

7 Connecting a Switch

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7.1 Connecting the Switch

7.1.1 AC & High-Voltage DC Power Cable Routing Planning of the CloudEngine 16804

Context

To ensure that power cables are connected in order, you are advised to plan power cable routing in advance.

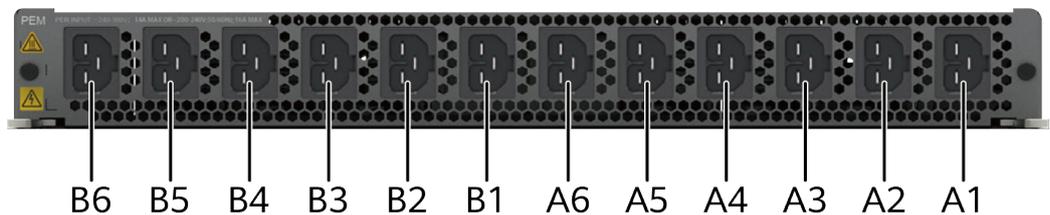
 NOTE

- If only one power source is available in the equipment room, connect all power modules to power source A (terminal blocks or power sockets A1 to A n) or power source B (terminal blocks or power sockets B1 to B n).
- When both power sources A and B are available:
 - In AC or high-voltage DC scenarios, power source A is used by default. If power source A is faulty, the system automatically switches to power source B.
 - In DC scenarios, if the two power sources have different voltages, the power source with a higher voltage provides a higher current.
 - If AC & high-voltage DC inputs are available to both power sources A and B, the 220 V AC input is used by default. If the 220 V AC input is faulty, the system automatically switches to the high-voltage DC input.
- Requirements for the power distribution of a customer's cabinet: The output power of power sources A and B must be greater than the maximum input power of the device.
- The cabinet supports overhead cabling and underfloor cabling, and the cabling scenarios of third-party cabinets need to be evaluated separately.

Mapping Between Power Sockets of the PEM and Power Modules

One power module at the front of the chassis corresponds to two power sockets. For example, the power module in PM1 slot corresponds to power sockets A1 and B1.

Figure 7-1 Power sockets of the AC & high-voltage DC PEM on the CloudEngine 16804

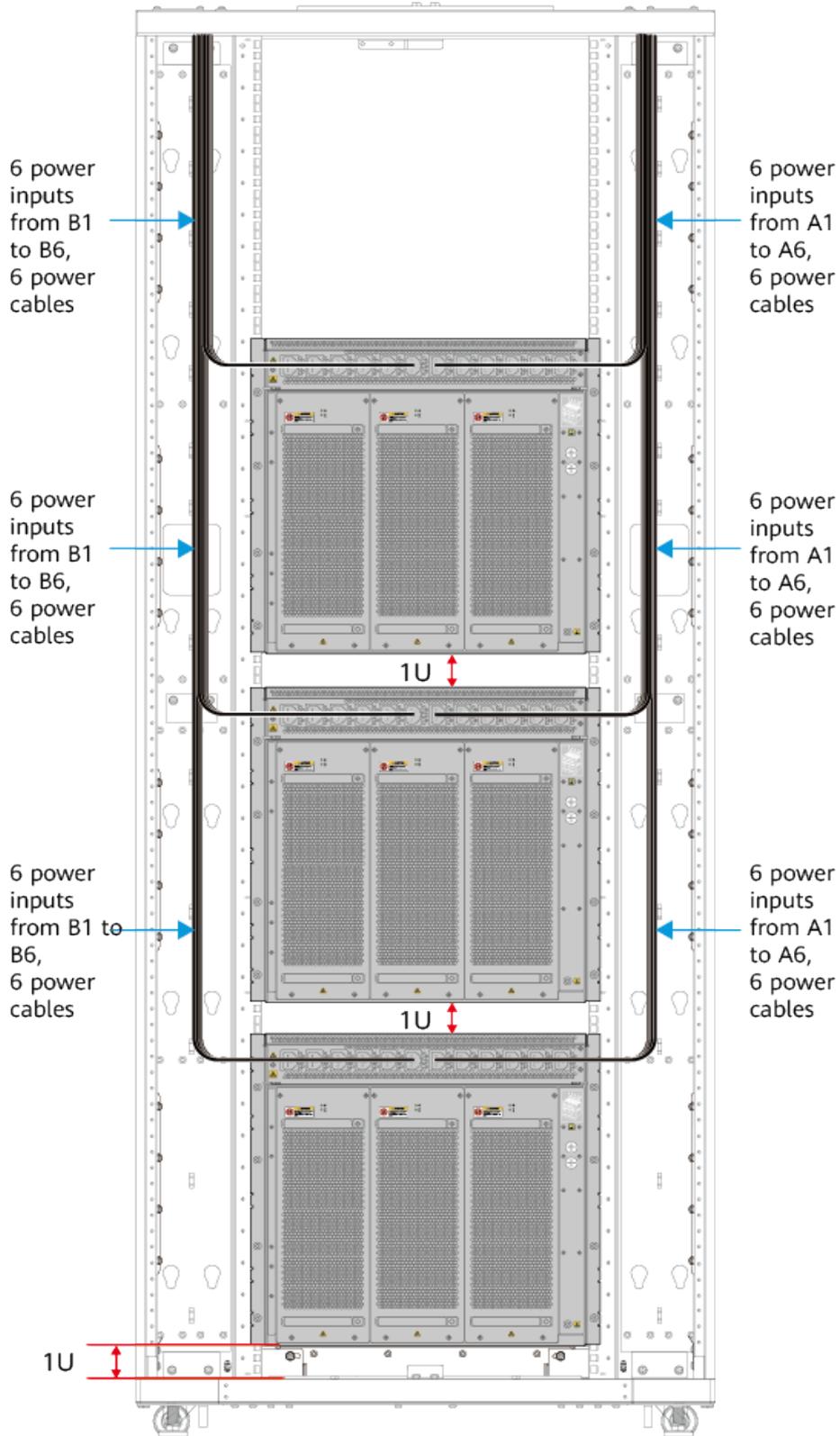


Power Cable Routing Planning

To facilitate power cable routing, reserve at least 1U space on the top of the CloudEngine 16804 AC & high-voltage DC chassis.

On the CloudEngine 16804, six power cables from A1 to A6 are routed from the right side of the cabinet or rack (when the installation personnel is opposite to the rear of the cabinet or rack, as mentioned below), and six power cables from B1 to B6 are routed from the left side of the cabinet or rack, as shown in [Figure 7-2](#).

Figure 7-2 Routing of AC & high-voltage DC power cables of the CloudEngine 16804



7.1.2 DC Power Cable Routing Planning of a CloudEngine 16804

Context

To ensure that power cables are connected in order, you are advised to plan power cable routing in advance.

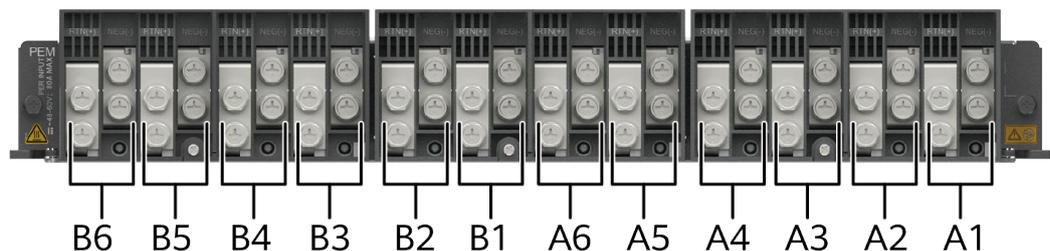
NOTE

- If only one power source is available in the equipment room, connect all power modules to power source A (terminal blocks or power sockets A1 to A n) or power source B (terminal blocks or power sockets B1 to B n).
- When both power sources A and B are available:
 - In AC or high-voltage DC scenarios, power source A is used by default. If power source A is faulty, the system automatically switches to power source B.
 - In DC scenarios, if the two power sources have different voltages, the power source with a higher voltage provides a higher current.
 - If AC & high-voltage DC inputs are available to both power sources A and B, the 220 V AC input is used by default. If the 220 V AC input is faulty, the system automatically switches to the high-voltage DC input.
- Requirements for the power distribution of a customer's cabinet: The output power of power sources A and B must be greater than the maximum input power of the device.
- The cabinet supports overhead cabling and underfloor cabling, and the cabling scenarios of third-party cabinets need to be evaluated separately.

Mapping Between Terminal Blocks of the PEM and Power Modules

One power module at the front of the chassis corresponds to two terminal blocks. For example, the power module in PM1 slot corresponds to terminal blocks A1 and B1.

Figure 7-3 Terminal blocks of the DC PEM on the CloudEngine 16804

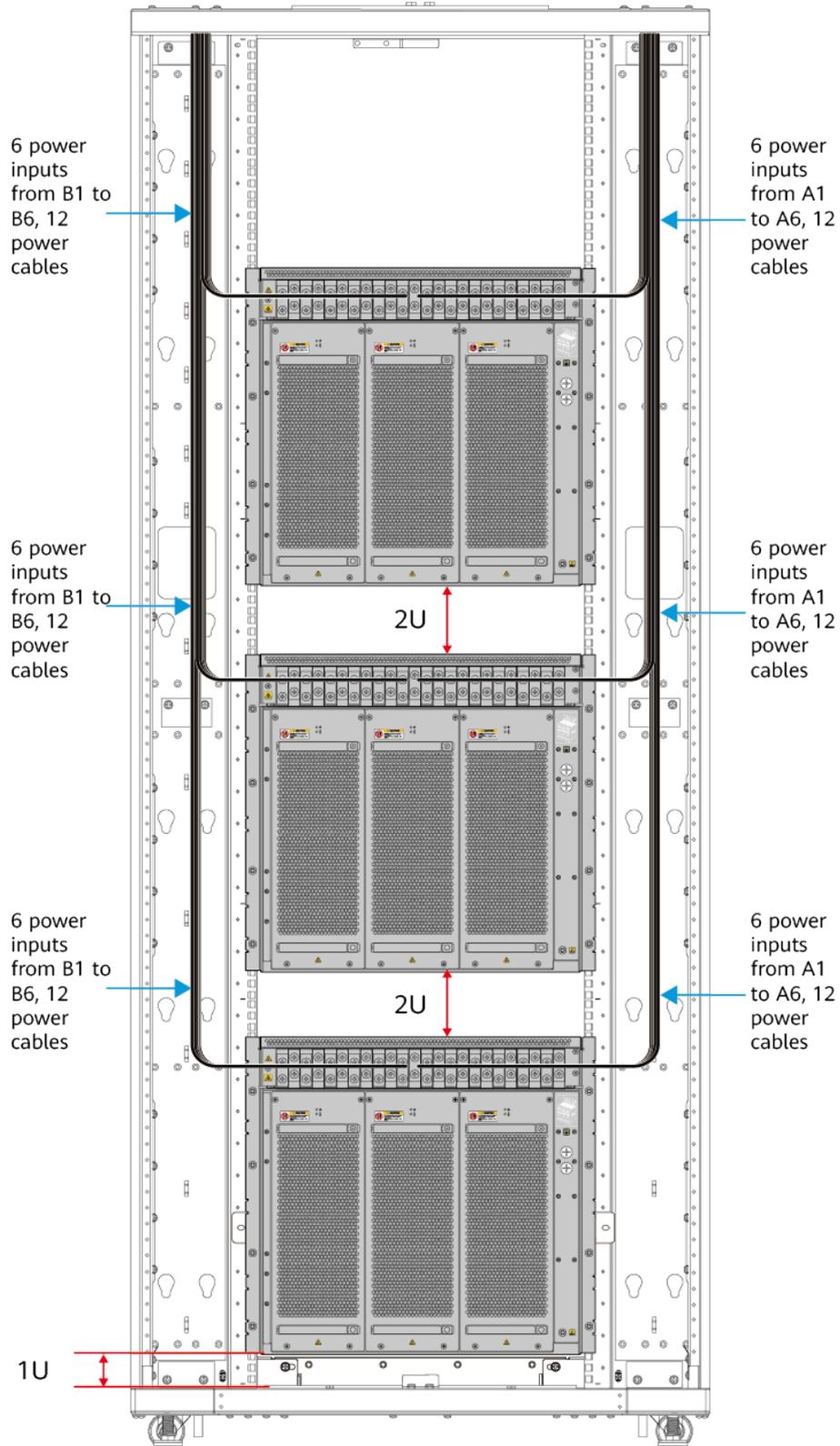


Power Cable Routing Planning

To facilitate power cable routing, reserve at least 2U space on the top of the CloudEngine 16804 DC chassis.

On the CloudEngine 16804, 12 power cables from A1 to A6 are routed from the right side of the cabinet or rack (when the installation personnel is opposite to the rear of the cabinet or rack, as mentioned below), and 12 power cables from B1 to B6 are routed from the left side of the cabinet or rack, as shown in [Figure 7-4](#).

Figure 7-4 Routing of DC power cables of the CloudEngine 16804



7.1.3 AC & High-Voltage DC Power Cable Routing Planning of the CloudEngine 16808

Context

To ensure that power cables are connected in order, you are advised to plan power cable routing in advance.

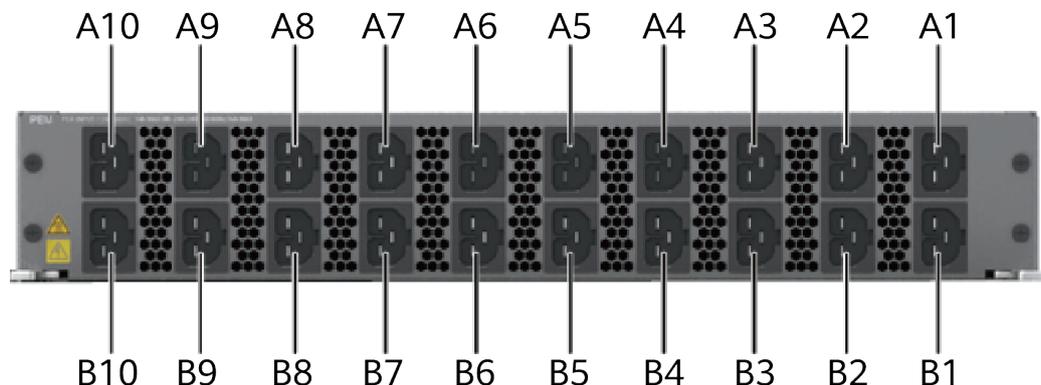
NOTE

- If only one power source is available in the equipment room, connect all power modules to power source A (terminal blocks or power sockets A1 to A*n*) or power source B (terminal blocks or power sockets B1 to B*n*).
- When both power sources A and B are available:
 - In AC or high-voltage DC scenarios, power source A is used by default. If power source A is faulty, the system automatically switches to power source B.
 - In DC scenarios, if the two power sources have different voltages, the power source with a higher voltage provides a higher current.
 - If AC & high-voltage DC inputs are available to both power sources A and B, the 220 V AC input is used by default. If the 220 V AC input is faulty, the system automatically switches to the high-voltage DC input.
- Requirements for the power distribution of a customer's cabinet: The output power of power sources A and B must be greater than the maximum input power of the device.
- The cabinet supports overhead cabling and underfloor cabling, and the cabling scenarios of third-party cabinets need to be evaluated separately.

Mapping Between Power Sockets of the PEM and Power Modules

One power module at the front of the chassis corresponds to two power sockets. For example, the power module in PM1 slot corresponds to power sockets A1 and B1.

Figure 7-5 Power sockets of the AC & high-voltage DC PEM on the CloudEngine 16808

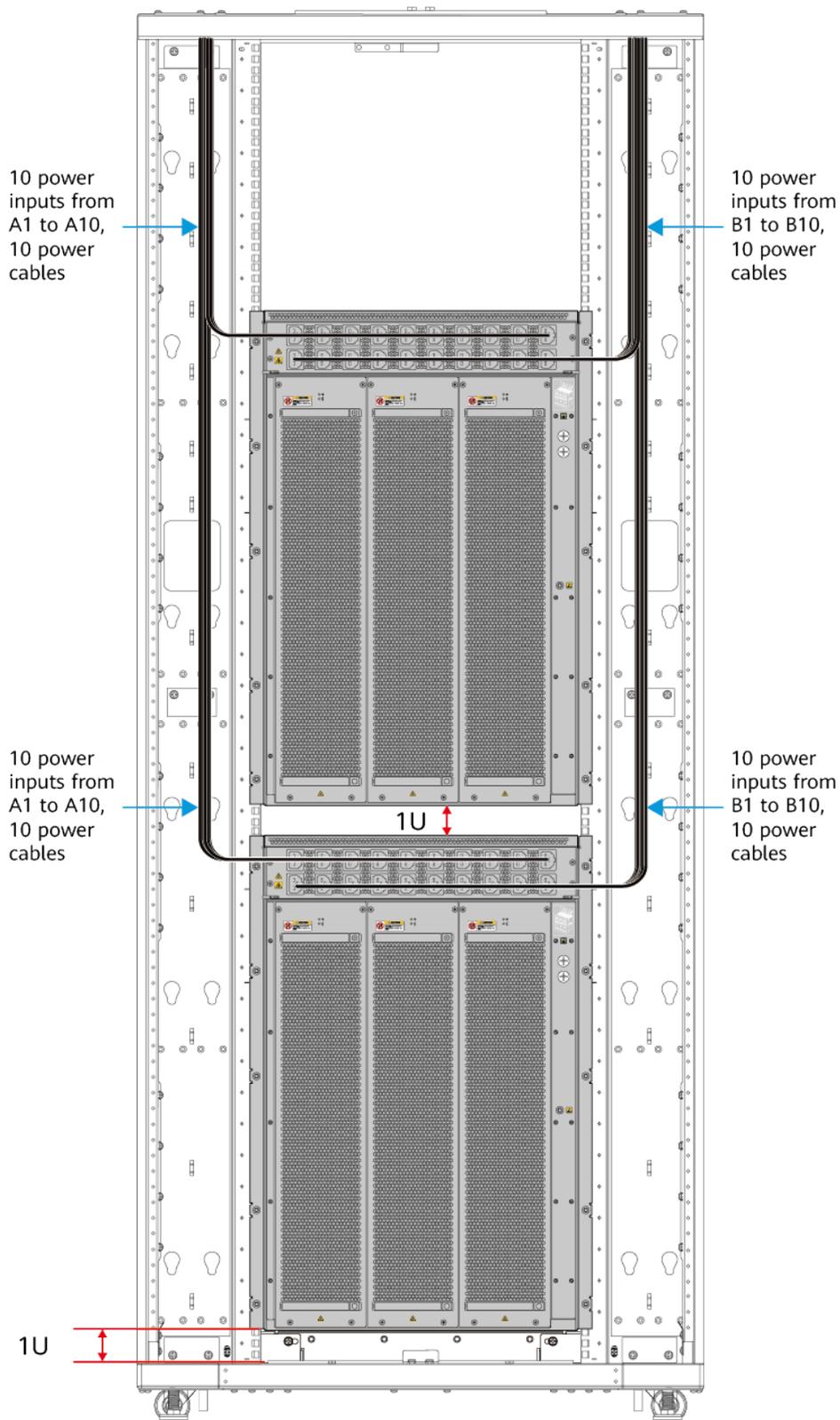


Power Cable Routing Planning

To facilitate power cable routing, reserve at least 1U space on the top of the CloudEngine 16808 AC & high-voltage DC chassis.

On the CloudEngine 16808, 10 power cables connected to the PEM's power sockets A1 to A10 are routed from the left side of the cabinet or rack and 10 power cables connected to the PEM's power sockets B1 to B10 are routed from the right side of the cabinet or rack (when facing the rear of the cabinet or rack), as shown in [Figure 7-6](#).

Figure 7-6 Routing of AC & high-voltage DC power cables of the CloudEngine 16808



7.1.4 DC Power Cable Routing Planning of a CloudEngine 16808

Context

To ensure that power cables are connected in order, you are advised to plan power cable routing in advance.

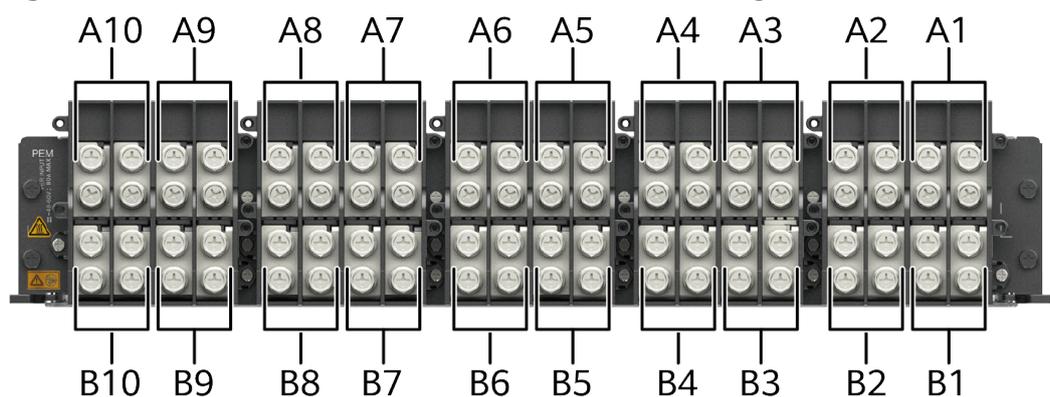
NOTE

- If only one power source is available in the equipment room, connect all power modules to power source A (terminal blocks or power sockets A1 to A*n*) or power source B (terminal blocks or power sockets B1 to B*n*).
- When both power sources A and B are available:
 - In AC or high-voltage DC scenarios, power source A is used by default. If power source A is faulty, the system automatically switches to power source B.
 - In DC scenarios, if the two power sources have different voltages, the power source with a higher voltage provides a higher current.
 - If AC & high-voltage DC inputs are available to both power sources A and B, the 220 V AC input is used by default. If the 220 V AC input is faulty, the system automatically switches to the high-voltage DC input.
- Requirements for the power distribution of a customer's cabinet: The output power of power sources A and B must be greater than the maximum input power of the device.
- The cabinet supports overhead cabling and underfloor cabling, and the cabling scenarios of third-party cabinets need to be evaluated separately.

Mapping Between Terminal Blocks of the PEM and Power Modules

One power module at the front of the chassis corresponds to two terminal blocks. For example, the power module in PM1 slot corresponds to terminal blocks A1 and B1.

Figure 7-7 Terminal blocks of the DC PEM on the CloudEngine 16808



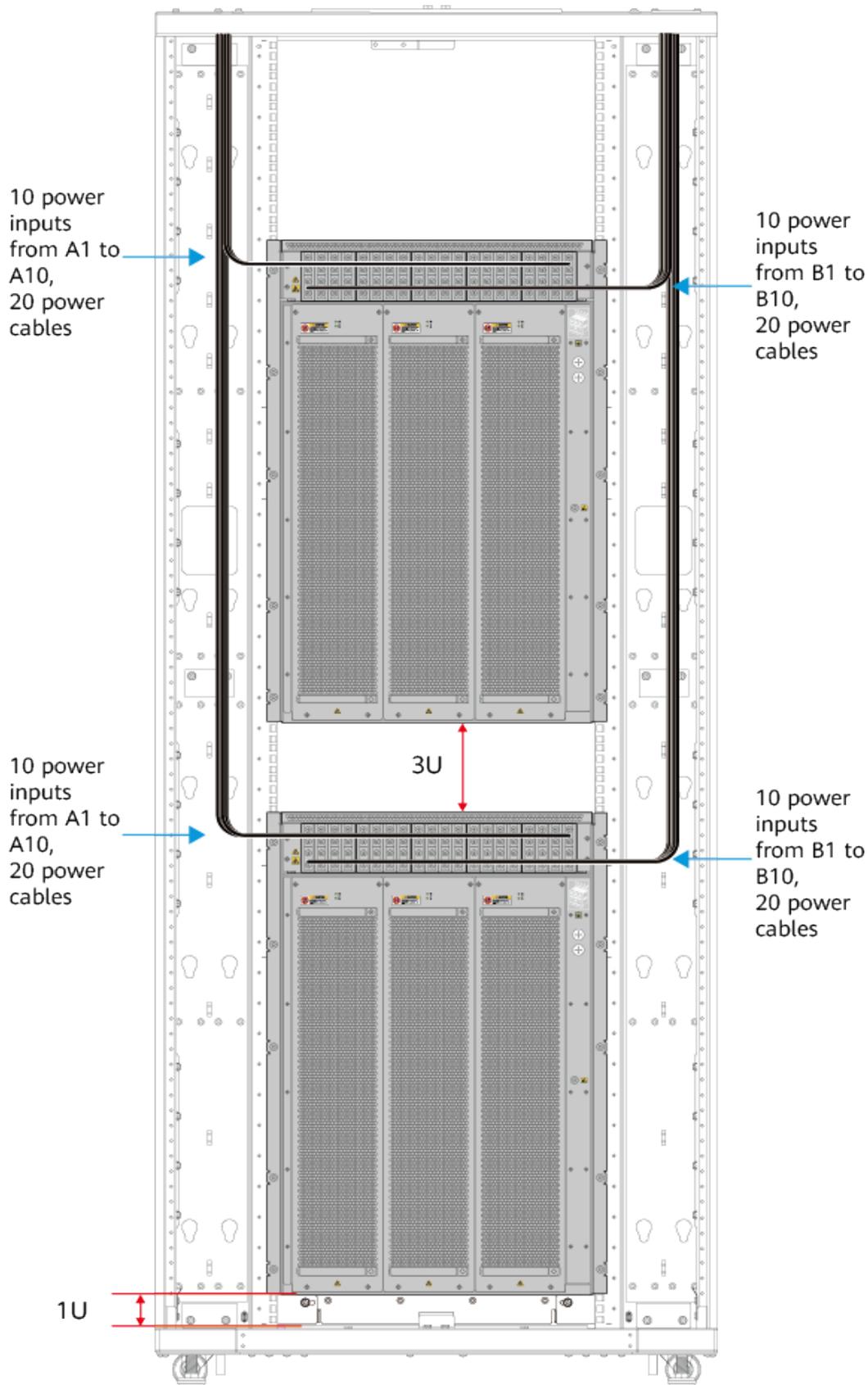
Power Cable Routing Planning

To facilitate power cable routing, reserve at least 3U space on the top of the CloudEngine 16808 DC chassis.

On the CloudEngine 16808, 20 power cables connected to the PEM's terminal blocks A1 to A10 are routed from the left side of the cabinet or rack and ten

power cables connected to the PEM's terminal blocks B1 to B10 are routed from the right side of the cabinet or rack (when facing the rear of the cabinet or rack), as shown in [Figure 7-8](#).

Figure 7-8 Routing of DC power cables of the CloudEngine 16808



7.1.5 AC & High-Voltage DC Power Cable Routing Planning of a CloudEngine 16816

Context

To ensure that power cables are connected in order, you are advised to plan power cable routing in advance.

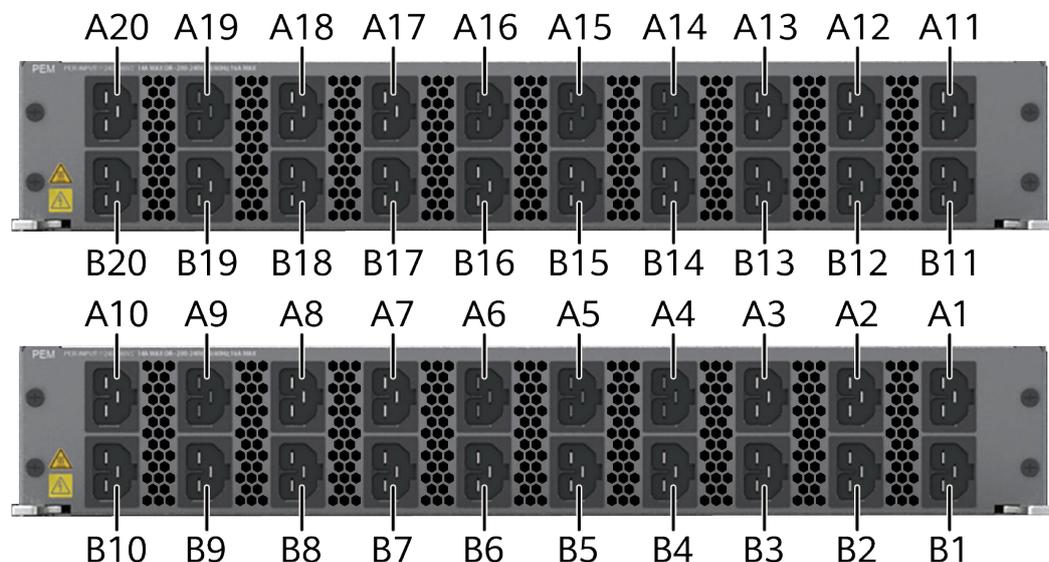
NOTE

- If only one power source is available in the equipment room, connect all power modules to power source A (terminal blocks or power sockets A1 to A*n*) or power source B (terminal blocks or power sockets B1 to B*n*).
- When both power sources A and B are available:
 - In AC or high-voltage DC scenarios, power source A is used by default. If power source A is faulty, the system automatically switches to power source B.
 - In DC scenarios, if the two power sources have different voltages, the power source with a higher voltage provides a higher current.
 - If AC & high-voltage DC inputs are available to both power sources A and B, the 220 V AC input is used by default. If the 220 V AC input is faulty, the system automatically switches to the high-voltage DC input.
- Requirements for the power distribution of a customer's cabinet: The output power of power sources A and B must be greater than the maximum input power of the device.
- The cabinet supports overhead cabling and underfloor cabling, and the cabling scenarios of third-party cabinets need to be evaluated separately.

Mapping Between Power Sockets of the PEM and Power Modules

One power module at the front of the chassis corresponds to two power sockets. For example, the power module in PM1 slot corresponds to power sockets A1 and B1.

Figure 7-9 Power sockets of the AC and high-voltage DC PEM on the CloudEngine 16816

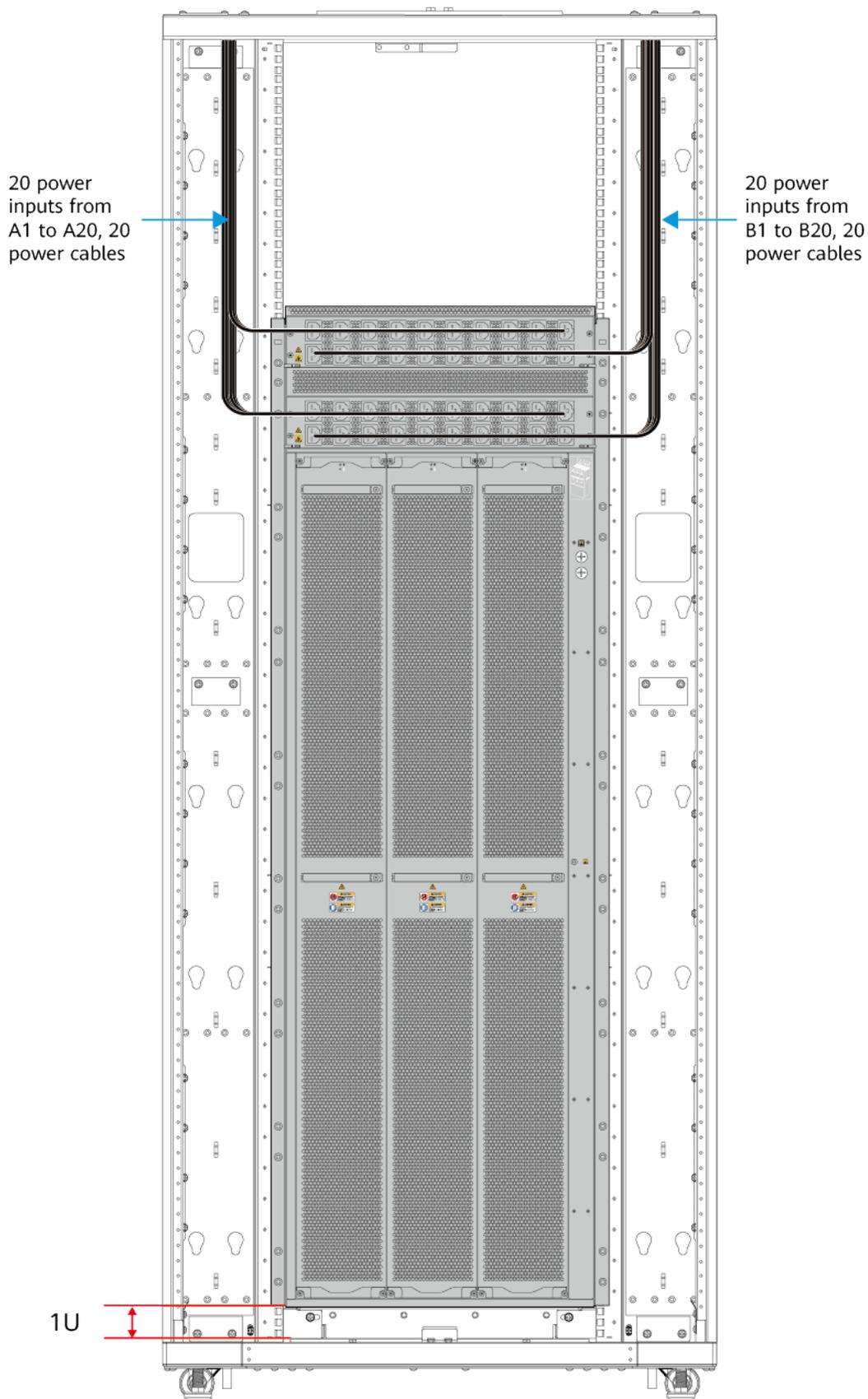


Power Cable Routing Planning

To facilitate power cable routing, reserve at least 1U space on the top of the CloudEngine 16816 AC & high-voltage DC chassis.

On the CloudEngine 16816, 20 power cables from A1 to A20 are routed from the left side of the cabinet or rack, and 20 power cables from B1 to B20 are routed from the right side of the cabinet or rack, as shown in [Figure 7-9](#).

Figure 7-10 Routing of AC or high-voltage DC power cables of the CloudEngine 16816



7.1.6 DC Power Cable Routing Planning of a CloudEngine 16816

Context

To ensure that power cables are connected in order, you are advised to plan power cable routing in advance.

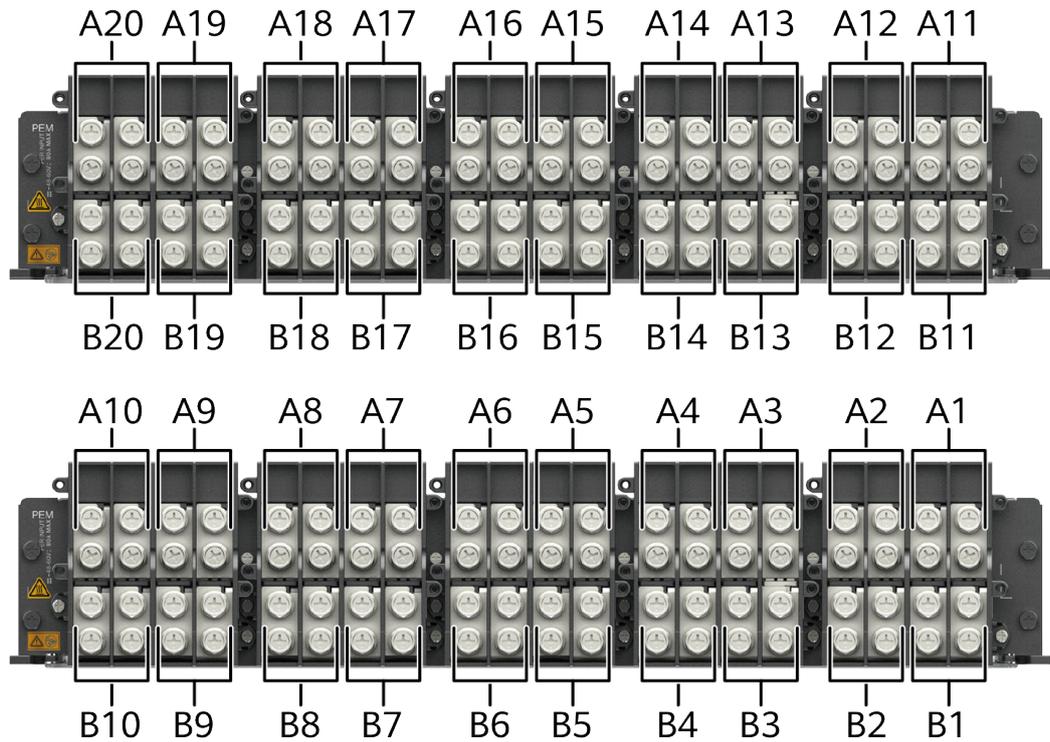
NOTE

- If only one power source is available in the equipment room, connect all power modules to power source A (terminal blocks or power sockets A1 to A*n*) or power source B (terminal blocks or power sockets B1 to B*n*).
- When both power sources A and B are available:
 - In AC or high-voltage DC scenarios, power source A is used by default. If power source A is faulty, the system automatically switches to power source B.
 - In DC scenarios, if the two power sources have different voltages, the power source with a higher voltage provides a higher current.
 - If AC & high-voltage DC inputs are available to both power sources A and B, the 220 V AC input is used by default. If the 220 V AC input is faulty, the system automatically switches to the high-voltage DC input.
- Requirements for the power distribution of a customer's cabinet: The output power of power sources A and B must be greater than the maximum input power of the device.
- The cabinet supports overhead cabling and underfloor cabling, and the cabling scenarios of third-party cabinets need to be evaluated separately.

Mapping Between Terminal Blocks of the PEM and Power Modules

One power module at the front of the chassis corresponds to two terminal blocks. For example, the power module in PM1 slot corresponds to terminal blocks A1 and B1.

Figure 7-11 Terminal blocks of the DC PEM on the CloudEngine 16816

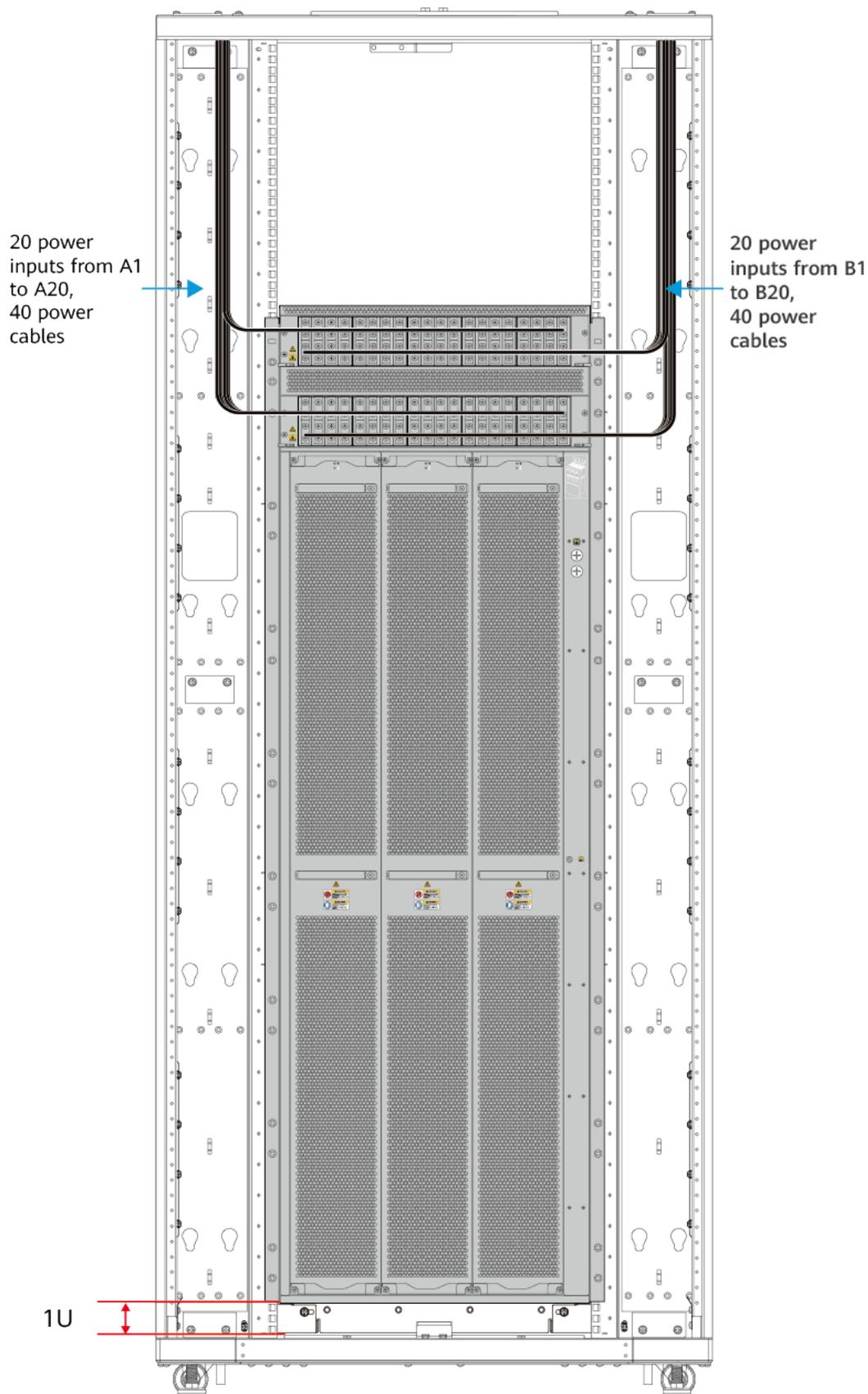


Power Cable Routing Planning

To facilitate power cable routing, reserve at least 3U space on the top of the CloudEngine 16816 DC chassis.

On the CloudEngine 16816, 40 power cables from A1 to A20 are routed from the left side of the cabinet or rack, and 40 power cables from B1 to B20 are routed from the right side of the cabinet or rack, as shown in [Figure 7-11](#).

Figure 7-12 Routing of DC power cables of the CloudEngine 16816



7.2 Connecting the Ground Cable

Context

The ground cable of a device can be connected in either of the following ways:

- If the device is installed close to a ground bar in the equipment room, connect the ground cable to this ground bar.
- If the device is installed far from available ground bars, connect the ground cable to the equipotential terminal or ground point on a cabinet or rack. (Ensure that the cabinet or rack is reliably grounded.)

The following procedure connects the ground cable to the ground point on a cabinet.

NOTE

- Use the ground cable delivered with the device.
- The ground point of a CloudEngine 16800 is located at its rear and supports a ground cable with a two-hole OT terminal.
- When using a ground cable with a one-hole OT terminal, route the ground cable properly to prevent it from hindering installation and removal of fan modules.

Tools

- ESD wrist strap or ESD gloves
- Phillips screwdriver
- Multimeter

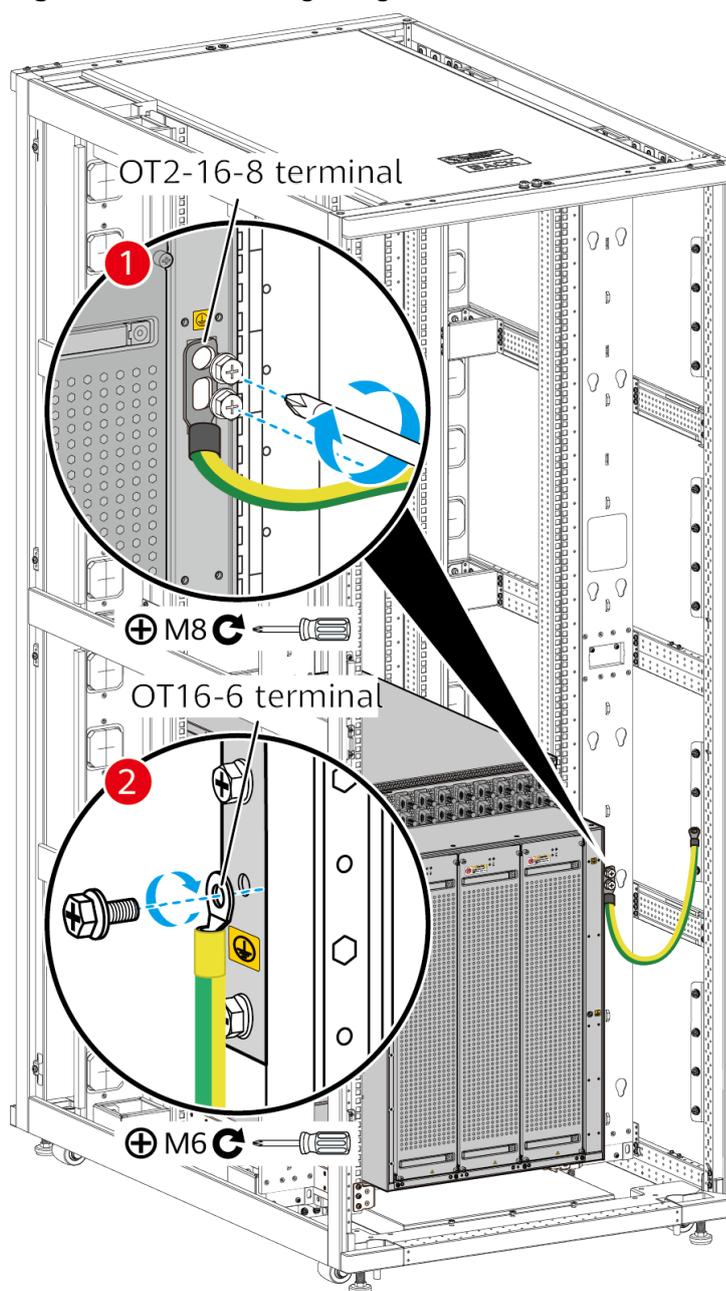
NOTE

The procedures and methods for connecting ground cables of all the CloudEngine 16800 models are the same. The following figure shows the ground cable connection for a CloudEngine 16808 as an example.

Procedure

- Step 1** Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.
- Step 2** Connect the two-hole OT terminal (OT2-16-8 terminal) of the ground cable to the ground point of the device. See callout 1 in [Figure 7-13](#). Tighten the M8 screws with a torque of 12 N m.
- Step 3** Connect the one-hole OT terminal (OT16-6 terminal) of the ground cable to the ground point on the cabinet/rack. See callout 2 in [Figure 7-13](#). Tighten the M6 screws with a torque of 4.8 N m.

Figure 7-13 Connecting the ground cable



----End

Follow-up Procedure

After the ground cable is connected, verify that the electrical resistance between the ground terminal and ground point is no more than 0.1 ohm on a multimeter.

7.3 Connecting AC Power Cables

Context

AC power cables can be connected directly to an EoR or to a PDU. Select AC power cables based on the types of power sockets used in your equipment room. Huawei offers PDU power cables and country-specific power cables to suit types of power sockets.

NOTE

The AC&240 V/380 V high-voltage DC chassis requires Huawei-customized high-voltage DC connectors. Only AC&240 V/380 V high-voltage DC cables delivered by Huawei can be used.

DANGER

Do not install AC power cables while the power is on.

NOTICE

- Before connecting AC power cables, make sure that the power switches of the external power supply system are all in OFF position.
 - The connector types and maximum input current of AC power cables used on a device must meet requirements of the device. Use the power cables delivered with the device.
 - Each device must have at least two independent power inputs for power redundancy. Do not connect all the AC power cables of a device to the PDUs controlled by the same circuit breaker.
-

CAUTION

UK-specific cables are not recommended for cabinets that house AC and high-voltage DC chassis. This is because the through-current capability of the UK-specific cables is just 13 A, failing to meet the 16-A requirement of 3000 W AC power modules.

NOTE

- If only one power source is available in the equipment room, connect all power modules to power source A (terminal blocks or power sockets A1 to An) or power source B (terminal blocks or power sockets B1 to Bn).
- In AC scenarios, if both power sources A and B are connected to power supplies, power source A is used by default. If power source A is faulty, power source B is used.
- Requirements for the power supply system of a customer's cabinet: The output power of two power sources must be greater than the maximum input power of the device.

Tools

- ESD wrist strap or ESD gloves
- Diagonal pliers

- Cable ties

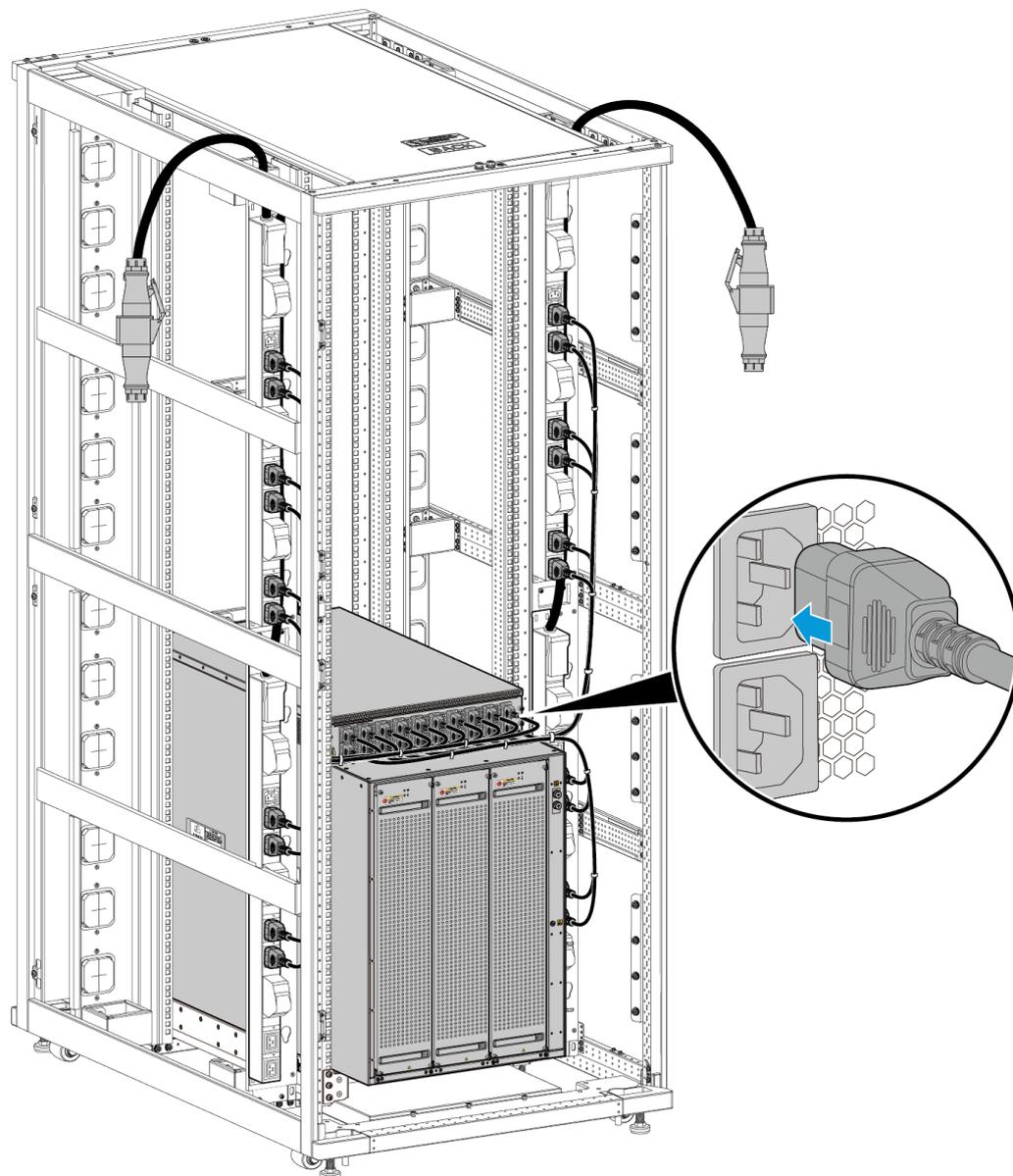
 **NOTE**

- The procedures and methods for connecting AC power cables of all the CloudEngine 16800 models are the same. The following figure shows the AC power cable connection for the CloudEngine 16808.
- If you use AC power cables delivered from Huawei, ensure that an AC power source is available within 2500 mm (cable distance) away from the device.
- It is recommended that you divide all cables in the cabinet into two equal bundles and route them from left and right sides of the cabinet respectively.
- Bundle AC power cables with appropriate stress. Ensure that power cables are not crossed or twisted.

Procedure

- Step 1** Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.
- Step 2** Attach temporary labels to both ends of each AC power cable.
- Step 3** Connect the HVDC 3 straight female connector of the AC power cable to the power socket on the PEM corresponding to the power module, and connect the C20 straight male connector of the AC power cable to the PDU, as shown in [Figure 7-14](#).
- Step 4** After connecting all the AC power cables, bundle them from bottom to top with cable ties, at intervals of 250 mm. Fix the power cables on the rack and use diagonal pliers to cut off redundant cable ties.
- Step 5** Replace the temporary labels with formal labels.

Figure 7-14 Connecting AC power cables



----End

7.4 Connecting DC Power Cables

Context

DC power cables of a device include a -48 V power cable and an RTN ground cable. You need to cut the delivered DC power cables into appropriate lengths according to actual situations in your site and make DC power cables onsite.

 **DANGER**

Do not install DC power cables while the power is on.

NOTICE

- Before connecting DC power cables, make sure that the power switches of the external power supply system are all in OFF position.
- Connect power cables to terminal blocks of the power modules at the rear of the chassis.

 **CAUTION**

Use the JG2 90° bent terminals delivered with the device. To avoid short circuits and incorrect cable connections, customers are not advised to make JG2 90° bent terminals.

 **NOTE**

- If only one power source is available in the equipment room, connect all power modules to power source A (terminal blocks or power sockets A1 to An) or power source B (terminal blocks or power sockets B1 to Bn).
- In DC scenarios, when both power sources A and B are connected to power supplies, the circuit with a higher voltage provides a larger current if the voltages of the two power sources are different.
- Requirements for the power supply system of a customer's cabinet: The output power of two power sources must be greater than the maximum input power of the device.
- For the CloudEngine 16808 and CloudEngine 16816, to facilitate cable connections, connect terminal blocks on the upper row and lower row in sequence. Before removing power cables, loosen terminal blocks on the lower row and upper row in sequence.

Tools

- ESD wrist strap or ESD gloves
- Phillips screwdriver
- Diagonal pliers
- Cable ties

 **NOTE**

- The procedures and methods for connecting DC power cables of all the CloudEngine 16800 models are the same. The following figure shows the DC power cable connection for the CloudEngine 16808.
- It is recommended that you divide all cables in the cabinet into two equal bundles and route them from left and right sides of the cabinet respectively.
- Bundle DC power cables with appropriate stress. Ensure that power cables are not crossed or twisted.

Procedure

- Step 1** Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.
- Step 2** Measure the distance that the power cables will go through, cut the DC power cables into an appropriate length accordingly, and make power cables.
- Step 3** Attach temporary labels to both ends of each DC power cable.
- Step 4** Use a Phillips screwdriver to loosen the screw on the plastic cover of the terminal block unit, and then open the cover. See callout 1 in [Figure 7-15](#).
- Step 5** Identify the positive (black/red) and negative (blue) power cables, and connect them to the RTN (+) and (NEG-) terminals respectively. See callout 2 in [Figure 7-15](#). Connect the other end to a DC power distribution box. Tighten screws with a torque of 4.9 N m.

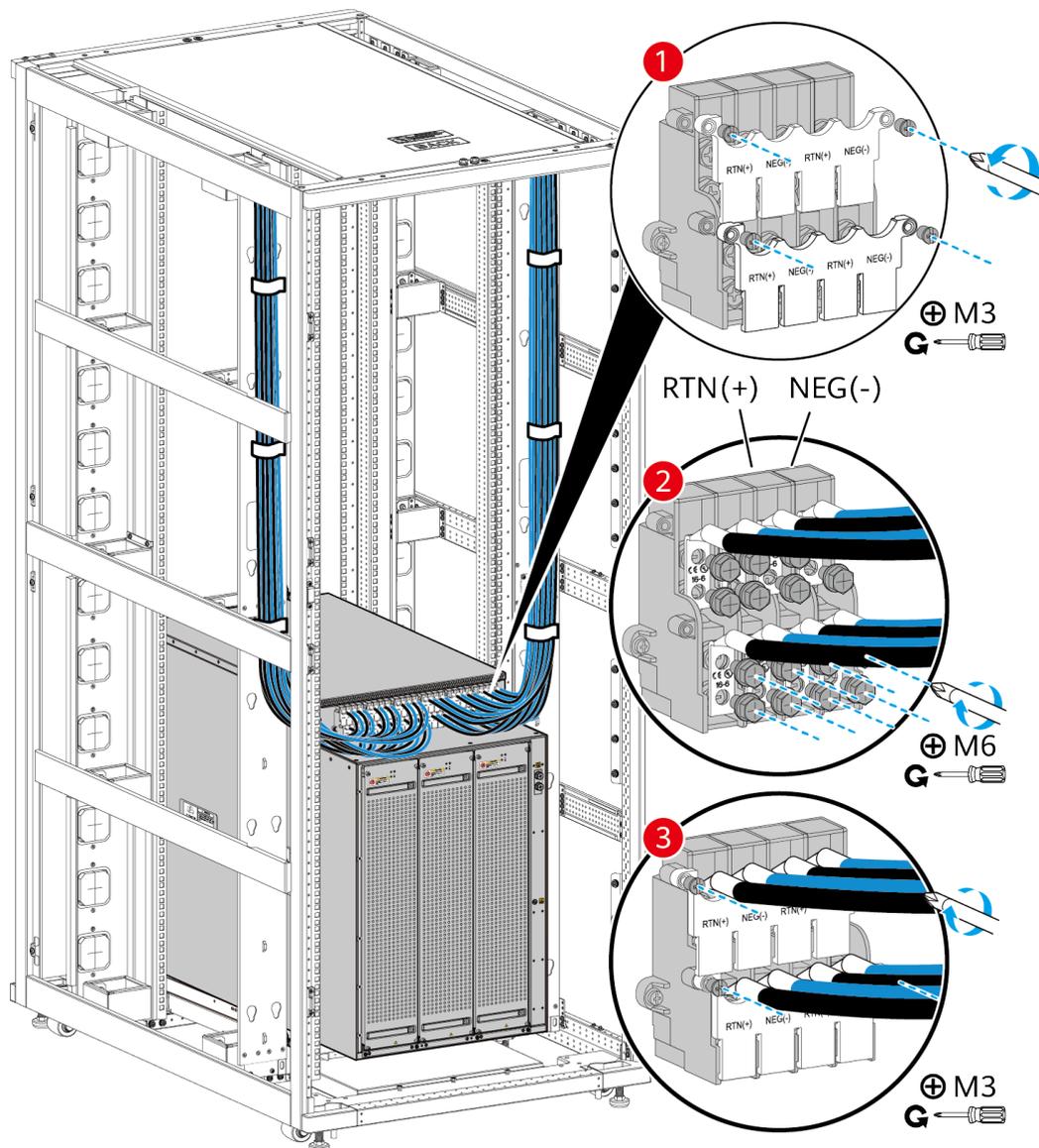
NOTE

Different DC power cables may be delivered in compliance with local regulations or user requirements.

Ensure that terminal blocks of the PEM are connected to power cables and screws are tightened.

- Step 6** After connecting the DC power cables, close the plastic cover of the terminal block unit and tighten the screw on the cover. See callout 3 in [Figure 7-15](#). Tighten screws with a torque of 0.54 N m.
- Step 7** After connecting all the DC power cables, bundle them from bottom to top with cable ties, at intervals of 250 mm. Fix the power cables on the rack and use diagonal pliers to cut off redundant cable ties.
- Step 8** Replace the temporary labels with formal labels.

Figure 7-15 Connecting DC power cables



----End

7.5 Connecting High-Voltage DC Power Cables

Context

High-voltage DC power cables can be connected directly to an EoR or to a PDU. For details about how to directly connect high-voltage DC power cables to an EoS, see *Connecting AC Power Cables*. The following describes how to connect high-voltage DC power cables to a PDU. A high-voltage DC power cable can transmit 240 V/380 V high-voltage DC power.

 **NOTE**

The AC or 240 V/380 V high-voltage DC chassis requires Huawei-customized high-voltage DC connectors. Only AC or 240 V/380 V high-voltage DC cables delivered by Huawei can be used.

 **DANGER**

Do not install high-voltage DC power cables while the power is on.

NOTICE

- Before connecting DC PDU power cables, make sure that the power switches of the external power supply system are all in OFF position.
 - The connector types and maximum input current of high-voltage DC PDU power cables used on a device must meet requirements of the device. Use the power cables delivered with the device.
 - Each device must have at least two independent power inputs for power redundancy. Do not connect all the high-voltage DC PDU power cables of a device to the PDUs controlled by the same circuit breaker.
-

 **NOTE**

- If only one power source is available in the equipment room, connect all power modules to power source A (terminal blocks or power sockets A1 to An) or power source B (terminal blocks or power sockets B1 to Bn).
- In high-voltage DC scenarios, if both power sources A and B are connected to power supplies, power source A is used by default. If power source A is faulty, power source B is used.
- Requirements for the power supply system of a customer's cabinet: The output power of two power sources must be greater than the maximum input power of the device.

Tools

- ESD wrist strap or ESD gloves
- Diagonal pliers
- Cable ties

 **NOTE**

- The procedures and methods for connecting high-voltage DC PDU power cables of all the CloudEngine 16800 models are the same. The following figure shows the high-voltage DC PDU power cable connection for the CloudEngine 16808.
- If you use high-voltage DC PDU power cables delivered from Huawei, ensure that a DC power source is available within 3000 mm (cable distance) away from the device.
- It is recommended that you divide all cables in the cabinet into two equal bundles and route them from left and right sides of the cabinet respectively.
- Bundle high-voltage DC PDU power cables with appropriate stress. Ensure that power cables are not crossed or twisted.

Procedure

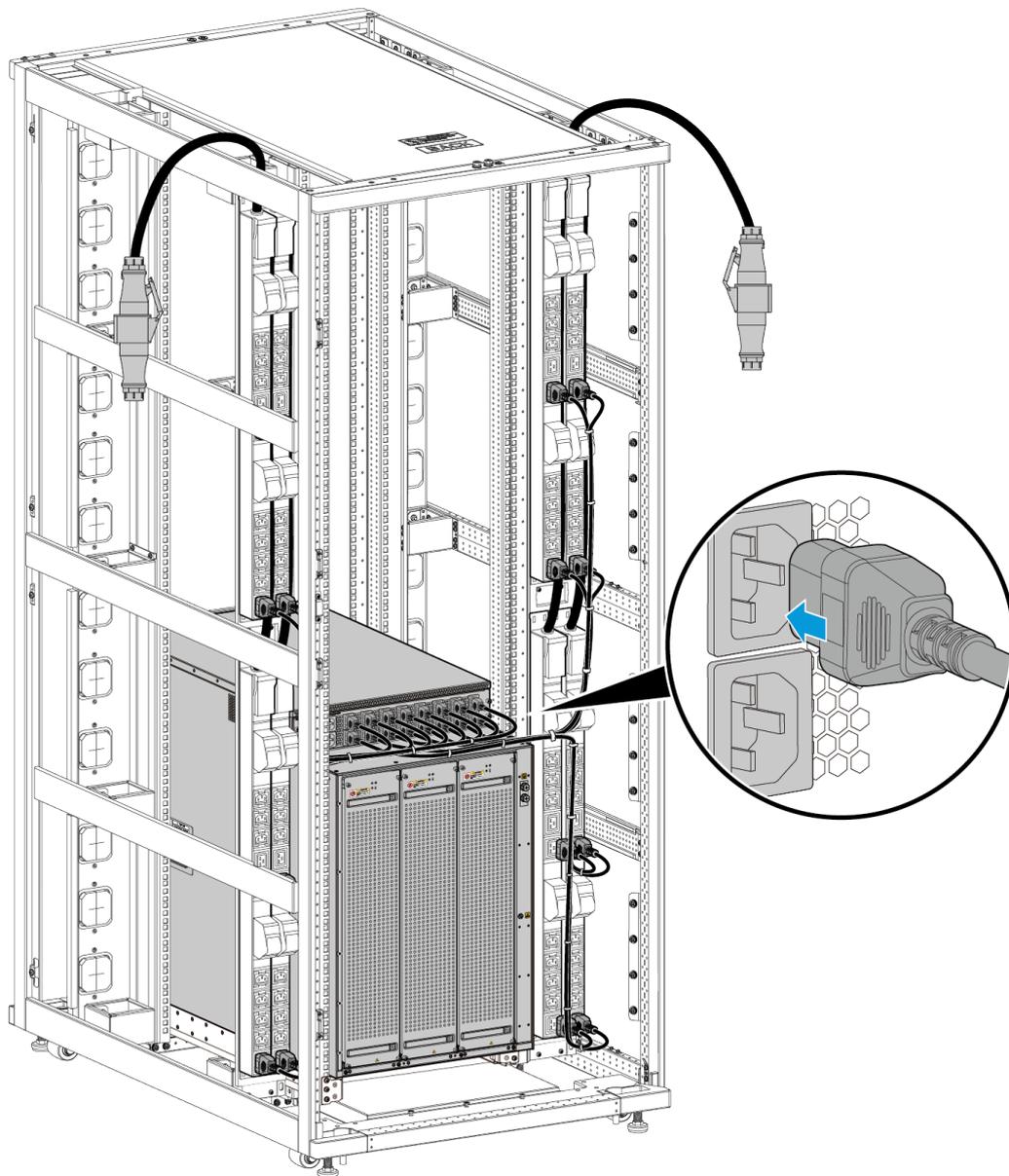
- Step 1** Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.
- Step 2** Attach temporary labels to both ends of each high-voltage DC PDU power cable.
- Step 3** Connect the HVDC-3T-01 straight female connector of the high-voltage DC PDU power cable to the power socket on the PEM of the power module, and connect the HVDC-3T-03 straight male connector of the high-voltage DC PDU power cable to the PDU, as shown in [Figure 7-16](#).

NOTE

In [Figure 7-16](#), eight power modules are used as an example to describe how to route power cables.

- Step 4** After connecting all the high-voltage DC PDU power cables, bundle them from bottom to top with cable ties, at intervals of 250 mm. Fix the power cables on the rack and use diagonal pliers to cut off redundant cable ties.
- Step 5** Replace the temporary labels with formal labels.

Figure 7-16 Connecting high-voltage DC PDU power cables



----End

7.6 Connecting Signal Cables

Context

Signal cables used on the CloudEngine 16800 series devices include high-speed cables, active optical cables (AOCs), and optical fibers.

NOTICE

Before connecting signal cables, take ESD protection measures, for example, wear ESD gloves or an ESD wrist strap.

NOTE

- To connect cables in a cabinet or rack more conveniently, you can remove the side panels of the cabinet or rack before connecting cables.
- Keep power cables and ground cables more than 30 mm away from signal cables.

Connecting High-Speed Cables

NOTICE

- Both ends of an idle high-speed cable must be covered by an ESD cap.
 - The bend radius of high-speed cables must be larger than the minimum bend radius. Overbending high-speed cables may damage wires in the cables. The minimum cabling clearance and minimum bend radius for various high-speed cables are as follows:
 - SFP+ to SFP+ high-speed cables (active and passive): The minimum cabling clearance is 60 mm, and the minimum bend radius is 35 mm.
 - QSFP+ to QSFP+ high-speed cables (passive): The minimum cabling clearance is 75 mm, and the minimum bend radius is 50 mm.
 - QSFP+ to 4*SFP+ high-speed cables (passive): For the QSFP+ end, the minimum cabling clearance is 100 mm, and the minimum bend radius is 50 mm. For the SFP+ end, the minimum cabling clearance is 60 mm, and the minimum bend radius is 35 mm.
 - QSFP28 to 4*SFP28 high-speed cables (passive): For the QSFP28 end, the minimum cabling clearance is 100 mm, and the minimum bend radius is 50 mm. For the SFP28 end, the minimum cabling clearance is 70 mm, and the minimum bend radius is 40 mm.
-

Connecting Optical Fibers

CAUTION

Laser beams will cause eye damage. Do not look into bores of optical modules or optical fibers without eye protection.

NOTICE

- Cover idle optical ports and optical modules with dust plugs and cover idle optical fibers with dust caps.
 - Optical fibers routed into a cabinet must be protected by a corrugated pipe. The bend radius of an optical fiber must be at least 20 times larger than its diameter. Generally, the bend radius of optical fibers should be no less than 40 mm.
 - Bundle optical fibers with binding tapes using the appropriate force. Ensure that the optical fibers in a bundle can be moved easily.
 - Fiber connectors must be tidy and clean to ensure normal communication. If a fiber connector is contaminated, clean it using a piece of fiber cleaning fabric.
-

Connecting AOCs

NOTICE

- Both ends of an idle AOC must be covered by an ESD cap.
 - The bend radius of AOCs must be no less than 30 mm. Overbending AOCs may damage wires in the cables.
-

Tools

- ESD wrist strap or ESD gloves
- Corrugated pipe
- Diagonal pliers
- Cable ties
- Fiber binding tape
- Marker
- Signal cable labels
- (Optional) Tweezers

Procedure

Step 1 Determine the number and type of ports to be connected and plan the cabling routes.

Step 2 Select signal cables of appropriate quantity and lengths according to the number of ports and measured cabling distances.

 **NOTE**

Select optical fibers of appropriate modes, quantity, and lengths according to the optical module types, number of ports to be connected, and measured cabling distances.

Step 3 Attach temporary labels to both ends of each signal cable and write numbers on the labels to identify the cables.

- For details on how to number Ethernet cables, see engineering labels for Ethernet cables.
- For details on how to number high-speed cables and AOCs, see engineering labels for Ethernet cables.
- For details on how to number optical fibers, see engineering labels for Ethernet cables.

Step 4 Wear an ESD wrist strap or ESD gloves. When wearing an ESD wrist strap, ensure that the ESD wrist strap is in close contact with your wrist, and insert the other end into the ESD jack of the device or cabinet/rack.

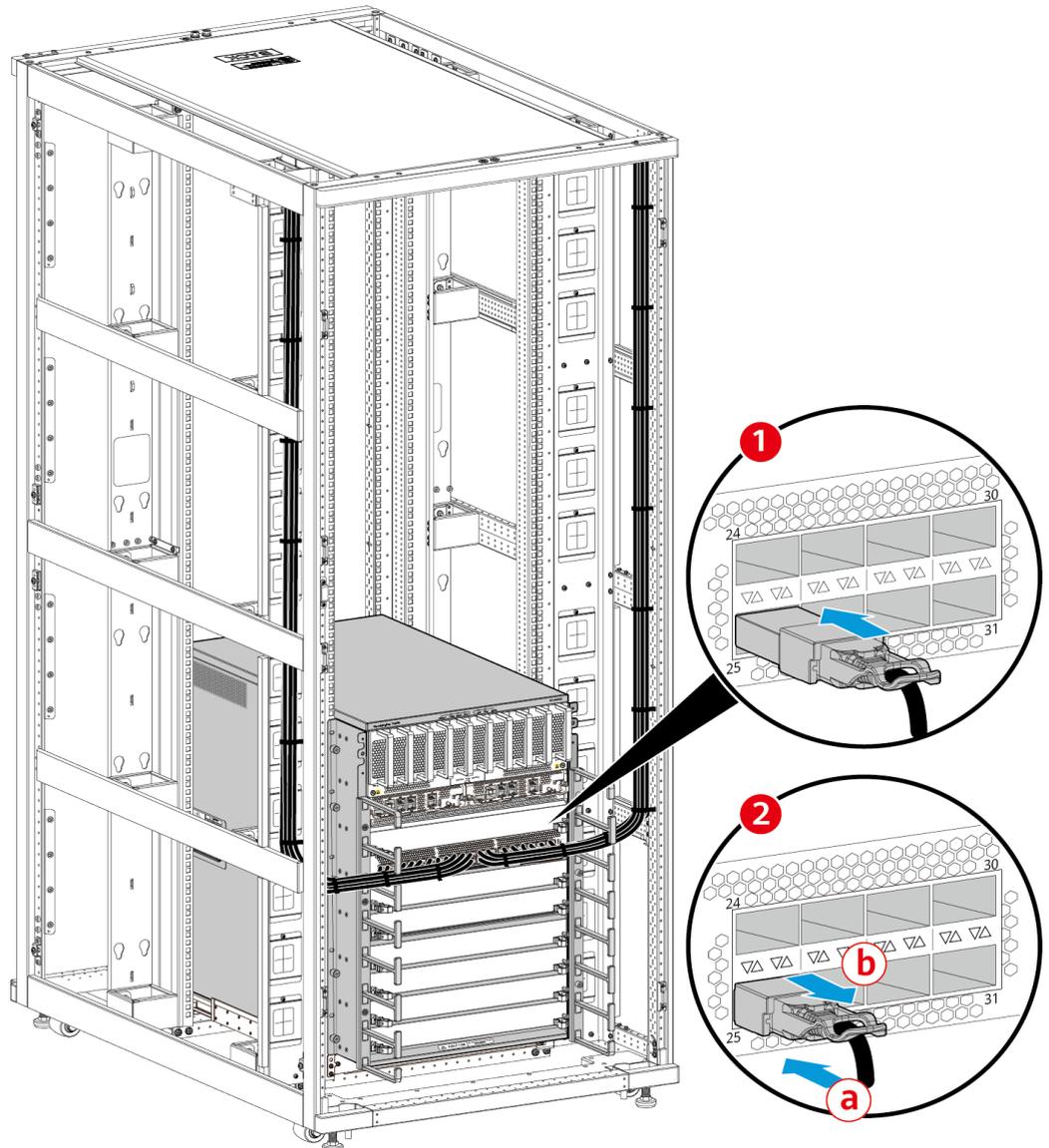
Step 5 Route signal cables. Unroll the signal cables and arrange them into a bundle. Route the bundle of signal cables to the cabinet/rack along the cable tray, and lead the power cables into the cabinet/rack from both sides.

Step 6 Connect signal cables to ports of the device.

- To connect a high-speed cable, find the port matching the number on the high-speed cable and plug the cable connector to the port. If you hear a click when inserting the cable connector, the high-speed cable has been securely seated in the port. See callout 1 in [Figure 7-17](#). After verifying that all high-speed cables are correctly connected, go to [Step 7](#).

To remove a high-speed cable, gently push the cable connector and then pull the handle of the connector. Do not directly pull the cable connector with force. See callout 2 in [Figure 7-17](#).

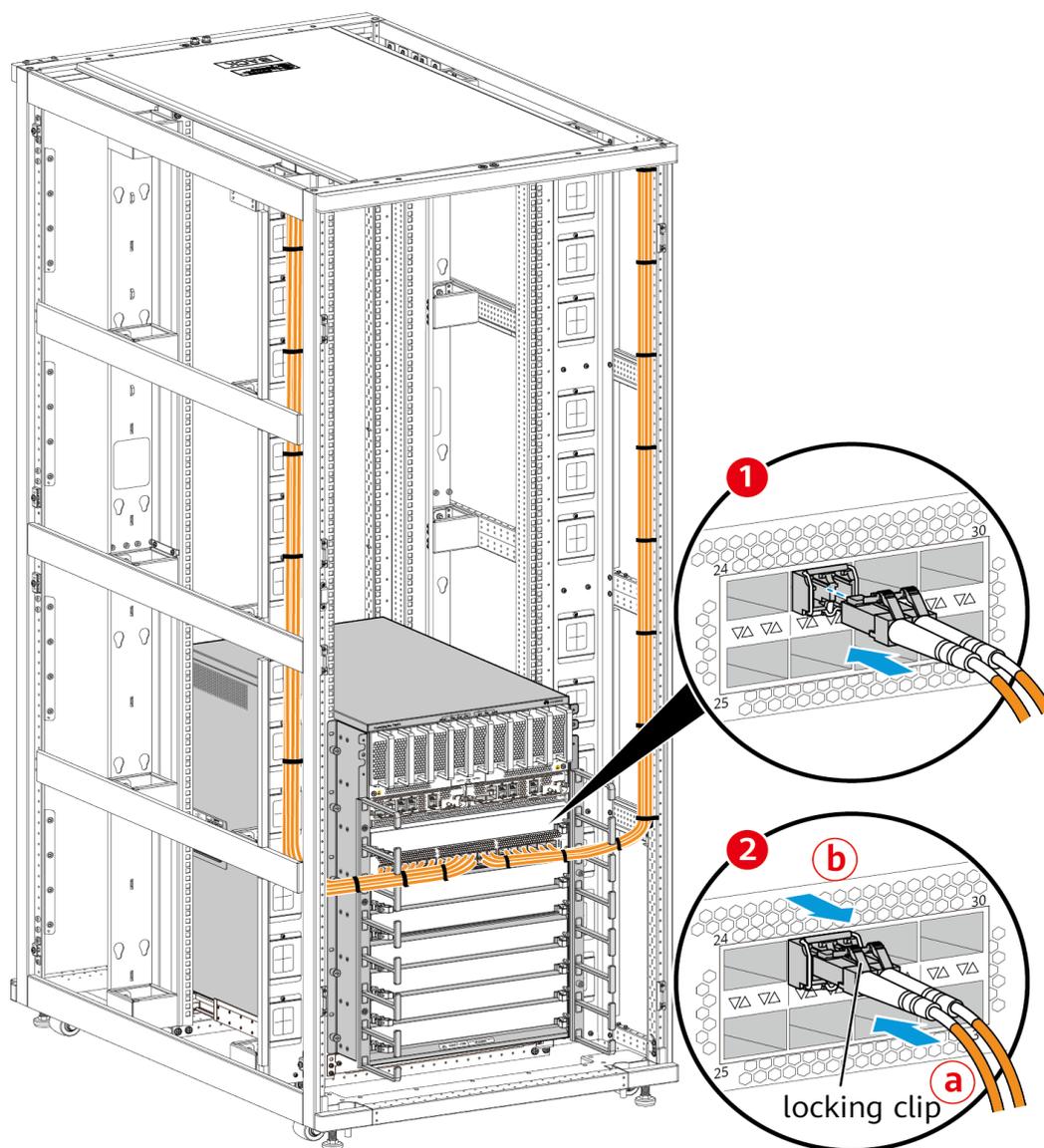
Figure 7-17 Connecting high-speed cables



- To connect a pair of optical fibers, find the optical port matching the number on the optical fibers, install an optical module matching the optical fibers on the optical port, and then insert the fiber connector into the optical module. If you hear a click when inserting the fiber connector, the optical fibers have been securely seated in the optical module. See callout 1 in [Figure 7-18](#). After verifying that all optical fibers are correctly connected, go to [Step 7](#).

To remove optical fibers from an optical module, gently push the fiber connector, and then pull the fiber connector while pressing the locking clips. Do not directly pull the fiber connector with force. See callout 2 in [Figure 7-18](#).

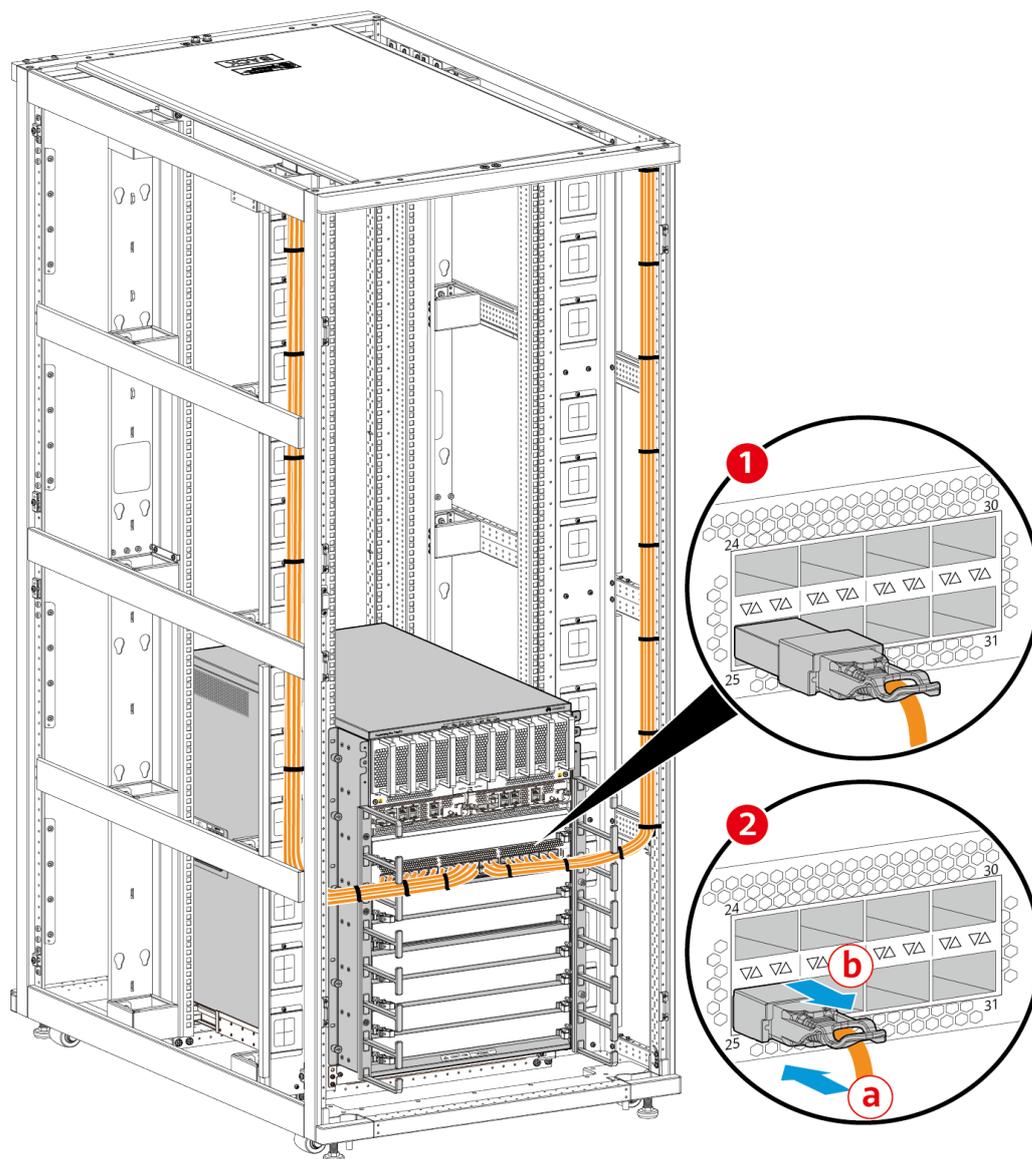
Figure 7-18 Connecting optical fibers



- To connect an AOC, find the port matching the number on the AOC and plug the cable connector to the port on the switches. If you hear a click when inserting the cable connector, the AOC has been securely seated in the port. See callout 1 in [Figure 7-19](#). After verifying that all AOCs have been correctly connected to the switches, go to [Step 7](#).

To remove an AOC, gently push the cable connector and then pull the handle of the connector. Do not directly pull the cable connector with force. See callout 2 in [Figure 7-19](#).

Figure 7-19 Connecting AOCs



NOTE

If many signal cables are connected to a device, use the tweezers delivered with the device to remove signal cables.

Step 7 Bundle signal cables. Arrange the signal cables and put them through the cable management frames of the corresponding slots orderly. Use cable ties to bundle the signal cables at an interval of 200 mm to 300 mm. Fix the bundled signal cables on the cabinet/rack and cut redundant cable ties with a pair of diagonal pliers.

Step 8 Replace all the temporary labels with formal labels on the signal cables.

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