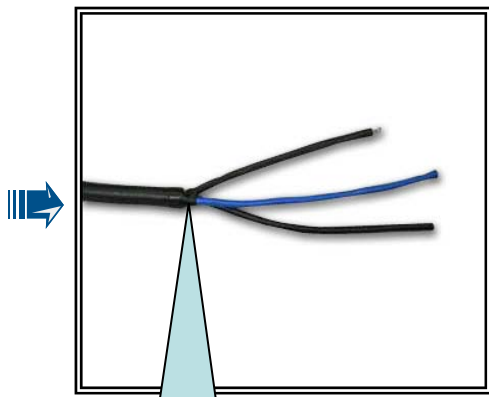## b   Adding OT Terminals to the Power Cable of the RRU

2.Assemble an OT terminal on the power cable at the end connecting to the power supply device.
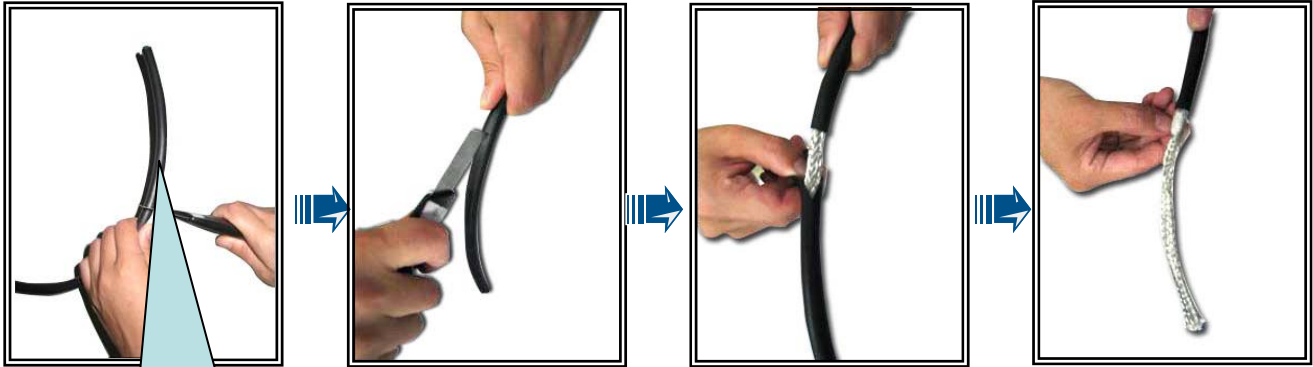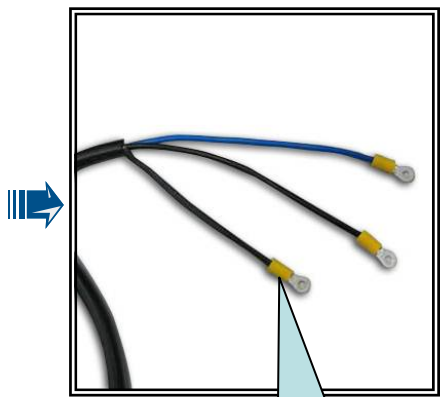

Determine the length on site. The recommended length is 150 mm.

Stripped shielding layer in the heat-shrinkable tube

PVC insulating tape

OT terminal on the shielding layer

Reference

c Waterproofing the outdoor cables

⚠ **CAUTION**

1. The waterproof tape should be wrapped for an extra length of 20 mm away from the connectors at both ends.
2. The tapes are wrapped around the connector from the lower part to the upper part. When wrapped for another layer, the tapes may not be cut off.
3. Apply average force to pull the tape until the width of the tape is 1/2 of the original width before wrapping up the waterproofing tape.
4. Ensure that the upper layer of the tape covers over 50% of the lower layer when wrapping up the tape.
5. The Insulation tape should be wrapped for an extra length of 20 mm away from the edge of the waterproof tape at both ends.
6. Make sure that the last layer of the waterproof tape is wrapped from lower part to the upper part so that the rain flows along the wrapped waterproof tape.
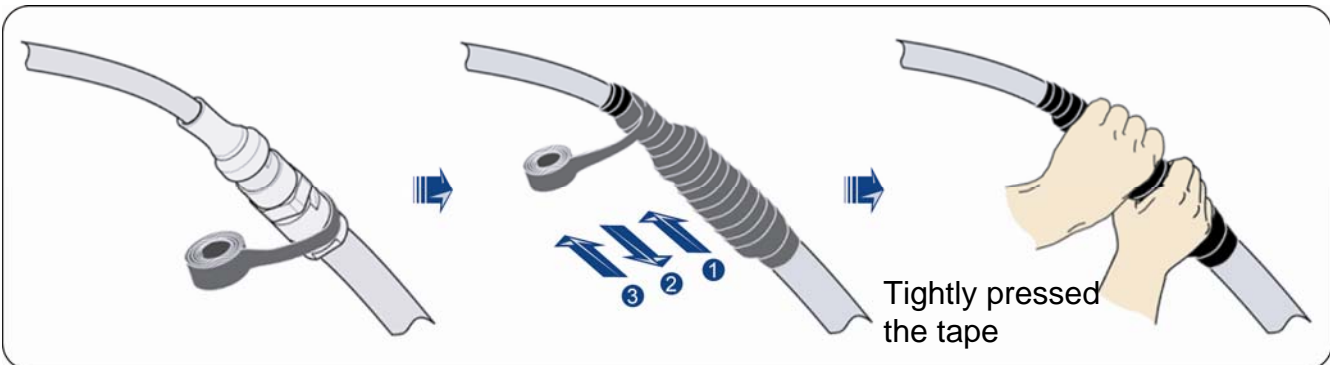
Waterproof tape

Insulation tape

1. Wrap up the connectors with three layers of waterproofing tape

Tightly pressed the tape

2. Wrap up the connectors with three layers of Insulation tape

Tightly pressed the tape

Cable tie

Cable tie

Use cable ties to fasten both ends of the tapes.
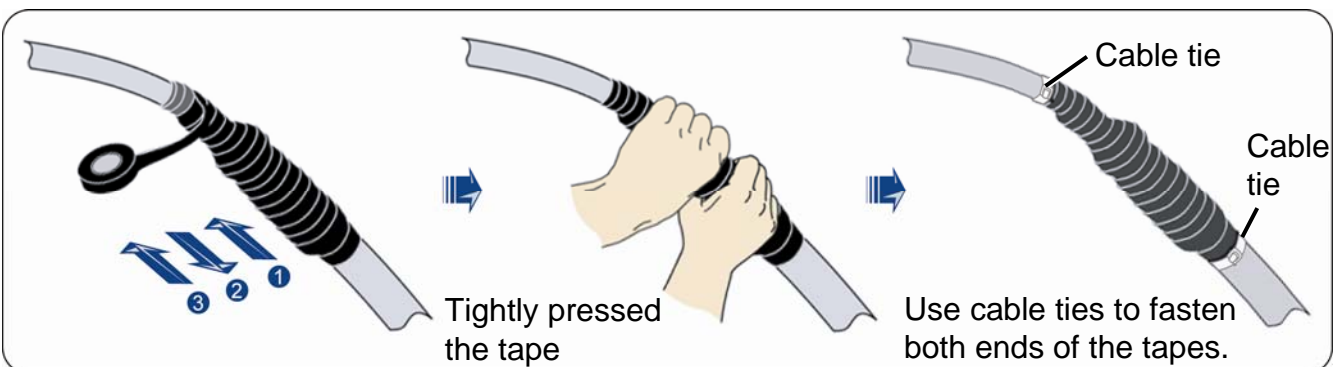
d Installing the optical Module

Reference

f Pin Assignment of the RRU AISG Extension cable

Pin of the AISG male connector	Pin of the AISG female connector	Wire Color	Wire Type	Instruction
X1.1	X2.1	White/blue	Twisted pair	+12V
		Blue		
X1.7	X2.7	White/orange	Twisted pair	DC Return A
		Orange		
X1.3	X2.3	White/green	Twisted pair	RS485 B
X1.5	X2.5	Green		RS485 A
X1.6	X2.6	White/brown	Twisted pair	+24V
		Brown		

g Pin Assignment for the Wires of the RRU Alarm Cable

DB9 waterproof Connector	Pin Name	Wire Color	Wire Type	Cord End Terminal	Label
X1.2	SWITCH_INPUT0+	White/blue	Twisted pair	X2	SWITCH_INPUT0+
X1.4	GND	Blue		X3	GND
X1.7	SWITCH_INPUT1+	White/orange	Twisted pair	X4	SWITCH_INPUT1+
X1.4	GND	Orange		X5	GND
X1.6	RS485_TX-	White/green	Twisted pair	X6	APM RX-
X1.8	RS485_TX+	Green		X7	APM RX+
X1.5	RS485_RX-	White/brown	Twisted pair	X8	APM TX-
X1.3	RS485_RX+	Brown		X9	APM TX+
X1.shell	-	-	Shield	-	-

Change History

This describes the changes in the *RRU3201 V100R001C01 Installation Guide*

01 (2009-06-05)

This is the draft release.

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