

Installation Guide

6673

Installation Instructions

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1 Introduction

1.1 Scope

This document provides the information necessary to install the system hardware.

1.2 Audience

This document is intended for system engineers or technicians who have experience with installing hardware in a controlled environment, such as a lab.



2 Safety

This section describes the safety information for equipment and site personnel.

This equipment must be connected to a protective ground in accordance with the instructions provided in this guide. Improper grounding can result in an electrical shock.

Note: Install the device in a restricted access location or service area.

Herein, restricted access location means location for the device where both of the following apply:

- access can only be gained by SERVICE PERSONS or USERS who have been instructed on the reasons for the location restrictions, and on the necessary precautions.
- access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the location.

Herein, service area means another part of equipment (for example: a Cabinet), where it is necessary for SERVICE PERSONS to have access even when this other equipment (the Cabinet) is switched on.

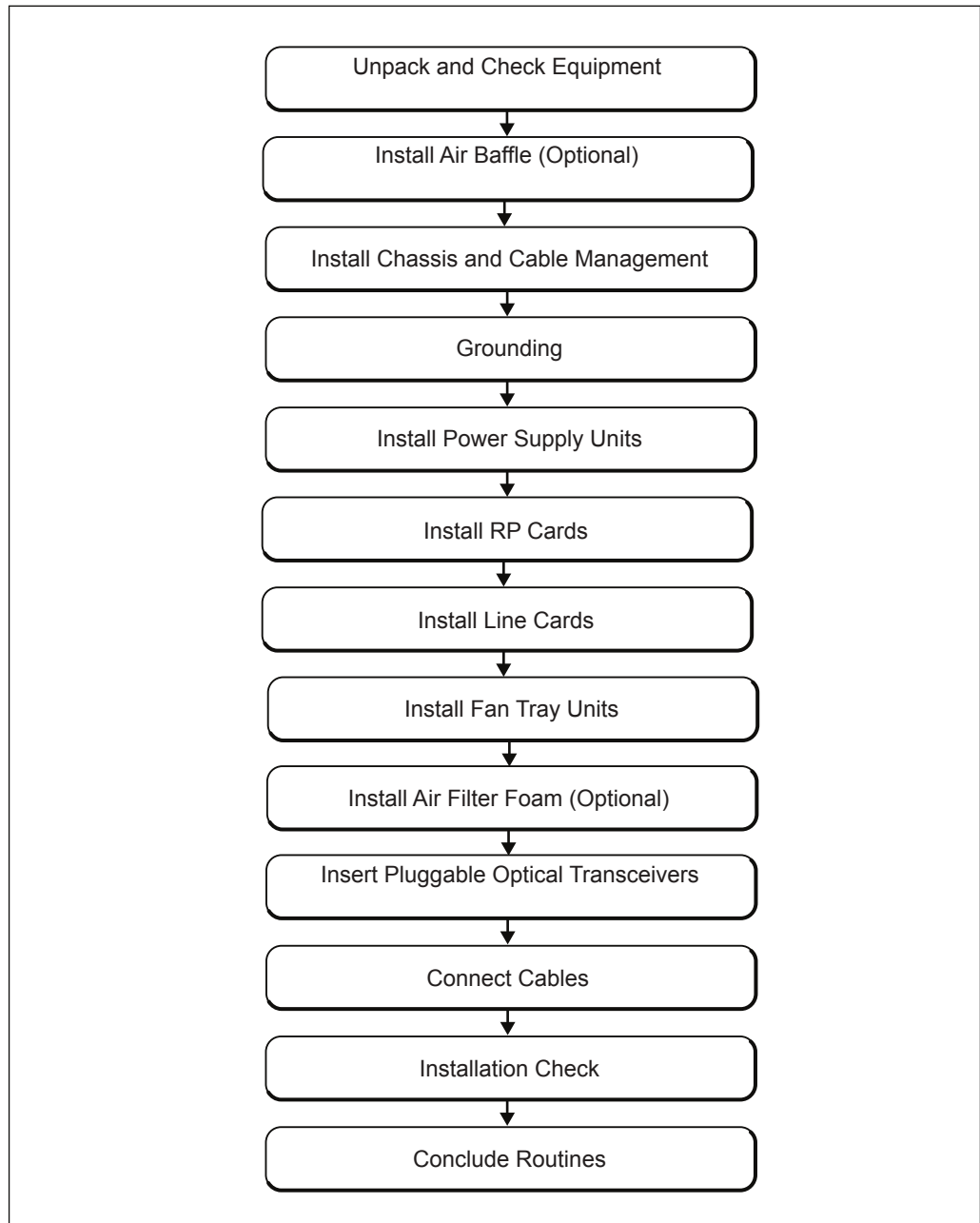
Note: The intra-building port(s) (list the ports) of the equipment or subassembly is suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building port(s) of the equipment or subassembly MUST NOT be metallically connected to interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 2 or Type 4 ports are described in GR-1089) and require isolation from the exposed OSP cabling. The addition of Primary Protectors does not provide sufficient protection for connecting these interfaces metallically to OSP wiring.

Note: The intra-building port(s) (list the ports) of the equipment or subassembly must use shielded intra-building cabling or wiring, grounded at both ends.



3 Workflow

Figure 1 6673 Installation Workflow





4 Prerequisites

4.1 6673 Electrical Specification

The following table lists the specifications for the 6673 AC power supply.

Table 1 6673 AC Power Supply

| Item | Value |
|-----------------------|----------------------------------|
| Nominal input voltage | 100 to 240 V AC, 50/60 Hz |
| Input voltage range | 90 V AC to 264 V AC, 47 to 63 Hz |
| Maximum current | 8 A |

The following table lists the specifications for the 6673 DC power supply.

Table 2 6673 DC Power Supply

| Item | Value |
|-----------------------|----------------------|
| Nominal input voltage | -48 V DC |
| Input voltage range | -40 V DC to -58 V DC |
| Maximum current | 23 A |

The following table lists specifications for the power consumption of the 6673 components and the total power consumption of the system.

Table 3 6673 Power Consumption

| Item | Typical Power Consumption | Maximum Power Consumption |
|----------------------|---------------------------|---------------------------|
| RPSW-800-S Card | 140 W | 200 W |
| LC-05 9xCPRI Card | 43 W ⁽¹⁾ | 90 W ⁽¹⁾ |
| LC-01 8x10/25G Card | 37 W | 50 W |
| LC-02 2x40/100G Card | 37 W | 50 W |
| LC-04 8x1/10G Card | 17 W | 25 W |
| PSU-AC | 25 W | 40 W |
| PFU-DC | 2 W | 4 W |



| Item | | Typical Power Consumption | Maximum Power Consumption |
|--------|--------------------------------|---------------------------|---------------------------|
| FAU-01 | | 40 W | 90 W |
| System | Radio over Ethernet (RoE) Mode | 313 W | 568 W ⁽²⁾ |
| | CPRI to eCPRI Conversion Mode | 461 W | 718 W ⁽³⁾ |

(1) The value is for the RoE mode.

(2) The system power consumption can reach its maximum value when the system is configured with one RPSW-800-S card, three LC-05 9xCPRI cards in RoE mode, two PFU-DC, one fan tray. All the interfaces of each line card are inserted with transceivers.

(3) The system power consumption can reach its maximum value when the system is configured with one RPSW-800-S card, two LC-05 9xCPRI cards in Conversion mode, one LC-01 8x10/25G card, two PFU-DC, one fan tray. All the interfaces of each line card are inserted with transceivers.

4.2 6673 Physical Characteristics

The following tables list the specifications for the 6673 dimensions and weight.

Table 4 6673 Dimensions

| Dimensions | Width (mm) | Height (mm) | Depth (mm) |
|------------|------------|-------------|------------|
| Chassis | 482 | 66 | 230 |

Table 5 6673 Weight

| Weight | Value (kg) |
|--------------------------|----------------------|
| Fully configured chassis | 9.782 ⁽¹⁾ |
| Unconfigured chassis | 2.81 |

(1) The chassis is configured with two power supply units, one fan tray, one RP card, and three LC-05 9xCPRI cards.

4.3 Chassis Layout

The 6673 chassis has the following slot structure (as illustrated in [Figure 2](#) and [Figure 3](#)):

- One full-width slot dedicated to the RPSW card.



- Two (AC variant) or three (DC variant) half-width slots dedicated to any type of Line Card units (LC).
- One vertical slot dedicated to the fan tray unit, at left of chassis.
- One vertical slot dedicated to the optional air filter unit, at right of chassis.
- One or two half-width slots dedicated to the two redundant power units, with the DC type occupying one LC slot, and the AC type occupying two slots, at the right bottom of chassis.

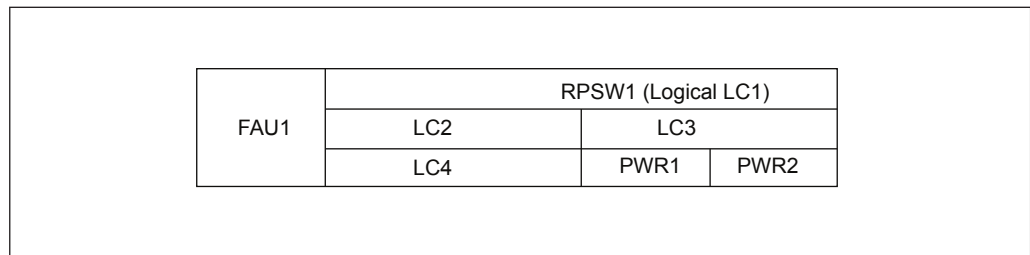


Figure 2 6673 DC Chassis Layout

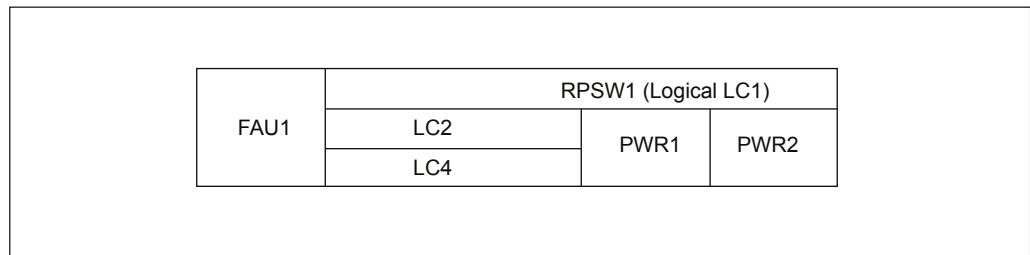


Figure 3 6673 AC Chassis Layout

The slots in the chassis are numbered from the left to the right, and from the top to the bottom. There is a slot numbering label on the air filter front panel which indicates the chassis slot numbers in an abbreviated way, as shown in the below figure.

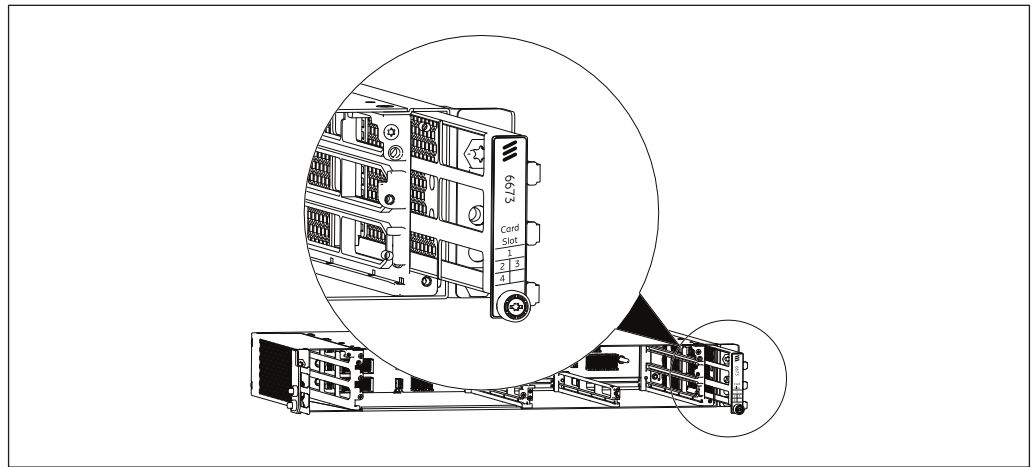


Figure 4

Note: If not all of the line cards are available, a blank panel card must be provided. The blank panel card prevents air flow through an empty slot.

Table 6 Mapping Relationship Between Physical Slot Numbers and Logical Slot Numbers

| Physical Slot Number (on Chassis) | Logical Slot Number (CLI) | Logical Slot Number (ENM) |
|-------------------------------------|---------------------------|---------------------------|
| Logical LC1 | 1 | 1 |
| LC2 | 2 | 2 |
| LC3 (Only available for DC variant) | 3 | 3 |
| LC4 | 4 | 4 |
| RPSW1 | RPSW1 | 6 |
| PWR1 | PWR1 | 7 |
| PWR2 | PWR2 | 8 |
| FAU1 | FAU1 | 9 |

4.4 6673 Interfaces

The 6673 chassis can be equipped with RP card, line cards, power units, and fan tray unit, each of which is available with different interfaces.

[Table 7](#) describes the interfaces on the RPSW-800-S card.

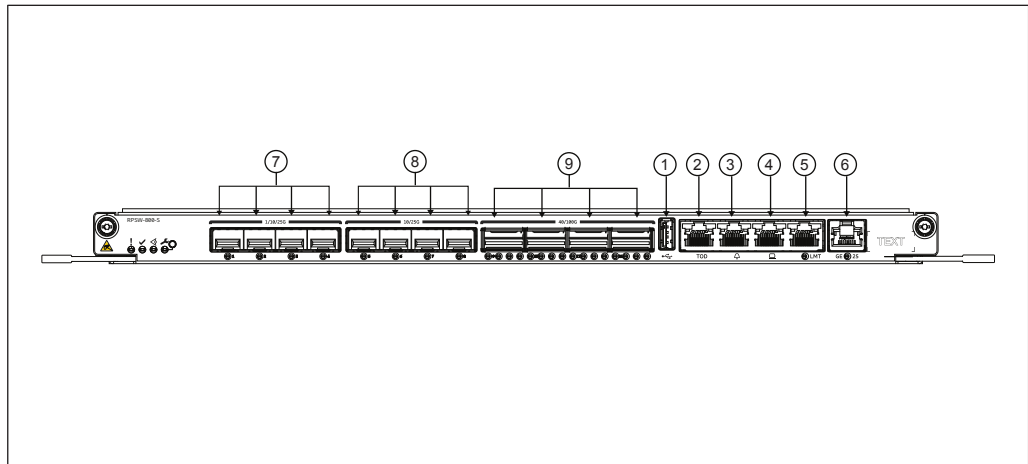


Table 7 Interfaces on RPSW-800-S

| Item | Interface | Connector Type | Description | Quantity |
|------|-------------------------|----------------|--|----------|
| 1 | USB | USB 2.0 Type A | Provides a connection to the USB storage or other devices. | 1 |
| 2 | 1PPS+ToD | RJ45 | Provides a connection to an external timing device, such as Ericsson GNSS receiver or other ITU-T G.703 (2016) compliant device. | 1 |
| 3 | Alarm | RJ45 | Provides three alarm inputs and one alarm output. | 1 |
| 4 | Console | RJ45 | Provides local access to the router for management and administration. | 1 |
| 5 | LMT | RJ45 | A management interface which provides a connection for the remote Node Management by the operator. | 1 |
| 6 | GE | RJ45 | — Port 25. — A GE copper port which supports 1000M Base-T Ethernet. | 1 |
| 7 | 1GE/10GE/25GE interface | SFP/SFP+/SFP28 | — Works as 1GE, 10GE or 25GE interfaces. — Supports being inserted with SFP, SFP+ optical or electrical modules or SFP28 optical modules. — Supports being inserted with SFP+ or SFP28 DAC cables. | 4 |
| 8 | 10GE/25GE interface | SFP+/SFP28 | — Works as a 10GE or 25GE interface. — Supports being inserted with SFP+ optical modules or SFP28 optical modules. | 4 |



| Item | Interface | Connector Type | Description | Quantity |
|------|----------------------|------------------|--|----------|
| | | | — Supports being inserted with SFP+ or SFP28 DAC cables. | |
| 9 | 40GE/100GE interface | QSFP+/ QSFP28 | <ul style="list-style-type: none"> — Works as a 40GE or 100GE interface. — Supports being inserted with QSFP+ or QSFP28 optical modules. — Supports being inserted with QSFP+ or QSFP28 DAC cables. | 4 |

Table 8 describes the interfaces on the LC-01 8x10/25G card.

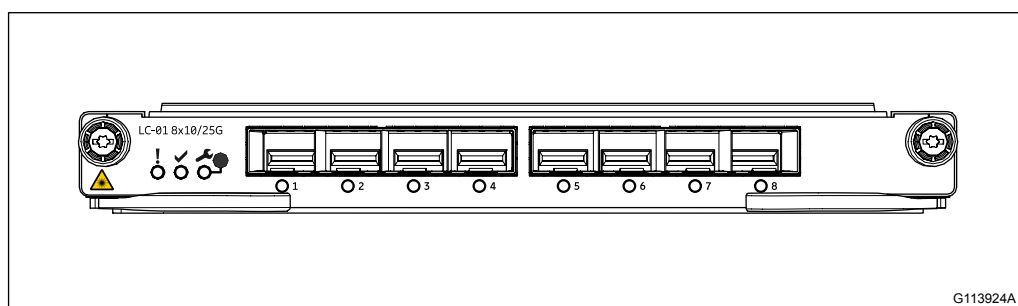


Table 8 Interfaces on LC-01 8x10/25G

| Interface | Connector Type | Description | Quantity |
|---------------------|----------------|---|----------|
| 10GE/25GE interface | SFP+/SFP28 | <ul style="list-style-type: none"> — Works as a 10GE or 25GE interface. — Supports being inserted with SFP+ optical or electrical modules or SFP28 optical modules. — Supports being inserted with SFP+ or SFP28 DAC cables. | 8 |

Table 9 describes the interfaces on the LC-02 2x40/100G card.

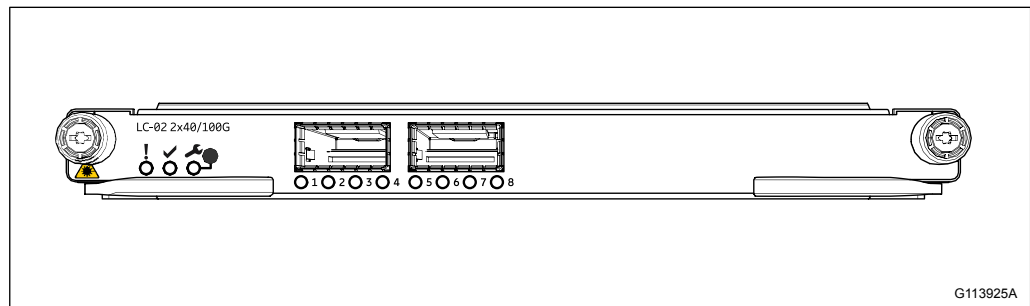


Table 9 Interfaces on LC-02 2x40/100G Card

| Interface | Connector Type | Description | Quantity |
|----------------------|------------------|--|----------|
| 40GE/100GE interface | QSFP+/ QSFP28 | <ul style="list-style-type: none">— Works as a 40GE or 100GE interface.— Supports being inserted with QSFP+ or QSFP28 optical modules.— Supports being inserted with QSFP+ or QSFP28 DAC cables. | 2 |

Table 10 describes the interfaces on the LC-04 8x1/10G card.

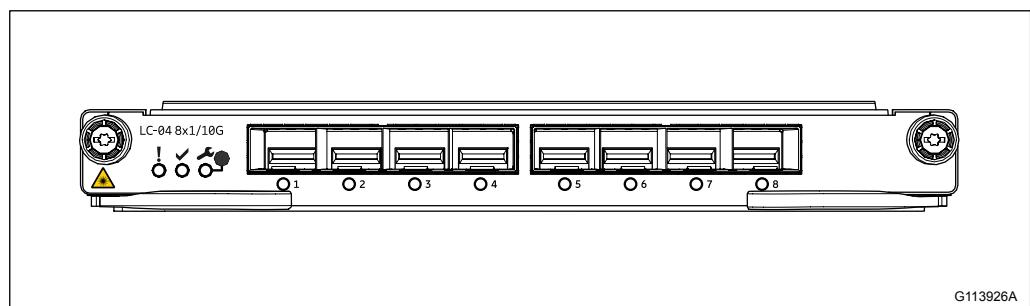


Table 10 Interfaces on LC-04 8x1/10G

| Interface | Connector Type | Description | Quantity |
|--------------------|----------------|--|----------|
| 1GE/10GE interface | SFP/SFP+ | <ul style="list-style-type: none">— Works as a 1GE or 10GE interface.— Supports being inserted with SFP or SFP + optical or electrical modules. | 8 |



| Interface | Connector Type | Description | Quantity |
|-----------|----------------|---|----------|
| | | <ul style="list-style-type: none"> — Supports being inserted with SFP28 optical modules which are configured to run in 10GE mode.⁽¹⁾ — Supports being inserted with SFP+ DAC cables. | |

(1) It works only when the LC-04 8x1/10G card is used with the 6673 chassis.

Table 11 describes the interfaces on the LC-05 9xCPRI card.

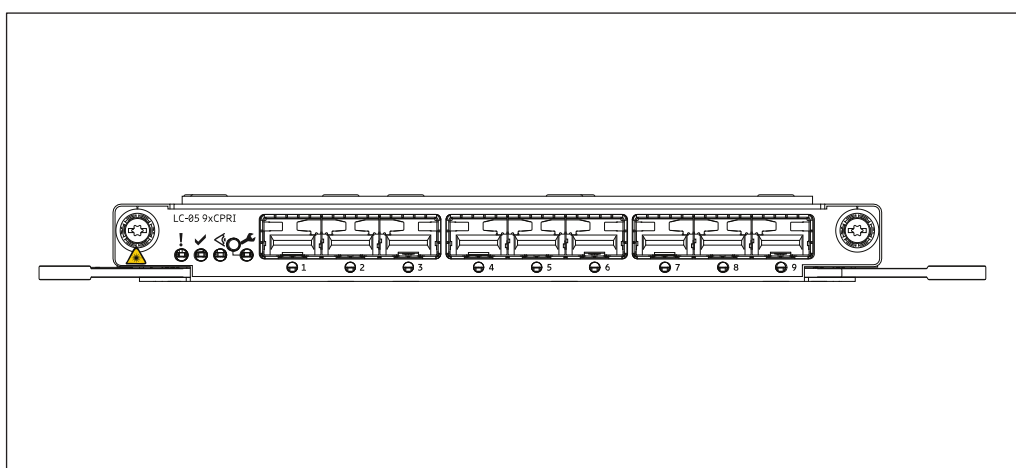


Table 11 Interfaces on LC-05 9xCPRI

| Interface | Connector Type | Description | Quantity |
|----------------|----------------|---|----------|
| CPRI Interface | SFP/SFP+ | <ul style="list-style-type: none"> — CPRI line bit rate option 3: 2457.6 Mbit/s, 8B/10B line coding (4 x 491.52 x 10/8 Mbit/s) — CPRI line bit rate option 5: 4915.2 Mbit/s, 8B/10B line coding (8 x 491.52 x 10/8 Mbit/s) — CPRI line bit rate option 7: 9830.4 Mbit/s, 8B/10B line coding (16 x 491.52 x 10/8 Mbit/s) — CPRI line bit rate option 8: 10137.6 Mbit/s, 64B/66B line coding (20 x 491.52 x 66/64 Mbit/s) | 9 |

Table 12 describes the interfaces on the power units.

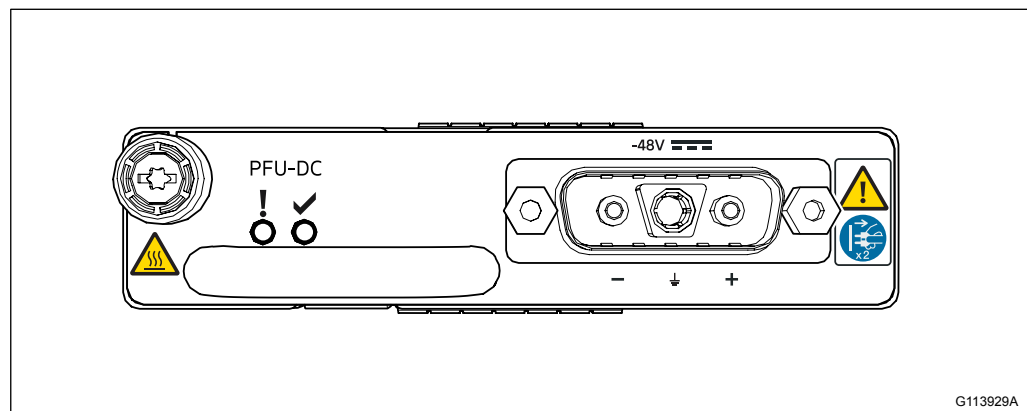
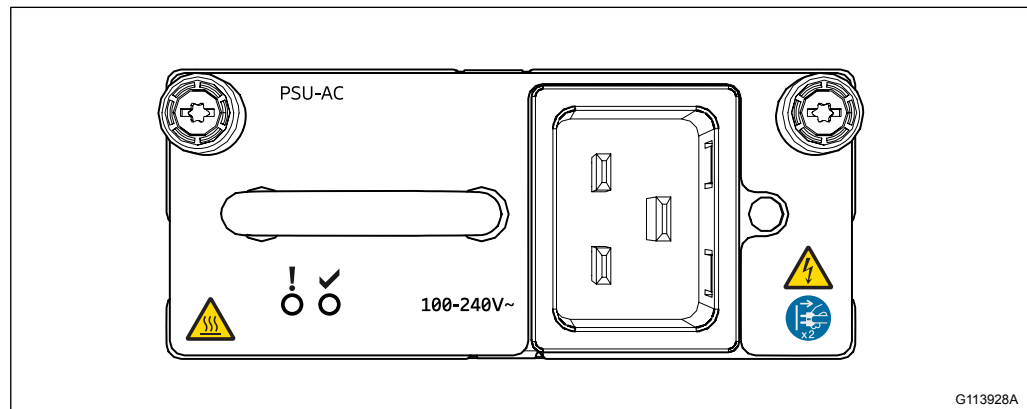


Table 12 Interfaces on Power Unit

| Position | Interface | Type | Description |
|----------|-----------|-----------------------|--|
| PSU-AC | AC input | Power input connector | Single input power connector, a three lead device with a safety and protection ground pin. |
| PFU-DC | DC input | Power input connector | Single input power connector, a one lead device with a dual-hole crimp connection. |

4.5 Cables and Tools

Table 13 lists the cables required for installing the device.

Table 13 Cable Descriptions

| Type | Description | Connector | Product Number |
|-----------------|---|----------------------------------|------------------|
| Grounding cable | Grounding cable, straight lug with dual holes | Dual-hole straight lug connector | RPM 777435/01000 |
| | | | RPM 777435/02500 |
| | | | RPM 777435/05000 |



| Type | Description | Connector | Product Number |
|----------------------------|---|--|--|
| | | | RPM 777435/10000 |
| Power cable | AC Power Cable ⁽¹⁾ | IEC 60320-1 C19 | N/A |
| | DC Power Cable | Mixed 3V3 with male&female contacts and 4-40 UNC jack socket | RPM 777 603/01500 RPM 777 603/02500 RPM 777 603/05000 RPM 777 603/10000 |
| | DC Power Cable | Mixed 3V3 with male&female contacts and 4-40 UNC jack socket | RPM 777 604/01500 RPM 777 604/02500 RPM 777 604/05000 RPM 777 604/10000 |
| | | | |
| Ethernet cable | Cat 5e/Cat 6 Ethernet cable ⁽²⁾ | RJ45 | RPM 777 341/02300 |
| | | | RPM 919 619/10000 |
| | | | TSR 432 151/15M |
| Direct Attach Copper cable | It is a signal cable with an internal EEPROM. It is terminated with two SFP/SFP+ connectors at each end. | SFP/SFP+ | RPM 777 579/00800 RPM 777 579/01000 RPM 777 579/01500 RPM 777 579/02000 RPM 777 579/03000 |
| | It is a signal cable with an internal EEPROM. It is terminated with EXCEDE connector at one end and SFP/SFP+ connector at other end. | EXCEDE, SFP/SFP+ | RPM 777 543/01000 RPM 777 543/02000 RPM 777 543/03000 |
| | It is a Y-shaped branching cable with two bidirectional channels with an internal EEPROM. It is terminated with EXCEDE connector at the "common" side (two channels in the same EXCEDE connector) and with SFP/SFP+ connector at each of the other two ends (one channel per branch). | EXCEDE, SFP/SFP+ | RPM 777 544/01000 RPM 777 544/02000 RPM 777 544/03000 |
| | It is an 8-pair signal cable assembly with QSFP connector on one end and 4 SFP+ connectors on the other end with EEPROM in all connectors. | QSFP, SFP+ | RPM 777 569/01000 RPM 777 569/02000 RPM 777 569/03000 |
| | It is a signal cable with SFP28 connector at both ends. | SFP28, SFP28 | RPM 777 052/00500 RPM 777 052/01000 RPM 777 052/01500 RPM 777 052/02000 RPM 777 052/02500 RPM 777 052/03000 |
| | It is an 8 pairs signal cable assembly with QSFP28 connectors on both ends. The cable assembly shall be suitable for data rate up to 100Gbit/s. | QSFP28, QSFP28 | RPM 777 053/00500 RPM 777 053/01000 RPM 777 053/01500 RPM 777 053/02000 RPM 777 053/02500 RPM 777 053/03000 |
| | It is a signal cable assembly with QSFP28 connector on one end and 4x SFP28 connectors on the other end. | QSFP28, 4xSFP28 | RPM 777 054/00500 RPM 777 054/01000 RPM 777 054/01500 RPM 777 054/02000 RPM 777 054/02500 RPM 777 054/03000 |



| Type | Description | Connector | Product Number |
|----------------------------------|---|------------------------|---|
| | It is a cable assembly with two Xcede connectors in one end and a QSFP+ connector in the other, which is suitable for running 10Gbit/s each lane. There is EEPROM in the QSFP+ connector. | QSFP+, EXCEDE | RPM 777 098/01000 RPM 777 098/02000 RPM 777 098/03000 |
| | It is a signal cable assembly with an SFP+ connector at each end. | SFP+, SFP+ | RPM 777 279/00360 RPM 777 279/00650 RPM 777 279/01000 RPM 777 279/01200 RPM 777 279/01800 |
| Active optical cable (AOC cable) | It is an Active Optical Cable (AOC) with Xcede to 4xLC 5m pigtail with 2 lanes. | LC male ⁽³⁾ | RPM 777 811/03000 RPM 777 811/05000 RPM 777 811/10000 |
| Optical Fiber | Multimode or single-mode optical fiber | LC male | N/A |
| Alarm Port Cable | Cat 5e/Cat 6 Ethernet cable | RJ45 | N/A |
| Console cable | 9 WIRE RS232 CABLE-10 FT | RJ45, USB type A | RPM 119 1657/1 |
| ToD Port Cable | ToD cable to Ericsson GNSS | RJ45 | RPM 901 733/03000 |
| | | | RPM 901 733/10000 |

- (1) Ericsson does not provide an AC power cable for the device. The AC device is equipped with an IEC 60320-1 C20 connector. Use an IEC 60320-1 C19 connector with the AC cable.
- (2) To guarantee the EMC performance, the double-shielded Cat 5e or Cat 6 cable needs to be used.
- (3) The SFP+ port on the router should be inserted with 10GBase-SR transceiver (i.e. RDH 10250/11) to work with the AOC listed above.

Table 14 lists the tools required for installing the device.

Table 14 Tools

| Items | Tools |
|-------|----------------------|
| 1 | T10 Torx screwdriver |
| 2 | T30 Torx screwdriver |
| 3 | Hexagon socket |
| 4 | ESD wrist strap |
| 5 | Utility knife |
| 6 | Diagonal pliers |
| 7 | Protective gloves |
| 8 | Fiber binding tape |
| 9 | Long measuring tape |
| 10 | Marker |



4.6 Installation Options

[Table 15](#) lists the installation options for the device.

Table 15 Installation Options

| Installation Options | Descriptions |
|--|-----------------------------|
| Installation in Rack | 19-inch rack (EIA-310-D) |
| | 23-inch rack (EIA-310-D) |
| | ETSI EN 300 119 |
| Installation in Cabinet ⁽¹⁾ | 19-inch cabinet (EIA-310-D) |
| | 23-inch cabinet (EIA-310-D) |
| | ETSI EN 300 119 |

(1) For operators mandating the support of NEBS for the outside plant (OSP) cabinet installation, use an environmentally sealed cabinet. Cabinets conforming to GR-487 are examples that can be used.

Note: Never install the device in a rack that has not been stabilized by being bolted to the floor and to the ceiling. Always select a mounting position suitable to the type of rack in which the device is being installed.

4.7 Installation Kits

[Table 16](#) lists the installation kits that are required.

Table 16 6673 Installation Kits

| Product Number | Description |
|----------------|--------------------------------|
| SXK 125 5289/1 | 23-inch Installation kit |
| SXK 125 5290/1 | ETSI Installation kit |
| SXK 125 5101/1 | Air filter foam ⁽¹⁾ |
| SXK 125 4766/1 | Blank panel, LC ⁽²⁾ |
| SXK 125 5244/1 | Air baffle(2RU)-01 |
| SXK 125 5244/2 | Air baffle(2RU)-02 |

(1) Optional. Order it separately as needed.

(2) The blank panel is mandatory if the LC slot is left unused.



4.8 ESD Protection

When installing the device, you can attach the ESD grounding jack to the rack for ESD protection. To prevent damage to the system, always wear an ESD wrist strap when handling system hardware.



5 Unpack and Check Device

To unpack and check the device:

Steps

1. Examine the packaging for damage. If it has been damaged, inform the transport company immediately.
2. Check the supplied items against the packing list.
3. Unpack all of the packaging and accessory boxes.
4. Check that the protective plugs are well-inserted into the devices.
5. Dispose of the crate in accordance with local regulations.

5.1 Remove Protective Panel (if Any)

Protective panels may be installed on the chassis that is empty with RP card slot or line card slot during transport. This is to reduce the chances of chassis damage during transport. Remove the protective panel if any from the chassis before you perform the plug-in unit installation task:

- [Figure 5](#) shows how to remove the protective panels that are installed on the chassis which is empty with RP card slot and line card slots during transport.
- [Figure 6](#) shows how to remove the protective panels that are installed on the chassis which is pre-installed with RP card but is empty with line card slots during transport.

For the protective panel that is tagged as reusable in the below figures, it can be reused when you need a blank panel card to prevent air flow through an empty chassis slot as described in [Install Blank Panel Card \(Optional\)](#).

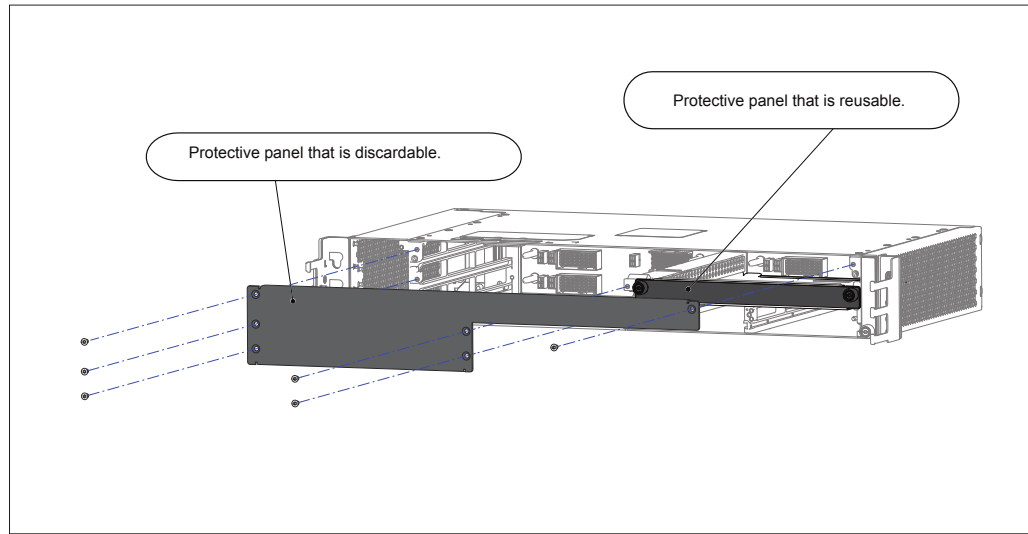


Figure 5 Remove Protective Panels for Chassis Empty with RP Card Slot and Line Card Slots during Transport

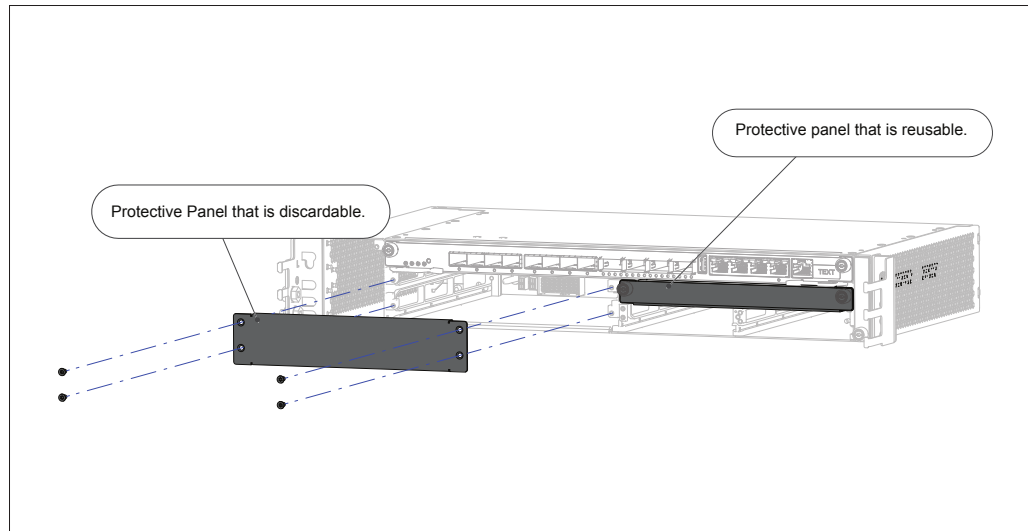


Figure 6 Remove Protective Card for Chassis Empty with Line Card Slots during Transport



6 Install Air Baffle for Front-to-Back Cooling

This installation task needs to be performed only when you need the air baffle (as described in *Air Baffle for Front-to-Back Cooling*) to convert the 6673 chassis from side-to-side ventilation to front-to-back ventilation.

For the two air baffle variants, they have the same installation procedure.

6.1 Install Air Baffle into 19-inch Rack

To install the air baffle into 19-inch rack:

1. Hold onto the top and the bottom of the air baffle, and then slide it into the rack.
2. Align the mounting holes in the air baffle mounting brackets with the mounting holes in the rack posts, and then tighten the screws through the mounting holes to secure the air baffle into the rack. See *Illustration (1)* in the below figure.
3. Loosen the captive thumbscrews as shown in *Illustration (2)* in the below figure.
4. Extend the adjustable side covers outwards as far as it can. See *Illustration (3)* in the below figure.

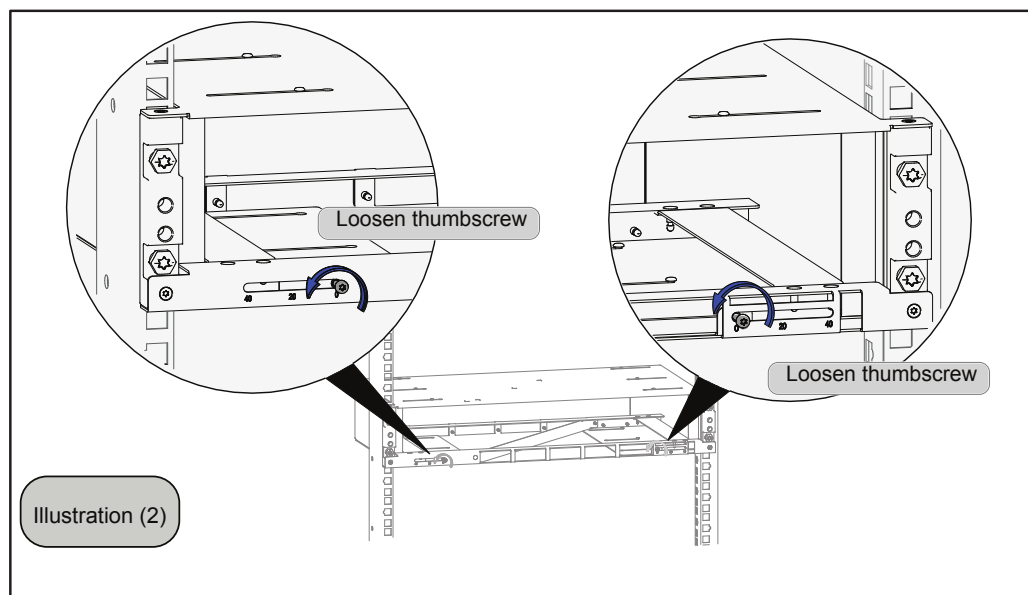
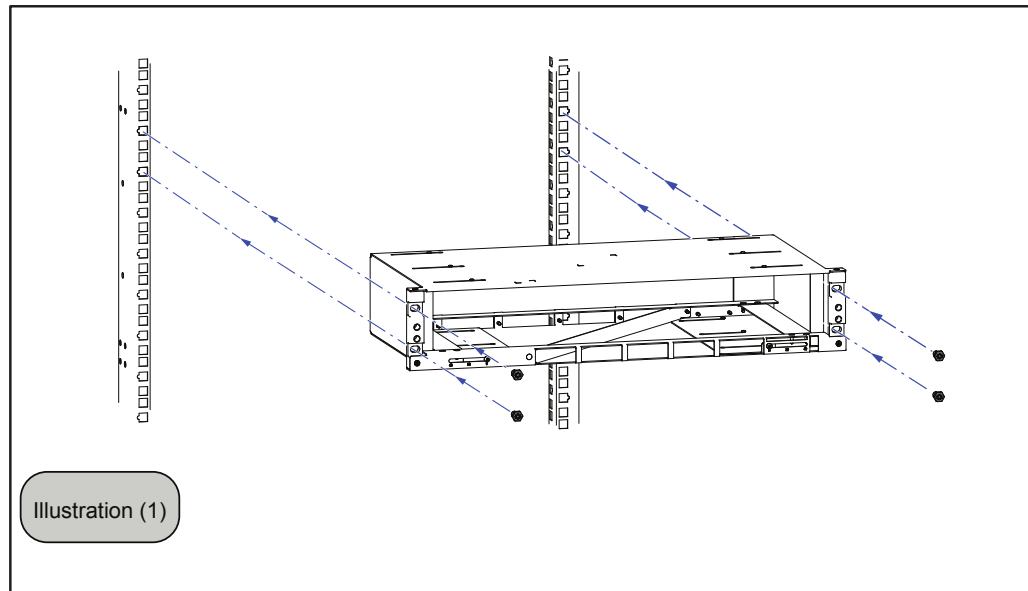
Note: The side covers shall be extended outwards as far as it can for better cooling. Minimally 20 mm should be guaranteed on each side, otherwise it could overheat the chassis as a result.

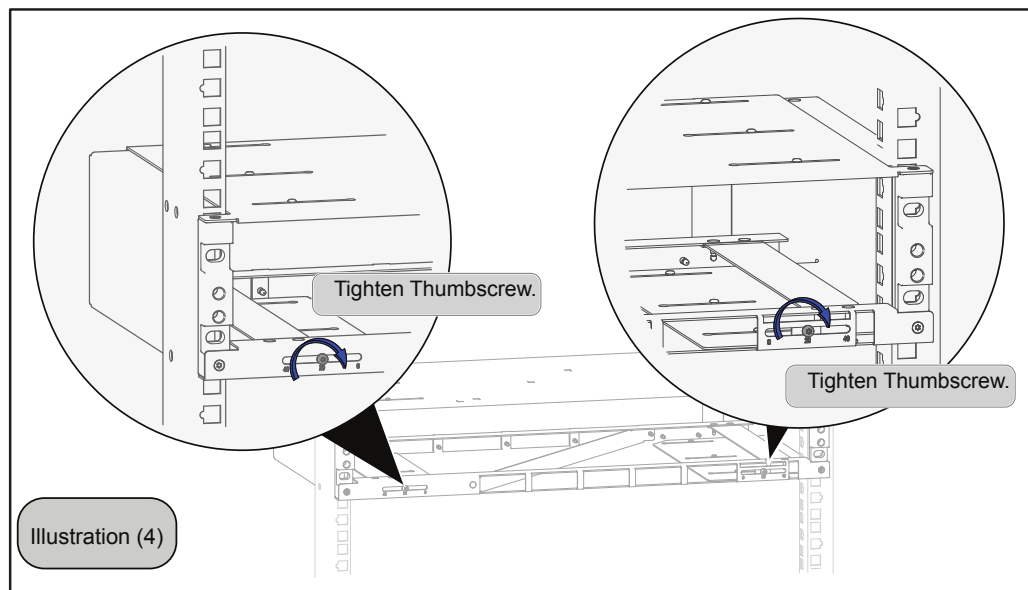
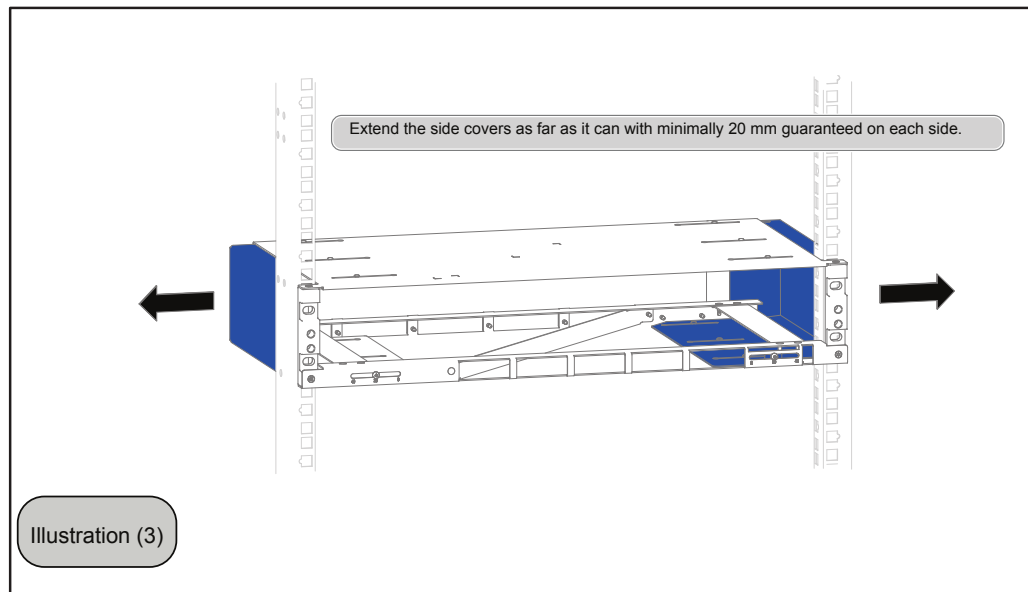
Make sure that the inlets of the air baffle are not blocked by the installed cables after the cabling work.

5. Tighten the captive thumbscrews to secure the extended side covers in place, as shown in *Illustration (4)* in the below figure.



Example 1 Install Air Baffle into 19-inch Rack





6.2 Install Air Baffle into 21-inch or 23-inch Rack

To install the air baffle into the 21-inch or the 23-inch rack, the corresponding installation kit in [Table 16](#) shall be used. In this installation task, it only illustrates how to install the air baffle into the 23-inch rack, considering the installation procedure is all the same except for the different installation kit.



Steps

To install the air baffle into the 23-inch rack:

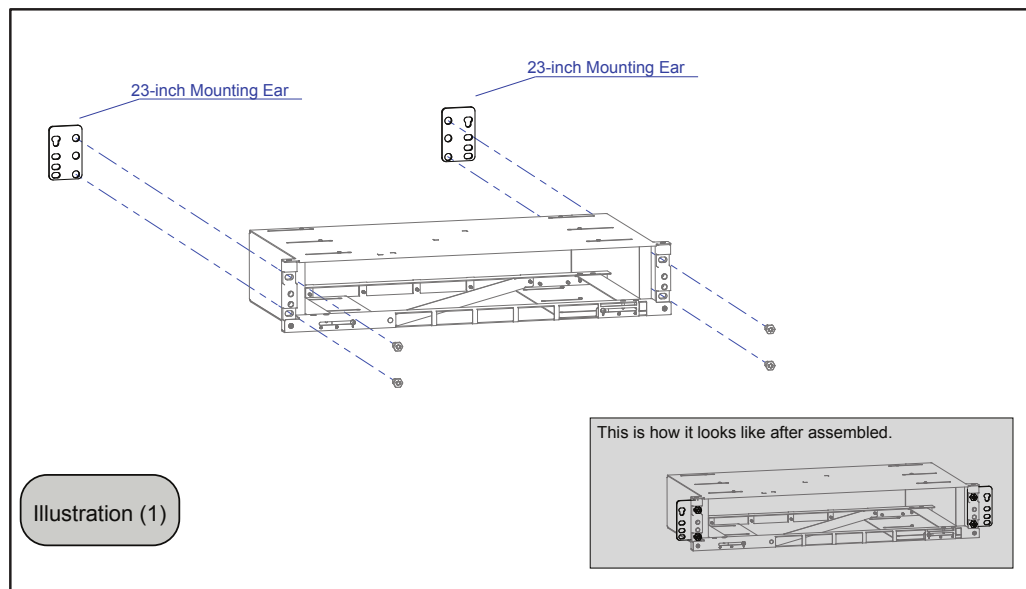
1. Assemble the air baffle with the 23-inch mounting ears. See Illustration (1) in the below figure.
2. Align the mounting holes in the 23-inch mounting ears with the mounting holes in the rack posts, and then tighten the screws through the mounting holes to secure the air baffle into the rack. See Illustration (2) in the below figure.
3. Loosen the captive thumbscrews of the slider as shown in Illustration (3) in the below figure.
4. Extend the adjustable side covers outwards as far as it can. See Illustration (4) in the below figure.

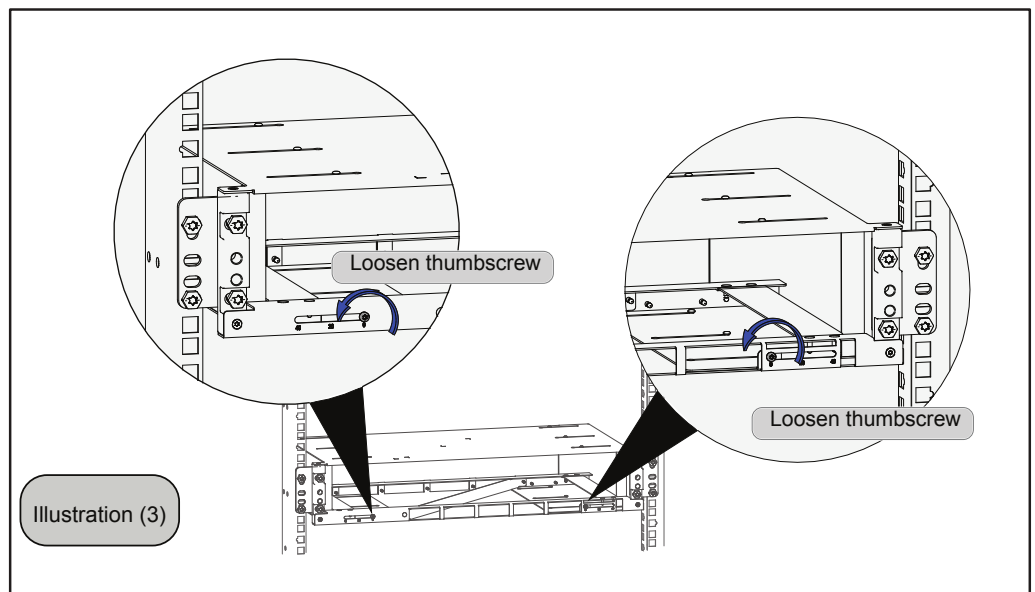
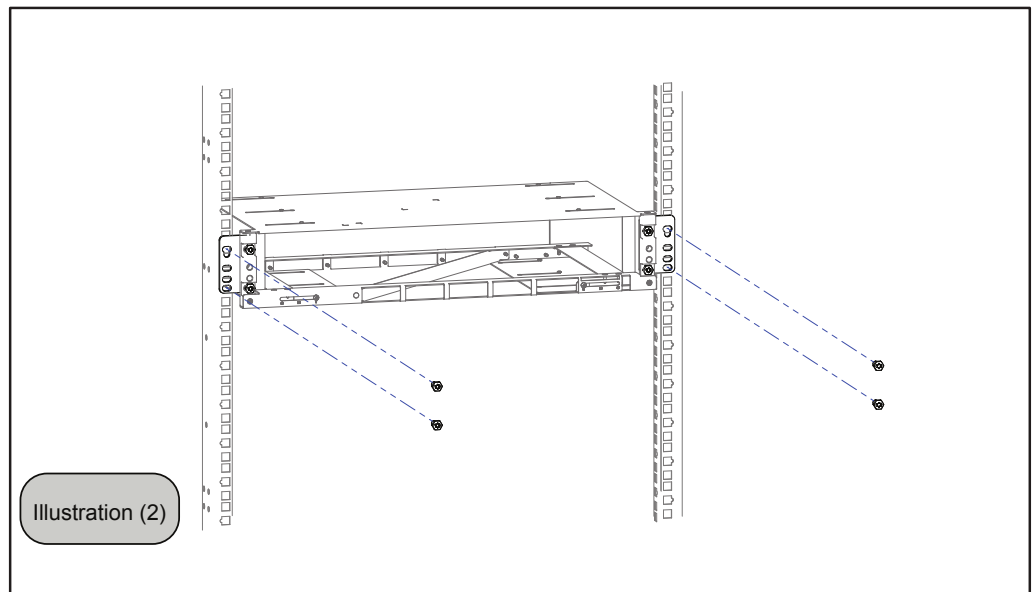
Note: The side covers shall be extended outwards as far as it can for better cooling. Minimally 20 mm should be guaranteed on each side, otherwise it could overheat the chassis as a result.

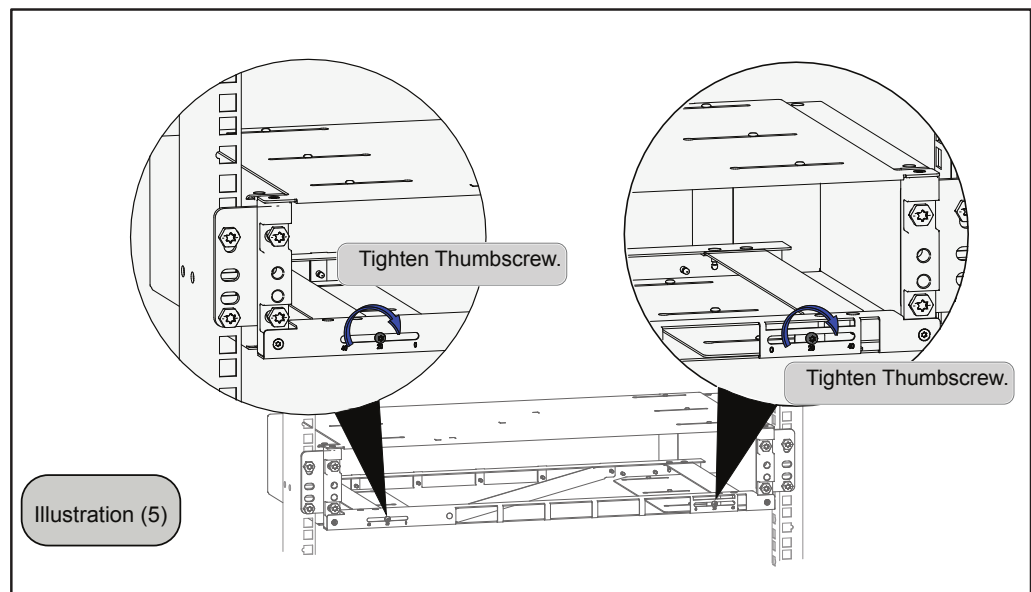
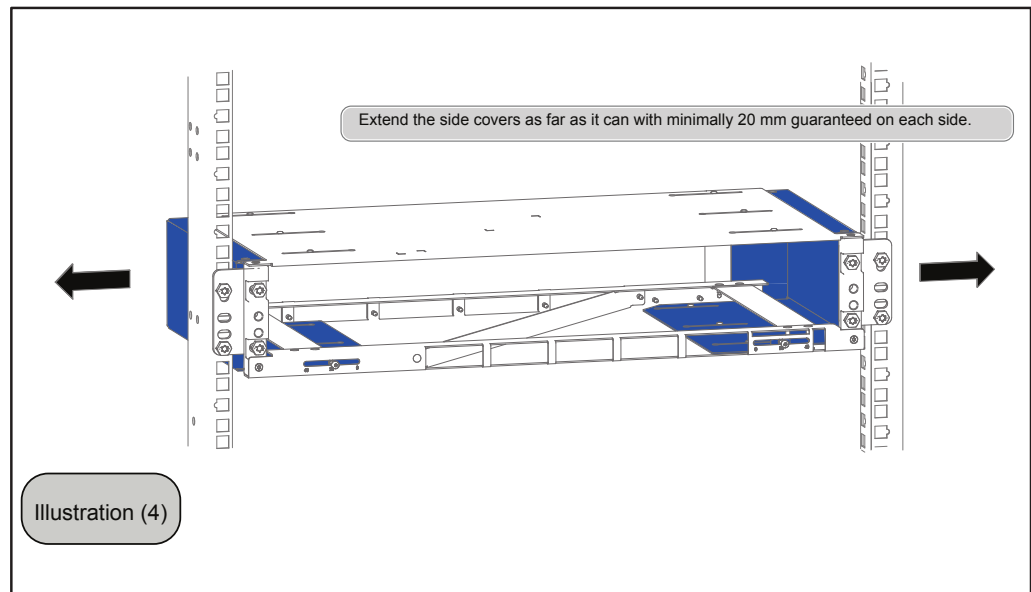
Make sure that the inlets of the air baffle are not blocked by the installed cables after the cabling work.

5. Tighten the captive thumbscrews to secure the extended side covers in place, as shown in Illustration (5) in the below figure.

Example 2 Install Air Baffle into 23-inch Rack









7 Install Chassis and Cable Management

The chassis can be installed in a rack or a cabinet. Optionally, the chassis can also be installed into an air baffle for front-to-back cooling. The installation of the cable management is performed together with the chassis installation because they share the same mounting holes.

Note: For the chassis that is pre-equipped with any plug-in cards, there is no need to have the cards removed before mounting the chassis.

7.1 Install Chassis into Air Baffle

Note: Before installing the chassis into the air baffle, make sure to check if the side covers of the air baffle have been extended outwards as far as it can.

To install the chassis into the air baffle:

1. Remove the grounding screws from the two-hole grounding receptacle on the chassis mounting bracket. See *Illustration (1)* in the below figure.
Note: Keep handy the removed items because they are going to be used when you ground the chassis.
2. Hold onto the top and the bottom of the chassis, and then slide the chassis into the air baffle.
3. Align the mounting holes in the chassis mounting brackets with the mounting holes in the air baffle mounting brackets. See *Illustration (2)* in the below figure.
4. Attach the cable management brackets against the chassis mounting brackets and align the mounting holes and tighten the screws through the mounting holes to secure the chassis and the cable management brackets. See *Illustration (3)* in the below figure.



Example 3 Install Chassis into Air Baffle

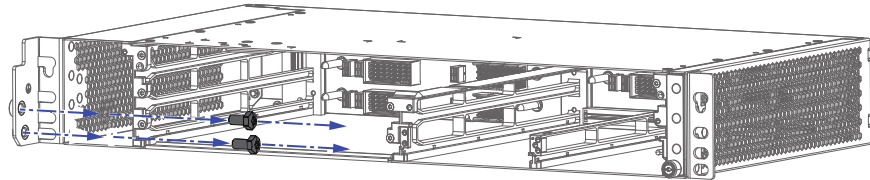


Illustration (1)

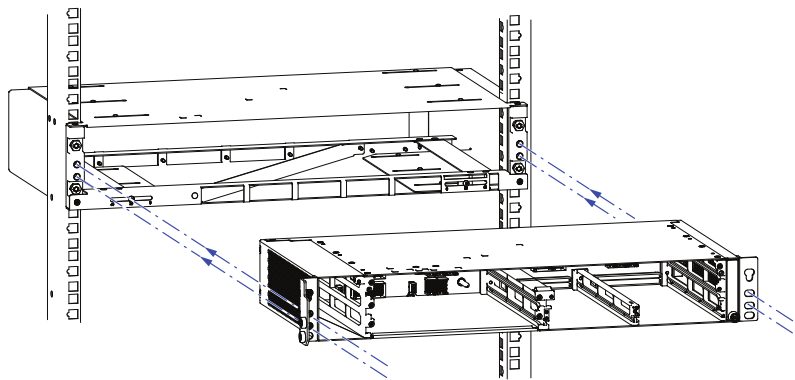
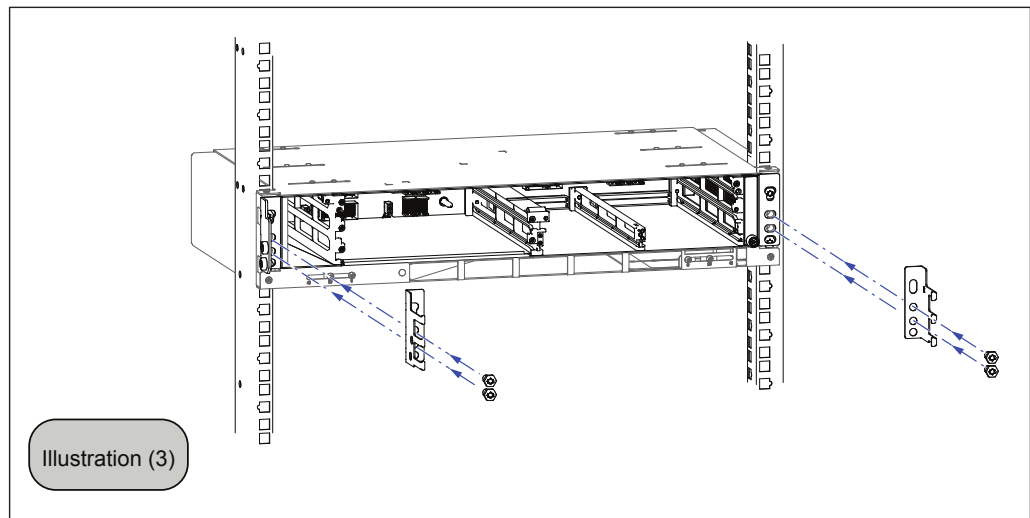


Illustration (2)



7.2 Install Chassis into Rack or Cabinet

To install the chassis and install the cable management brackets into a rack or cabinet:

Steps

1. Remove the grounding screws from the two-hole grounding receptacle on the chassis mounting bracket. See Illustration (1) in the below figure.
Note: Keep handy the removed items because they are going to be used when you ground the chassis.
2. Hold onto the top and the bottom of the chassis, and then slide the chassis into the rack.
3. Align the mounting holes in the chassis mounting brackets with the mounting holes in the rack posts.
4. Attach the cable management brackets against the chassis mounting brackets and align the mounting holes.
5. Tighten the screws through the mounting holes to secure the chassis and the cable management brackets. See Illustration (2) in the below figure.



Example 4 Install Chassis into Rack or Cabinet

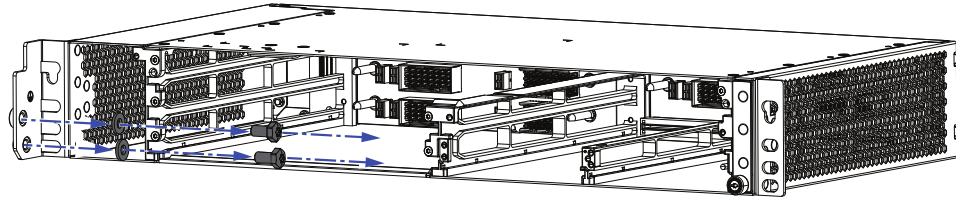


Illustration (1)

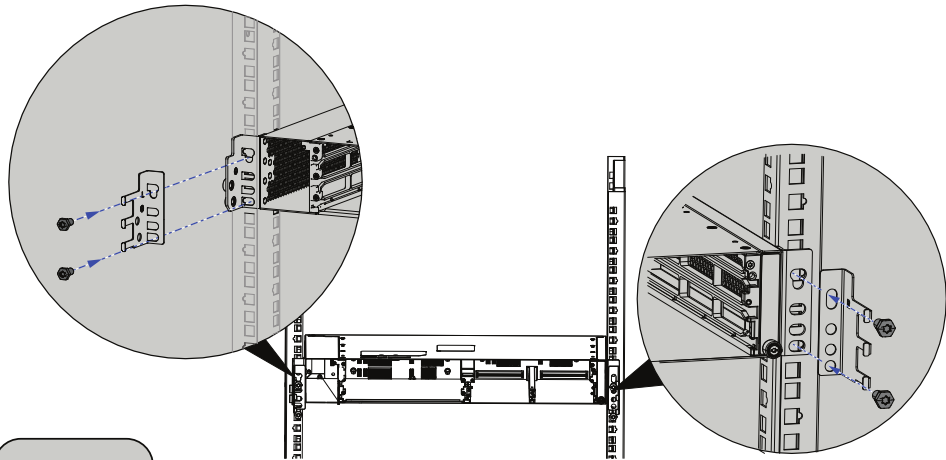


Illustration (2)

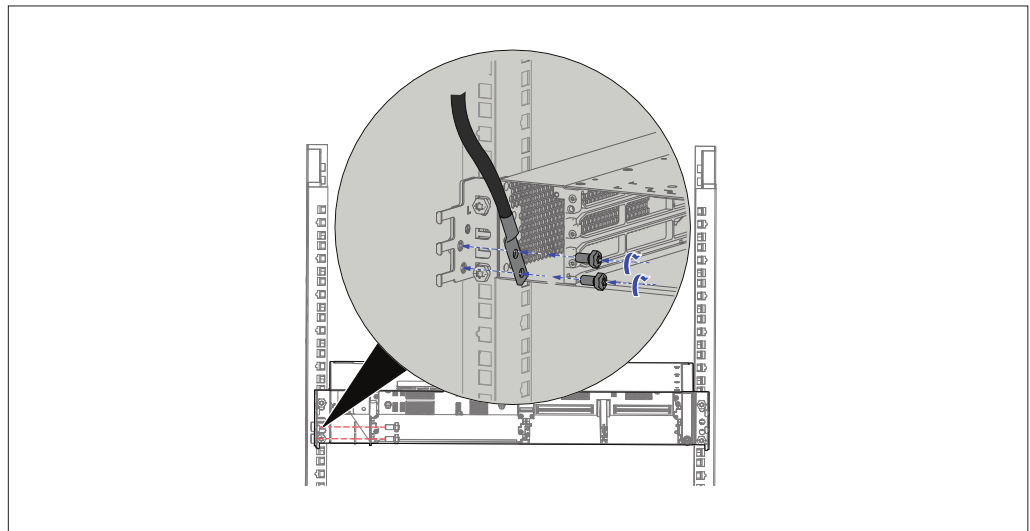


8 Grounding

To ground the device:

1. Attach the grounding lug to the two-hole grounding receptacle and hold it in position.
2. Install the grounding screws through the locking washers and into the grounding receptacle.
3. Tighten the grounding screws.
4. Connect the other end of the grounding cable to a grounding point at the site.

Example 5 Ground 6673





9 Install Plug-in Units

9.1 Install Power Unit

9.1.1 Install DC Power Unit

Note: For the chassis that is already pre-equipped with the power units, there is no need to perform this installation task.

Steps

To install a power unit:

1. Put on the ESD wrist strap and connect it to a grounding point.
2. Take the unit and the pair of the adapter plates from its packaging.
3. Attach the adapter plates onto the chassis and tighten the screws. See Illustration (1) in the below figure.

Result: The adapter plates provide the threaded holes that are used to screw the power units into the chassis.

4. Align the unit with the slide guides in the slot. Ensure that the front panel text is horizontal.
5. Gently push the unit into the slot with your thumbs placed on the front panel of the unit, until it cannot go any further. See Illustration (2) in the below figure.

Note: Do not grasp the handle on the power unit when lifting the whole chassis.

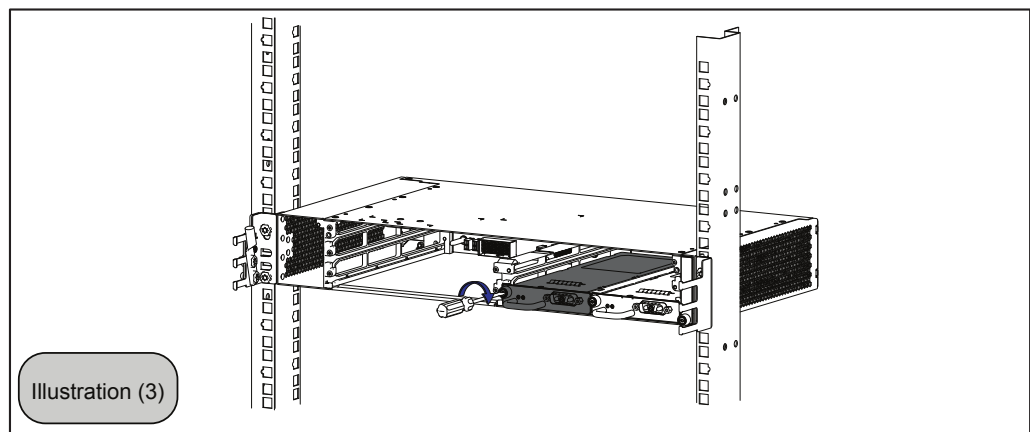
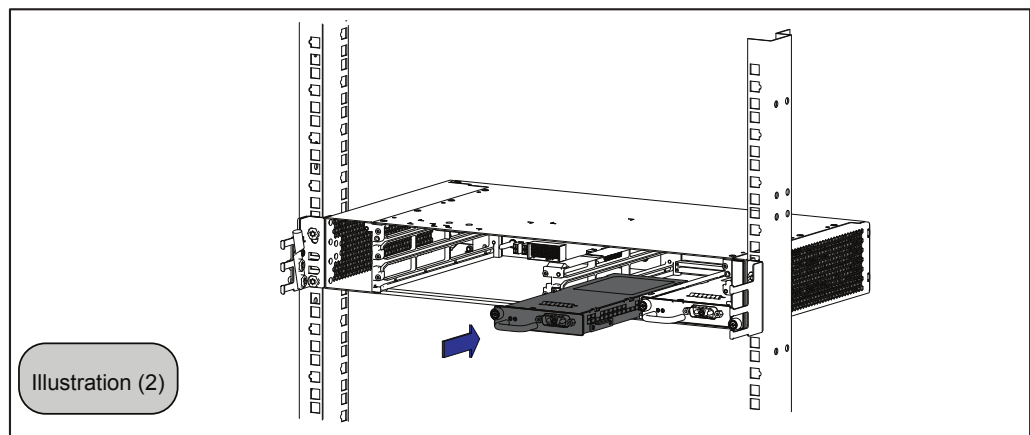
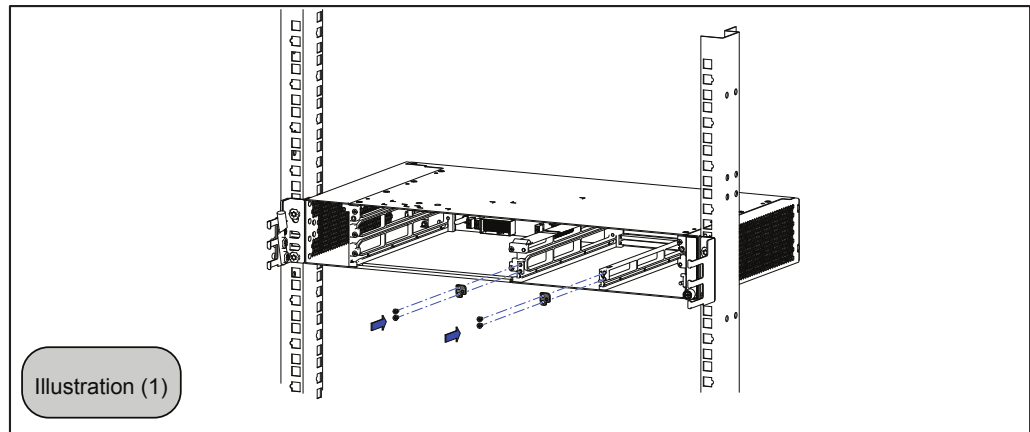
6. Tighten the thumbscrews to secure the unit. See Illustration (3) in the below figure.

Note: Make sure a proper torque force is applied when you tighten the screws, with a value no more than 1.0 N·m. An excessive tightening may damage the screws.

Note: Make sure the thumbscrew is tightly mounted by using a tool such as a screwdriver. Just tightening the thumbscrew using fingers is not enough.



Example 6 Install DC Power Unit





9.1.2 Install AC Power Unit

Note: For the chassis that is already pre-equipped with the power units, there is no need to perform this installation task.

Steps

To install the AC power unit:

1. Put on the ESD wrist strap and connect it to a grounding point.
2. Take the unit and the adapter plate out from its packaging.
3. Attach the adapter plate onto the chassis by tightening the screws. See *Illustration (1)* in the below figure.

Result: The adapter plate provides the threaded holes that are used to screw the power units into the chassis.

4. Align the unit with the slide guides in the slot. Ensure that the front panel text is horizontal.
5. Gently push the unit into the slot with your thumbs placed on the front panel of the unit, until it can not go any further. See *Illustration (2)* in the below figure.

Note: Do not grasp the handle on the power unit when lifting the whole chassis.

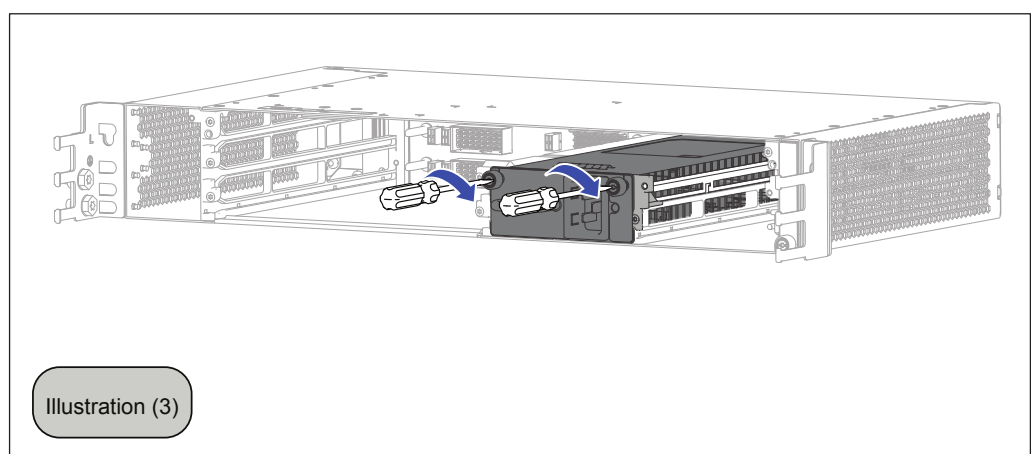
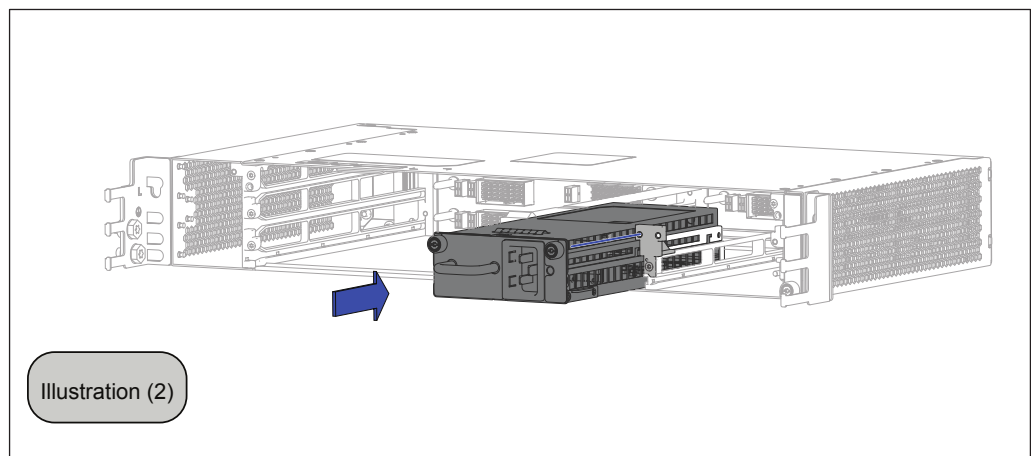
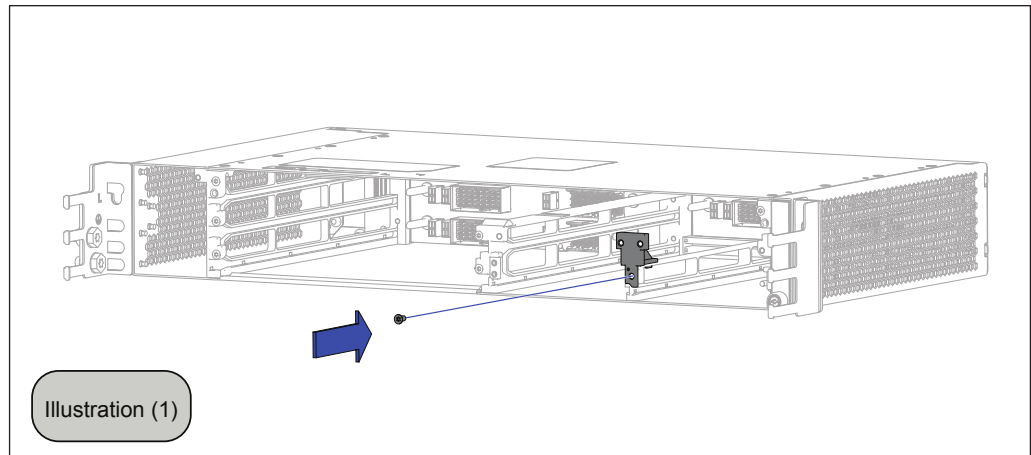
6. Tighten the thumbscrews to secure the unit. See *Illustration (3)* in the below figure.

Note: Make sure a proper torque force is applied when you tighten the screws, with a value no more than 1.0 N·m. An excessive tightening may damage the screws.

Note: Make sure the thumbscrew is tightly mounted by using a tool such as a screwdriver. Just tightening the thumbscrew using fingers is not enough.



Example 7 Install AC Power Units





9.2 Install RP Card

Note: For the chassis that is already pre-equipped with the RP cards in the slot, there is no need to perform this installation task.

Steps

To install a card:

1. Put on the ESD wrist strap and connect it to a grounding point.
2. Take the card out from its packaging.
3. Fully open the ejector levers by simultaneously rotating them away from the front of the card. See *Illustration (1)* in the below figure.

Result: This step opens the ejector so that the card can fully slide into the slot.

4. Align the card with the slide guides in the slot. Ensure that the front panel text is horizontal.
5. Gently push the card into the slot with your thumbs placed on the front panel of the card until it can not go any further. While pushing the card, simultaneously rotate the ejector levers inward to the front of the card until it locks in place. See *Illustration (2)* in the below figure.

Note: Avoid using the ejector levers to pull or lift the card, as it may cause damages to the ejector levers.

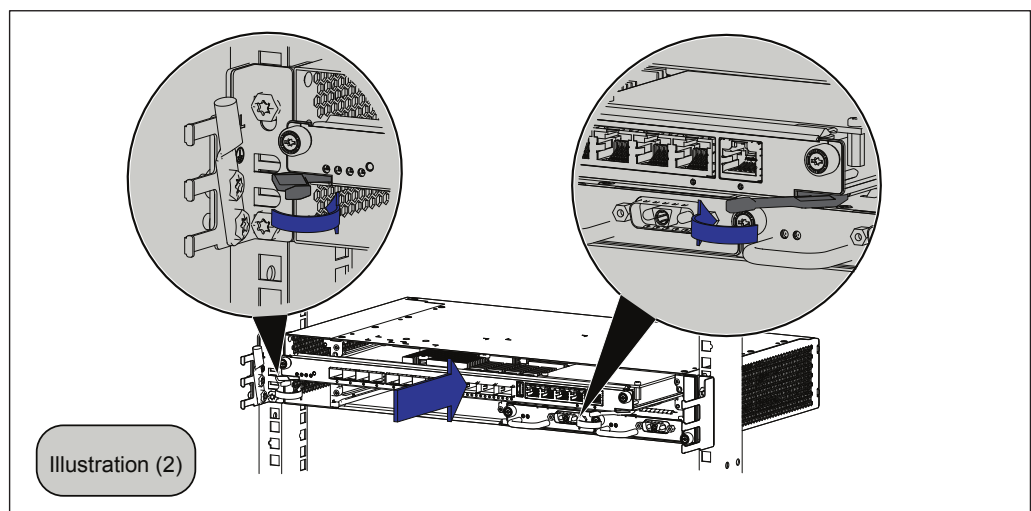
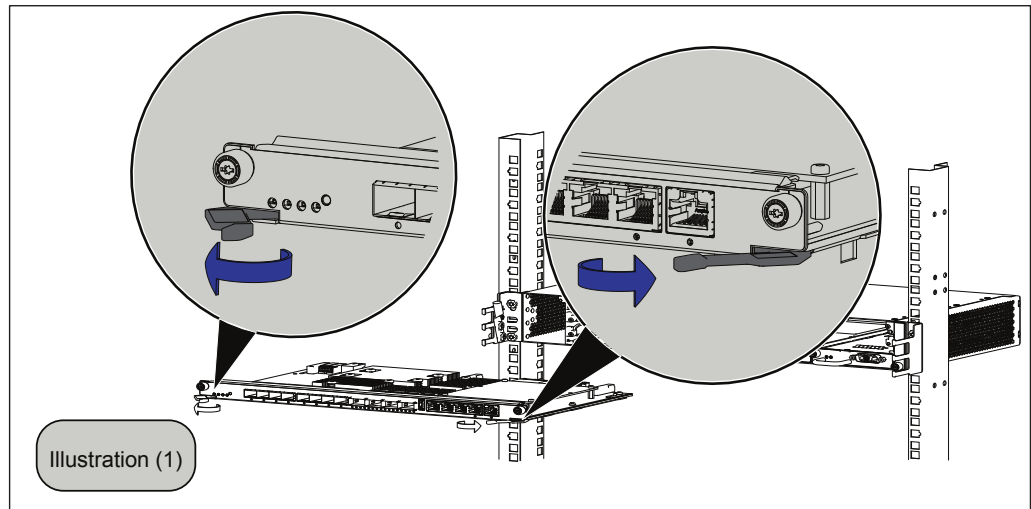
6. Tighten the thumbscrews to secure the card. See *Illustration (3)* in the below figure.

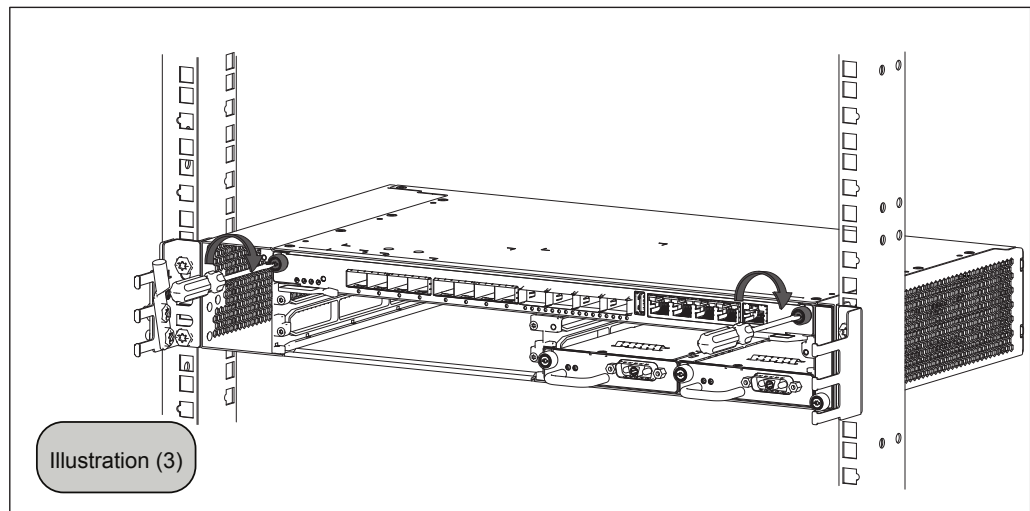
Note: Make sure a proper torque force is applied when you tighten the screws, with a value no more than 1.0 N·m. An excessive tightening may damage the screws.

Note: Make sure the thumbscrew is tightly mounted by using a tool such as a screwdriver. Just tightening the thumbscrew using fingers is not enough.



Example 8 Install 6673 RP Card





9.3 Install Line Card

Note: For the chassis that is already pre-equipped with the card in the slot, there is no need to perform this installation task.

Steps

To install a card:

1. Put on the ESD wrist strap and connect it to a grounding point.
2. Take the card out from its packaging.
3. Fully open the ejector levers by simultaneously rotating them away from the front of the card. See Illustration (1) in the below figure.

Result: This step opens the ejector so that the card can fully slide into the slot.

4. Align the card with the slide guides in the slot. Ensure that the front panel text is horizontal.
5. Gently push the card into the slot with your thumbs placed on the front panel of the card until it can not go any further. While pushing the card, simultaneously rotate the ejector levers inward to the front of the card until it locks in place. See Illustration (2) in the below figure.

Note: Avoid using the ejector levers to pull or lift the card, as it may cause damages to the ejector levers.

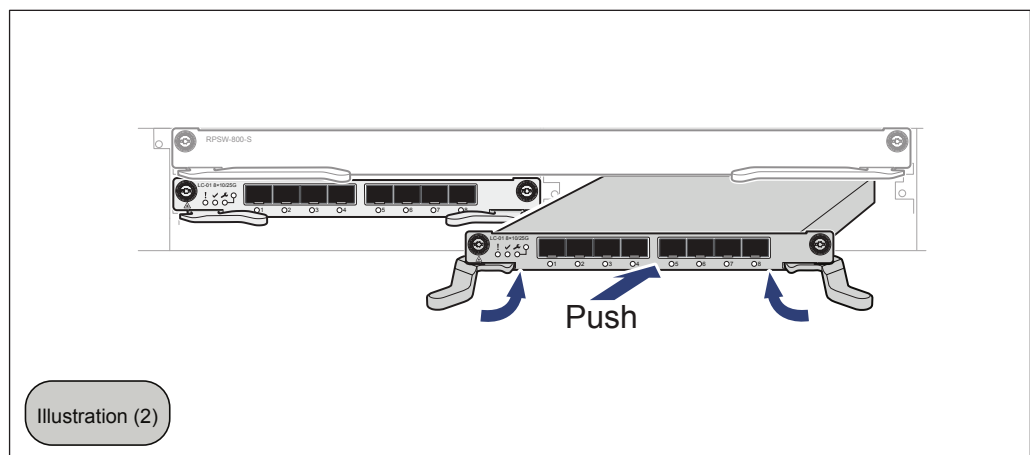
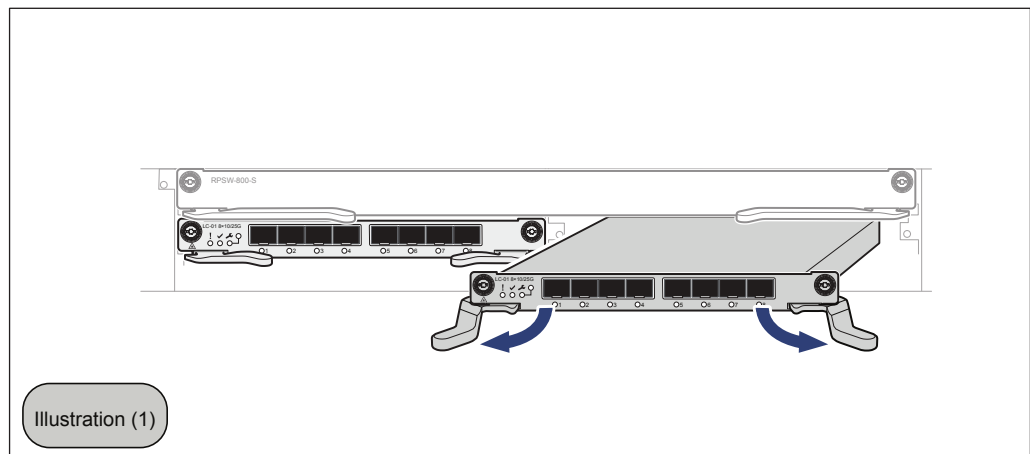
6. Tighten the thumbscrews to secure the card. See Illustration (3) in the below figure.

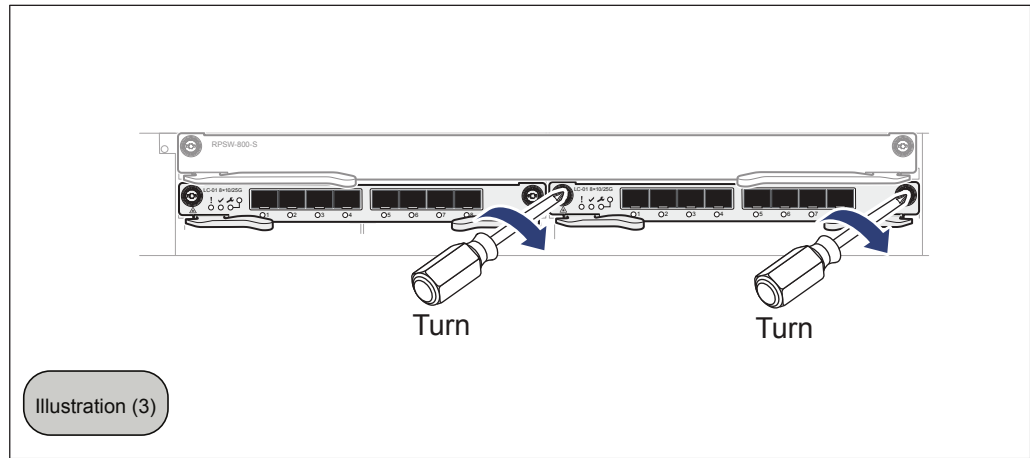


Note: Make sure a proper torque force is applied when you tighten the screws, with a value no more than 1.0 N·m. An excessive tightening may damage the screws.

Note: Make sure the thumbscrew is tightly mounted by using a tool such as a screwdriver. Just tightening the thumbscrew using fingers is not enough.

Example 9 Install 6673 Line Card

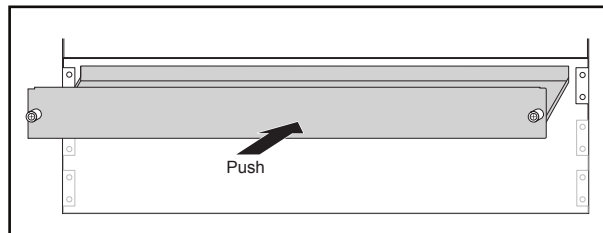




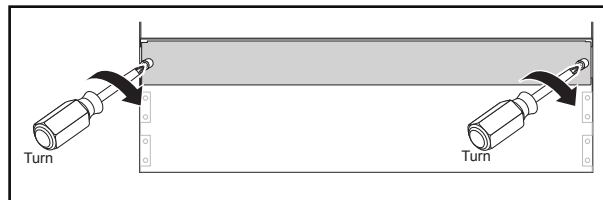
9.4 Install Blank Panel Card (Optional)

The chassis slots are not allowed to be left uncovered for an extended period of time. Any empty slot in the chassis shall be installed with a blank panel card in order to prevent air flow through the empty slot.

1. If the chassis slot is covered by a dummy panel, remove it first.
2. Gently push the blank panel card into the empty slot until it is completely in the slot.



3. Tighten the thumbscrews to secure the card.



Note: Make sure a proper torque force is applied when you tighten the screws, with a value no more than 1.0 N·m. An excessive tightening may damage the screws.



Note: Make sure the thumbscrew is tightly mounted by using a tool such as a screwdriver. Just tightening the thumbscrew using fingers is not enough.

9.5 Install Fan Tray

Note: For the chassis that is already pre-equipped with the fan tray unit, there is no need to perform this installation task.

Steps

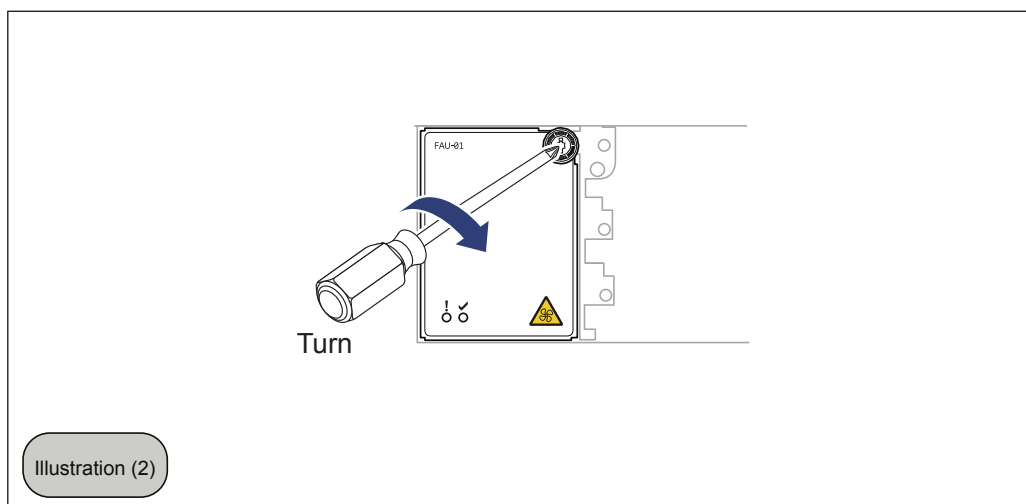
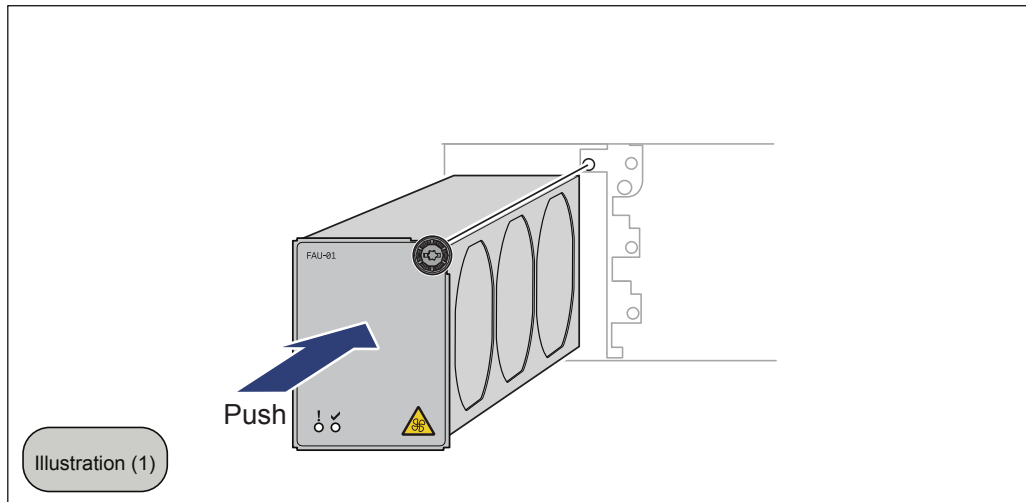
To install a fan tray unit:

1. Put on the ESD wrist strap and connect it to a grounding point.
2. Take the unit out from its packaging.
3. Align the unit with the slide guides in the slot. Ensure that the front panel text is horizontal.
4. Gently push the unit into the slot with your thumbs placed on the front panel of the unit, until it can not go any further. See Illustration (1) in the below figure.
5. Tighten the thumbscrew to secure the unit. See Illustration (2) in the below figure.

Note: Make sure a proper torque force is applied when you tighten the screws, with a value no more than 1.0 N·m. An excessive tightening may damage the screws.

Note: Make sure the thumbscrew is tightly mounted by using a tool such as a screwdriver. Just tightening the thumbscrew using fingers is not enough.

Example 10 Install 6673 Fan Tray Unit



9.6 Assemble and Install Air Filter

A complete air filter consists of two parts:

- air filter frame
- air filter foam

The chassis is always delivered with an air filter frame pre-installed. The air filter foam is optional. You can order it separately as needed. By installing the air filter foam into the air filter frame, it makes the complete air filter. The air filter is used to remove solid particulates from the air, such as dust, pollen, and mold.

Ericsson recommends performing the air filter maintenance task every three to six months to ensure correct airflow through the chassis. This can vary depending



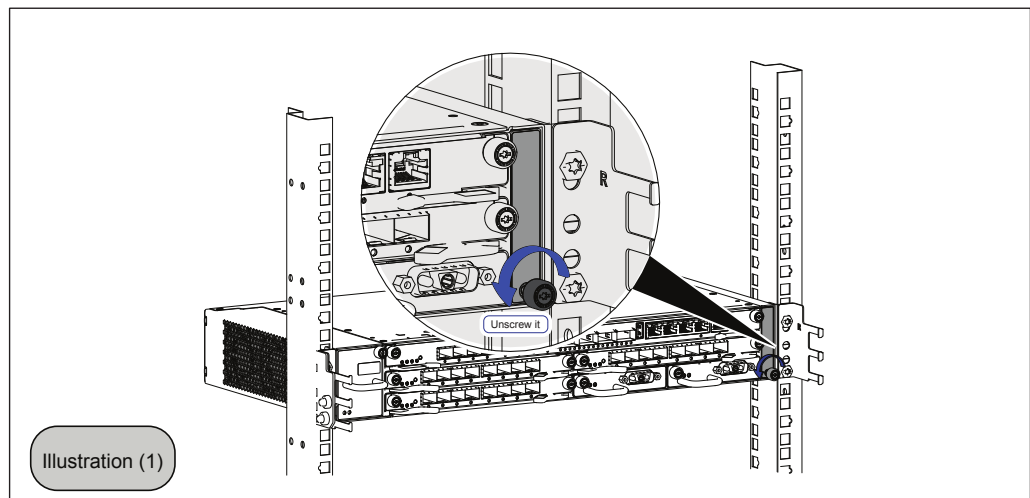
on the condition of the customer site. If the air filter has significant dust buildup, it must be replaced immediately. See [Replace Air Filter Foam \(Optional\)](#) for details.

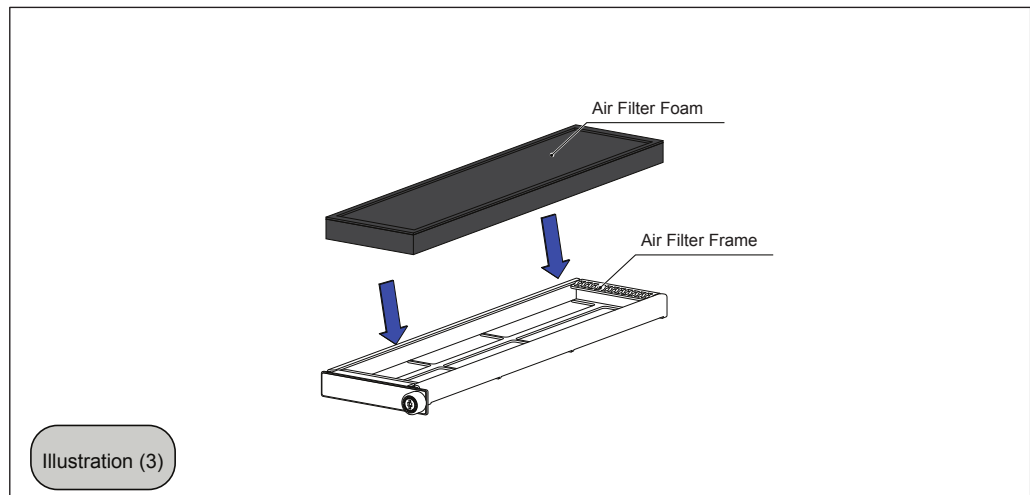
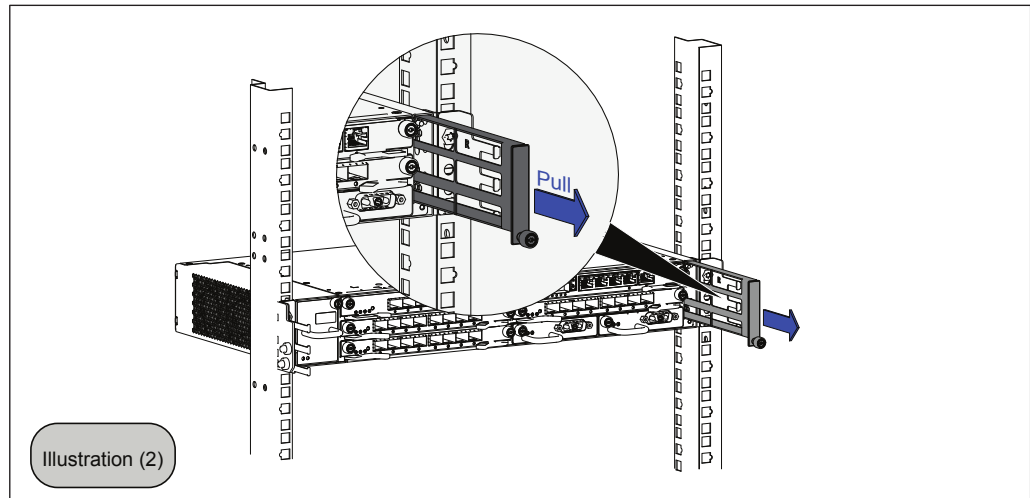
9.6.1 Assemble Air Filter

To assemble the air filter foam into the air filter frame:

1. Put on the ESD wrist strap and connect it to a grounding point.
2. Loosen the captive thumbscrews. See [Illustration \(1\)](#) in the below figure.
3. Pull the air filter frame out of the chassis slot. See [Illustration \(2\)](#) in the below figure.
4. Push the four sides of the air filter foam into the grooves on the insides of the air filter frame, thus the air filter is fully assembled. See [Illustration \(3\)](#) in the below figure.

Example 11 Assemble Air Filter





9.6.2 Install Air Filter back to Chassis

To install the assembled air filter back into its slot in the chassis:

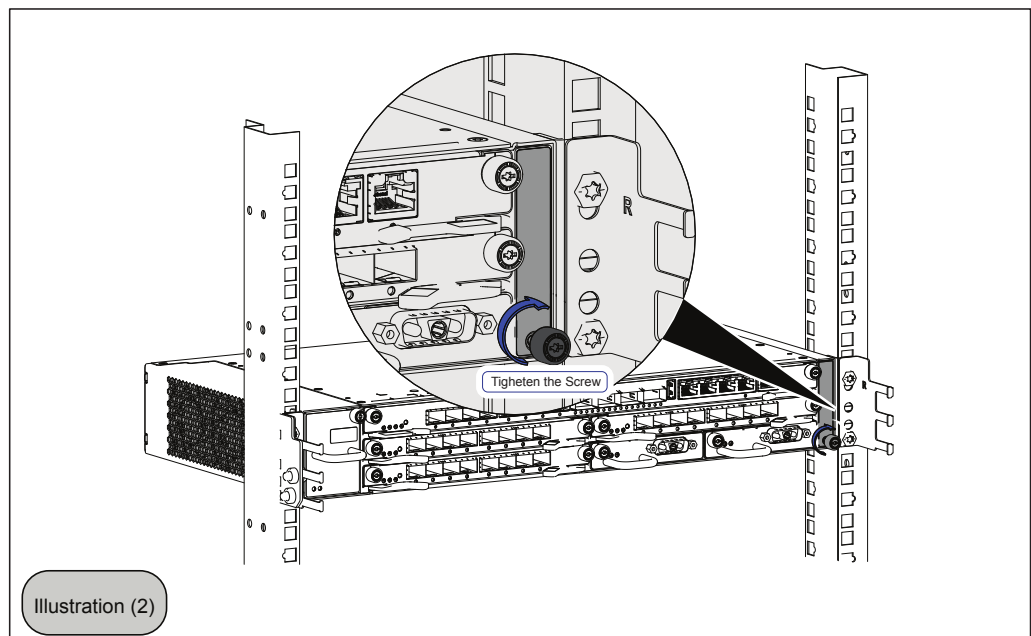
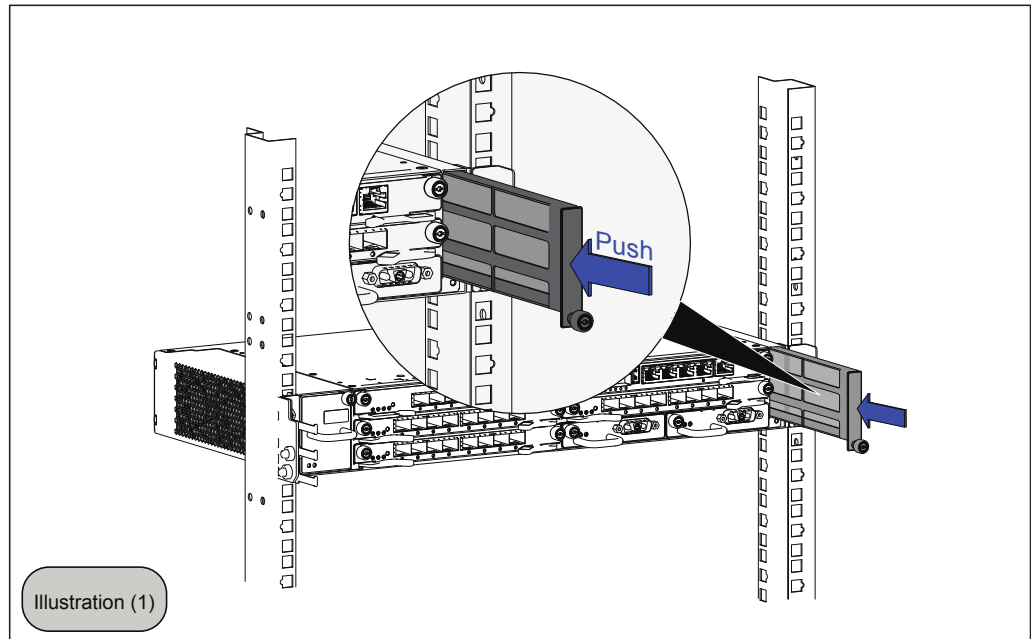
1. Align the air filter with its slot in the chassis. Ensure that the air filter is right side up.
2. Slide the air filter completely into its slot in the chassis until it stops. See Illustration (1) in the below figure.
3. Tighten the captive thumbscrew to secure the air filter in place. See Illustration (2) in the below figure.

Note: Make sure a proper torque force is applied when you tighten the screws, with a value no more than 1.0 N·m. An excessive tightening may damage the screws.



Note: Make sure the thumbscrew is tightly mounted by using a tool such as a screwdriver. Just tightening the thumbscrew using fingers is not enough.

Example 12 Install Air Filter back to Chassis



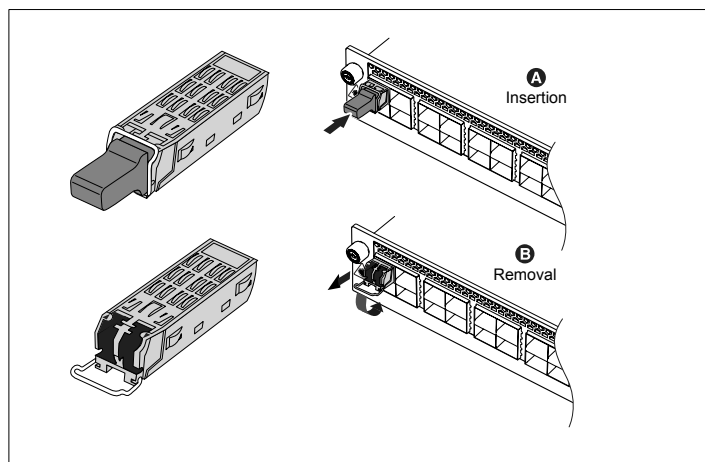
10 Insert Pluggable Optical Transceivers

To install a pluggable optical transceiver:

Note: The pluggable optical transceiver contains electrostatic sensitive devices. To reduce the risk of ESD damage, always use an ESD wrist or ankle strap when handling a transceiver. Avoid touching its connector pins.

Steps

1. Wear an ESD wrist strap and connect it to the grounding point on the front of the chassis.
2. Remove the transceiver from its packaging.
3. Ensure that the latching mechanism is closed.
4. Slide the transceiver into the port until the rear connector is seated and the locking mechanism snaps into place.



Note: The location of the port shown is for illustration purposes only. They may be in a slightly different location depending on the device you are using.

5. Remove the dust cover, if present, when the fibers are connected.

10.1 Implement SW Procedures

The following steps show the SW implemented procedure when a pluggable optical transceiver is plugged into the device. Do these steps after the device is installed and powered on.



To implement SW:

Steps

1. Read the EPN from the transceiver inventory EEPROM.
2. Look up the EPN in the supported transceivers list.
 - If found, get the media type from supported transceivers list, bring it up and exit.
 - If failed, "PN xx is not in the approved list" is displayed. Then go to [Step 3](#).
3. Check if it is an Ericsson brand pluggable optical transceiver.
 - If yes, get the media type according to the Ericsson brand pluggable optical transceiver specification and check if the media type is recognized from the supported media type list.
 - If yes, bring it up and exit.
 - If no, go to [Step 4](#).
 - If no, go to [Step 4](#).
4. Get the media type from MSA field then check if the media type in the MSA field is recognized from the supported media type list.
 - If yes, bring it up and exit.
 - If no, go to [Step 5](#).
5. Mark it as an "Unrecognized" transceiver and raise a "Transceiver Not Supported in Port" alarm. The transceiver may not be brought up.



11 Connect Cables

11.1 Connect Power Cables

Improper installation or modification of the powered equipment can seriously damage the equipment. Only a qualified and authorized technician is permitted to install or modify electrical installations.

11.1.1 Installation with DC Connector

Note: The device is suitable for Direct Current-Isolation (DC-I) power cable. In some regions, Direct Current-Connected (DC-C) power cable can be used.

Install the DC power cable according to the following illustration. Connector box side is connected to the DC inlet and Connector power source side is connected to the external DC power source. Before connecting the DC power cable, ensure that the polarity of the DC power cable installation is correct.

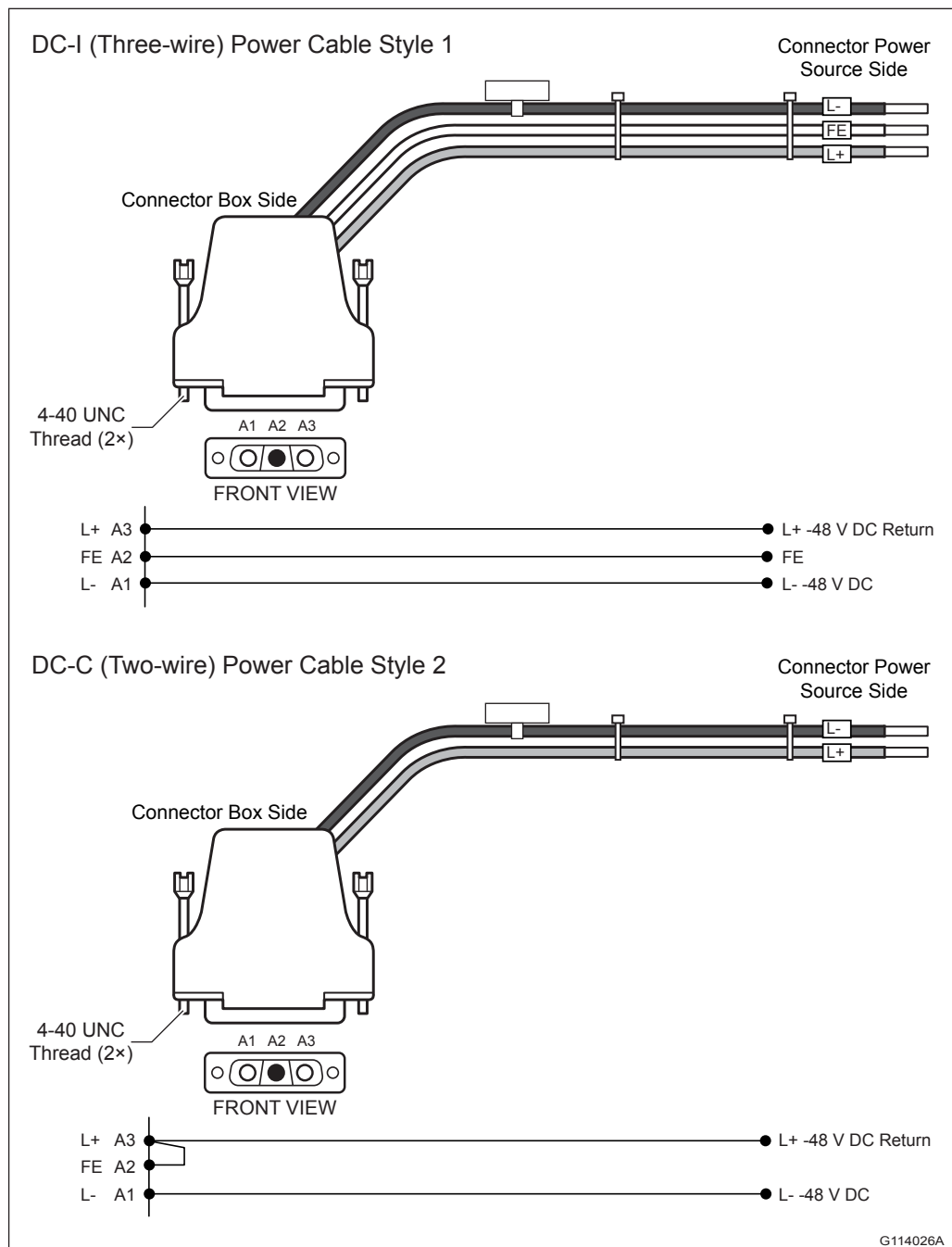


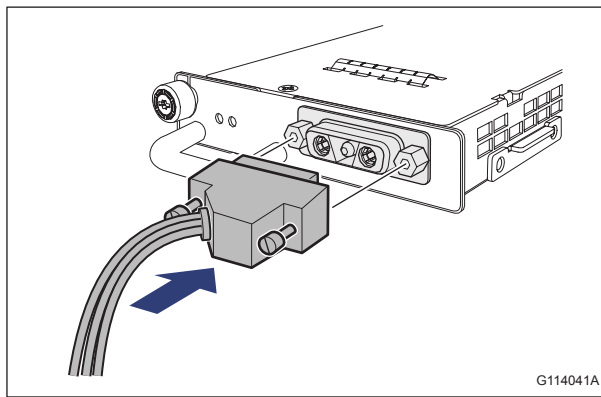
Figure 7 DC Power Cable Options Usage

To connect the DC power cable to the power connector inlets:

Steps

1. Ensure that the device is well grounded.

2. Ensure that all external DC power sources are switched off before connecting the DC power cable.
3. Put on the ESD wrist strap and connect it to the grounding point of the rack or cabinet.
4. Connect the DC power cable to the DC power source.
5. Connect the DC power cable to the DC inlet.
6. Tighten the screws at the left and right of the cable connector shell to secure the DC power cable to the inlet.



7. Guide the cables into the corresponding cable management channels.

Note: Disconnect both power supplies before service.

11.1.2 Installation with AC Connector

Note: Ericsson does not provide AC power cable. The AC variant is equipped with an IEC C16 connector. Therefore, the AC power cable equipped with an IEC C15 connector is a recommendation.

An external Surge Protective Device (SPD) is intended to be used at the AC input of the network equipment. And the SPD should be installed at the AC power service entrance.

To connect the AC power cable to the AC inlet:

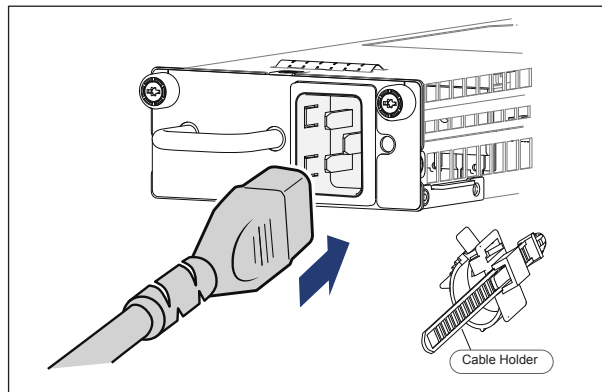
Steps

1. Ensure that the device is well grounded.
2. Ensure that all external AC power sources are switched off before connecting the AC power cable.
3. Wear an ESD wrist strap and connect it to the grounding point on the front of the chassis.



4. Connect the AC power cable to the AC power source.
5. Connect the AC power cable to the AC inlet.
6. If necessary, insert the AC power cable holder and fasten the cable using the cable holder.
7. Guide the cables into the corresponding cable management channels.

Example 13 Connect AC Power Cable

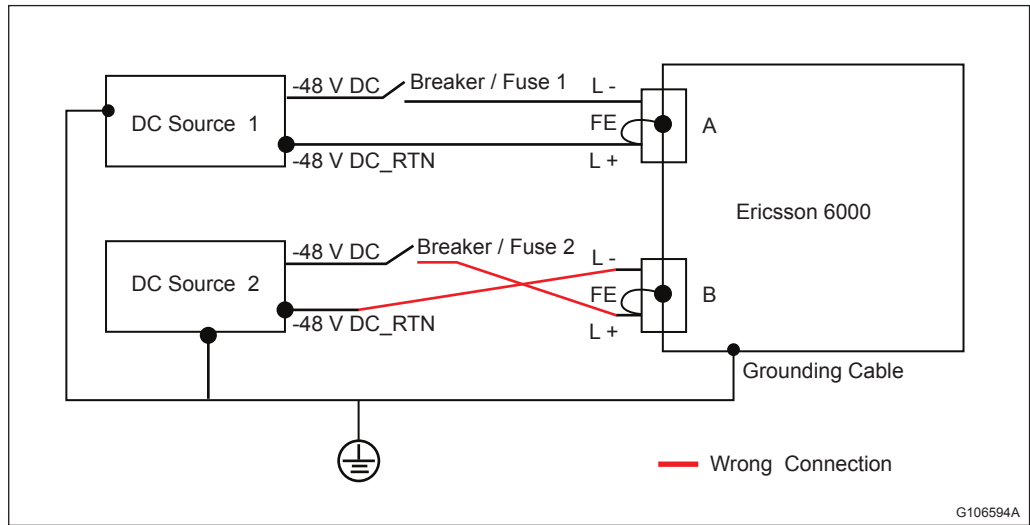


11.1.3

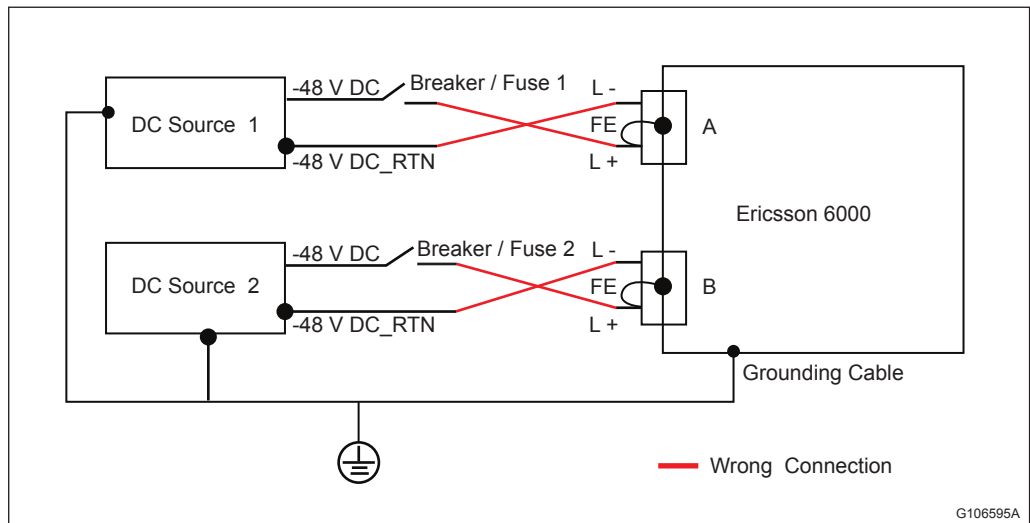
Power Cable Wrong Connection Protection

The DC-I (three-wire) power cable style 1 and DC-C (two-wire) power cable style 2 have possibility of wrong connection:

- For the DC-I (three-wire) power cable style 1, if FE is connected to -48 V DC at DC power sources, it causes DC power sources short circuit. Breaker/Fuse on the DC power sources will be tripped.
- For the DC-C (two-wire) power cable style 2, if the -48 V DC return is connected to -48 V DC at DC power sources, it will cause DC power source short circuit. Breaker/Fuse on the DC power source will be tripped.
- For the DC-C (two-wire) power cable style 2, when one inlet cable is connected correctly while another polarity is connected incorrectly, it will also cause the DC power source short circuit, as shown below. Because two battery returns are connected together inside the router.



- For the DC-C (two-wire) power cable style 2, when both inlets polarity are wrong, it will trigger both breaker/fuses when voltages of two DC power sources are different.



For the AC variant, the plug, connector, and air switch circuit-breaker can be used to disconnect the AC power supply. For the DC variant, the connector and air switch circuit-breaker can be used to disconnect the DC power supply.

Note: When the chassis is powered on, Ericsson recommends disconnecting the power supply via using the external air switch circuit-breaker.



Table 17 Fuse or Circuit-Breaker for Source Recommendations

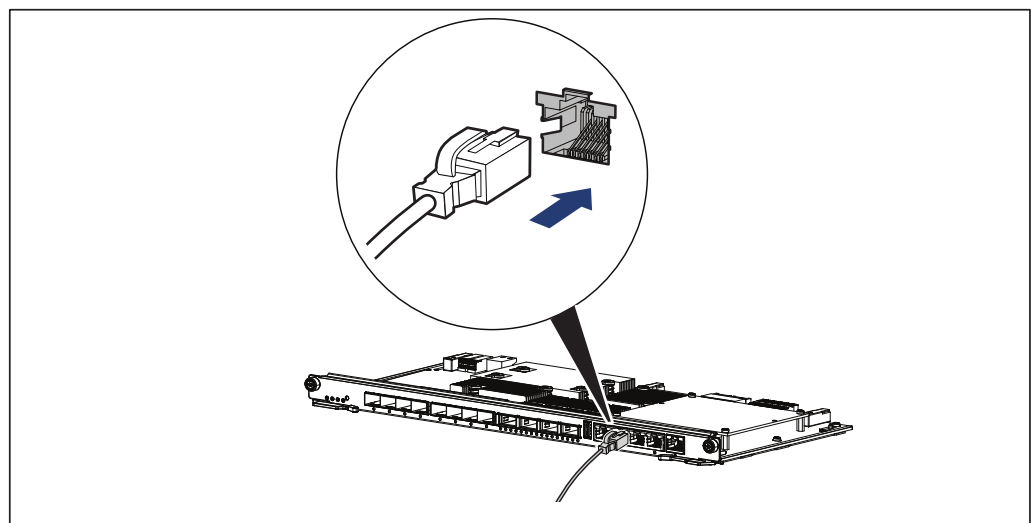
| Item ⁽¹⁾ | Maximum Value ⁽¹⁾ | Minimum Value ⁽¹⁾ |
|--|------------------------------|------------------------------|
| AC Variant, system power consumption ≤ 718 W | 20 A | 10 A |
| DC Variant, system power consumption ≤ 718 W | 40 A | 20 A |

(1) Subject to change. In the table it provides the estimated value for the moment because the conditions to perform the power consumption test is not ready yet.

11.2 Connect Alarm Port Cable

The following figure shows how to connect the alarm port cable to the device. For the details about the alarm port input and output definition, refer to [Technical Product Description](#).

Example 14 Connect Alarm Port Cable



11.3 Connect ToD Port Cable

A digital cable is used to connect the ToD port on the device to an external timing device, such as Ericsson GNSS receiver or other ITU-T G.703 (2016) compliant device. See [Appendix A: Interface Pin-Out](#) for the pinout definition of the ToD port on the Ericsson R6000. When the external timing device is an Ericsson GNSS receiver (Ericsson GPS 02, GPS 03, GRU 04), the pinout definition of the cable that can be used for the connection is different due to the different pinout of the

Ericsson GNSS receiver ToD port. The cable as listed in [Table 18](#) can be used to connect with an Ericsson GNSS receiver.

Table 18 ToD Cable for GNSS

| Interface | Product Number | Connector | Description | Length ⁽¹⁾ |
|-----------|------------------------|-----------|-------------------------------|-----------------------|
| ToD port | — RPM 901 733/03000 | RJ45 | ToD cable to Ericsson GNSS | — 3 m |
| | — RPM 901 733/10000 | | | — 10 m |

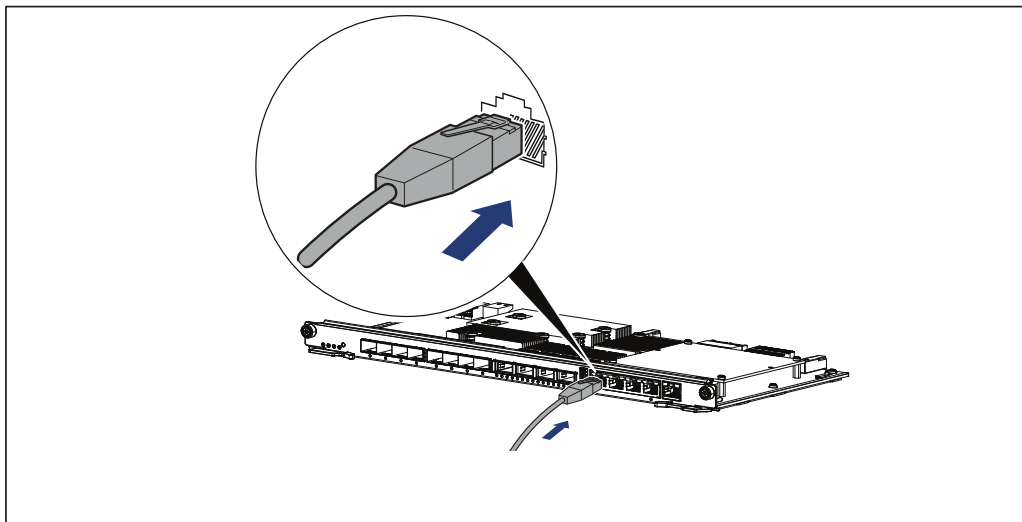
(1) The length of the cable assembly is identified in mm as suffix in the product number of the cable (always five digits).

Steps

To connect the device to a ToD external timing device:

1. Wear an ESD wrist strap and connect it to a grounding surface.
2. Plug one end of the digital cable into the ToD port on the front panel.
3. Plug the other end of the digital cable into the ToD timing device.
4. Guide the cables into the corresponding cable management channel.

Example 15 Connect ToD Port Cable





11.4 Connect Optical Fiber

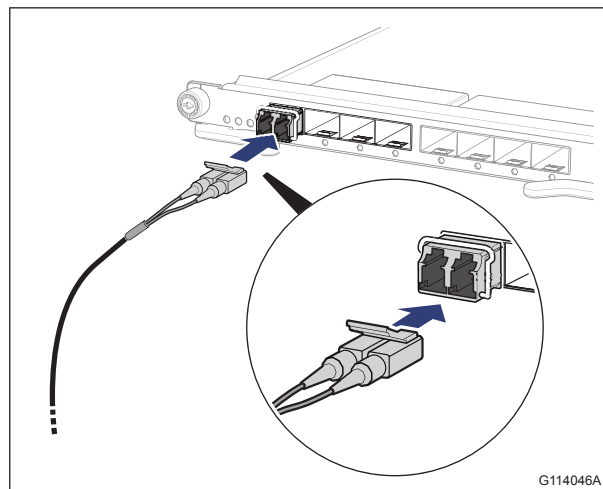
The router is CLASS 1 LASER PRODUCT. Therefore when connecting an optical fiber to the router, do not stare into the optical interface.

- Note:**
- Optical fibers must be handled with care. Never touch the end face of the optical connectors. Only remove protective covers immediately before installation.
 - The minimum allowed bending radius for the normal optical fiber is 67.31 mm and is 15 mm for the new-type optical fiber. Do not twist the fiber at the minimum bending radius.

To connect an optical fiber to the optical port on the line cards:

Steps

1. Remove the rubber plug from an optical fiber and store it for future use.
2. Insert one end of the optical fiber into the pluggable optical transceiver module port on the line card.



3. Guide the cables into the corresponding cable management channel.
4. Insert the other end into a fiber-optic receptacle on a target device.



12 Installation Check

This chapter describes how to check the installation after the device is powered up.

Once powered on, the device is loaded with the specific software. Indicators (LEDs) show the status of the system and related units. The expected normal conditions for the indicators (LEDs) are shown as below:

- No faults have been detected on the card.
- The card is operational and capable of providing services to the system.
- The card is operational and actively providing services to the system.
- No major or critical alarms in the node.



13 Conclude Routines

Before leaving the site, do the following:

- Clean up the site and remove objects such as wrapping paper and cable pieces.
- Dispose of waste in accordance with local regulations.
- Report any faults in accordance with local requirements.