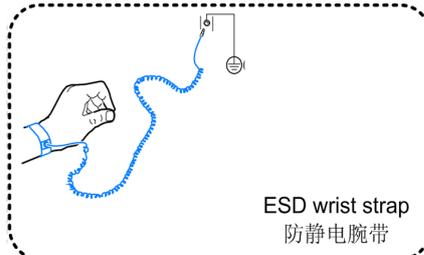


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### Electrostatic Discharge 静电放电

Before touching the device, or holding the boards or IC chips, wear the ESD gloves or the ESD wrist strap (Ensure that the other end of the ESD wrist strap is well grounded.) to prevent the electrostatic discharge of the human body from damaging the sensitive components.

在接触设备，手拿单板或 IC 芯片等操作之前，为防止人体静电损坏敏感元器件，必须佩戴防静电手套或防静电腕带（应将防静电腕带的另一端良好接地）。



### Bundling Cables 绑扎电缆

The distance between cable ties for all cables outside the cabinet is determined according to the distance between two horizontal beams. For the cabling trough without beams, bundle the cables with the distance not exceeding 250 mm between cable ties.

在机柜外部，所有线缆的线扣绑扎距离以两横梁之间的间距为准，没有横梁的走线槽按照不超过 250mm 的间距绑扎。

### Affixing Labels / Tags 粘贴标签/标识牌

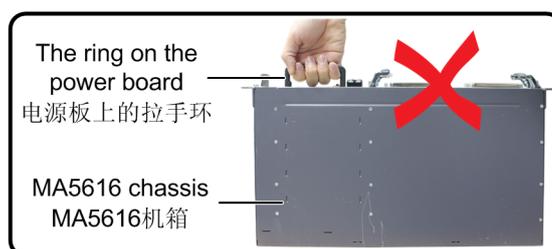
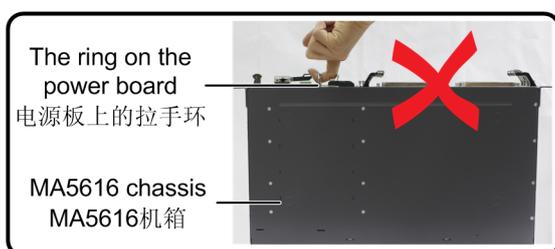
- After routing the cable, affix the label or fasten the tag to the cable, and 20 mm away from the connector.  
电缆布放完成后需要粘贴标签/绑扎标识牌，默认粘贴/绑扎在距离连接器 20mm 处。
- When the signal cable is placed vertically, the label should point towards the right. When the cable is placed horizontally, the label should point downwards. After bundling the cables, the completed identification plate should be visible on the top of the cable in the horizontal cabling, or on the right side of the cable in the vertical cabling. Make sure that the label points outwards.

信号线标签在信号线上粘贴后长条形文字区域一律朝右或向下。电源线标识牌在电源线上绑扎后文字区域一律朝右或向上，并保证粘贴标签的一面朝向外侧。

### Carrying the Chassis 搬运机箱

When carrying the MA5616, do not use the ring on the power board as the force bearing point. Otherwise, the power board may be pulled out and the MA5616 may fall off.

搬运 MA5616 时，必须注意不能使用电源板上的拉手环作为着力点搬运 MA5616，以免电源板被拨出而导致 MA5616 跌落。



## Check Tools and Meters 检查工具仪表

Before you begin, get the following tools ready.

在安装前，请准备下面的工具：

 <p>Marker pen 记号笔</p>	 <p>Flathead screwdriver 一字螺丝刀</p>	 <p>Phillips screwdriver 十字螺丝刀</p>	 <p>Diagonal pliers 斜口钳</p>
 <p>Wire cutter 打线刀</p>	 <p>Paper knife 裁纸刀</p>	 <p>Adjustable wrench 活动扳手</p>	 <p>Socket wrench 套筒扳手</p>
 <p>Tape measure 长卷尺</p>	 <p>Claw hammer 羊角锤</p>	 <p>Percussion drill 冲击钻</p>	 <p>Bit 钻头</p>
 <p>power cable crimping tool 电源线压线钳</p>	 <p>Cable cutter 断线钳</p>	 <p>Network cable crimping pliers 网线钳</p>	 <p>Network cable tester 网线测试仪</p>
 <p>Multimeter 万用表</p>	 <p>Optical power meter 光功率计</p>	 <p>ESD gloves 防静电手套</p>	 <p>ESD wrist strap 防静电腕带</p>

# Outline and Structure 机箱外观结构



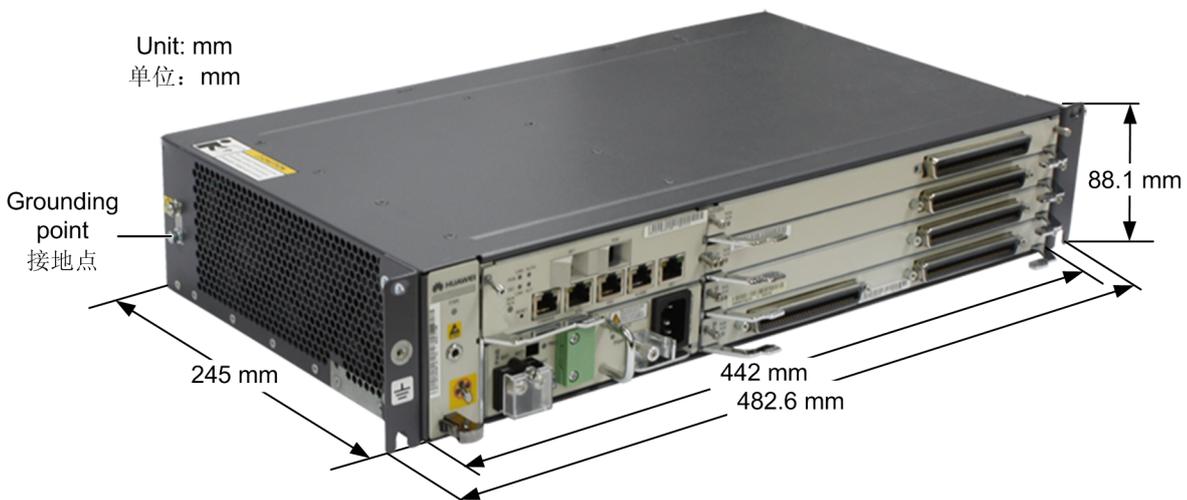
AC power board with power backup (H831PAIB)  
交流带备电电源板 (H831PAIB)



DC power board (H832PDIA)  
直流电源板 (H832PDIA)



DC power board (H831PDIA)  
直流电源板 (H831PDIA)



# Collecting the MAC Address or Serial Number 采集 MAC 地址/序列号

Collect the "MAC Address" for the MA5616(EPON)

## NOTE

- On the installation site, the hardware installation engineer should collect the "MAC Address" of the MA5616 for the software commissioning engineer to configure and manage the MA5616 remotely.  
现场施工时，硬件安装工程师需采集MA5616的“MAC地址”，提供给软调工程师，以便软调工程师能对MA5616进行远程配置管理。
- The "MAC Address" label has two copies. When collecting the "MAC Address", the hardware installation engineer only needs to affix one of the "MAC Address" labels to the corresponding place of the following table, and then record the actual installation location of the MA5616.  
“MAC地址”标签一般有两张。硬件工程师采集时，只需把其中一张“MAC地址”标签粘贴到下面表格中的对应位置，并记录下MA5616安装的实际位置。
- After the hardware installation, transfer this piece of paper (titled "MAC Address Table") to the software commissioning engineer.  
硬件施工完毕，将该纸张提供给软调工程师。



NO. 序号	Device type 设备类型	MAC Address MAC地址	Device Installation Location 设备所处位置
1	MA5616	 0018825A7EFC-FD(2)	** Building ** Floor ONU-1 **大厦**楼ONU-1
2			
3			

Collect the "Serial Number" for the MA5616(GPON)

## NOTE

- On the installation site, the hardware installation engineer should collect the "Serial Number" of the MA5616 for the software commissioning engineer to configure and manage the MA5616 remotely.  
现场施工时，硬件安装工程师需采集MA5616的序列号，提供给软调工程师，以便软调工程师能对MA5616进行远程配置管理。
- The "Serial Number" label has two copies. When collecting the "Serial Number", the hardware installation engineer only needs to affix one of the "Serial Number" labels to the corresponding place of the following table, and then record the actual installation location of the MA5616.  
“序列号”标签一般有两张。硬件工程师采集时，只需把其中一张“序列号”标签粘贴到下面表格中的对应位置，并记录下MA5616安装的实际位置。
- After the hardware installation, transfer this piece of paper (titled "MAC Address Table") to the software commissioning engineer.  
硬件施工完毕，将该纸张提供给软调工程师。



NO. 序号	Device type 设备类型	Serial Number 序列号	Device Installation Location 设备所处位置
1	MA5616	 323031317BE13441	** Building ** Floor ONU-1 **大厦**楼ONU-1
2			
3			

## Installing the Chassis 安装机箱

### 5.1 Installation in a 19-Inch Cabinet or a Rack 在 19 英寸机柜或机架中安装

#### NOTE

- When installing multiple sets of MA5616 in the cabinet or a rack, ensure a 2U (1 U = 44.45 mm) ventilation space between two sets of devices for better heat dissipation.  
机柜或机架中多组 MA5616 安装时，上下两组之间保证至少 2U (1U=44.45 mm) 的进风空间，以利散热。
- When installing the MA5616, ensure that the cabling and operation space in front of the device panel is larger than 100mm.  
安装时，保证 MA5616 前走线以及操作空间大于 100mm。
- When carrying the MA5616, do not use the ring on the power board as the force bearing point. Otherwise, the power board may be pulled out and the MA5616 may fall off.  
搬运 MA5616 时，必须注意不能使用电源板上的拉手环作为着力点搬运 MA5616，以免电源板被拔出而导致 MA5616 跌落。

#### 1 Install the mounting ears 安装挂耳

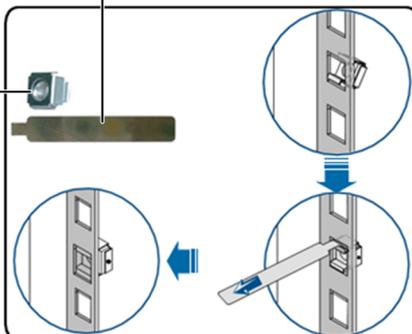


#### 2 Install the captive nut 安装浮动螺母

Mount bar (Use a flat-head screwdriver if no mountbar is available)

浮动螺母安装条 (如果没有浮动螺母安装条可以用一字螺丝刀代替)

Captive Nut  
浮动螺母



#### 3 Install the chassis 安装机箱



Flathead screwdriver  
一字螺丝刀



Phillips screwdriver  
十字螺丝刀



## 5.2 Installation in the Network Cabinet of the Customer 在客户自备网络箱中安装



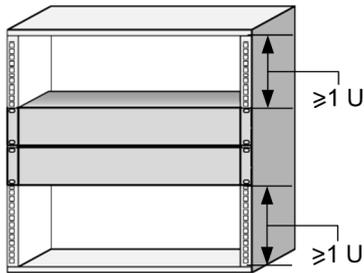
### NOTE

- For better heat dissipation, when installing the MA5616 in the network cabinet, avoid the short circuit of airflow inside the MA5616 and maximize the vent area.  
MA5616 在网络箱中安装时，要防止气流在MA5616 内部回流短路，并增加通风口面积以利散热。
- If the network cabinet is installed outdoors or in a corridor that is exposed to rain, the network cabinet must meet the requirements of IP55 class protection. ("IP" refers to International Protection. The first number "5" refers to the class for preventing the solid particle from entering the device. That is, the network cabinet cannot completely prevent dust from entering the device, but the amount of dust that enters the network cabinet does not damage the device. The second number "5" refers to the class for preventing water from entering the network cabinet. That is, the water sprayed from different directions to the network cabinet does not damage the device.)  
在室外或易被雨水淋到的楼道环境中安装的网络箱必须达到IP55等级（“IP”为国际防护等级；第一个数字“5”为防外部固体颗粒侵入等级，即“网络箱不可能完全阻止灰尘进入，但灰尘进入的数量不会对设备造成损害”；第二个数字“5”为防水侵入等级，即“从每个方向对准网络箱柜体的射水都不会对设备造成损害”）。
- If the network cabinet is installed indoors or in a corridor that is out of rain, the network cabinet must meet the requirements of IP31 class protection. (The first number "3" means the solid particle with a diameter equal to or larger than 2.5 mm can be prevented from entering the cabinet. The second number "1" means the drips fallen vertically cannot damage the device.)  
在室内或雨水未能淋到的楼道环境中安装的网络箱必须达到IP31等级（第一个数字“3”表示网络箱能防止2.5mm 直径和更大的外部固体颗粒进入；第二个数字“1”表示垂直落下的水滴不会对设备造成损害）。

The modes of installing the MA5616 in the network cabinet of the customer vary with the specifications for the network cabinet of the customer. The following section describes the common modes to be taken for installing the MA5616 in the network cabinet of the customer. This can serve as a guide for hardware engineers to install the MA5616.

MA5616在客户自备网络箱的安装方式根据其网络箱规格的不同而有所不同。下面介绍MA5616在客户自备网络箱中的几种常见安装方式，以供硬件工程师安装时参考。

- 1** MA5616 horizontally installed (with the panel facing the front)  
MA5616水平安装（面板朝前）

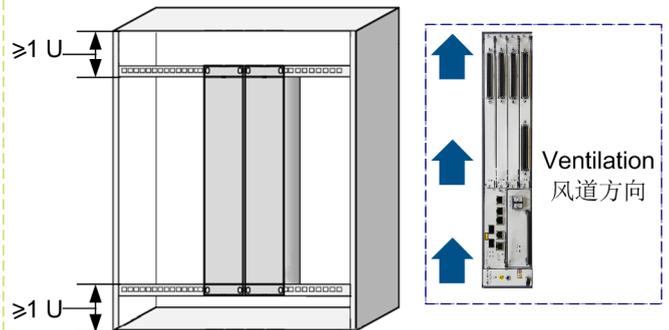


### NOTE

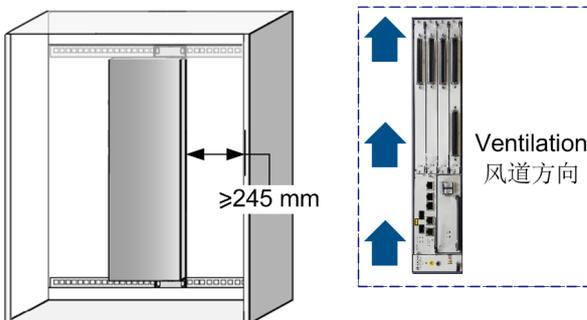
1 U = 44.45 mm



- 2** MA5616 vertically installed (with the panel facing the front)  
MA5616竖直安装（面板朝前）



- 3** MA5616 vertically installed (with the panel facing the right)  
MA5616竖直安装（面板朝右）

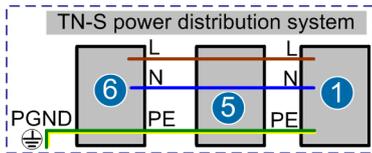


### CAUTION

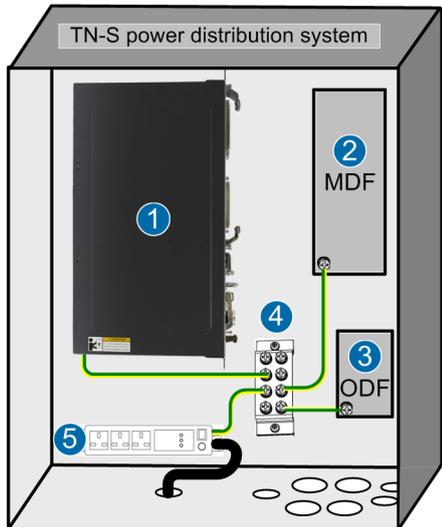
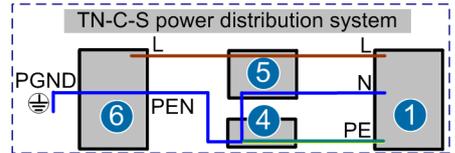
To avoid dusts accumulating on the board or the board dropping off, do not install the MA5616 vertically in the network cabinet, regardless of the front panel facing upward or downward.

在网络箱中安装MA5616时，为避免落尘和单板掉落，禁止使用竖直安装（面板朝上或面板朝下）安装方式。

## 5.3 Guide for Grounding the Network Cabinet of the Customer 客户自备网络箱接地指导



- ① MA5616
- ② MDF
- ③ ODF
- ④ Grounding bar 接地排
- ⑤ AC lightning protection bar 交流防雷插排
- ⑥ AC power distribution cabinet 交流电源配电柜



In the case of the TN-C-S and TN-S AC power distribution systems, it is recommended that you use the PE wire of the AC power cable for the MDU grounding connection. The prerequisite is that the PE wire of the AC power cable for the corridor of the building is already grounded properly.

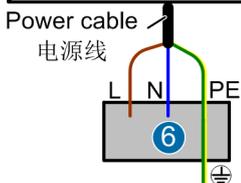
对于TN-C-S和TN-S交流配电系统，推荐采用交流电源线的PE线实现MDU的接地。前提是楼道建筑物自身交流电源线的PE线已可靠接地。

Use the ground cable (the cross-sectional area of the ground cable must be equal to or greater than 6 mm<sup>2</sup>) to connect the grounding bar and all the internal devices, and the grounding bar to the network cabinet in an equipotential manner through a metallic structure.

网络箱内部所有设备连接通过地线（线径应不小于6mm<sup>2</sup>）到接地排，接地排通过金属结构与网络箱实现等电位连接。

Connect the grounding point of the reinforcing rib of the optical fiber to the ground bar through a ground cable, or connect this grounding point to the network cabinet in an equipotential manner through a metallic structure.

光纤加强筋接地点，需要通过地线与接地排连接；接地点也可以通过金属结构与网络箱等电位连接。



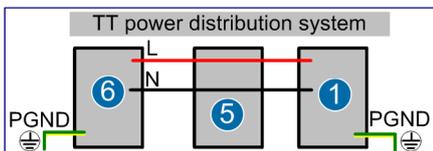
### ⚠ CAUTION

When the PE line of the AC power cable in the building of the corridor does not meet the grounding requirement, the network cabinet must be grounded through an external ground cable (PGND cable), ensure that the reinforcing rib of the optical fiber is disconnected from the device.

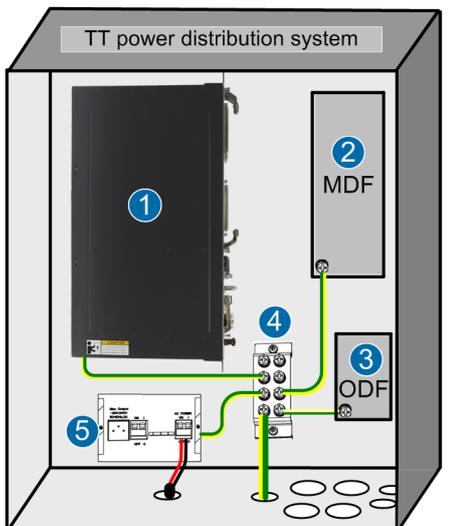
当楼道建筑物自身的交流电源线的PE线不具备接地条件时，网络箱必须通过外部地线（保护地线）接地，且要保证光纤加强筋和设备地断开。

A power cable with 3-5 m must be used for decoupling between the surge protector and the ONU power supply.

防雷器到ONU设备电源之间要求采用3m~5m长的电源线做退耦。



- ① MA5616
- ② MDF
- ③ ODF
- ④ Grounding bar 接地排
- ⑤ AC PDU 交流配电盒
- ⑥ AC power distribution cabinet 交流电源配电柜



In the case of the TT power distribution system, it is recommended that an external grounding device be adopted. For example, use the dedicated grounding device of the building (such as the grounding flat steel sheet, grounding stud, and grounding bar) or the base steel bar of the reinforcement concrete of the building, or deploy a new earth screen.

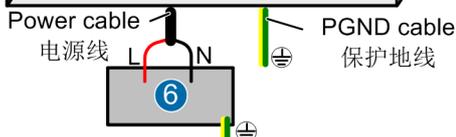
对于TT配电系统，推荐采用外部接地装置进行接地，比如采用建筑物专用接地装置（接地扁钢、地桩、接地排）、建筑物混凝土基础钢筋、新建接地网等。

Use the ground cable (the cross-sectional area of the ground cable must be equal to or greater than 6 mm<sup>2</sup>) to connect the grounding bar and all the internal devices, and the grounding bar to the network cabinet in an equipotential manner through a metallic structure.

网络箱内部所有设备连接通过地线（线径应不小于6mm<sup>2</sup>）到接地排，接地排通过金属结构与网络箱实现等电位连接。

Connect the external ground cable (PGND cable) of the network cabinet to the external grounding device. As specified by the national grounding standard, the cross-sectional area of the external ground cable must be equal to or greater than 16 mm<sup>2</sup>.

网络箱外部接地线（保护地线），要连接到外部接地装置，按照国家的接地标准，此线径应不小于16 mm<sup>2</sup>。

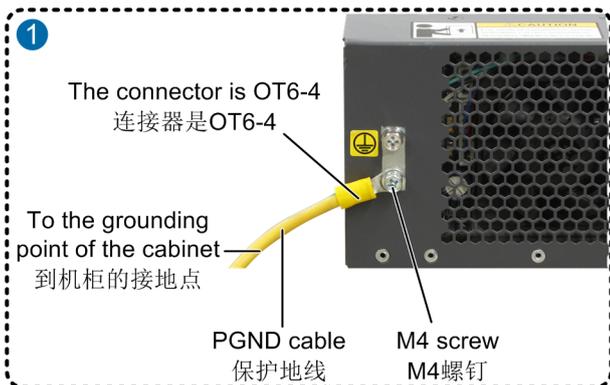


## 6.1 Routing the PGND Cable 布放保护地线



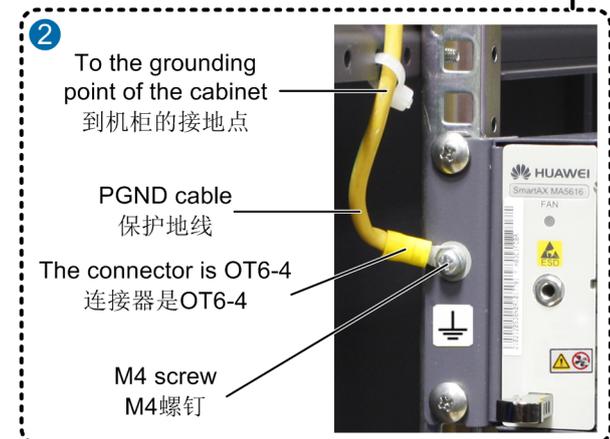
### WARNING

Connect the ground cable properly to ensure that the MA5616 is protected from lightning and other interferences.  
地线的正确连接是 MA5616 防雷、防干扰的重要保障，所以必须正确接好地线。



You should choose the operation 1 or 2.

1 和 2 选其一进行操作。



## 6.2 Routing the External Power Cables 布放外部电源线



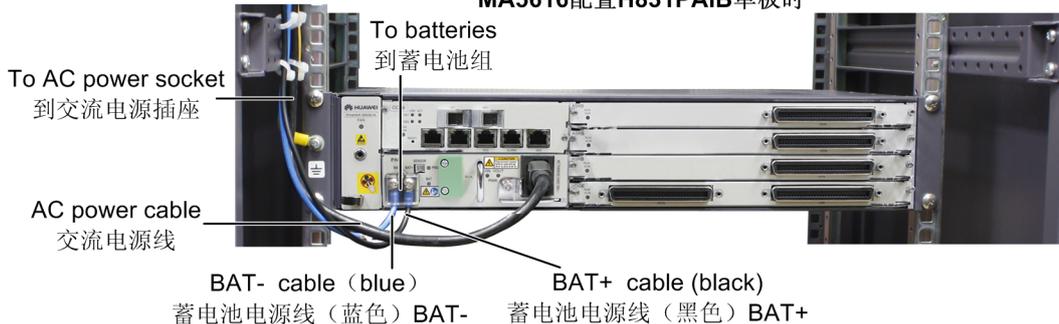
### CAUTION

- Before routing the AC power cable, turn off the output switch of the AC power system that supplies power to the MA5616.  
布放交流电源线前，请断开为MA5616供电的交流电源系统输出开关。
- Before routing the DC power cable, turn off the output switch of the DC power system that supplies power to the MA5616.  
布放直流电源线前，请断开为MA5616供电的直流电源系统输出开关。
- Before laying out the battery power cable, ensure that the battery switch is in the OFF state.  
布放蓄电池电源线前，请确保蓄电池开关处于“OFF”状态。
- When routing the DC power cable, note that the blue cable is the -48 V cable and the black cable is the RTN cable.  
布放直流电源线时，应注意：蓝色线缆为-48V线缆，黑色线缆为RTN线缆。
- When routing the battery power cable, note that the blue cable connect to “BAT-” and the black cable connect to “BAT+” .  
布放蓄电池电源线时，应注意：蓝色线缆连接“BAT-”，黑色线缆连接“BAT+”。

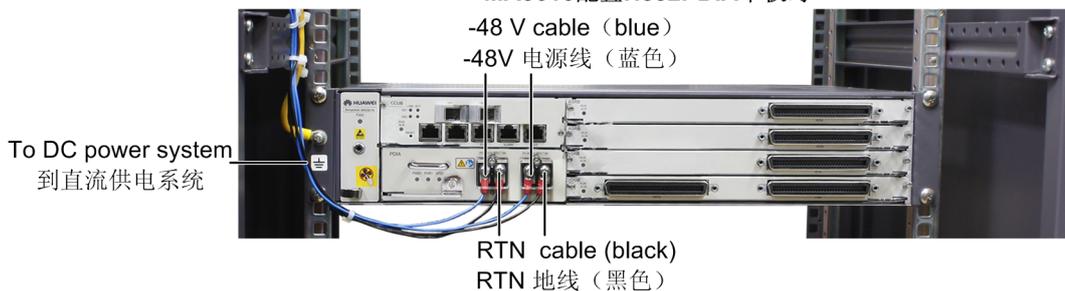
### When the MA5616 is configured with H831PAIA/H831PAIC board MA5616配置H831PAIA/H831PAIC单板时



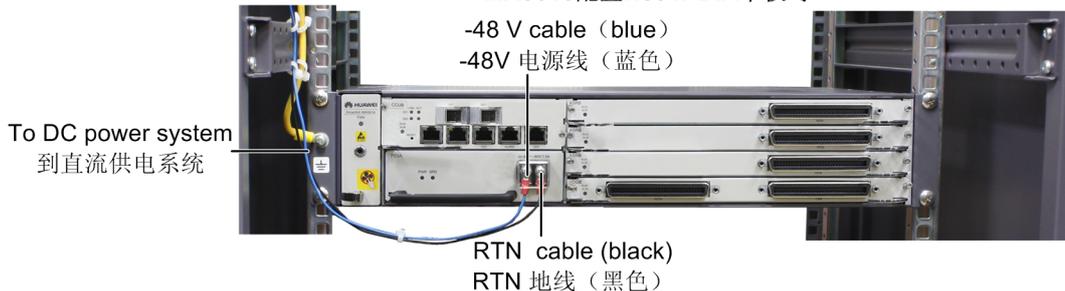
### When the MA5616 is configured with H831PAIB board MA5616配置H831PAIB单板时



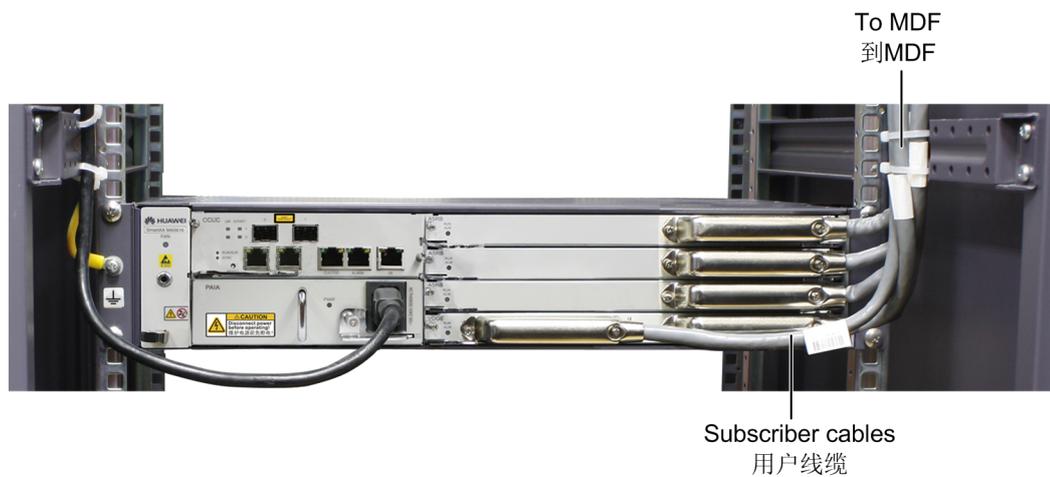
### When the MA5616 is configured with H832PDIA board MA5616配置H832PDIA单板时



### When the MA5616 is configured with H831PDIA board MA5616配置H831PDIA单板时



## 6.3 Routing the Subscriber Cables 布放用户电缆



Subscriber cable  
用户电缆



Phillips screwdriver  
十字螺丝刀

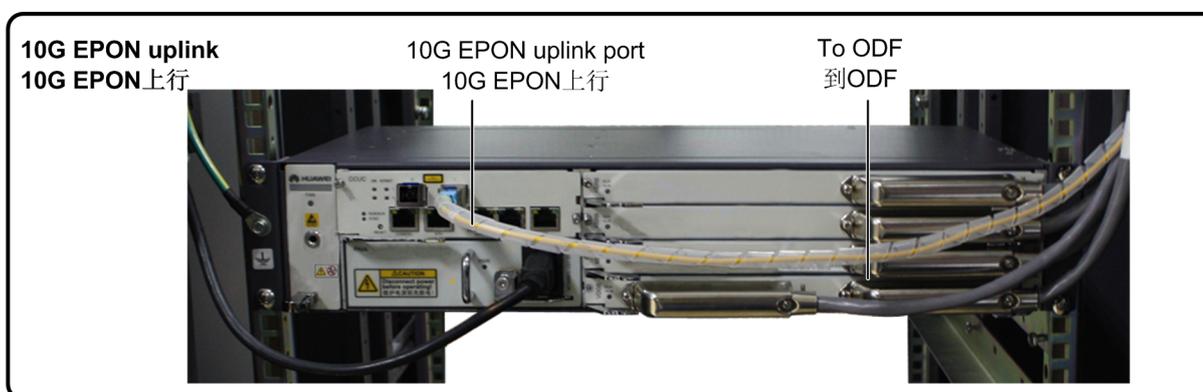


### 6.4 Routing the Optical Fiber 布放光纤



#### DANGER

- When handling optical fibers, do not stand close to or look into the optical fiber outlet directly with naked eyes.  
进行光纤的安装、维护等各种操作时，严禁肉眼靠近或直视光纤出口。
- The bending radius of the optical fiber should be more than 20 times the cable diameter. In general, the bending radius of the optical fiber is more than or equal to 40 mm.  
光纤的曲率半径应大于光纤直径的 20 倍，一般情况下曲率半径  $\geq 40\text{mm}$ 。
- Check whether the optical connector is dirty before the installation. If the optical connector is dirty, clean the connector with a piece of dust-free cotton cloth or a fiber cleaning box.  
安装前应检查光纤连接器是否被污染，若是，建议用无尘棉布或擦纤盒擦拭连接器。



# Connections guide on the Fe-lithium battery 铁锂电池连线指导

## NOTE

When configured with the PAIB AC power board, the MA5616 can be connected to the Fe-lithium battery and can manage the Fe-lithium battery. The PAIB AC power board provides a SENSOR port for connecting to the ACTIVATION port of the Fe-lithium battery and activating the Fe-lithium battery.

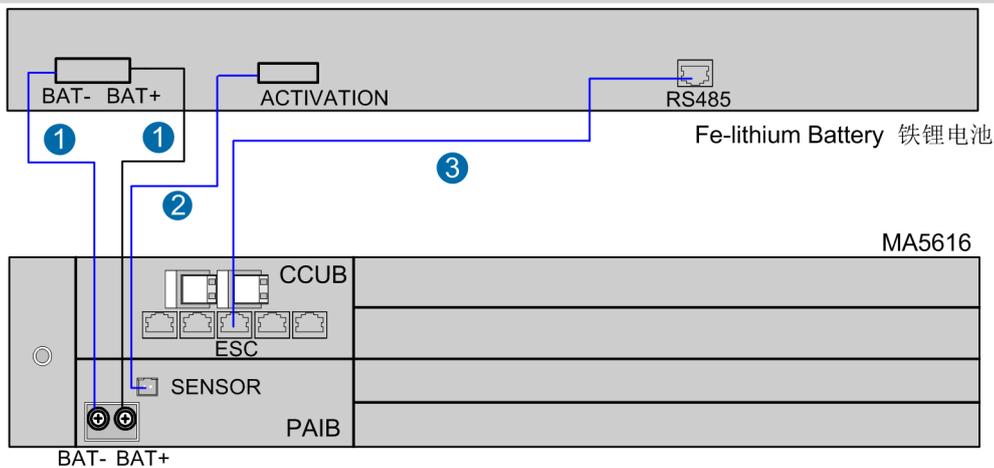
MA5616配置PAIB交流电源板时支持铁锂电池接入和管理。同时PAIB交流电源板提供一个SENSOR接口，用于和铁锂电池的ACTIVATION口对接，实现铁锂电池的激活。

## CAUTION

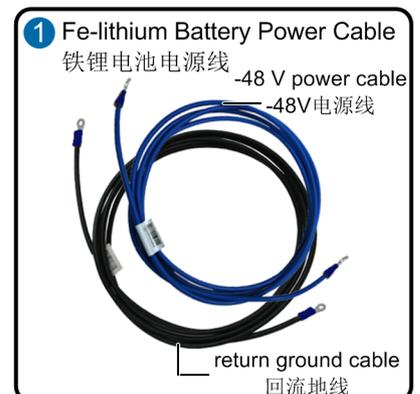
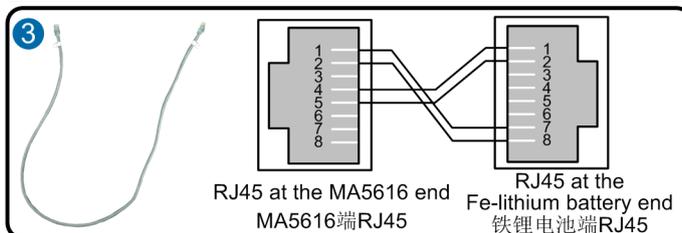
When the MA5616 is configured with the CCUB or CCUC control board, the specifications of the communication cables connected to the environment monitoring serial port and the RS485 port of the Fe-lithium battery are different. The labels close to both ends of two types of communication cables mark the Fe-lithium battery and the main control device, and are used to guide the cable connection in the field.

MA5616配置CCUB主控板和CCUC主控板时，环境监控串口和铁锂电池的RS485接口连接采用的通信线缆规格不同。两种规格的通信线缆靠近两头端子处的标签纸标注出铁锂电池和主控设备的标识，用于指导现场线缆连接。

### a Connections between the Fe-lithium battery and the MA5616 configured with the CCUB control board MA5616配置CCUB主控板时与铁锂电池连接关系



No. 线缆序号	Cable 线缆名称	MA5616 port MA5616端口	Fe-lithium Battery port 铁锂电池端口
①	return ground cable 回流地线	BAT+	BAT+
	-48 V power cable -48V电源线	BAT-	BAT-
②	Fe-lithium battery activation cable 铁锂电池激活线缆	SENSOR	ACTIVATION
③	Single communication cable 单根通信线缆	ESC	RS485



## CAUTION

The Fe-lithium battery activation cable can be connected only after all other cables are connected, the system is powered on, and the panel switch of the Fe-lithium battery is turned on.

When the battery is not powered on, turn off the panel switch and disconnect the activation cable.

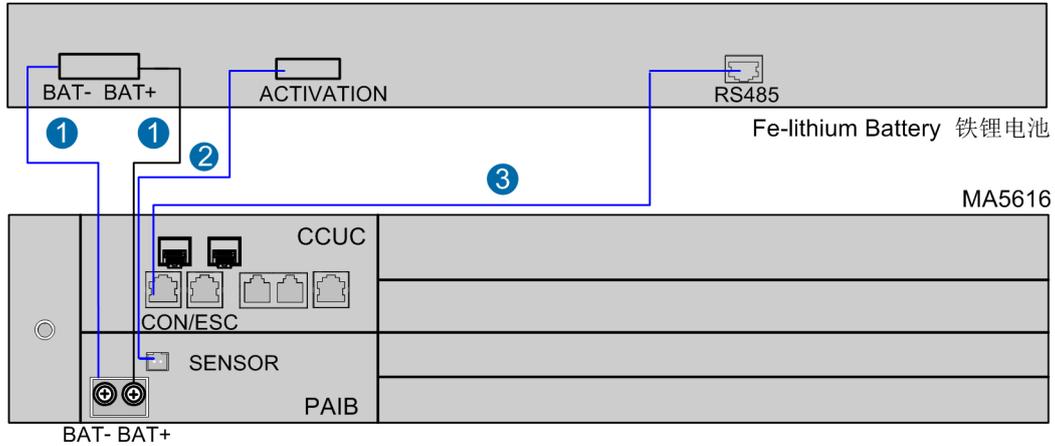
铁锂电池激活线缆必须在其它线缆连接完成、系统上电并将铁锂电池面板开关闭合后再连接。

电池不上电的时候，面板开关需要断开，并将激活线缆拔下。

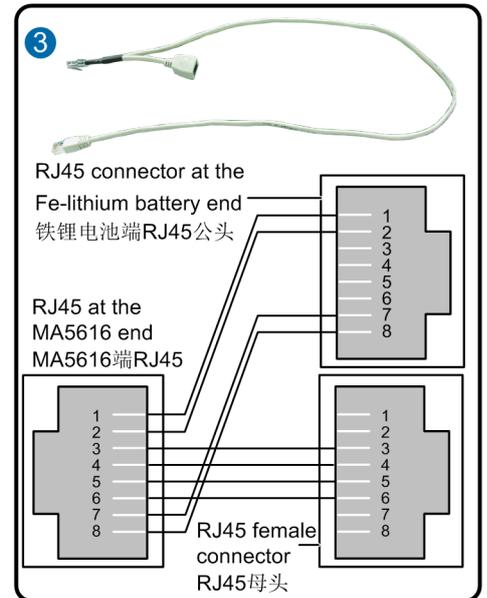
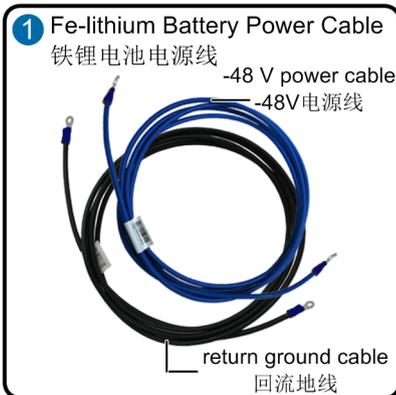
# Connections guide on the Fe-lithium battery 铁锂电池连线指导

**b**

Connections between the Fe-lithium battery and the MA5616 configured with the CCUC control board  
MA5616配置CCUC主控板时与铁锂电池连接关系



No. 线缆序号	Cable 线缆名称	MA5616 port MA5616端口	Fe-lithium Battery port 铁锂电池端口
①	return ground cable 回流地线	BAT+	BAT+
	-48 V power cable -48V电源线	BAT-	BAT-
②	Fe-lithium battery activation cable 铁锂电池激活线缆	SENSOR	ACTIVATION
③	1-to-2 communication cable 一分二通信线缆	CON/ESC	RS485



## CAUTION

The Fe-lithium battery activation cable can be connected only after all other cables are connected, the system is powered on, and the panel switch of the Fe-lithium battery is turned on.

When the battery is not powered on, turn off the panel switch and disconnect the activation cable.

铁锂电池激活线缆必须在其它线缆连接完成、系统上电并将铁锂电池面板开关闭合后再连接。

电池不上电的时候，面板开关需要断开，并将激活线缆拔下。

## Checking the Installation 安装后检查

No. 序号	Description 检查内容	Method 检查方法
1	No any material is placed on the chassis. 机箱上没有放置其他物品。	Observe 查看
2	All the cables are bound with proper tightness. The space between the cable ties is even, and the remaining parts of the cable ties are cut off neatly. All cable ties face the same direction resulting in a uniform appearance. 电缆绑扎间距均匀，松紧适度，线扣扎好后应将多余部分齐根剪掉，不留尖刺，扎扣朝同一个方向，保持整体整齐美观。	Observe 查看
3	The cross sectional areas of the power cable and the ground cable comply with the engineering design and meet the requirements of device running. 电源线、地线线径符合工程设计文件，满足设备配电要求。	Observe 查看
4	The power cable and the ground cable use an entire segment of copper core. The cable has no connection in the middle or scratch on the jacket. 电源线、地线应采用整段铜芯材料，中间不能有接头，外皮无损伤。	Observe 查看
5	The power cable and the ground cable must be routed horizontally and vertically without crossover. Proper margins must be reserved at the turning. 电源线、地线走线应平直，绑扎整齐，转弯处留合适余量。	Observe 查看
6	The power cable and ground cable must be connected correctly and reliably. 电源线、地线连接正确可靠，接触良好。	Observe 查看
7	The identifiers on the power cable and ground cable must be correct, legible, and neat. 电源线、地线的标识正确、清晰、整齐。	Observe 查看
8	The power cable, ground cable, and signal cables must be routed separately. 电源线、地线与信号线分开布放。	Observe 查看
9	Signal cables must be of the correct length and must not be damaged or broken. There must not be any joints in the cable. 信号电缆必须有足够长度，不应有破损、断裂、中间接头。	Observe 查看
10	The connectors of the signal cables must be neat and intact. Each connector must be properly and firmly fastened. The tips must be connected securely. 信号电缆插头干净无损坏，插接正确可靠，芯线卡接牢固。	Observe 查看
11	Labels at both ends of the signal cables must be marked correctly, clearly and neatly. 信号电缆两端标识正确、清晰、整齐。	Observe 查看
12	If the optical fibers must be routed outside the cabinet, protection measures must be taken such as using corrugated pipes or guide troughs. 光纤在机柜外布放，须采取保护措施，如加波纹管或槽道等。	Observe 查看
13	Place the optical fiber pairs in order and bind them carefully with optical binders. No sharp edges are allowed. 成对光纤要理顺后用光纤绑扎带绑扎，且绑扎力度适宜，不能有扎痕。	Observe 查看

# Powering On the System 上电检查

## NOTE

Power on the device only when the input voltage is in the normal range.

输入电压在正常电压范围内，才可以进行设备的上电。

- Use the multimeter to test the AC input voltage for the AC-powered MA5616. The voltage should range from 100 V to 240 V.  
MA5616 交流配电时，用万用表测量为 MA5616 供电的交流输入电压值，电压正常范围为：100V ~ 240V。
- Use the multimeter to test the voltage and the current between NEG(-) and RTN(+) on the DC PDU for the -48V DC-powered MA5616. The voltage should range from -38.4 V to -57.6 V.  
MA5616 直流-48V 配电时，用万用表测量为 MA5616 供电的直流配电单元上的 NEG(-)和 RTN(+)-之间的电压值和电流值，电压正常范围为：-38.4V ~ -57.6V。
- Use the multimeter to test the voltage and the current between NEG(-) and RTN(+) on the DC PDU for the -60V DC-powered MA5616. The voltage should range from -48 V to -72 V. The current is 7.8 A.  
MA5616 直流-60V 配电时，用万用表测量为 MA5616 供电的直流配电单元上的 NEG(-)和 RTN(+)-之间的电压值和电流值，电压正常范围为：-48V ~ -72V，电流为 7.8A。
- When the battery backup power is configured for the MA5616, ensure that the battery switch is in the ON state after the powering on the MA5616. If the MA5616 needs to be powered off, you must first turn off the battery switch and then turn off the AC switch.  
当 MA5616 配有蓄电池备电时，设备上电后，确保蓄电池开关处于“ON”状态。若设备需要下电，必须先断开蓄电池开关，然后再断开交流开关。
- Status LED of the power supply Green: ON.  
电源状态指示灯正常状态：绿灯常亮。
- Status LED of the Fan tray Green: ON.  
风扇框状态指示灯正常状态：绿灯常亮。

### When the MA5616 is configured with H831PAIA/H831PAIC board

MA5616配置H831PAIA/H831PAIC 单板时



### When the MA5616 is configured with H831PAIB board

MA5616配置H831PAIB单板时



### When the MA5616 is configured with H832PDIA board

MA5616配置H832PDIA单板时

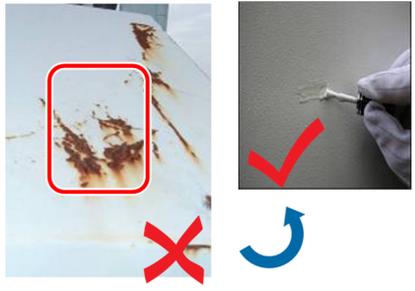
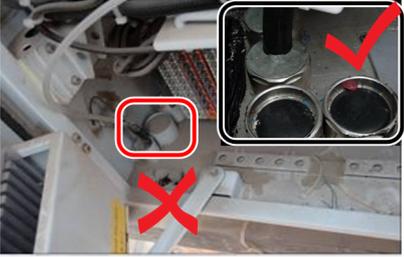
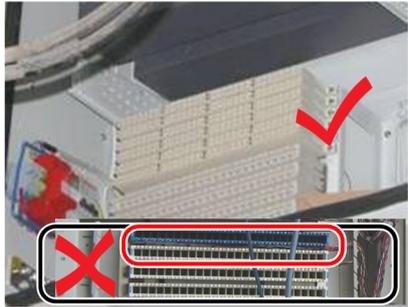
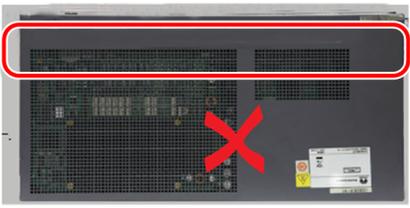
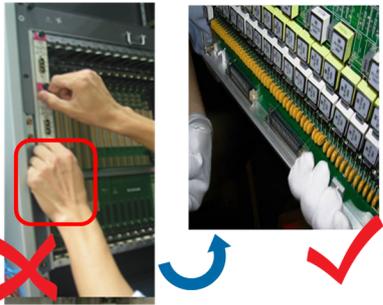
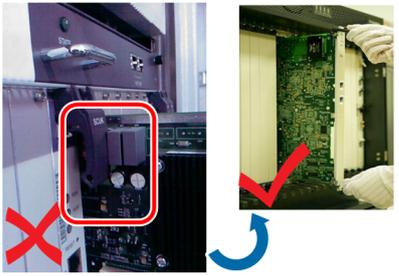
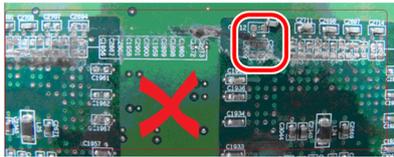


### When the MA5616 is configured with H831PDIA board

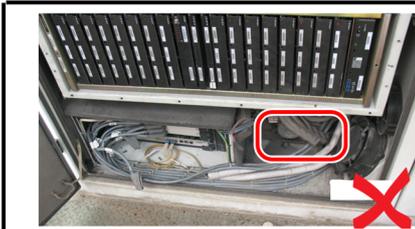
MA5616配置H831PDIA单板时



# FAQs for Installation 常见安装问题集锦

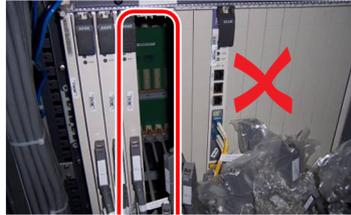
 <p>Keep off electromagnetic interference. 远离电磁干扰。</p>	 <p>Use a dedicated lightning protection bar. 使用专业防雷插线排。</p>	 <p>Repaint the place that is collided. 磕碰处及时补漆。</p>
 <p>Cable apertures of the cabinet should be properly sealed to prevent dust or insects from entering the cabinet. 机柜进线孔必须严格密封，避免粉尘甚至昆虫进入，造成运行隐患。</p>	 <p>Do not use cable side terminal blocks as exchange side terminal blocks 内外线模条应区别使用。</p>	 <p>Do not install the device on the wall without the protection. 不允许设备直接挂墙安装。</p>
 <p>Ensure that cable connectors and ports do not face upwards. 严禁出线方位向上安装。</p>	 <p>Do not remove or install a board with bare hands. 严禁裸手插拔单板。</p>	 <p>When installing and removing a board, align the board with the board tracks and prevent the board from colliding with the other parts. 插拔单板时应对准单板导轨，不要与其他部件磕碰。</p>
 <p>Use an ESD bag or board box to store and transport a board. 使用防静电袋和单板盒存储、运输单板。</p>	 <p>When installing and removing a board, use proper force to avoid any damage to the parts or any scratch on the PCB. 插拔单板时用力适中，避免损坏器件或刮花电路板。</p>	 <p>It is recommended that you install terminal blocks on the lower part of a device. 配线模条建议安装在设备下方。</p>

# FAQs for Installation 常见安装问题集锦



Ensure that the air exhaust vents of other devices do not directly face the device to protect the device against the effect of other device.

避免其他设备的出风口直接对着设备，影响设备运行。



It is recommended that you install a filler panel in a slot without a board to ensure a better cooling effect and prevent short circuit.

槽位没有配置单板时建议安装上假面板，避免影响设备通风和造成短路。



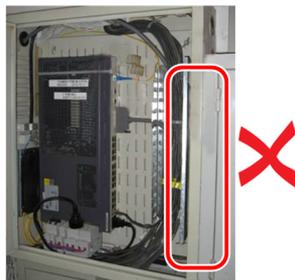
Do not affix a label on the heat dissipation hole.

不要将标签纸贴在散热孔上。



When installing a device against a wall, ensure that the side with heat dissipation holes is not against the wall.

禁止将设备散热孔的一面靠墙安装。



Ensure that the ventilation openings of the network cabinet are free of obstacle.

禁止堵塞网络箱通风口。



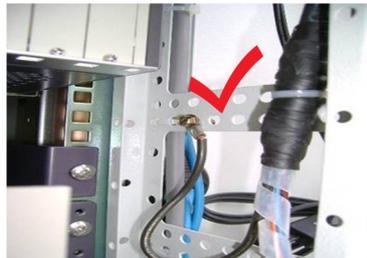
Do not route ground cables or subscriber cables into the room in the overhead mode.

禁止接地线、用户线架空入室。



Connect the ground cable to the grounding bar.

接地线应连接到接地排上。



The paint on the grounding point should be removed to ensure proper grounding. After the cable is connected to the grounding point, the grounding point should be repainted.

为保证有效接地，接地点应将油漆擦除。完成接地后应及时补漆。



When routing cables out of the network cabinet, ground the outer jacket of the cable to the nearest grounding point on the network cabinet side, or use the metal tube that is grounded to route cables.

网络箱出线，在近网络箱端将线缆外层接地，或使用接地的金属套管走线。



Subscriber cables should be unifiedly grounded.

用户电缆必须统一接地。



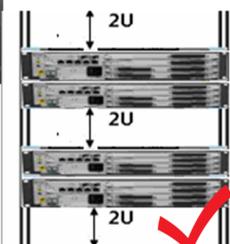
Ensure that the cabinet door is locked when the device is running.

平日运行请锁上机柜门。



Ensure that the installation space for a box-shape device is sufficient.

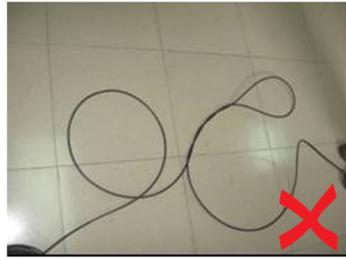
需保证盒式设备的安装空间。



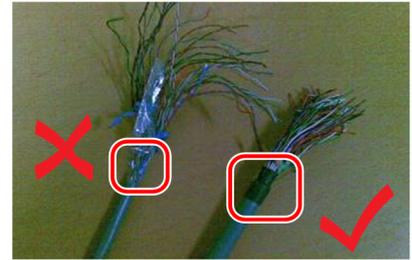
## FAQs for Installation 常见安装问题集锦



Signal cables should be routed separately from power cables.  
信号线与电源线应分开布放。



Do not distort cables.  
避免电缆扭曲。



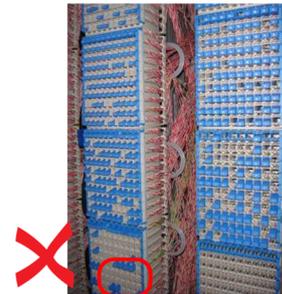
The subscriber cable part where the cable jacket is removed should be protected with a tube or a PVC insulation tape.  
用户线剥线处应使用套管或绝缘胶带保护。



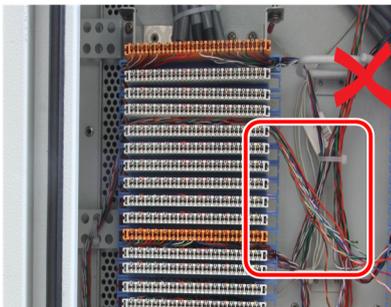
The connector of the subscriber cable that is not used should be protected with dustproof covers.  
用户线缆未使用时应使用防尘盖保护线缆接头。



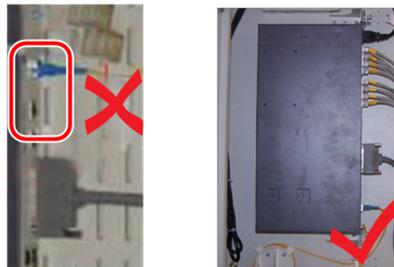
Use a dedicated tool for wire bonding.  
使用专用工具打线。



Each port of the cable side terminal block should be installed with a protective unit.  
要求每个外线模条端口都安装保安单元。

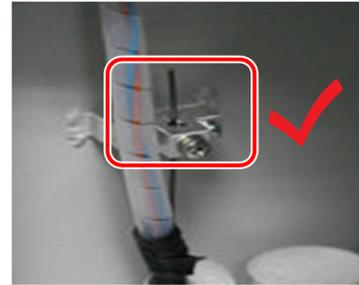


Cables that are not used should be bundled.  
未使用的电缆线束应绑扎。



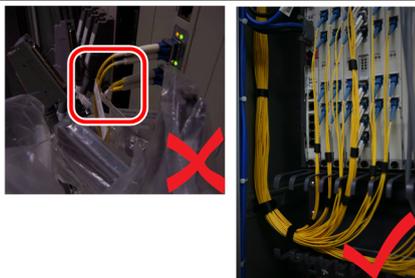
Ensure that the PON port is on the lower part to protect optical fibers against the lasting baking by the heat exhausted from the device.

竖直安装时，保证PON口位于下部，避免设备排放的热量长期烘烤光纤。

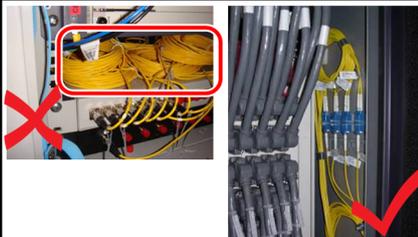


Metal wires of optical cables should be grounded.

光缆金属线应进行接地处理。

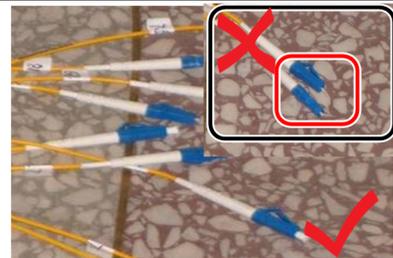


The bending radius of optical fibers should not be less than 40 mm.  
光纤弯曲半径不小于40mm。



Coil and protect the redundant optical fiber in the fiber management tray, other fiber management parts, or the place convenient for operation.

多余的光纤应放入盘纤盒、可盘纤的器件或方便操作的地方进行保护。



The ends of the optical fiber that is not used should be protected with dustproof caps.

光纤未使用时应盖上光纤防尘帽。