# ALAXALA AX2630S
# Hardware Instruction Manual

AX26S-H001-10

Reading and storing this manual

- Before you use the equipment, carefully read the manual and make sure that you understand all safety precautions.
- After reading the manual, keep it in a convenient place for easy reference.

AlaxalA

■ Relevant products

This manual contains information on the AX2630S series.

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■ Reading and storing this manual

Before you use the equipment, carefully read the manual and make sure that you understand all safety precautions.

After reading the manual, keep it in a convenient place for easy reference.

■ Note

Information in this document is subject to change without notice.

■ Notice

Please note in advance that we will not be responsible for any consequences resulting from operating this product without following the instructions in this manual.

That we are not responsible for the result of operating this product without complying with this manual.

■ Radio-frequency interference

This switch is a class A device. Using this Switch in a residential environment may cause radio-frequency interference.

In such case, the user may be required to take appropriate measures.

VCCI-A

■ Harmonic regulations

Harmonic current emission standard IEC 61000-3-2 compliant product

Compliant devices:

AX2630S-24P4XW

AX2630S-48P4XW

(AX2630S-24T4XW and AX2630S-48T4XW are excluded.)

■ Technical standards conformity certification number

| No. | Model | Certification No. |
|---|---|---|
| 1 | AX2630S-24T4XW<br>AX2630S-24P4XW | D21-0095001<br>L21-0007 |
| 2 | AX2630S-48T4XW<br>AX2630S-48P4XW | D21-0096001<br>L21-0008 |

■ Editions history

November 2022 (Edition 2) AX26S-H001-10

■ Copyright

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# Preface

■ About this manual

This manual provides guidance on how to handle the hardware of the ALAXALA Gigabit Ethernet Layer 2 switch AX2630S series. Before you operate the equipment, carefully read the manual and make sure that you understand all instructions and cautionary notes. After reading the manual, keep it in a convenient place for easy reference.

■ Intended readers

This manual is intended for technicians who are in charge of installing and handling the AX2630S series. Therefore, it is assumed that you have knowledge of electric circuits, wiring, and networks.

■ Structure of this manual

Safety Information

This chapter provides cautionary notes for ensuring safe use of the Switch. Be sure to read the manual before using the Switch.

Chapter 1 Overview of the Switch

This chapter describes an overview of each device that comprises the Switch.

Chapter 2 Preparation for Installation

This chapter describes the environmental conditions and preparation required to install the Switch.

Chapter 3 Preparation of Interface Cables and a Terminal

This chapter describes interface cables and a terminal to be used with the Switch.

Chapter 4 Installation of the Switch

This chapter describes how to install the Switch.

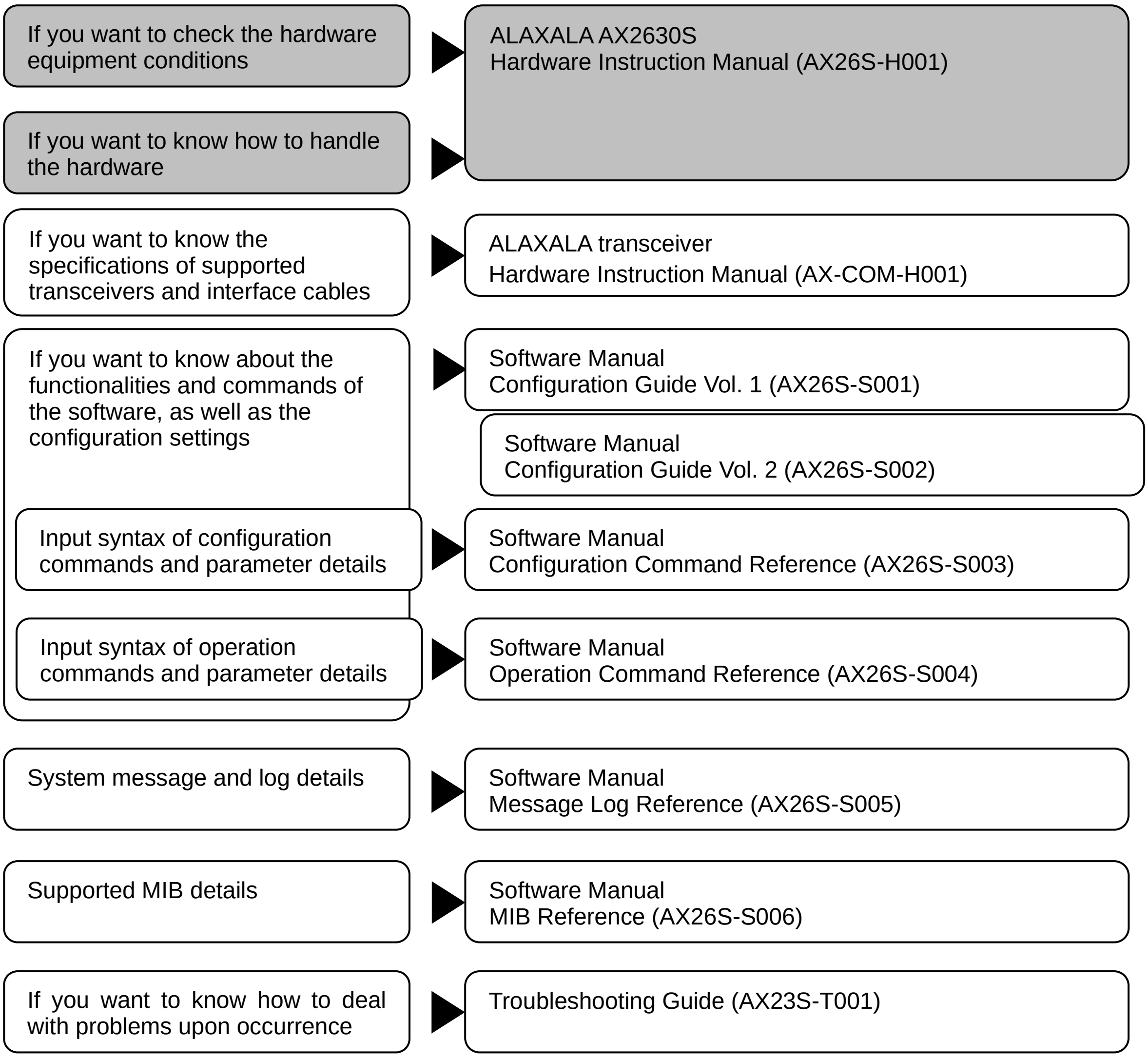
Chapter 5 Adding and Replacing Option modules

This chapter describes how to install and remove the power supply unit.

Chapter 6 Operations Required for Initial Installation

This chapter describes how to set the administrator mode password, add and delete user accounts, and set the time, all of which are required for initial installation.

■ Manual reading procedure for the AX2630S series



| | |
|---|---|
| If you want to check the hardware equipment conditions<br>If you want to know how to handle the hardware | ALAXALA AX2630S<br>Hardware Instruction Manual (AX26S-H001) |
| If you want to know the specifications of supported transceivers and interface cables | ALAXALA transceiver<br>Hardware Instruction Manual (AX-COM-H001) |
| If you want to know about the functionalities and commands of the software, as well as the configuration settings | Software Manual<br>Configuration Guide Vol. 1 (AX26S-S001)<br>Software Manual<br>Configuration Guide Vol. 2 (AX26S-S002) |
| Input syntax of configuration commands and parameter details | Software Manual<br>Configuration Command Reference (AX26S-S003) |
| Input syntax of operation commands and parameter details | Software Manual<br>Operation Command Reference (AX26S-S004) |
| System message and log details | Software Manual<br>Message Log Reference (AX26S-S005) |
| Supported MIB details | Software Manual<br>MIB Reference (AX26S-S006) |
| If you want to know how to deal with problems upon occurrence | Troubleshooting Guide (AX23S-T001) |

■ Where to obtain the manual

For the AX2630S series manuals, access the following website:

https://www.alaxala.com/

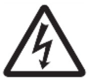
■ Abbreviation

| | |
|---|---|
| AWG | American Wire Gauge |
| CVCF | Constant Voltage Constant Frequency |
| DSF | Dispersion Shifted Fiber |
| EIA | Electronic Industries Alliance |
| ISO | International Organization for Standardization |
| JIS | Japanese Industrial Standards |
| LAN | Local Area Network |
| LED | Light Emitting Diode |
| MC | Memory Card |
| MDI | Medium Dependent Interface |
| MDI-X | Medium Dependent Interface Crossover |
| NEMA | National Electrical Manufacturers Association |
| PoE | Power over Ethernet |
| RJ-45 | Registered Jack 45 |
| RS-232C | Recommended Standard 232C |
| SD | Secure Digital |
| SFP | Small Form-factor Pluggable |
| SFP+ | enhanced Small Form-factor Pluggable |
| T/R | Transmitter/Receiver |
| UPS | Uninterruptible Power System |
| USB | Universal Serial Bus |
| UTP | Unshielded Twisted Pair |

# Safety Information

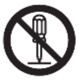
Safety precautions are indicated by the headings shown below. These headings combine safety warning symbols with headings such as "Warning", "Caution", and "Notification".

| | |
|---|---|
| ⚠ | This is a safety alert symbol. It is used to raise awareness of any potential dangers that may cause harm to individuals. Follow the safety message that follows this symbol to avoid possible injury or death. |
| **⚠Warning** | It is used to indicate the presence of a potential hazard that could cause death or serious injury. |
| **⚠ Caution** | It is used to indicate the presence of a potential hazard that could cause minor or moderate injury. |
| **Notification** | It is used when there is a risk that may cause damage unrelated to personal injury. |
| **NOTE** | Information preceded by this indication is supplementary information that, if ignored, will not result in physical injury or serious damage to the Switch. |



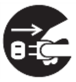
[Notation example 1] Electrical shock hazard

This graphic symbol (△) indicates the need for caution, with a picture depicted within the symbol (△ ) indicating what to be careful of such as the risk of electrical shock.



[Notation example 2] Disassembly prohibited

This graphic symbol (⊘) indicates what actions should not be performed, with a picture depicted within the symbol indicating what is prohibited such as disassembly.
The graphic symbol (⊘) without any illustration indicates a general prohibition.



[Notation example 3] Remove the power plug from the outlet

The graphic symbol (●) indicates what actions should be performed, with a picture within the symbol (●) indicating a mandatory action such as removing the power plug from the outlet.
⚠indicates a generally recommended operation.

**Common safety precautions**

Carefully read the manual and make sure that you understand all safety precautions below.

- Keep this manual handy after reading it, so that it is available for later reference.
- Operate the Switch according to the instructions and procedures provided in this manual.
- Heed all warnings and cautions on the Switch and in this manual.
  Failure to do so may result in personal injury or property damage, including damage to the Switch.

**Unauthorized operations**
Do not attempt to perform any operations that are not described in this manual.
In the event of a problem with the Switch, turn off the power, disconnect the power plug from the outlet, and then contact the maintenance personnel.

**Using common sense**
The warnings and cautions provided on the Switch and in this manual have been selected after careful consideration. Nevertheless, there is always the possibility of the unexpected occurring. Therefore, while using a Switch, stay alert and use common sense in addition to following all instructions.

# ⚠ Warning

**■ If anything seems wrong, immediately turn off the power.**

If smoke or an unusual smell is emanating from the Switch, or if liquid is spilled into the Switch or a foreign object falls into the Switch, immediately turn off the Switch as described below. Continuing operation could result in a fire or electric shock.

- If the Switch has an AC power supply unit, unplug all power cables.
- If the Switch has a DC power supply unit, turn off all the circuit breakers of the distribution board that supply power to the Switch.

**■ Install an outlet near the Switch.**

Install an outlet near the Switch so that the power plug can be easily unplugged. Do not place any objects around the outlet.

**■ Install the distribution board near the Switch.**

Install the distribution board in the same room as the Switch or in a neighboring room to ensure easy access and operation.

**■ Do not remove the Switch cover.**

Do not remove the Switch cover. Doing so could result in an electric shock.

**■ Do not allow any foreign objects to get into the Switch.**

Do not insert or drop any foreign objects, such as anything metallic or flammable, through the Switch's ventilation slots. Doing so could result in a fire or electric shock.

**■ Do not repair, modify, or disassemble the Switch.**

Do not repair, modify, or disassemble the Switch. Doing so could result in electrical shock, fire, or burns. Due to the presence of many high-voltage components inside the power unit in particular, touching them can be extremely dangerous.

**■ Do not subject the Switch to shocks.**

Do not subject the Switch to excessive shocks such as dropping or hitting. If the Switch is dropped or any of its components are damaged, power off the Switch as described below and then contact the maintenance personnel. Using the Switch in that state could result in a fire or electric shock.

- If the Switch has an AC power supply unit, unplug all power cables.
- If the Switch has a DC power supply unit, turn off all the circuit breakers of the distribution board that supply power to the Switch.

# Safety Information (Continued)

## ⚠ Warning

■ **Do not place any objects on the Switch.**

Do not place any metallic object such as a small pin or a paper clip or any container with a liquid, such as a vase or a flowerpot, on the Switch. Liquid or metallic objects falling into the Switch could result in a fire or electric shock.
Do not place any optional modules or objects on the Switch. Optional modules or objects may slip, resulting in injury. Also, depending on the weight of an object placed on the Switch, it may cause the Switch to malfunction.

■ **Use the Switch only with the indicated power supply.**

Do not use the Switch at any voltage other than the indicated voltage. Depending on the voltage, the internal components may be damaged, overheated, or deteriorated, resulting in a fire or electric shock.
Also, use a power outlet that is compatible with the voltage and power cord you are using. Using any other outlet may result in an electric shock.

■ **Ensure that the capacity of incoming current to the distribution board is greater than the operating current of the circuit breaker on the distribution board.**

Ensure that the capacity of incoming current to the distribution board is greater than the operating current of the circuit breaker on the distribution board. If it is not, the circuit breaker might not operate properly in the event of a failure, which could result in a fire.

■ **Ground the Switch.**

- If the Switch has an AC power supply unit, always use a grounded power outlet. Using the Switch without grounding could result in an electric shock as well as failures due to electrical noise.
- If the Switch has a DC power supply unit, connect a grounding cable to ground the Switch. Using the Switch without grounding could result in an electric shock as well as failures due to electrical noise.

■ **Use a DC power facility for which the primary side and the secondary side are insulated.**

When using DC power, use an electric shock risk-free power facility for which the primary side and the secondary side are insulated. Using a power facility that is not insulated could result in electric shock.

■ **Connecting and disconnecting a DC power cable must be performed by a trained technician or maintenance personnel.**

Connecting or disconnecting a DC power cable to or from a power facility must be performed by a trained technician or maintenance personnel. Terminal connections are required for connection of the DC power cable to the power facility. For this reason, incorrect handling of the DC power cable could result in a fire or electric shock.

■ **Turn off the circuit breaker of the distribution board before connecting or disconnecting the DC power cable.**

Turn off the circuit breaker of the distribution board before connecting or disconnecting the DC power cable to or from the power facility. Connecting or disconnecting the DC power cable while the circuit breaker is turned on could result in an electric shock.

# ⚠ Warning

**■ Observe the specified stripping length of the sheath for DC power cables.**

Adjust the stripping length of the sheath for the power cable (the switch end) to the specified length. For details on the stripping length, see "2.3.3 -48 V DC power facility". If the striping length is too short, connection might fail or the cable might become disconnected. Conversely, if the striping length is too long, the core will be exposed, risking a fire or electric shock.

**■ Use the Switch indoors.**

Use the Switch indoors. Also, make sure that all interface cables to be connected to the Switch are indoor-wired. If an outdoor-wired cable is to be connected to the Switch, ensure that lightning protection measures have been taken before connection.

**■ Handle the power cable carefully.**

- Please use the designated power cable and pay attention to the following points when handling it. Improper handling may cause the copper wire to become exposed, resulting in overheating due to short circuit or partial breakage, and potentially leading to an electric shock or fire.
    - Do not place any object on the cable.
    - Do not pull the cable.
    - Do not press the cable.
    - Do not bend the cable.
    - Do not twist the cable.
    - Do not process the cable.
    - Do not use the cable near heating appliances.
    - Do not apply heat to the cable.
    - Do not bundle the cable.
    - Do not fix the cable with staples or the like.
    - Do not use the cable if damaged.
    - Do not expose the cable to continuous ultraviolet or strong visible light.
    - Avoid exposing the power cable to alkaline, acidic, oily, or humid substances.
    - Do not use the cable in a high temperature environment.
    - Do not use the cable beyond rated specifications.
    - Do not use the cable with other devices.
    - Do not plug or unplug the power cord by holding anything other than the power plug.
    - Do not touch the power plug with wet hands.
- Do not cover the power cable. If the power cable is covered by a carpet, it is easy to forget that the cable is there and to place something heavy on it.
- Do not place objects around an outlet so that the power plug can be easily unplugged.

**■ Be careful of poor contact and tracking of the power plug.**

If the power plug is not used as follows, it may overheat due to tracking or poor contact, resulting in a fire.

- Insert the power plug firmly all the way into an outlet.
- Make sure the power plug is free of dust or droplets before inserting the plug into an outlet. If dust or water droplets are attached to the power plug, wipe them off with a dry cloth before inserting it.
- Use an outlet without looseness when the power plug is inserted.
- Installation of outlets should be carried out by a technician with specialized knowledge.

# ⚠Warning

■ **Do not overload the power outlet.**

Do not overload the outlet by connecting multiple power plugs to the same outlet. Overloading the outlet could cause a cord and outlet to overheat, resulting in a fire or a tripped circuit breaker in the distribution board due to excessive power used. This might affect other equipment.

■ **Do not use the power cable of the Switch for other equipment.**

The power cable supplied with the Switch is a dedicated power cable for the Switch. It cannot be diverted for use in other equipment. Use the power cable that comes with the Switch or the one that we sell separately. Using another cable could result in a fire or electric shock.
In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could be extremely dangerous as it could result in a fire or electric shock.

■ **Adding or replacing a module must be performed by a trained technician or maintenance personnel.**

Adding or replacing optional modules must be performed by a trained technician or maintenance personnel.
Replacing a power supply unit requires connecting and disconnecting a power cable. If anyone other than those mentioned above performs these tasks incorrectly, a fire, electric shock, or failure could result.
In addition, using optional modules incorrectly could result in injury or Switch malfunction.

■ **To turn off the power of the Switch, turn off all power supplies.**

The Switch has multiple input power supplies. Therefore, failure to turn off all input power supplies may result in electric shock or burns that could lead to death or injury.
To power off the Switch, use the following methods.

- If the Switch has an AC power supply unit, unplug all power cables.
- If the Switch has a DC power supply unit, turn off all the circuit breakers of the distribution board that supply power to the Switch.

■ **Disconnect the power cable before replacing a power supply unit.**

When replacing a power supply unit, disconnect the power cable from the power supply unit to be replaced. While the power cable is connected, power is delivered to the power supply unit. Because of this, if you replace a power supply unit with the power cable connected, a fire or electric shock could result. Be sure to disconnect the power cable from the power supply unit to be replaced.

■ **Do not use an air duster near a flame.**

When cleaning the optical connectors, do not use an air duster that contains flammable gas near a flame. Doing so could result in a fire.

■ **Storage of packing plastic bags**

Keep the packaging bag for the Switch out of reach of small children. If small children put the packaging bag over their heads, there is a risk of suffocation.

# ⚠Caution

**■ Keep the Switch out of reach of children.**

The Switch is not suitable for use where children may be present.

**■ Do not install the Switch in a dusty or humid location.**

Do not install the Switch in a dusty or humid location. Doing so could result in a fire or electric shock.

**■ Mount the Switch onto a rack with at least two people.**

When mounting the Switch onto a rack, perform the task with at least two people. Lifting the Switch by yourself may cause it to fall over, which could result in injury.

**■ Do not obstruct the ventilation slots.**

The ventilation slots of the Switch are to prevent the internal temperature from rising. Avoid blocking the ventilation slots of the Switch by placing objects on or against it. Doing so causes heat to accumulate inside the Switch, potentially leading to smoke or failure. Maintain a space of at least 50 mm around the ventilation slots.
Also, periodically check and clean the ventilation slots to prevent dust accumulation.

**■ Do not allow hair or objects near the ventilation slots.**

Cooling fan units are mounted in the Switch. Do not allow anything near the ventilation slots. Doing so causes heat to accumulate inside the Switch and could cause a failure. Do not allow hair or other objects near the ventilation slots. They might be sucked into the Switch, resulting in injury.

**■ Do not place the Switch in an unstable location.**

- When installing the Switch on a table, position the Switch horizontally on a worktable strong enough to bear the weight of the Switch. Placing the Switch in an unstable location, such as on an unsteady or tilting surface, might cause the Switch to fall, resulting in injury.
- When mounting the Switch in a rack, make sure that the Switch is stable. If the Switch is unstable, it might fall, resulting in injury.

**■ Do not place the Switch vertically or lean it against the wall.**

Place the Switch horizontally when to be used on a table. The Switch may fall over if placed in a vertical position or leaned against a wall, resulting in injury or failure.

**■ Do not stack Switches on top of one another.**

Do not stack Switches on top of one another. Doing so might damage the Switch. Furthermore, the Switch might fall, or become unbalanced, resulting in injury.

## ⚠Caution

**■ Do not step on the Switch, lean against it, or place anything on it.**

Do not step on the Switch, lean against it, or place anything on it. Doing so might damage the Switch. Furthermore, the Switch might fall, or become unbalanced, resulting in injury.

**■ When moving the Switch, do not hold the handle on the power supply unit.**

When moving the Switch, do not hold the handle or lock lever on the power supply unit. The handle or lock lever might come off, resulting in the Switch falling and possibly causing injury. Also, the power supply unit might become deformed, resulting in a fire or electric shock.

**■ When moving the Switch, unplug all cables.**

Before moving the Switch, unplug all cables from the Switch. Failure to do so might cause the Switch or cable to become deformed, or might damage the Switch, resulting in a fire or electric shock.

**■ Do not drop optional modules.**

- Handle the optional modules with care to avoid dropping them. Dropping them might cause injury.
- When removing an optional module from the Switch, hold the body of the optional module tightly. Pulling the option module carelessly from the Switch might cause the option module to fall, resulting in injury.

**■ Do not touch the inside of the Switch with your hands.**

Do not carelessly put your hands inside the Switch. The frame and components might cause injury. In addition, the components inside the Switch may become hot, which may cause burns.

**■ Do not use the Switch immediately after moving it to a place different in temperature.**

If there is a large temperature variation between places from and to which the Switch is moved, condensation may form on the surface of or inside the Switch. Discontinue using the Switch with condensation present to avoid the risk of a fire or electric shock. After moving the Switch between two locations with a large temperature variation, let the Switch stand a few hours before using it. Do not turn on the power immediately but leave it for several hours in the place where it will be used until the room temperature and the internal temperature of the Switch become almost the same before using it.

**■ Avoid looking directly at laser beams.**

The Switch uses laser beams. Laser devices such as SFP and SFP+ have parts inside that generate laser light. Do not disassemble or modify the Switch. Never look into the laser devices. (Laser beams are colorless and transparent, and invisible.)

# ⚠Caution

**■ Do not touch the Switch during operation and just after operation stops.**

Depending on the temperature of the installation environment, the surfaces of the Switch and transceivers may become hot. Do not touch them during operation and just after power-off. Doing so could result in burns.
Before touching the Switch or transceivers, turn off the power and make sure that their surfaces have cooled enough to touch them, or use heat-resistant gloves.

**■ Do not touch the SFP and SFP+ during operation and just after operation stops.**

The maximum temperature is 75°C during SFP or SFP+ operation (during link establishment). Do not touch them during operation and just after operation stops. Doing so could result in burns.
Before touching a transceiver, turn off the power and make sure that the surface has cooled enough to touch it, or use heat-resistant gloves.

**■ Do not use the Switch or optional modules for unintended purposes.**

Do not use the Switch or optional modules for any purpose other than as a switch, such as a stepping stool or bookend. It may break or fall over, resulting in injury or failure.

**■ Do not touch the Switch directly if you have a metal allergy.**

The Switch is coated with zinc, nickel, gold, and other elements. Do not touch the Switch directly if you have an allergic reaction to these metallic elements. Doing so might cause eczema or skin irritation.

**■ Do not place the Switch in a high-temperature location.**

Do not place the Switch in direct sunlight or near a heater or other heat-generating apparatus, which may adversely affect the components.

**■ Do not turn off the Switch while the ST1 LED is blinking green.**

In the following case, do not turn off the power until the ST1 LED on the front panel of the Switch changes from blinking green to solid green. Turning off the power could result in a switch fault.

- While the Switch is in a preparatory state (switch is starting up)
- While software is being updated

**■ Cleaning**

Remove dust on and around the Switch regularly. In addition to causing the Switch to stop, accumulated dust could result in a fire or electric shock.

# Notification

⊘ ■ **Do not block the heat dissipation of the Switch or stack Switches on top of one another.**

Since AX2630S-24T4XW does not have a fan, it also dissipates heat from the top plate of the Switch. Do not stack another device on top of and under the Switch to block the heat dissipation of the Switch. Doing so could result in a malfunction.
Also, when mounting the Switch in a rack, leave a space of 1U or more between other equipment.

⚠ ■ **Check the usage environment of the Switch.**

Installation conditions must be met for the usage environment of the Switch. For example, if the Switch is exposed to direct sunlight or near a heating appliance such as a stove, the internal temperature will rise and may cause the Switch to malfunction.

⚠ ■ **Ensure that voltage drop does not occur in the power facility due to inrush current.**

Turning on the Switch causes inrush current. Ensure that voltage drop does not occur in the power facility due to the inrush current. Voltage drops affect not only the Switch, but also the devices connected to the same power facility.

⚠ ■ **When carrying or packing a Switch and its optional modules, wear a wrist strap to protect against static electricity.**

Be sure to wear an anti-static wrist strap. If you handle the Switch without wearing an anti-static wrist strap, the Switch might be damaged by static electricity.

⊘ ■ **Do not touch connection terminals.**

Do not short-circuit connection terminals such as connectors by touching them with your hands or a metal object, or by inserting a foreign object such as a wire. Doing so could result in smoke, or a malfunction due to poor contact.

⚠ ■ **Handle interface cables carefully.**

- Route cables so that they will not catch your feet or be pulled. Such hazards may result in injury or a failure of connected devices.
- Do not put a heavy load on cables. Also, do not route cables near heating appliances. Doing so could result in a teared coating cable and a failure of connected devices.

⚠ ■ **When the memory card LED is lit, do not remove the memory card or turn off the power.**

When the memory card LED is lit, the memory card is being accessed. When a memory card is being accessed, do not remove the memory card or turn off the power. Doing so might damage the memory card.
In addition, some commands require a certain amount of time after being entered to finish accessing the memory card. Make sure that the memory card is no longer being accessed before removing the card or turning off the power.

# Notification

⚠ **■ Handle USB memory carefully.**

- When inserting the USB memory or connecting an operation-verified USB extension cable, do not insert it at an angle or push it strongly. Also, when removing the USB memory or operation-verified USB extension cable, slowly pull it out straight. Failure to do so might damage the USB memory, operation-verified USB extension cables, or the connector of the memory card slot.
- When moving the Switch, remove USB memory and operation-verified USB extension cables from the Switch. If the USB memory or operation-verified USB extension cables are subjected to excessive force while the Switch is being moved, the USB memory, the operation-verified USB extension cables, or the connector of the memory card slot might be damaged.
- When using the operation-verified USB extension cable, do not place the USB memory on the Switch. In particular, the fanless model AX2630S-24T4XW dissipates heat from the top plate of the Switch, which may cause the USB memory to malfunction due to heat. When the Switch is mounted in a rack, secure an operation-verified USB extension cable with a cable holder provided with the rack.

⃠ **■ Do not attach any labels to a transceiver.**

A label attached to the transceiver indicates that the transceiver is a standard product from ALAXALA or another manufacturer. However, such labels are attached where they do not interfere with heat dissipation from the transceiver or the mechanism that prevents the transceiver from coming loose from the cage.
Attaching a label to a location that interferes with those features could cause the transceiver to malfunction.

⚠ **■ Do not apply excessive force to pull the SFP or SFP+ levers.**

If it is difficult to remove SFP or SFP+, hold and push the body of a transceiver toward the Switch with the lever lowered, and check if the transceiver can be removed. Forcibly pulling the lever may damage the transceiver, resulting in failure.

⚠ **■ Do not forcibly pull the pull tab of a direct attach cable.**

When removing the direct attach cable, push and hold the back shell of the direct attach cable horizontally toward the Switch, and pull the pull tab slowly. Forcibly pulling the pull tab may break the pull tab and cause the direct attach cable to malfunction.

⚠ **■ Do not install or remove a transceiver more than necessary.**

Do not install or remove a transceiver more than necessary. Doing so could result in a shorter lifetime.

⚠ **■ After removing a power supply unit, attach a blank panel.**

Attach a blank panel to a slot in which a power supply unit is not installed. If you use the Switch without attaching the blank panel, airflow inside the Switch cannot be maintained. If airflow is not maintained, the temperature inside the Switch rises, resulting in a failure. Also, the radio waves generated by the Switch might affect another device, or the radio waves generated by another device might affect the Switch, resulting in a malfunction.

# Notification

⚠ **■ When carrying and packing optional modules, handle them carefully.**

Do not touch a connector when carrying or packing a transceiver, memory card, power supply unit, and other optional modules. Also, when storing an optional module, use an anti-static bag.

🛇 **■ Keep the Switch away from strong magnetism.**

Do not place objects that generate strong magnetism, such as magnets or speakers, near the Switch. Doing so could result in a Switch failure.

🛇 **■ Do not connect anything other than the specified memory card to the memory card slot.**

Do not connect any devices other than our standard USB memory (UM04G), operation-verified USB memory and extension cables to the memory card slot. Doing so could result in a Switch failure.

🛇 **■ Do not use a TV or a radio near a Switch.**

Placing a Switch near a TV or a radio could affect both devices. If you hear noise on the TV or radio, do the following:

□Place the Switch as far away as possible from the TV or radio.
□Adjust the orientation of the TV or radio antenna.
□Use separate outlets.

🛇 **■ Do not place a Switch where it will be exposed to hydrogen sulfide or salt.**

Placing a Switch in an area where sulfides are present, such as a hot-springs area, or in an area with salty air, such as along a coast, could shorten the life of the Switch.

⚠ **■ Protect a Switch when using a fuming liquid.**

Before using a fuming liquid such as a pesticide, completely wrap the Switch with a plastic sheet or the like. If the fuming liquid enters inside the Switch, this may cause a Switch failure. Also, turn off the power to the Switch before using it.

⚠ **■ Use care when handling an air duster.**

- Use an air duster specially designed for cleaning optical connectors. Using another type of air duster could cause the ferrule tip to become dirty.
- Keep the nozzle or container of the air duster from coming into contact with the ferrule tip. Contact could result in a malfunction.

# Notification

⚠ ■ **Use care when handling an optical connector cleaner.**

- Always use a dedicated optical connector cleaner. If you use another type of cleaner, the ferrule tip might become dirty.
- Do not apply excessive pressure when cleaning. Doing so might damage the ferrule tip.

⚠ ■ **When transporting the Switch**

Always pack the Switch when transporting it. Also, pay attention to the top and bottom orientation of the Switch when packing it.
If the Switch is not packed or transported upside down, this may cause a Switch failure.

⚠ ■ **Maintenance**

Clean any dirty areas on the exterior of the Switch with a clean, dry cloth, or a cloth damp with (but not soaked with) water or a neutral detergent. Do not use volatile organic solutions (such as benzene or paint thinner), chemicals, chemically treated cloths, or pesticides because these substances might deform, discolor, or damage the switch.

⚠ ■ **If the Switch will not be used for a long time**

For safety reasons, power off the Switch as described below if it will not be used for a long time.

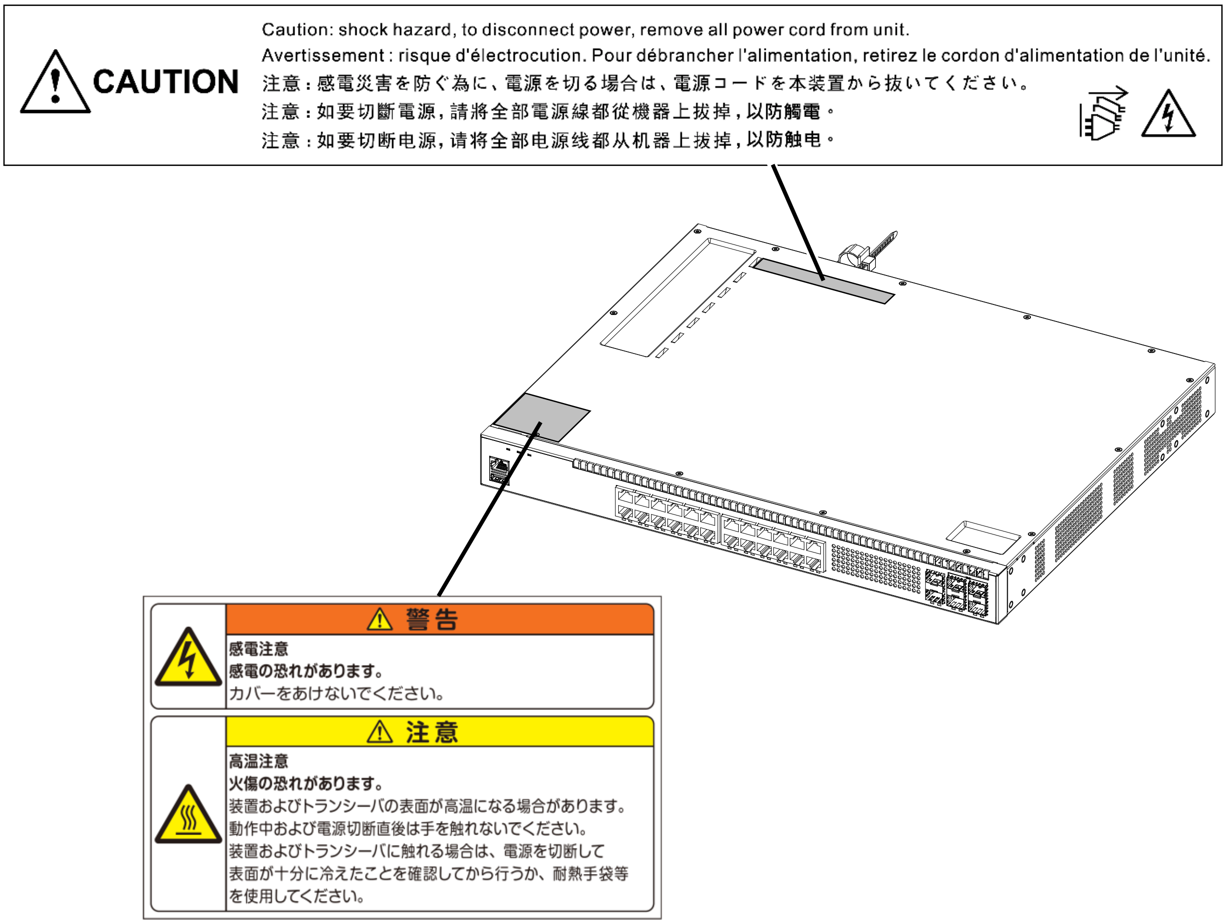
- If the Switch has an AC power supply unit, unplug all power cables.
- If the Switch has a DC power supply unit, turn off all the circuit breakers of the distribution board that supply power to the Switch.

⚠ ■ **Disposal of a Switch**

When disposing of a Switch, you should either follow local ordinances or regulations, or contact your local waste disposal and treatment facility.

# Warning labels

Warning labels are attached to the following locations on the Switch.
Check what each warning label indicates before handling the Switch.
Also, do not stain or remove the warning labels.



**CAUTION**

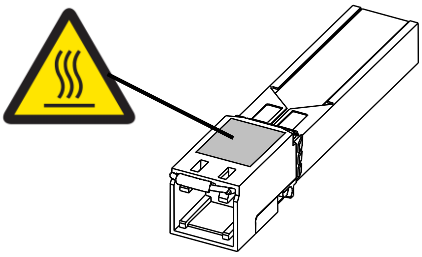
Caution: shock hazard, to disconnect power, remove all power cord from unit.
Avertissement : risque d'électrocution. Pour débrancher l'alimentation, retirez le cordon d'alimentation de l'unité.
注意：感電災害を防ぐ為に、電源を切る場合は、電源コードを本装置から抜いてください。
注意：如要切斷電源，請將全部電源線都從機器上拔掉，以防觸電。
注意：如要切断电源，请将全部电源线都从机器上拔掉，以防触电。

**警告**

**感電注意**
**感電の恐れがあります。**
カバーをあけないでください。

**注意**

**高温注意**
**火傷の恐れがあります。**
装置およびトランシーバの表面が高温になる場合があります。
動作中および電源切断直後は手を触れないでください。
装置およびトランシーバに触れる場合は、電源を切断して
表面が十分に冷えたことを確認してから行うか、耐熱手袋等
を使用してください。



SFP-T

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# 1

# Overview of the Switch

This chapter describes an overview of each device that comprises the Switch.

1.1 Switch

1.2 Power supply unit (PS)

1.3 Memory card (MC)

1.4 Transceiver

1.5 Direct attach cable

1.6 Power cable

## 1.1 Switch

The AX2630S series is a layer 2 switch that supports Gigabit Ethernet and can be used as a distribution switch whose reliability and scalability are demanded and as a floor switch in a local area network.

The AX2630S series has the following models.

Table 1-1 AX2630S series model list

| No. | Model name | LAN interface | | |
|---|---|---|---|---|
| | | 10BASE-T /100BASE-TX /1000BASE-T port | SFP slot (1G) | SFP+ slot (1G/10G) |
| 1 | AX2630S-24T4XW | 24 | 2 | 4*1 *2 |
| 2 | AX2630S-48T4XW | 48 | 2 | 4*1 *2 |
| 3 | AX2630S-24P4XW | 24 (PoE) | 2 | 4*1 *2 |
| 4 | AX2630S-48P4XW | 48 (PoE) | 2 | 4*1 *2 |

*1 10-Gigabit Ethernet is enabled by adding the uplink 10G optional license.

*2 Two of them are enabled as stack ports by adding the stack function optional license.

NOTE

For transceivers supported by the Switch, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

### 1.1.1 AX2630S-24T4XW

AX2630S-24T4XW has the following hardware specifications.

- Ethernet 10BASE-T/100BASE-TX/1000BASE-T port: 24 ports
- SFP slot (1000BASE-X): 2 slots
- SFP+ slot (10GBASE-R or 1000BASE-X): 4 slots
- Console port (RJ-45): 1 port
- Memory card slot: 1 slot
- Power supply unit slot: 1 slot
- AC connector: 1 connector

NOTE

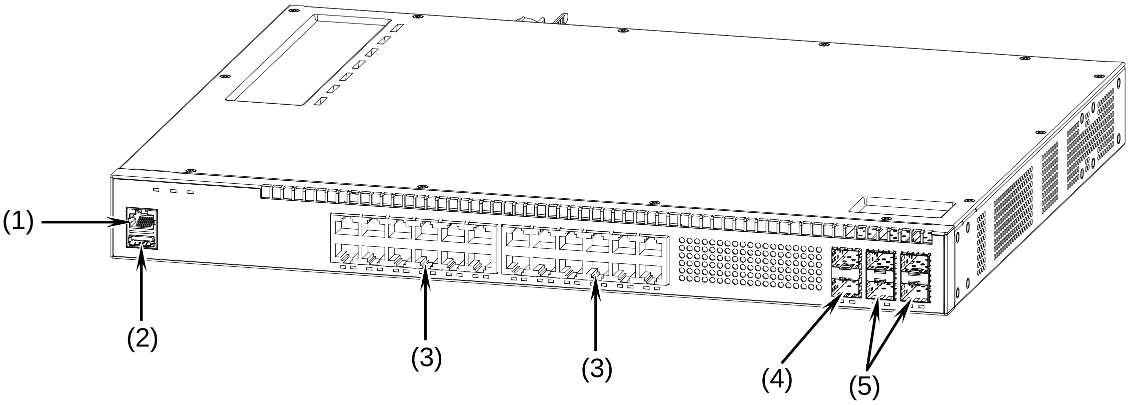
The uplink 10G optional license is required to use 10GBASE-R (SFP+) and direct attach cables for SFP+ slots. Only 1000BASE-X (SFP) is available if the uplink 10G optional license is not applied.

**NOTE** The stack function optional license is required to use the SFP+ slots as stack ports.

**NOTE** For transceivers supported by the Switch, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

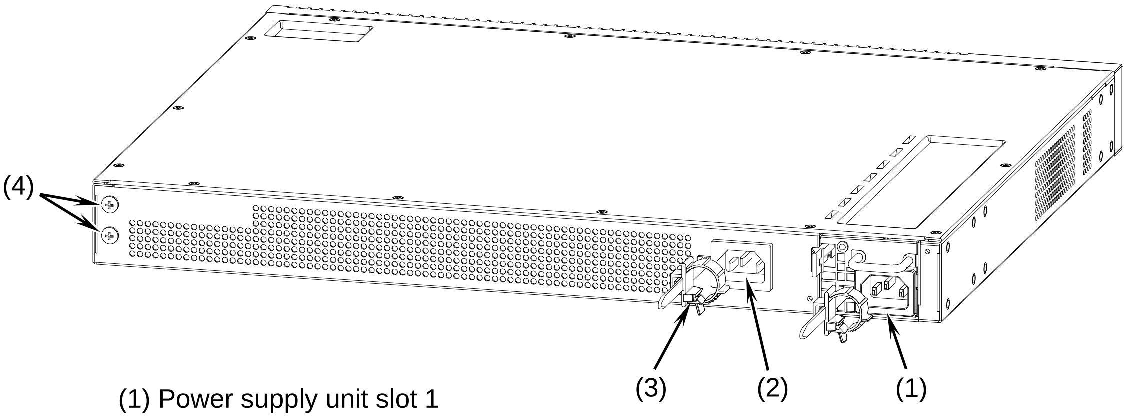
### (1) External view

Figure 1-1 Front view



(1) Console port: 1 port (RJ-45)
(2) Memory card slot: 1 slot
(3) Ethernet 10BASE-T/100BASE-TX/1000BASE-T port: 24 ports
(4) SFP slot: 2 slots
(5) SFP+ slot (10GBASE-R or 1000BASE-X): 4 slots

Figure 1-2 Rear view

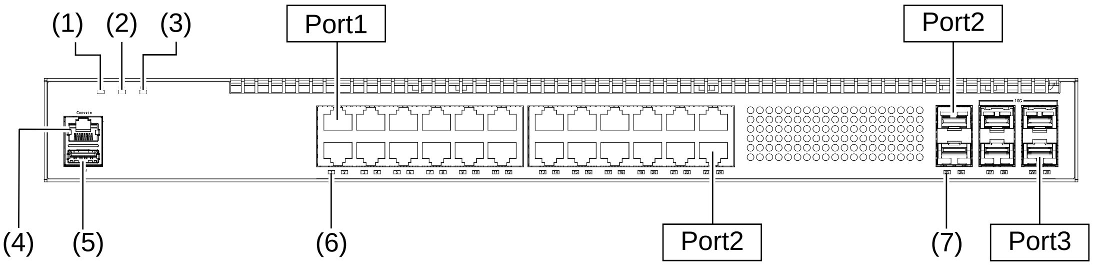


(1) Power supply unit slot 1
(2) AC connector
(3) Cable clamp
(4) Ground terminals

### (2) Front panel

The layout of the front panel is shown below. The numbers in the figure correspond to those in "Table 1-2 LED indications and connectors".

Figure 1-3 Front panel layout



**NOTE** Direct attach cables can be used only for Port 29 and Port 30. These ports can also be used as stack ports.

Table 1-2 LED indications and connectors

| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (1) | ST1 | LED: Green or orange | Indicates the status of the Switch. | Green | Available for operation |
| | | | | Blinking green | Preparatory state (switch is starting up) |
| | | | | Blinking orange | Partial fault in the device |
| | | | | Orange | Fatal fault in the device (operation cannot continue or login fails) |
| | | | | Off | Power is off or the power supply failed. |
| (2) | ST2 | LED: Green or orange | Indicates the status of the Switch in MC operation mode or in a stack configuration. [*1] | Green | <In MC operation mode><br>Software and device information are being saved. (Do not remove the memory card.)<br><In a stack configuration><br>Running as the master switch |
| | | | | Orange | <In MC operation mode><br>While software and device information were being saved, a failure was detected, and the saving operation has stopped.<br><In a stack configuration><br>Running as a backup switch |
| | | | | Off | <In MC operation mode><br>The memory card can be inserted or removed.<br><In a stack configuration><br>Initial state |
| (3) | PWR | LED: Green | Indicates the power supply status. | Green | Power is on. |
| | | | | Off | Power is off or the power supply failed. |
| (4) | Console | Connector | Console port | — | RS-232C port to connect a console terminal |

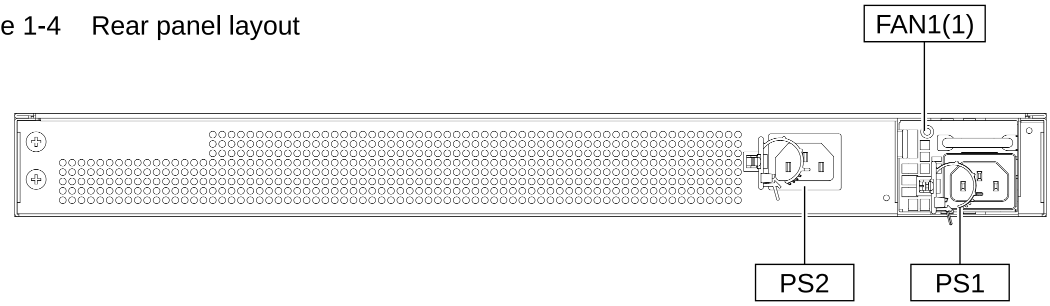
| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (5) | USB | Connector | Memory card slot | — | USB memory card slot |
| (6) | 1-24 (UTP) | LED: Green or orange | Indicates the operating status of 10BASE-T/100BASE-TX/1000BASE-T ports. | Green | A link has been established. |
| | | | | Blinking green | A link is established and frames are being sent or received. |
| | | | | Orange | Line failure detection |
| | | | | Off | Link failure or block when the ST1 LED lights green |
| (7) | 25-26 (SFP)<br>27-30 (SFP+) | LED: Green or orange | Indicates the operating status of SFP and SFP+ slots. | Green | A link has been established. |
| | | | | Blinking green | A link is established and frames are being sent or received. |
| | | | | Orange | Line failure detection |
| | | | | Off | Link failure or block when the ST1 LED lights green |

*1 If a memory card is inserted, the LED will prioritize displaying the status of the memory card.

### (3) Rear panel

The rear panel layout is shown below.

Figure 1-4 Rear panel layout



## 1.1.2 AX2630S-48T4XW

AX2630S-48T4XW has the following hardware specifications.

- Ethernet 10BASE-T/100BASE-TX/1000BASE-T port: 48 ports
- SFP slot (1000BASE-X): 2 slots
- SFP+ slot (10GBASE-R or 1000BASE-X): 4 slots
- Console port (RJ-45): 1 port
- Memory card slot: 1 slot
- Power supply unit slot: 1 slot
- AC connector: 1 connector

NOTE

The uplink 10G optional license is required to use 10GBASE-R (SFP+) and direct attach cables for SFP+ slots. Only 1000BASE-X (SFP) is available if the uplink 10G optional license is not applied.

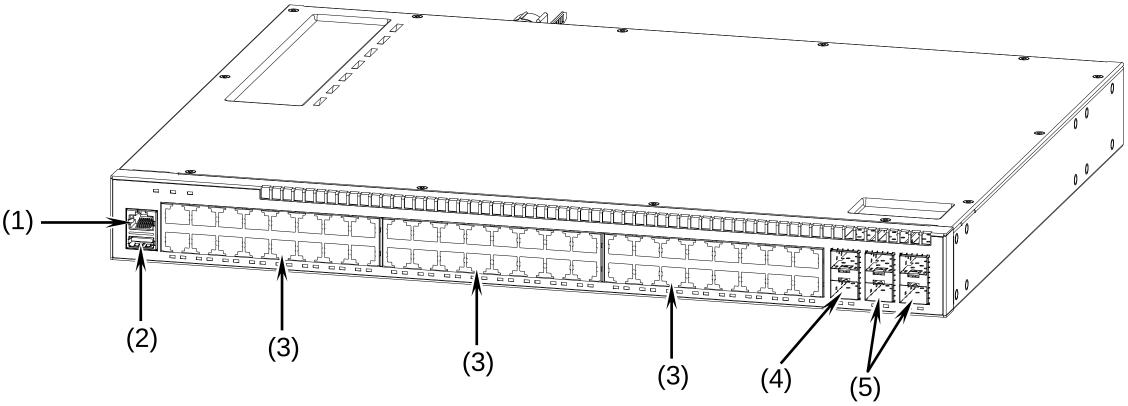
NOTE

The stack function optional license is required to use the SFP+ slots as stack ports.

**NOTE** For transceivers supported by the Switch, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

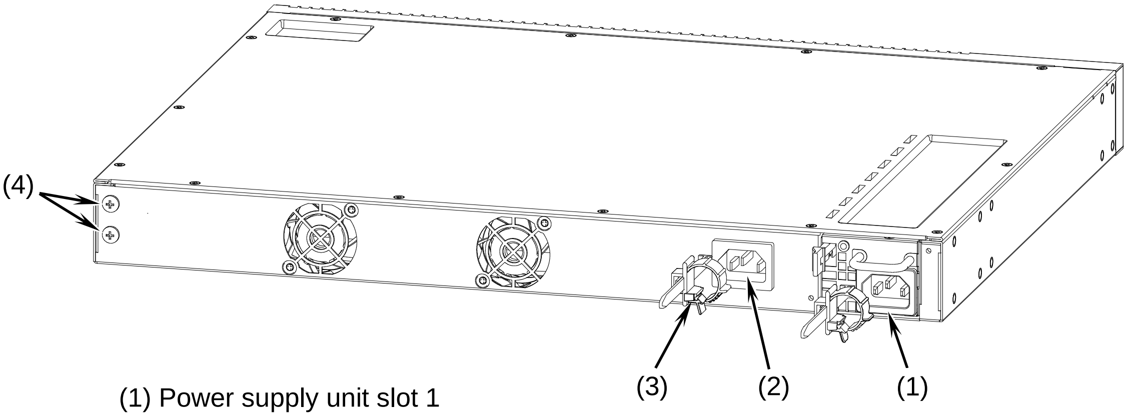
## (1) External view

Figure 1-5 Front view



(1) Console port: 1 port (RJ-45)
(2) Memory card slot: 1 slot
(3) Ethernet 10BASE-T/100BASE-TX/1000BASE-T port: 48 ports
(4) SFP slot: 2 slots
(5) SFP+ slot (10GBASE-R or 1000BASE-X): 4 slots

Figure 1-6 Rear view

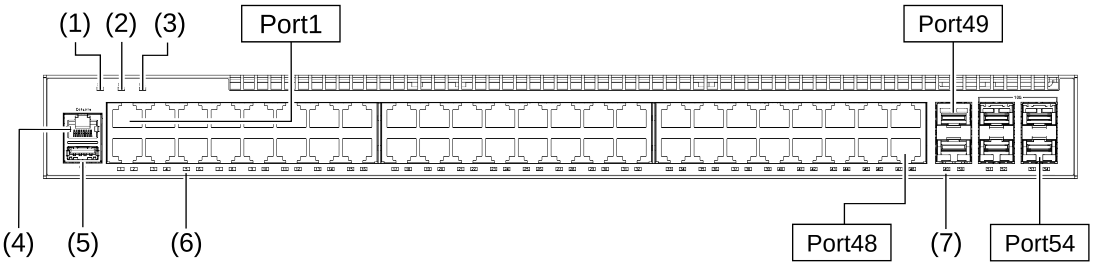


(1) Power supply unit slot 1
(2) AC connector
(3) Cable clamp
(4) Ground terminals

### (2) Front panel

The layout of the front panel is shown below. The numbers in the figure correspond to those in "Table 1-3 LED indications and connectors".

Figure 1-7 Front panel layout



**NOTE**

Direct attach cables can be used only for Port 53 and Port 54. These ports can also be used as stack ports.

Table 1-3 LED indications and connectors

| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (1) | ST1 | LED: Green or orange | Indicates the status of the Switch. | Green | Available for operation |
| | | | | Blinking green | Preparatory state (switch is starting up) |
| | | | | Blinking orange | Partial fault in the device |
| | | | | Orange | Fatal fault in the device (operation cannot continue or login fails) |
| | | | | Off | Power is off or the power supply failed. |
| (2) | ST2 | LED: Green or orange | Indicates the status of the Switch in MC operation mode or in a stack configuration. [*1] | Green | <In MC operation mode><br>Software and device information are being saved. (Do not remove the memory card.)<br><In a stack configuration><br>Running as the master switch |
| | | | | Orange | <In MC operation mode><br>While software and device information were being saved, a failure was detected, and the saving operation has stopped.<br><In a stack configuration><br>Running as a backup switch |
| | | | | Off | <In MC operation mode><br>The memory card can be inserted or removed.<br><In a stack configuration><br>Initial state |
| (3) | PWR | LED: Green | Indicates the power supply status. | Green | Power is on. |
| | | | | Off | Power is off or the power supply failed. |
| (4) | Console | Connector | Console port | — | RS-232C port to connect a console terminal |
| (5) | USB | Connector | Memory card slot | — | USB memory card slot |

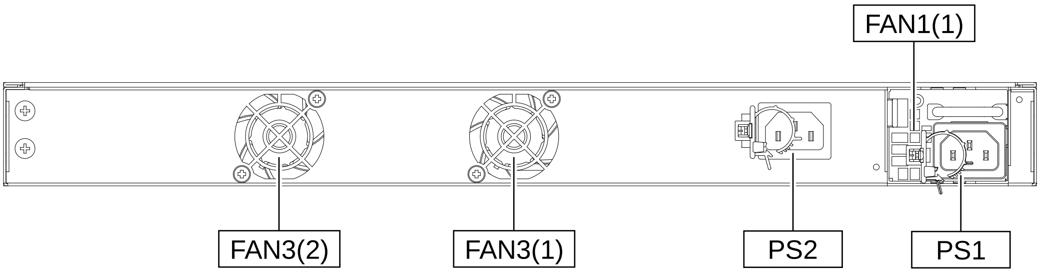
| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (6) | 1-48<br>(UTP) | LED: Green or orange | Indicates the operating status of 10BASE-T/100BASE-TX/1000BASE-T ports. | Green | A link has been established. |
| | | | | Blinking green | A link is established and frames are being sent or received. |
| | | | | Orange | Line failure detection |
| | | | | Off | Link failure or block when the ST1 LED lights green |
| (7) | 49-50<br>(SFP)<br>51-54<br>(SFP+) | LED: Green or orange | Indicates the operating status of SFP and SFP+ slots. | Green | A link has been established. |
| | | | | Blinking green | A link is established and frames are being sent or received. |
| | | | | Orange | Line failure detection |
| | | | | Off | Link failure or block when the ST1 LED lights green |

*1 If a memory card is inserted, the LED will prioritize displaying the status of the memory card.

### (3) Rear panel

The rear panel layout is shown below.

Figure 1-8 Rear panel layout



## 1.1.3 AX2630S-24P4XW

AX2630S-24P4XW has the following hardware specifications.

- Ethernet 10BASE-T/100BASE-TX/1000BASE-T port (PoE support): 24 ports
- SFP slot (1000BASE-X): 2 slots
- SFP+ slot (10GBASE-R or 1000BASE-X): 4 slots
- Console port (RJ-45): 1 port
- Memory card slot: 1 slot
- Power supply unit slot: 2 slots

NOTE

The uplink 10G optional license is required to use 10GBASE-R (SFP+) and direct attach cables for SFP+ slots. Only 1000BASE-X (SFP) is available if the uplink 10G optional license is not applied.

NOTE

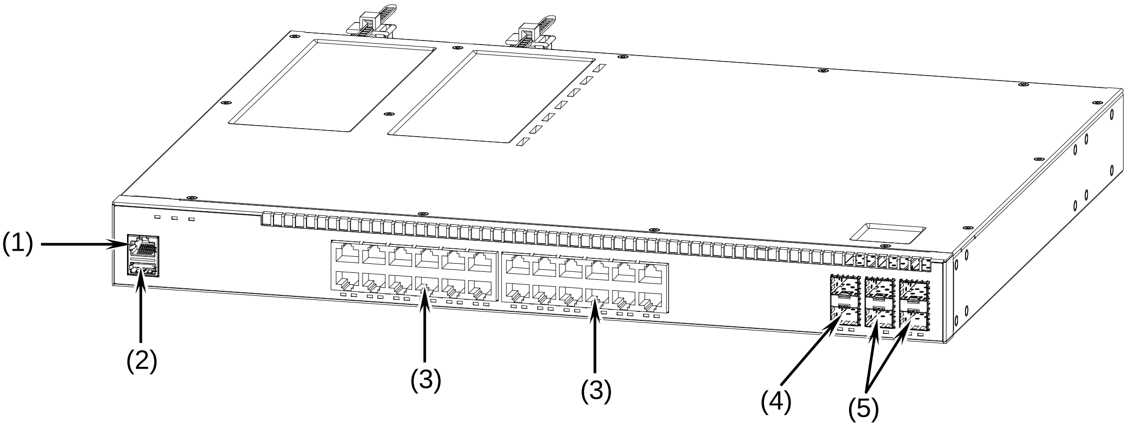
The stack function optional license is required to use the SFP+ slots as stack ports.

**NOTE**

For transceivers supported by the Switch, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

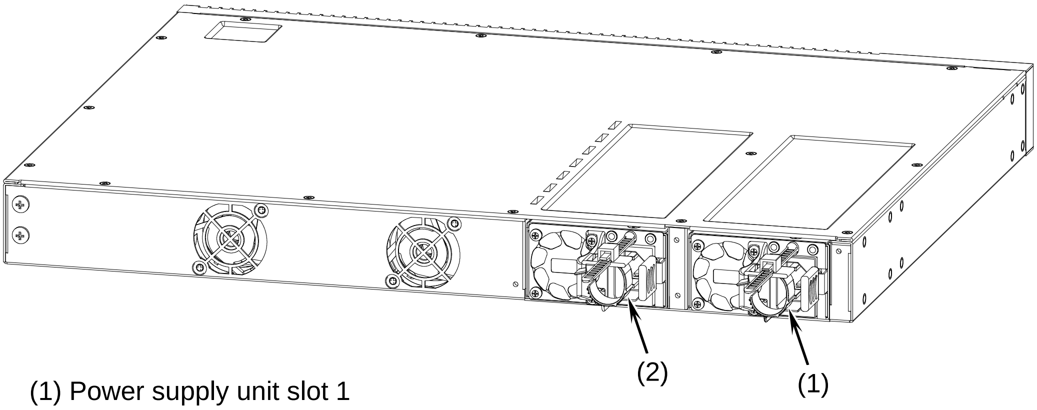
### (1) External view

Figure 1-9 Front view



(1) Console port: 1 port (RJ-45)
(2) Memory card slot: 1 slot
(3) Ethernet 10BASE-T/100BASE-TX/1000BASE-T port (PoE): 24 ports
(4) SFP slot: 2 slots
(5) SFP+ slot (10GBASE-R or 1000BASE-X): 4 slots

Figure 1-10 Rear view

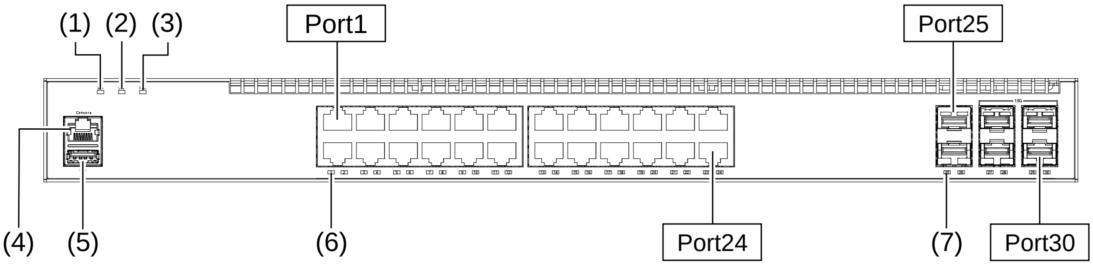


(1) Power supply unit slot 1
(2) Power supply unit slot 2

### (2) Front panel

The layout of the front panel is shown below. The numbers in the figure correspond to those in "Table 1-4 LED indications and connectors".

Figure 1-11 Front panel layout



**NOTE**

Direct attach cables can be used only for Port 29 and Port 30. These ports can also be used as stack ports.

Table 1-4 LED indications and connectors

| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (1) | ST1 | LED: Green or orange | Indicates the status of the Switch. | Green | Available for operation |
| | | | | Blinking green | Preparatory state (switch is starting up) |
| | | | | Blinking orange | Partial fault in the device |
| | | | | Orange | Fatal fault in the device (operation cannot continue or login fails) |
| | | | | Off | Power is off or the power supply failed. |
| (2) | ST2 | LED: Green or orange | Indicates the status of the Switch in MC operation mode or in a stack configuration. [*1] | Green | <In MC operation mode><br>Software and device information are being saved. (Do not remove the memory card.)<br><In a stack configuration><br>Running as the master switch |
| | | | | Orange | <In MC operation mode><br>While software and device information were being saved, a failure was detected, and the saving operation has stopped.<br><In a stack configuration><br>Running as a backup switch |
| | | | | Off | <In MC operation mode><br>The memory card can be inserted or removed.<br><In a stack configuration><br>Initial state |
| (3) | PWR | LED: Green | Indicates the power supply status. | Green | Power is on. |
| | | | | Off | Power is off or the power supply failed. |
| (4) | Console | Connector | Console port | — | RS-232C port to connect a console terminal |
| (5) | USB | Connector | Memory card slot | — | USB memory card slot |
| (6) | 1-24 (UTP) | LED: Green or orange | Indicates the operating status of 10BASE-T/100BASE-TX/1000BASE-T ports. | Green | A link has been established. |
| | | | | Blinking green | A link is established and frames are being sent or received. |
| | | | | Orange | Line failure detection |
| | | | | Off | Link failure or block when the ST1 LED lights green |

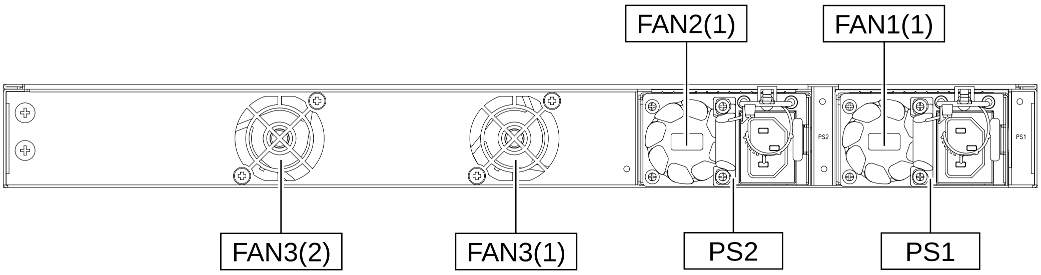
| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (7) | 25-26 (SFP)<br>27-30 (SFP+) | LED: Green or orange | Indicates the operating status of SFP and SFP+ slots. | Green | A link has been established. |
| | | | | Blinking green | A link is established and frames are being sent or received. |
| | | | | Orange | Line failure detection |
| | | | | Off | Link failure or block when the ST1 LED lights green |

*1 If a memory card is inserted, the LED will prioritize displaying the status of the memory card.

### (3) Rear panel

The rear panel layout is shown below.

Figure 1-12 Rear panel layout



## 1.1.4 AX2630S-48P4XW

AX2630S-48P4XW has the following hardware specifications.

- Ethernet 10BASE-T/100BASE-TX/1000BASE-T port (PoE support): 48 ports
- SFP slot (1000BASE-X): 2 slots
- SFP+ slot (10GBASE-R or 1000BASE-X): 4 slots
- Console port (RJ-45): 1 port
- Memory card slot: 1 slot
- Power supply unit slot: 2 slots

**NOTE**

The uplink 10G optional license is required to use 10GBASE-R (SFP+) and direct attach cables for SFP+ slots. Only 1000BASE-X (SFP) is available if the uplink 10G optional license is not applied.

**NOTE**

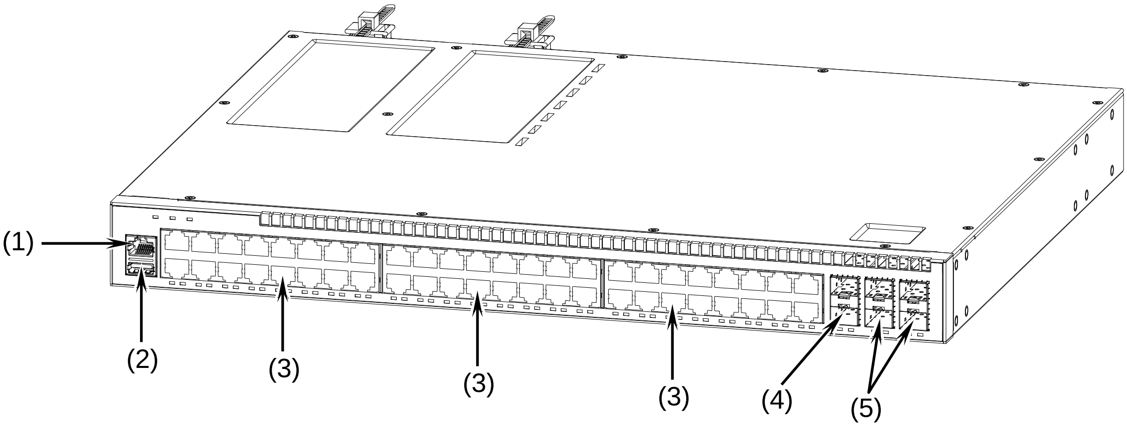
The stack function optional license is required to use the SFP+ slots as stack ports.

**NOTE**

For transceivers supported by the Switch, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

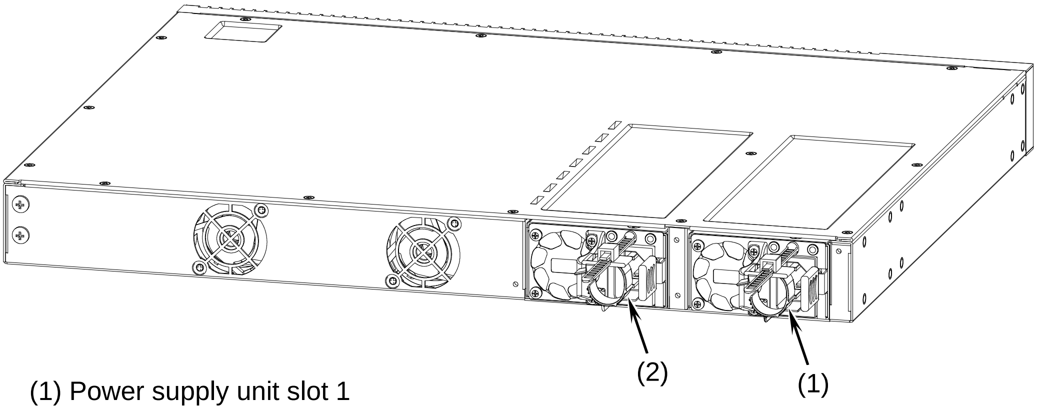
## (1) External view

Figure 1-13 Front view



(1) Console port: 1 port (RJ-45)
(2) Memory card slot: 1 slot
(3) Ethernet 10BASE-T/100BASE-TX/1000BASE-T port (PoE): 48 ports
(4) SFP slot: 2 slots
(5) SFP+ slot (10GBASE-R or 1000BASE-X): 4 slots

Figure 1-14 Rear view

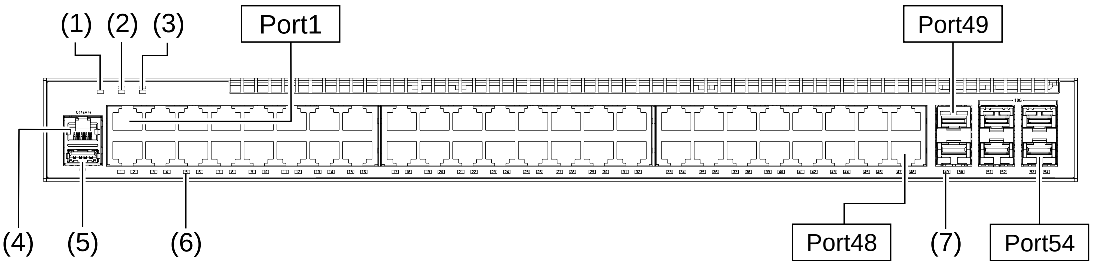


(1) Power supply unit slot 1
(2) Power supply unit slot 2

## (2) Front panel

The layout of the front panel is shown below. The numbers in the figure correspond to those in "Table 1-5 LED indications and connectors".

Figure 1-15 Front panel layout



**NOTE**

Direct attach cables can be used only for Port 53 and Port 54. These ports can also be used as stack ports.

Table 1-5 LED indications and connectors

| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (1) | ST1 | LED: Green or orange | Indicates the status of the Switch. | Green | Available for operation |
| | | | | Blinking green | Preparatory state (switch is starting up) |
| | | | | Blinking orange | Partial fault in the device |
| | | | | Orange | Fatal fault in the device (operation cannot continue or login fails) |
| | | | | Off | Power is off or the power supply failed. |
| (2) | ST2 | LED: Green or orange | Indicates the status of the Switch in MC operation mode or in a stack configuration. *1 | Green | <In MC operation mode><br>Software and device information are being saved. (Do not remove the memory card.)<br><In a stack configuration><br>Running as the master switch |
| | | | | Orange | <In MC operation mode><br>While software and device information were being saved, a failure was detected, and the saving operation has stopped.<br><In a stack configuration><br>Running as a backup switch |
| | | | | Off | <In MC operation mode><br>The memory card can be inserted or removed.<br><In a stack configuration><br>Initial state |
| (3) | PWR | LED: Green | Indicates the power supply status. | Green | Power is on. |
| | | | | Off | Power is off or the power supply failed. |
| (4) | Console | Connector | Console port | — | RS-232C port to connect a console terminal |
| (5) | USB | Connector | Memory card slot | — | USB memory card slot |
| (6) | 1-48 (UTP) | LED: Green or orange | Indicates the operating status of 10BASE-T/100BASE-TX/1000BASE-T ports. | Green | A link has been established. |
| | | | | Blinking green | A link is established and frames are being sent or received. |
| | | | | Orange | Line failure detection |
| | | | | Off | Link failure or block when the ST1 LED lights green |

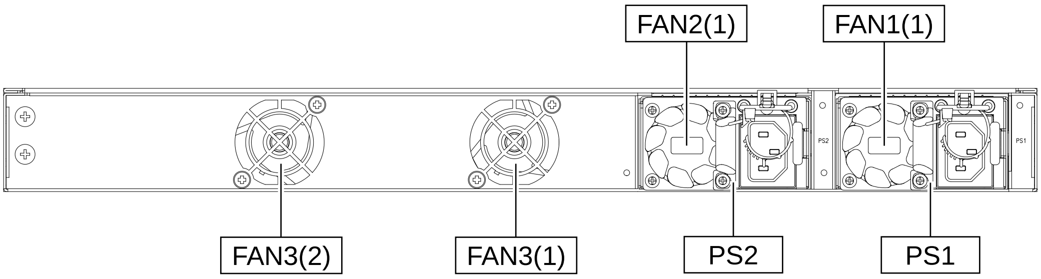
| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (7) | 49-50 (SFP)<br>51-54 (SFP+) | LED: Green or orange | Indicates the operating status of SFP and SFP+ slots. | Green | A link has been established. |
| | | | | Blinking green | A link is established and frames are being sent or received. |
| | | | | Orange | Line failure detection |
| | | | | Off | Link failure or block when the ST1 LED lights green |

*1 If a memory card is inserted, the LED will prioritize displaying the status of the memory card.

### (3) Rear panel

The rear panel layout is shown below.

Figure 1-16 Rear panel layout



## 1.1.5 Accessories

The following items are included as accessories with the Switch shipped from the factory.

Table 1-6 Switch accessories

| No. | Item name | Quantity | Remarks |
|---|---|---|---|
| 1 | Before using the "device" | 1 | A series name is replaced with the "device". |
| 2 | Safety Information | 1 | |
| 3 | Software license agreement | 1 | |
| 4 | Rack mounting bracket | 2 | |
| 5 | Screw | 8 | M4x6 countersunk screw |
| 6 | Rubber feet | 4 | |
| 7 | Power cable | 1 | 2.5 m |

### (1) Before using the "device"

Items that are included with the Switch when shipped from the factory are listed.

### (2) Safety Information

This guide provides important information for ensuring safe use of the Switch.
Please read this guide completely before using the Switch.

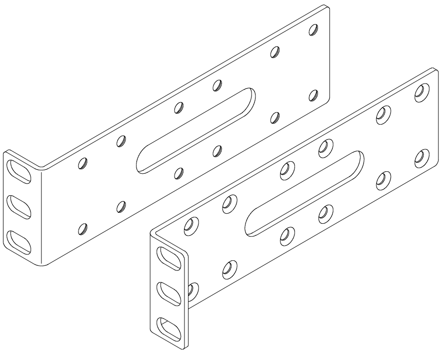
### (3) Software license agreement

This agreement specifies the terms and conditions regarding the use of the software installed in the Switch.
Please read this agreement carefully and completely before using the Switch.

### (4) Rack mounting brackets

The brackets are used when mounting the Switch in a 19-inch cabinet rack.

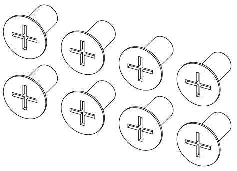
Figure 1-17 Rack mounting brackets



### (5) Screws

The screws are used to attach rack mounting brackets to the Switch.

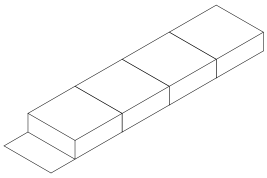
Figure 1-18 Screws



### (6) Rubber feet

The rubber feet are used when installing the Switch on a table.

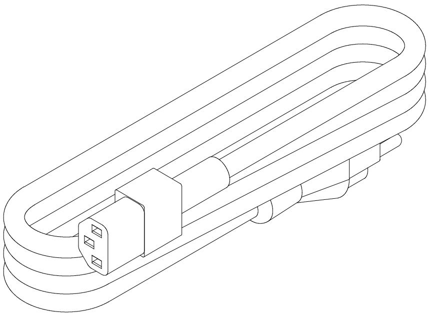
Figure 1-19 Rubber feet



### (7) Power cable

100-V AC power cable (2.5 m in length).

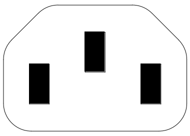
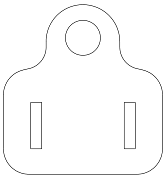
Figure 1-20 Power cable



**Warning**

When using the Switch at 100 V AC, use the power cable that comes with the Switch or the one that we sell separately. Using another cable could result in a fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock.

Table 1-7 Power cable (100 V AC) specifications

| Item | Connector (on the Switch) | Cable | Plug (on an outlet) |
|---|---|---|---|
| Shape |  | 3-core twisted | <br>Shape: JIS C 8303 and NEMA 5-15P |

**Warning**

When using the Switch at 200 V AC, use the power cable that we sell separately or the one with specifications defined by ALAXALA. Using another cable could result in a fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock.

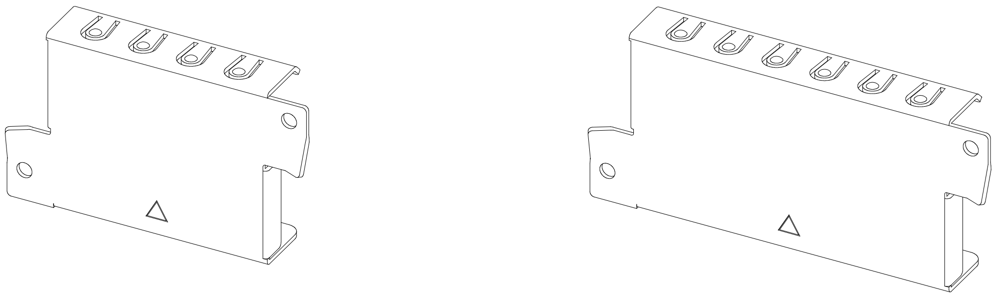
NOTE

For the power cable with specifications defined by ALAXALA, see "2.3.2 200 V AC power facility".

### (8) Blank panel

The blank panel is attached to the power supply unit slot 1 (PS1) instead of a power supply unit when no power supply unit is installed in the slot 1 of AX2630S-24T4XW and AX2630S-48T4XW or when only one power supply unit is installed in AX2630S-24P4XW and AX2630S-48P4XW.

Figure 1-21 Blank panel



- For AX2630S-24T4XW and AX2630S-48T4XW
- For AX2630S-24P4XW and AX2630S-48PT4XW

NOTE

The blank panel is installed in the Switch when shipped. However, it is not provided with the Switch when power supply duplex is set.

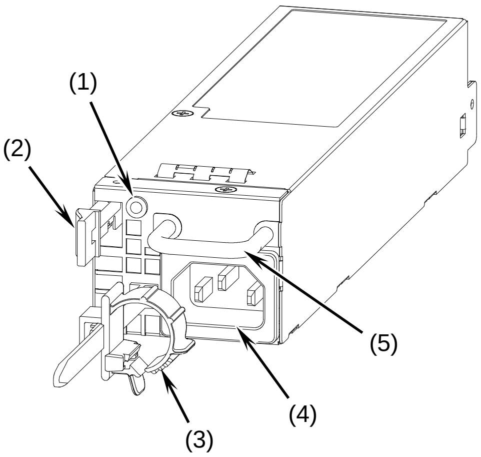
## 1.2 Power supply unit (PS)

The power supply unit has a mechanism that supplies power to the Switch, and is installed in the power supply unit slot of the Switch.

### 1.2.1 PS-26AF15

This AC power supply unit is used for AX2630S-24T4XW and AX2630S-48T4XW, and supports 100 V AC and 200 V AC power supplies.

Figure 1-22 External view



(1) LED
(2) Lever
(3) Cable clamp
(4) AC connector
(5) Handle

Table 1-8 LED indications

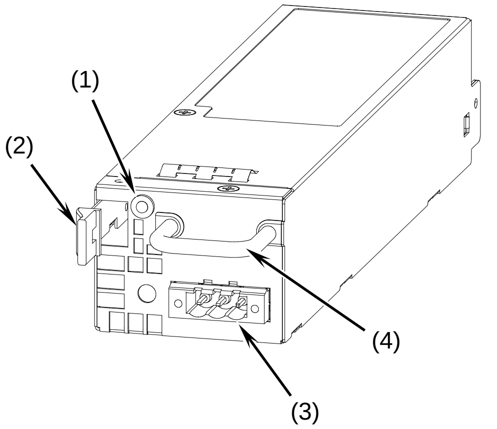
| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (1) | DC OK | LED: Green or red | Indicates the power-on status of the power supply unit and any failure inside the power supply (including the built-in fans). *1 | Green | Normal operating state |
| | | | | Blinking green/red (0.5 second cycle) | Warning detection |
| | | | | Blinking red (0.5 second cycle) | No AC power input to this power supply unit alone |
| | | | | Red | Failure detection |
| | | | | Off | No AC power input or abnormal input |

*1 The LED may not light up depending on the type of a power failure.

## 1.2.2 PS-26DF15

It is an DC power supply unit used for AX2630S-24T4XW and AX2630S-48T4XW, and supports -48 V DC power supply.

Figure 1-23 External view



(1) LED
(2) Lever
(3) DC connector
(4) Handle

Table 1-9 LED indications

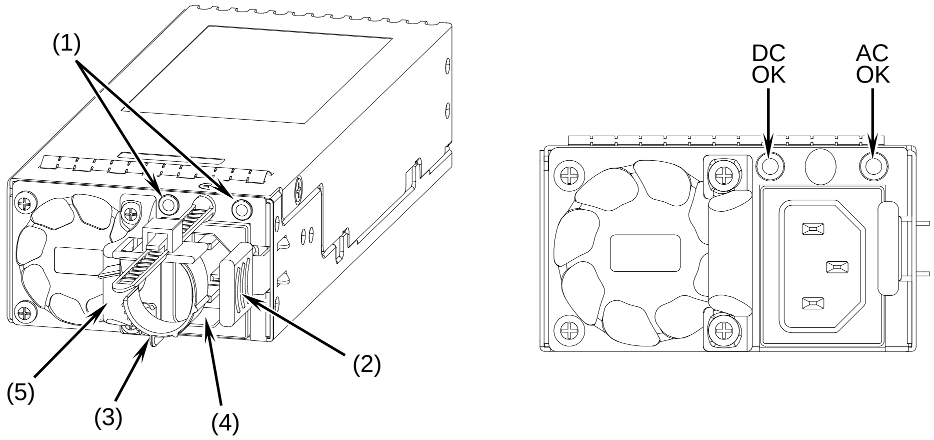
| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (1) | DC OK | LED: Green or red | Indicates the power-on status of the power supply unit and any failure inside the power supply (including the built-in fans). [*1] | Green | Normal operating state |
| | | | | Blinking green/red (0.5 second cycle) | Warning detection |
| | | | | Blinking red (0.5 second cycle) | No DC power input to this power supply unit alone |
| | | | | Red | Failure detection |
| | | | | Off | No DC power input or abnormal input |

*1 The LED may not light up depending on the type of a power failure.

### 1.2.3 PS-26AF60

It is an AC power supply unit used for AX2630S-24P4XW, and supports 100 V AC and 200 V AC power supplies.

Figure 1-24 External view



(1) LED
(2) Lever
(3) Cable clamp
(4) AC connector
(5) Handle

Table 1-10 LED indications

| Name | Type | Status | | Description |
|---|---|---|---|---|
| AC OK | LED: Green or red | Indicates the status of AC power input. *1 | Green | Normal operating state |
| | | | Blinking red (0.5 second cycle) | No AC power input to this power supply unit alone |
| | | | Red | Failure detection |
| | | | Off | All AC power sources have no input or abnormal input |
| DC OK | LED: Green or red | Indicates the power-on status of the power supply unit and any failure inside the power supply (including the built-in fans). *1 | Green | Normal operating state |
| | | | Blinking red (0.5 second cycle) | No AC power input to this power supply unit alone |
| | | | Red | Failure detection |
| | | | Off | All AC power sources have no input or abnormal input |

*1 The LED may not light up depending on the type of a power failure.

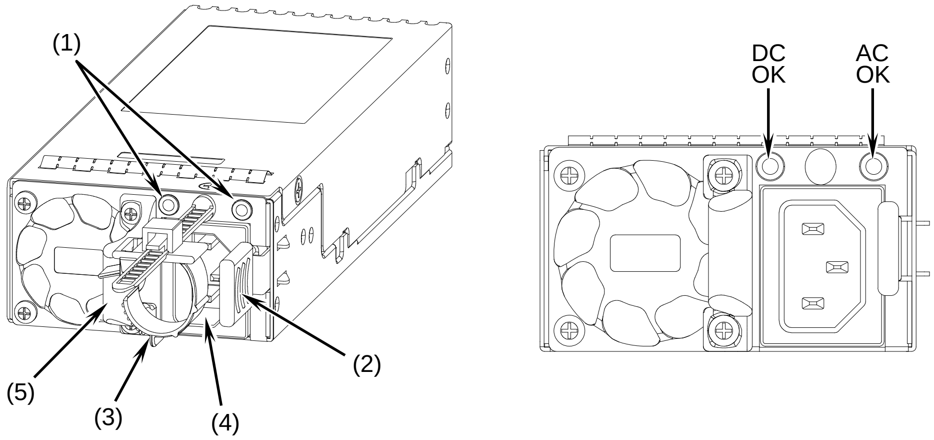
NOTE

DC OK and AC OK LEDs blink red after the Switch is powered off. This blinking does not indicate a failure.

### 1.2.4 PS-26AF92

It is an AC power supply unit used for AX2630S-48P4XW, and supports 100 V AC and 200 V AC power supplies.

Figure 1-25 External view



(1) LED
(2) Lever
(3) Cable clamp
(4) AC connector
(5) Handle

Table 1-11 LED indications

| Name | Type | Status | | Description |
|---|---|---|---|---|
| AC OK | LED: Green or red | Indicates the status of AC power input. *1 | Green | Normal operating state |
| | | | Blinking red (0.5 second cycle) | No AC power input to this power supply unit alone |
| | | | Red | Failure detection |
| | | | Off | All AC power sources have no input or abnormal input |
| DC OK | LED: Green or red | Indicates the power-on status of the power supply unit and any failure inside the power supply (including the built-in fans). *1 | Green | Normal operating state |
| | | | Blinking red (0.5 second cycle) | No AC power input to this power supply unit alone |
| | | | Red | Failure detection |
| | | | Off | All AC power sources have no input or abnormal input |

*1 The LED may not light up depending on the type of a power failure.

**NOTE**

DC OK and AC OK LEDs blink red after the Switch is powered off. This blinking does not indicate a failure.

## 1.2.5 Power supply unit accessories

The following items are included as accessories with the Switch shipped from the factory.

Table 1-12 Power supply unit accessories

| No. | Item name | Quantity | Remarks |
|---|---|---|---|
| 1 | Packing list | 1 | |
| 2 | Safety Information | 1 | |
| 3 | AC power cable | 1 | 3.0 m |
| 4 | Grounding cable | 1 | 3 m |
| 5 | DC connector | 1 | |

### (1) Packing list

Items that are included with the power supply unit when shipped from the factory are listed.

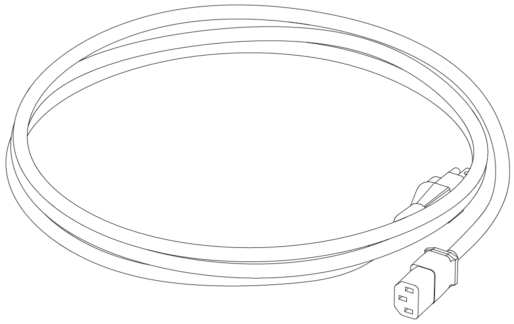
### (2) Safety Information

This guide provides important information for ensuring safe use of the Switch.
Please read this guide completely before using the Switch.

### (3) AC power cable

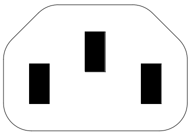
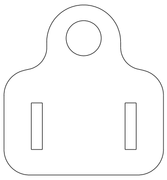
100 V AC power cable (3.0 m in length).
It is used to connect PS-26AF15, PS-26AF60, or PS-26AF92 to a power facility.
This power cable is included with PS-26AF15, PS-26AF60 and PS-26AF92.

Figure 1-26 External view



| **⚠Warning** | When using the Switch at 100 V AC, use the power cable that comes with the Switch or the one that we sell separately. Using another cable could result in a fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock. |
|---|---|

Table 1-13 AC power cable (100 V AC) specifications

| Item | Connector<br>(on the Switch) | Cable | Plug<br>(on an outlet) |
|---|---|---|---|
| Shape |  | 3-core twisted | <br>Shape: JIS C 8303 and NEMA 5-15P |

**⚠Warning**

When using the Switch at 200 V AC, use the power cable that we sell separately or the one with specifications defined by ALAXALA. Using another cable could result in a fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock.

NOTE

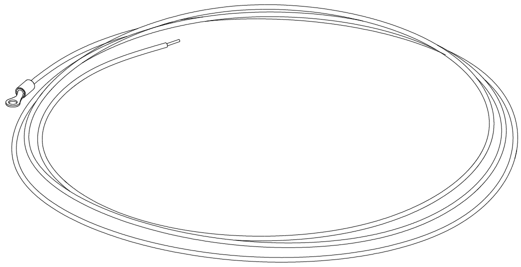
For the power cable with specifications defined by ALAXALA, see "2.3.2 200 V AC power facility".

### (4) Grounding cable

Grounding cable (3 m in length). It is used for PS-26DF15.

This grounding cable is included with PS-26DF15.

Figure 1-27 Grounding cable



**⚠Warning**

No power cable is included with PS-26DF15. When using PS-26DF15, use the power cable with specifications defined by ALAXALA. Using another cable could result in a fire or electric shock.

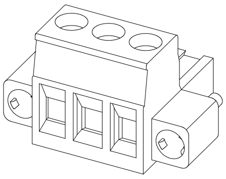
NOTE

For the power cable with specifications defined by ALAXALA, see "2.3.3 -48 V DC power facility".

### (5) DC connector

This is a dedicated power connector for PS-26DF15.
This connector is included with PS-26DF15.

Figure 1-28 DC connector



## 1.3 Memory card (MC)

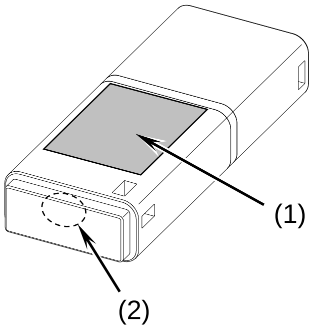
The memory card is used by inserting it into the memory card slot of the Switch.
Use the memory card to:

- Use the Switch in MC operation mode.
- Save failure information when a failure occurs.
- Update the software of the Switch.

### (1) UM04G

It is a 4-GB USB memory.

Figure 1-29 External view



(1) Label indication: AlaxalA UM04G
(2) LED

Table 1-14 LED indications

| No. | Name | Type | Status | | Description |
|---|---|---|---|---|---|
| (2) | － | LED: Blue | Indicates the operating status of the memory card. | Blinking blue | The memory card is being accessed. (Do not remove the memory card.) |
| | | | | Off | The memory card is idle. (The memory card can be inserted or removed.) |

NOTE

We recommend using our standard product (with the label shown in the figure). Operation is not guaranteed if non-standard products are used.

NOTE

The upper limit of the number of writings of UM04G is about 50,000 times.

## 1.4 Transceiver

For transceivers supported by the Switch, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

## 1.5 Direct attach cable

The direct attach cable is an interface cable with transceiver-shaped ends.
Different types of direct attach cables can be distinguished by their label indications. If a direct attach cable is attached to the Switch, you can also use the show port command to identify it.

The direct attach cables supported for the Switch are as follows.

Table 1-15 Direct attach cable list for SFP+ slots

| No. | Name | Length *1 | AWG No | Minimum bending radius single bend *2 | LED indication | Supported models *3 |
|---|---|---|---|---|---|---|
| 1 | SFPP-CU30C | 30 cm | 30 | 20.5 mm | AlaxalA SFPP-CU30C | AX2340S<br>AX2630S |
| 2 | SFPP-CU1M | 1 m | 30 | 20.5 mm | AlaxalA SFPP-CU1M | AX2340S<br>AX2630S |
| 3 | SFPP-CU3M | 3 m | 30 | 20.5 mm | AlaxalA SFPP-CU3M | AX2340S<br>AX2630S |
| 4 | SFPP-CU5M | 5 m | 24 | 30.0 mm | AlaxalA SFPP-CU5M | AX2340S<br>AX2630S |

*1 Includes connector dimensions (approximately 60 mm on one side and approximately 120 mm on both sides). The length of the cable is the one minus the connector dimension.
Example) SFPP-CU30C cable length = 300 mm - (approximately 60 mm x 2) = approximately 180 mm

*2 The single bend indicates the bending radius when the cable is bent at one point.

*3 The direct attach cable is used to connect a Switch shown in "Supported models". Operation is not guaranteed when the cable is connected to a Switch that is not a supported model.

**Notification**

Do not attach any labels to connectors.
Attaching a label to a location that interferes with heat dissipation or cable latch mechanism could cause a malfunction of the direct attach cable or cause damage to the Switch.

NOTE

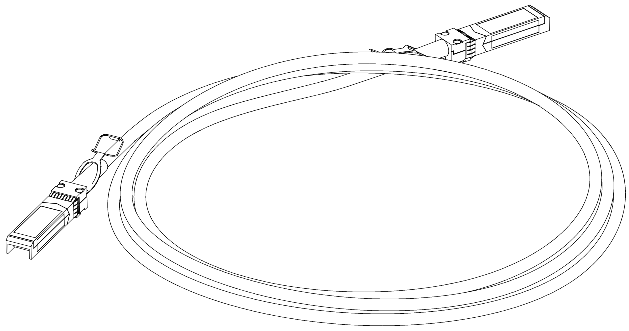
Use our standard product (those labeled as shown in the figure). Operation is not guaranteed if non-standard products are used.

NOTE

To prevent the cable from bending over time, fix a direct attach cable with a cable holder provided with a rack so that no load is applied to the root of the cable.

### (1) SFPP-CU30C, SFPP-CU1M, SFPP-CU3M, SFPP-CU5M

Figure 1-30 External view



NOTE

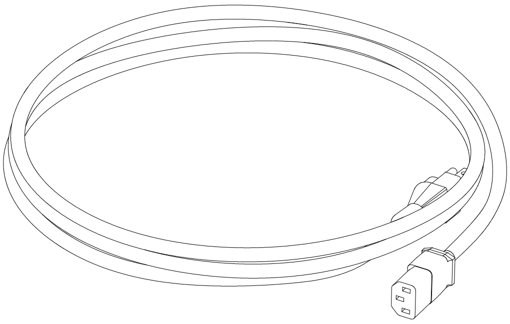
The direct attach cable is used to connect switches of the AX2340S series and AX2630S series. Operation is not guaranteed if the cable is connected to other devices.

## 1.6 Power cable

### (1) CBLACA

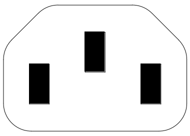
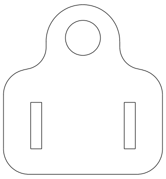
100 V AC power cable (sold separately, 3.0 m in length).
It can be used when the Switch is used at 100 V AC.

Figure 1-31 External view



| | |
|---|---|
| ⚠ **Warning** | When using the Switch at 100 V AC, use the power cable that comes with the Switch or the one that we sell separately. Using another cable could result in a fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock. |

Table 1-16 Specifications of the separately sold power cable (100 V AC)

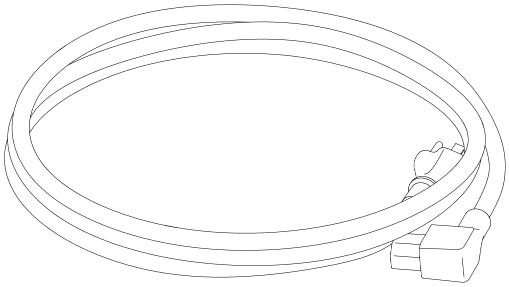
| Item | Connector (on the Switch) | Cable | Plug (on an outlet) |
|---|---|---|---|
| Shape |  | 3-core twisted | <br>Shape: JIS C 8303 and NEMA 5-15P |

### (2) CBL-A05

100 V AC power cable, right angle standard type for AX2630S-24T4XW and AX2630S-48T4XW (sold separately, 2.5 m in length).

You can use AX2630S-24T4XW and AX2630S-48T4XW at 100 V AC to reduce the installation space behind the Switch.

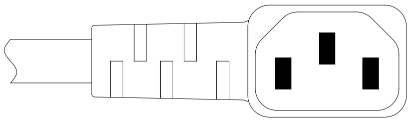
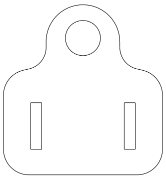
Figure 1-32 External view



⚠ **Warning**

When using the Switch at 100 V AC, use the power cable that comes with the Switch or the one that we sell separately. Using another cable could result in a fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock.

Table 1-17 Specifications of the separately sold power cable (100 V AC, right angle standard type)

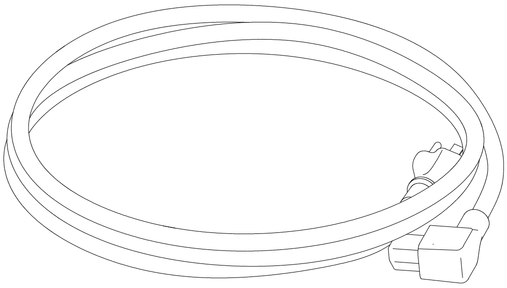
| Item | Connector (on the Switch) | Cable | Plug (on an outlet) |
|---|---|---|---|
| Shape |  | 3-core twisted | <br>Shape: JIS C 8303 and NEMA 5-15P |

### (3) CBL-A05R

100 V AC power cable, right angle reverse type for AX2630S-24T4XW and AX2630S-48T4XW (sold separately, 2.5 m in length).

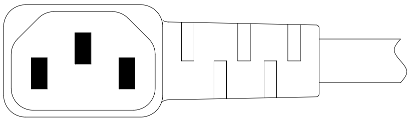
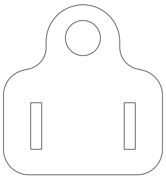
You can use AX2630S-24T4XW and AX2630S-48T4XW at 100 V AC to reduce the installation space behind the Switch.

Figure 1-33 External view



| ⚠ **Warning** | When using the Switch at 100 V AC, use the power cable that comes with the Switch or the one that we sell separately. Using another cable could result in a fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock. |
|---|---|

Table 1-18 Specifications of a separately sold power cable (100 V AC, right angle reverse type)

| Item | Connector<br>(on the Switch) | Cable | Plug<br>(on an outlet) |
|---|---|---|---|
| Shape |  | 3-core twisted | <br>Shape: JIS C 8303 and NEMA 5-15P |

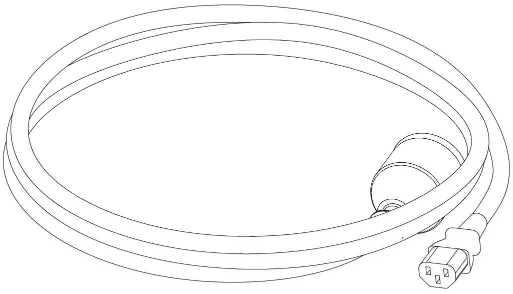
### (4) CBL-A12

200 V AC power cable (sold separately, 2.5 m in length).

It can be used when the Switch is used at 200 V AC.

Note that the cable latch that comes with CBL-A12 is for AX6300S/AX6600S/AX6700S only. The Switch has a cable clamp on it to fix the cable, so that it is not necessary to use a cable latch.

Figure 1-34 External view



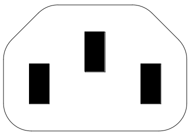
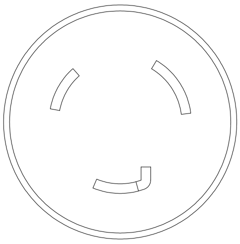
⚠ **Warning**

When using the Switch at 200 V AC, use the power cable that we sell separately. Using another cable could result in a fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock.

NOTE

If our separately sold product does not match your power facility, please prepare a power cable with specifications defined by ALAXALA. For the power cable specified by ALAXALA, see "2.3.2 200 V AC power facility".

Table 1-19 Specifications of a separately sold power cable (200 V AC)

| Item | Connector (on the Switch) | Cable | Plug (on an outlet) |
|---|---|---|---|
| Shape |  | 3-core twisted | <br>Shape: JIS C 8303 and NEMA L6-20P |

# 2

# Preparation for Installation

This chapter describes the environmental conditions and preparation required to install the Switch. Before you begin preparation for Switch installation, carefully read this chapter and make sure that you understand all instructions and cautionary notes.

2.1 Flow of preparation

2.2 Installation conditions

2.3 Power facility

2.4 Consideration for electrical noise

2.5 Leakage current

2.6 Environmental requirements

2.7 Installation location

2.8 Maintenance area

2.9 Cooling conditions

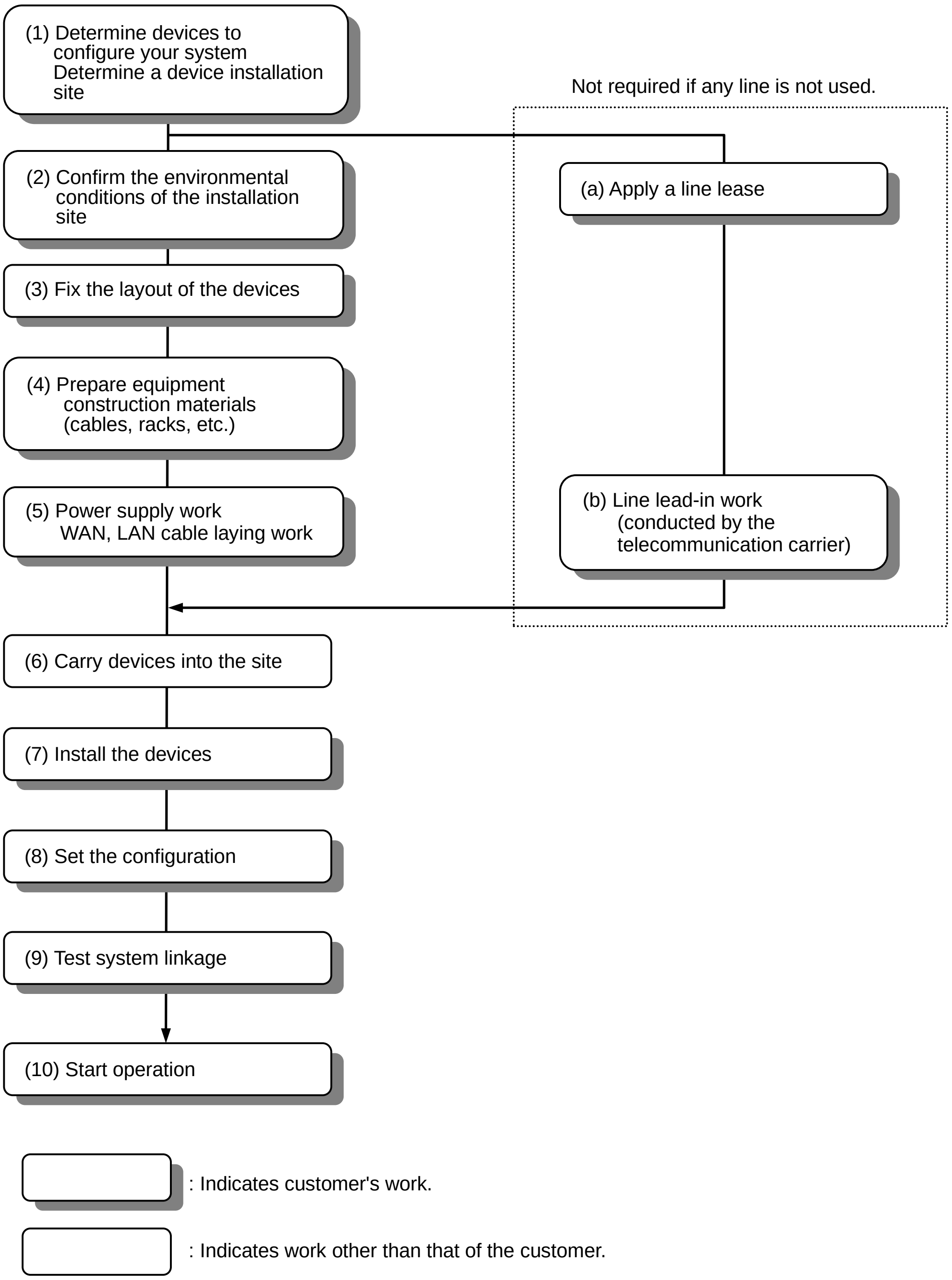
2.10 Device noise

## 2.1 Flow of preparation

The flow of preparation for installation is shown in "Figure 2-1 Flow of preparation for installation".

Please take enough time to allow planning to complete the power supply and communication equipment work and the LAN cable laying work before device carry-in.

Figure 2-1 Flow of preparation for installation


(1) Determine devices to configure your system Determine a device installation site
Not required if any line is not used.
(2) Confirm the environmental conditions of the installation site
(a) Apply a line lease
(3) Fix the layout of the devices
(4) Prepare equipment construction materials (cables, racks, etc.)
(5) Power supply work WAN, LAN cable laying work
(b) Line lead-in work (conducted by the telecommunication carrier)
(6) Carry devices into the site
(7) Install the devices
(8) Set the configuration
(9) Test system linkage
(10) Start operation
: Indicates customer's work.
: Indicates work other than that of the customer.

## 2.2 Installation conditions

Installation conditions for the Switch are as follows: An installation environment must satisfy these conditions.

Table 2-1 General installation conditions for the Switch (1/2)

| Item | | | Model name | | | |
|---|---|---|---|---|---|---|
| | | | AX2630S-24T4XW | | AX2630S-48T4XW | |
| Dimensions (W x D x H) *1 | | | 440 x 350 x 44 mm | | | |
| Weight *2 | | | 4.4 kg | | 4.9 kg | |
| Input voltage | Rated | | Single-phase<br>100 to 120 V AC,<br>200 to 240 V AC *3 | DC-48 | Single-phase<br>100 to 120 V AC,<br>200 to 240 V AC *3 | DC-48 |
| | Fluctuation range | | 90 to 132 V AC,<br>180 to 264 V AC | DC-40 to -57 | 90 to 132 V AC,<br>180 to 264 V AC | DC-40 to -57 |
| Frequency | | | 50/60±3 Hz | — | 50/60±3 Hz | |
| Maximum input current (per power supply unit) | | | 0.8 A@100 V AC<br>0.4 A@200 V AC | 1.0@-48 V DC | 0.9 A@100 V AC<br>0.5 A@200 V AC | 1.7@-48 V DC |
| Maximum apparent power (per switch) | | | 80 VA | — | 90 VA | — |
| Maximum power consumption (per switch) | | | 45 W | | 80 W | |
| Maximum PoE power supply capacity | | | — | | — | |
| Maximum calorific power | | | 162 kJ/h | | 288 kJ/h | |
| Noise *4 | | | No more than 46 to 63 dB *5 | | No more than 53 dB | |
| Vibration | | | No more than 2.45 $m/s^2$ | | | |
| Dust *6 | | | No more than 0.15 $mg/m^3$ | | | |
| Temperature | Operating | Ambient | 0 to 45°C *7<br>(recommended value 23 to 28°C) | | 0 to 50°C<br>(recommended value 23 to 28°C) | |
| | | Inside the Switch*8 | 5 to 75°C | | | |
| | Non-operating | | -10 to 50°C | | | |
| | During storage and transportation | | -25 to 65°C | | | |
| Humidity *9 | Operating | | 10 to 90% (recommended value 45 to 55%) | | | |
| | Non-operating | | 8 to 90% | | | |
| | During storage and transportation | | 5 to 90% | | | |

*1 Dimensions of connectors, handles, etc. are not included.

*2 The weight is when AC power supply duplex is set and when AC/DC power supplies are set mixed. However, the weights of cables, rack mounting brackets, the memory card, and transceivers are not included.

*3 The supplied power cable is compatible with 100 V AC only.

*4 The value is measured according to ISO7779.

*5 The value is that of when PS-26AF15 or PS-26DF15 is installed.
The fan rotational speed is controlled by the Switch environment temperature.
Therefore, the noise value changes.
Reference value: No more than 53 dB if the Switch environment temperature is 30 °C.

*6 According to General Requirements for Measuring Methods for Suspended Particulate Matter Concentration in Air (JIS Z 8813)

*7 The upper limit is 40°C when using SFPP-ER.

*8 The internal temperature is the one displayed by the show system and show environment operation commands.

*9 Non-condensing

Table 2-2 General installation conditions for the Switch (2/2)

| Item | | | Model name | |
|---|---|---|---|---|
| | | | AX2630S-24P4XW | AX2630S-48P4XW |
| Dimensions (W x D x H) [*1] | | | 440 x 350 x 44 mm | |
| Weight [*2] | | | 5.8 kg | 6.4 kg |
| Input voltage | Rated | | Single-phase 100 to 120 V AC, 200 to 240 V AC [*3] | |
| | Fluctuation range | | 90 to 132 V AC, 180 to 264 V AC | |
| Frequency | | | 50/60±3 Hz | |
| Maximum input current (per power supply unit) | | | 8.5 A@100 V AC<br>4.3 A@200 V AC | 12 A@100 V AC<br>6.5 A@200 V AC |
| Maximum apparent power (per switch) | | | 910 VA | 1800 VA |
| Maximum power consumption (per switch) | | | 890 W | 1760 W |
| Maximum PoE power supply capacity | | | 535 W [*4]/720 W [*5] | 785 W [*4]/1440 W [*5] |
| Maximum calorific power | | | 612 kJ/h[*6] | 1152 kJ/h[*6] |
| Noise [*7] | | | No more than 38 to 79 dB [*8] | No more than 49 to 75 dB [*8] |
| Vibration | | | No more than 2.45 $m/s^2$ | |
| Dust [*9] | | | No more than 0.15 $mg/m^3$ | |
| Temperature | Operating | Ambient | 0 to 50°C (recommended value 23 to 28°C) | |
| | | Inside the Switch [*10] | 5 to 75°C | |
| | Non-operating | | -10 to 50°C | |
| | During storage and transportation | | -25 to 65°C | |
| Humidity [*11] | Operating | | 10 to 90% (recommended value 45 to 55%) | |
| | Non-operating | | 8 to 90% | |
| | During storage and transportation | | 5 to 90% | |

*1 Dimensions of connectors, handles, etc. are not included.

*2 The weight is that of when AC power duplex is set. However, the weights of cables, rack mounting brackets, the memory card, and transceivers are not included.

*3 The supplied power cable is compatible with 100 V AC only.

*4 The value is that of when there is one power supply unit installed. If the power class of the powered device is Class 4 (30.0 W), the number of ports available for power supply in the entire Switch is as follows. Class 5 (45.0 W) and above is not supported.
AX2630S-24P4XW: Up to 17 ports
AX2630S-48P4XW: Up to 26 ports

*5 The value is that of when two power supply units are installed. When the PoE power supply expansion mode is set, power can be supplied from all ports even if the power class of the powered device is Class 4 (30.0 W).

*6 The value is the amount of heat generated by Switch only. The amount of heat generated by PDs (powered devices) is not included.

*7 The value is measured according to ISO7779.

*8 The fan rotational speed is controlled by the PoE power supply value and the Switch environment temperature.

Therefore, the noise value changes.

Reference value: If PoE power supply is not used and the Switch environment temperature is 30°C

- AX2630S-24P4XW: 40 dB or less
- AX2630S-48P4XW: 53 dB or less

*9 According to General Requirements for Measuring Methods for Suspended Particulate Matter Concentration in Air (JIS Z 8813)

*10 The internal temperature is the one displayed by the show system and show environment operation commands.

*11 Non-condensing

# 2.3 Power facility

## 2.3.1 100 V AC power facility

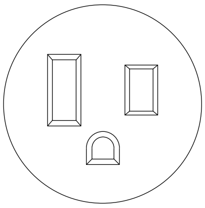
### (1) Outlet

Use the following outlet that complies with JIS standard or NEMA standard. This outlet is available at most electrical installation stores.

Table 2-3 Outlet standard

| Standards | | Specifications |
|---|---|---|
| JIS | C-8303 | 15 A 125 V, grounded two-prong outlet |
| NEMA | 5-15R | |

Figure 2-2 Grounded two-prong outlet (15 A 125 V)



⚠ **Warning** Install an outlet near the Switch so that the power plug can be easily unplugged. Do not place any objects around the outlet.

⚠ **Warning** When the Switch is used at 100 V AC, always use a grounded outlet. Using the Switch without grounding could result in an electric shock as well as failures due to electrical noise.

### (2) Distribution board

Install a breaker on the branch circuit of the distribution board that supplies power to the Switch.

One breaker is required for each power supply unit.

- Breaker rated capacity: 15AT (for single-phase 100 V AC 15 A circuit) or less

⚠ **Warning** Install the distribution board in the same room as the Switch or in a neighboring room to ensure easy access and operation.

### (3) Conditions for supplying power to the distribution board

Ensure that the capacity for incoming current to the distribution board is greater than the operating current of the circuit breaker shown in "(2) Distribution board".

⚠ **Warning**

Ensure that the capacity of incoming current to the distribution board is greater than the operating current of the circuit breaker on the distribution board. If it is not, the circuit breaker might not operate properly in the event of a failure, which could result in a fire.

NOTE

In general, the operating current of breakers is greater than the rated current. Check the specifications of a breaker to be used.

Turning on the Switch causes inrush current shown below. Ensure that voltage drop does not occur in the power facility due to the inrush current. When using a UPS or CVCF, please take the above into consideration.

Table 2-4 Inrush current

| Model | | Current (peak value) | Time |
|---|---|---|---|
| AX2630S-24T4XW | PS1 | 50 A | No more than 10 ms |
| | PS2 | 100 A | |
| AX2630S-48T4XW | PS1 | 50 A | |
| | PS2 | 75 A | |
| AX2630S-24P4XW | | 30 A | |
| AX2630S-48P4XW | | 30 A | |

**Notification**

Turning on the Switch causes inrush current. Ensure that voltage drop does not occur in the power facility due to the inrush current. Voltage drops affect not only the Switch, but also the devices connected to the same power facility.

NOTE

The above inrush current is the value per power supply unit.

### (4) Systemization with two power facility systems

To make power supply redundant, two power facility systems can be created by supplying power from two different power facilities.

## 2.3.2 200 V AC power facility

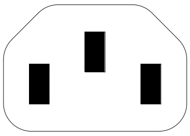
### (1) Power cable

ALAXALA provide the 200 V AC power cable (sold separately) so that you can use the Switch at 200 V AC. For the 200 V AC power cable, see "1.6 Power cable".

**NOTE**

If our separately sold product does not match your power facility, please prepare a power cable with the following specifications specified by ALAXALA.

Table 2-5 Power cable specifications

| Item | Connector (on the Switch) | Cable | Plug (on an outlet) |
|---|---|---|---|
| Rated | 250 V 10 A or more Electrical Appliance and Material Safety Act certified product | 250 V 10 A or more Electrical Appliance and Material Safety Act certified product | 250 V 10 A or more Electrical Appliance and Material Safety Act certified product |
| Shape |  | 3-core twisted | Prepare a plug that matches the shape of the outlet must be available. |

⚠ **Warning**

When using the Switch at 200 V AC, use the power cable that we sell separately or the one with specifications defined by ALAXALA. Using another cable could result in a fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock.

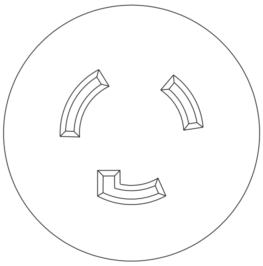
### (2) Outlet

Use the following outlet that complies with JIS standard or NEMA standard. This outlet is available at most electrical installation stores.

Table 2-6 Outlet standard

| Standards | | Specifications |
|---|---|---|
| JIS | C-8303 | 20 A 250 V, grounded two-prong locking outlet |
| NEMA | L6-20R | |

Figure 2-3 Grounded two-prong outlet (20A 250V)



If you do not use the 200 V AC power cable that we sell separately, use the outlet below. The outlet is available at most electrical installation stores.

- Grounded two-prong outlet: 250 V 10 A or more

**⚠Warning** Install an outlet near the Switch so that the power plug can be easily unplugged. Do not place any objects around the outlet.

**⚠Warning** When the Switch is used at 200 V AC, always use a grounded outlet. Using the Switch without grounding could result in an electric shock as well as failures due to electrical noise.

### (3) Distribution board

Install a breaker on the branch circuit of the distribution board that supplies power to the Switch.

One breaker is required for each power supply unit.

- Breaker rated capacity: 10AT (for single-phase 200 V AC 10A circuit) or less

**⚠Warning** Install the distribution board in the same room as the Switch or in a neighboring room to ensure easy access and operation.

### (4) Conditions for supplying power to the distribution board

Ensure that the capacity for incoming current to the distribution board is greater than the operating current of the circuit breaker shown in "(3) Distribution board".

**⚠Warning** Ensure that the capacity of incoming current to the distribution board is greater than the operating current of the circuit breaker on the distribution board. If it is not, the circuit breaker might not operate properly in the event of a failure, which could result in a fire.

NOTE In general, the operating current of breakers is greater than the rated current. Check the specifications of a breaker to be used.

Turning on the Switch causes inrush current shown below. Ensure that voltage drop does not occur in the power facility due to the inrush current. When using a UPS or CVCF, please take the above into consideration.

Table 2-7 Inrush current

| Model | | Current (peak value) | Time |
|---|---|---|---|
| AX2630S-24T4XW | PS1 | 100 A | No more than 10 ms |
| | PS2 | 200 A | |
| AX2630S-48T4XW | PS1 | 100 A | |
| | PS2 | 150 A | |
| AX2630S-24P4XW | | 60 A | |
| AX2630S-48P4XW | | 60 A | |

**Notification**

Turning on the Switch causes inrush current. Ensure that voltage drop does not occur in the power facility due to the inrush current. Voltage drops affect not only the Switch, but also the devices connected to the same power facility.

NOTE

The above inrush current is the value per power supply unit.

### (5) Systemization with two power facility systems

To make power supply redundant, two power facility systems can be created by supplying power from two different power facilities.

## 2.3.3 -48 V DC power facility

⚠**Warning** When using DC power, use an electric shock risk-free power facility for which the primary side and the secondary side are insulated. Using a power facility that is not insulated could result in an electric shock.

### (1) DC power cable

No power cable is included with the Switch. When using the Switch at -48 V DC, prepare a power cable described below.

Table 2-8 DC power cable specifications

| Model | Cable specifications | | |
|---|---|---|---|
| | Number of cores | AWG No | Stripping length of the sheath (the Switch end) |
| PS-26DF15 | 3 | 18 | 6 to 7 mm |

⚠**Warning** Connecting and disconnecting a DC power cable must be performed by a trained technician or maintenance personnel. Terminal connections are required for connection of the DC power cable to the power facility. For this reason, incorrect handling of the DC power cable could result in a fire or electric shock.

⚠**Warning** Before connecting or disconnecting a DC power cable, turn off the circuit breaker of the power facility. Connecting or disconnecting the cable while the circuit breaker of the power facility is turned on could result in an electric shock.

⚠**Warning** Observe the specified stripping length of the sheath (the switch end) for DC power cables. If the striping length is too short, connection might fail or the cable might become disconnected. Conversely, if the striping length is too long, the core will be exposed, risking a fire or electric shock.

### (2) Grounding cable

Use the supplied cable as the grounding cable.

The cable is provided without terminal treatment on the power facility side. The cable specifications for the power facility side are shown in the figure below. When connecting the cable to a power facility, apply appropriate terminal treatment, such as attaching a terminal that matches the customer's power facility.

Figure 2-4 Grounding cable specifications (power facility side)

(1) Grounding (green/yellow)

Table 2-9 Grounding cable specifications

| Model | Cable specifications | |
|---|---|---|
| | Number of cores | AWG No |
| PS-26DF15 | 1 | 14 |

**⚠ Warning** Be sure to connect a grounding cable for grounding. Using the Switch without grounding could result in an electric shock as well as failures due to electrical noise.

## (3) Distribution board

Install a breaker on the branch circuit of the distribution board that supplies power to the Switch.

- Breaker rated capacity: 15AT (for 15 A circuit) or less

**⚠ Warning** Install the distribution board in the same room as the Switch or in a neighboring room to ensure easy access and operation.

## (4) Conditions for supplying power to the distribution board

Ensure that the capacity for incoming current to the distribution board is greater than the operating current of the circuit breaker shown in "(3) Distribution board".

**⚠ Warning** Ensure that the capacity of incoming current to the distribution board is greater than the operating current of the circuit breaker on the distribution board. If it is not, the circuit breaker might not operate properly in the event of a failure, which could result in a fire.

**NOTE**

In general, the operating current of breakers is greater than the rated current. Check the specifications of a breaker to be used.

Turning on the Switch causes inrush current shown below. Ensure that voltage drop does not occur in the power facility due to the inrush current. When using a UPS or CVCF, please take the above into consideration.

Table 2-10 Inrush current

| Model | Current (peak value) | Time |
|---|---|---|
| PS-26DF15 | 100 A | No more than 10 ms |

**Notification**

Turning on the Switch causes inrush current. Ensure that voltage drop does not occur in the power facility due to the inrush current. Voltage drops affect not only the Switch, but also the devices connected to the same power facility.

## 2.4 Consideration for electrical noise

Electrical noise generated by other equipment may cause a Switch failure.

Please develop the power facility plan to observe the following points.

- Do not connect a device (such as an air conditioner) whose power is repeatedly turned on and off by a relay, micro-switch, etc., to the branch circuit of the power supply used for the Switch.
- The maintenance ground wire (class D grounding) for the Switch should be connected directly to a ground plate, or should be dedicated for the Switch as much as possible.
- Consider installing a noise prevention circuit in equipment that generates electrical noise.
- Cables connected to the Switch are broadly classified into power cables and signal cables, but they differ in basic electrical characteristics. When laying cables, do not tie them with bands or twist them together. Such a construction method should be avoided.
- During a line lead-in work, do not lay lines along the power cable.

## 2.5 Leakage current

The Switch is equipped with a noise filter to prevent failure caused by electrical noise. As a result, leakage current flows through the safety ground wire (class D grounding).

A maximum leakage current of 1 mA flows per device, so if you are required to install an earth leakage breaker under the Fire Services Act and other laws, take this into consideration.

## 2.6 Environmental requirements

### (1) Dust

The Switch has cooling fan units, so do not install it in a humid or dusty place. The dust conditions for the Switch are as follows.

- Suspended particulate concentration: 0.15 mg/m$^3$ or less (JIS Z 8813, General Requirements for Measuring Methods for Suspended Particulate Matter Concentration in Air)

**NOTE** Do not install the Switch in a location near the printer or in a location with a lot of foot traffic, as there is usually a lot of toner and dust.

### (2) Corrosive gas and flammable gas

Install the Switch in a place free from corrosive or flammable gas. If installed in a such place, the Switch will corrode and significantly reduce its reliability.

### (3) Floor surface material

Although the Switch can be installed in a common office space, it is recommended that the surface material of the floor has the following properties.

- Fire resistant
- Dust free

### (4) Direct sunlight

Keep the Switch out of direct sunlight.

### (5) Water

When cleaning the floor, etc., do not allow the Switch to get wet.

### (6) Electromagnetic interference

Please note that using high-frequency equipment in the surrounding area of the Switch may cause the Switch to malfunction due to the electromagnetic interference generated by the equipment.

The Switch also generates a weak but high frequency, which may affect televisions, radios, or transceivers using indoor antennas within 30 m of the Switch.

### (7) Cable protection

Pass cables through ducts or protect them with cable covers.

If cables are not protected, the cables may be cut by an animal such as a mouse.

In particular, optical fiber cables should be protected by metal covers, etc., with the bending radius of at least 100 mm in the major axis direction and at least 50 mm in the minor axis direction.

In addition, the optical fiber cable that accommodates the required number of optical fiber cores must have a structure that can protect the cable itself from mechanical stress such as repeated bending, tensile tension, compression, and ironing during installation, and stress from the installation environment.

### (8) Spray

When spraying insecticides or disinfecting in the room where devices are installed, consider covering the devices with a sheet, etc. to avoid direct contact with the chemical.

### (9) Earthquake measure

An earthquake can cause devices to move, topple over, or jump out of a window, which may lead to an injury accident. Take sufficient measures to prevent movement and toppling over.

---

NOTE

The actual vibration applied to devices is amplified by the response factor determined by the structure of the building and the floor on which the devices are installed, unlike the ground surface. In general, it is said that a medium-rise building of approximately nine floors will typically experience two to three times more shaking on the fifth floor and above than on the ground level.

Examples of past earthquakes

- A device moved 10 to 30 cm.
- A rack fell over.
- An object placed on furniture in a room fell onto a device.

---

## 2.7 Installation location

**⚠Warning**

Use the Switch indoors. Also, make sure that all interface cables to be connected to the Switch are indoor-wired. If an outdoor-wired cable is to be connected to the Switch, ensure that lightning protection measures have been taken before connection.

The Switch can be used installed on a table or mounted in a 19-inch cabinet rack.

### (1) On a table

When installing the Switch on a table, install it on a horizontal and stable surface. In this case, consider the conditions shown in the table below.

Table 2-11 Conditions required for installation on a table

| Item | Conditions |
|---|---|
| Space for ventilation | A space of at least 50 mm from the ventilation slots of the Switch should be reserved. |
| Space for cable extraction | A space of 100 mm each in front and rear of the Switch should be reserved for cable extraction. |
| Device noise | For details on noise, see "2.10 Device noise". |

**⚠Caution**

When installing the Switch on a table, position the Switch horizontally on a worktable strong enough to bear the weight of the Switch. Placing the Switch in an unstable location, such as on an unsteady or tilting surface, might cause the Switch to fall, resulting in injury.

**Notification**

Since AX2630S-24T4XW does not have a fan, it also dissipates heat from the top plate of the Switch. Do not stack another device on top of and under the Switch to block the heat dissipation of the Switch. Doing so could result in a malfunction.
Also, when mounting the Switch in a rack, leave a space of 1U or more between other equipment.

### (2) 19-inch cabinet rack

When mounting the Switch in a rack, use the rack that satisfies the conditions in the table below.

Table 2-12 Rack conditions

| Item | Conditions |
|---|---|
| Rack standard | EIA standard compliant 19-inch cabinet rack |
| Space for ventilation | For ventilation, the cabinet rack should secure a space of at least 50 mm between rack structures such as rack posts, side plates and the ventilation slots of the Switch. |
| Space for cable extraction | A space of 100 mm each in front and rear of the Switch should be reserved for cable extraction. |

In addition, prepare the following items required for rack mounting.

- Screws supplied with the rack (M5 or M6 screws x 4)

**Notification**

Since AX2630S-24T4XW does not have a fan, it also dissipates heat from the top plate of the Switch. Do not stack another device on top of and under the Switch to block the heat dissipation of the Switch. Doing so could result in a malfunction.
Also, when mounting the Switch in a rack, leave a space of 1U or more between other equipment.

NOTE

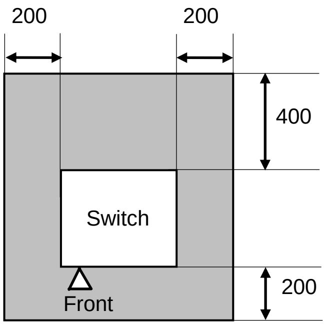
The supplied rack mounting brackets are compatible with M5 and M6 screws.
Prepare a rack that supports M5 or M6 screws.

## 2.8 Maintenance area

Secure the following space as the maintenance area for the Switch.

### (1) Maintenance area for installation on a table

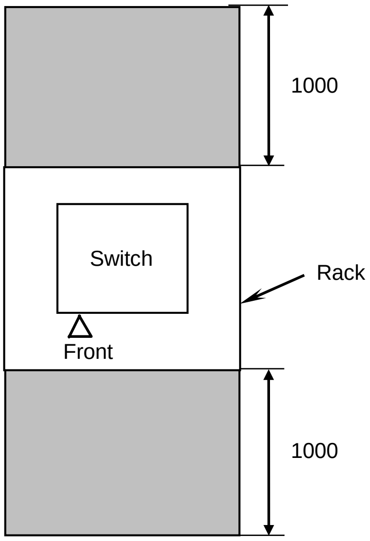
Figure 2-5 Maintenance area for installation on a table


200
200
400
Switch
200
Front

(in mm)

### (2) Maintenance area for rack mounting

Figure 2-6 Maintenance area for rack mounting


1000
Switch
Rack
Front
1000

(in mm)

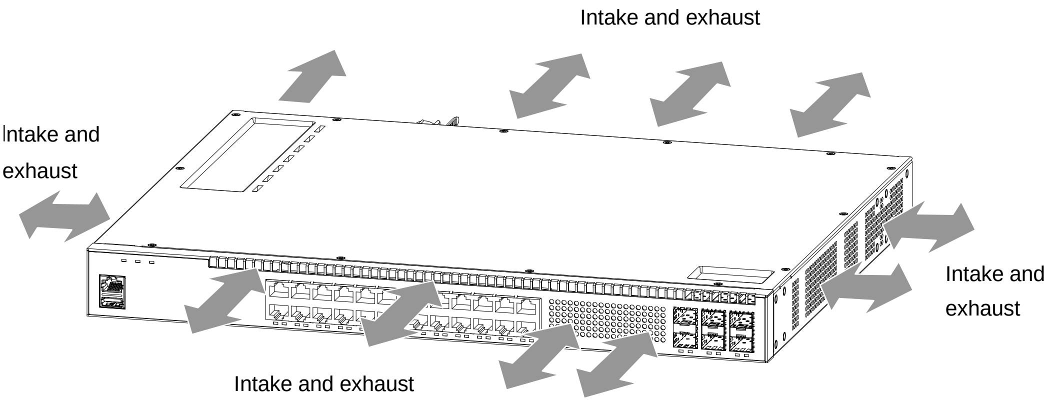
# 2.9 Cooling conditions

## 2.9.1 Airflow

The airflow of the Switch is as follows.

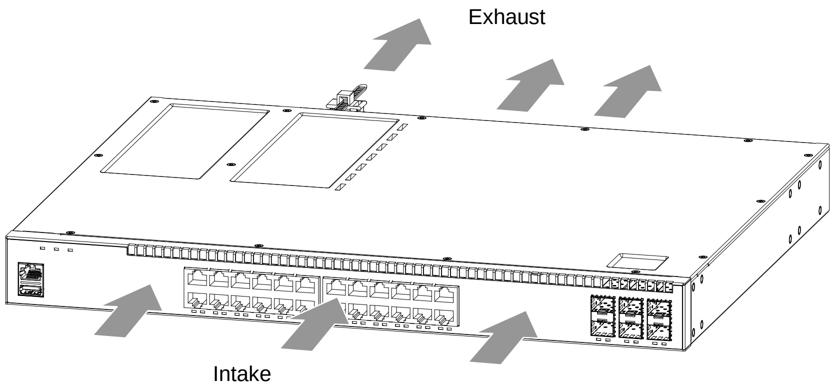
### (1) AX2630S-24T4XW

Figure 2-7 Airflow of AX2630S-24T4XW


Intake and exhaust
Intake and
exhaust
Intake and
exhaust
Intake and exhaust

### (2) AX2630S-48T4XW, AX2630S-24P4XW, and AX2630S-48P4XW

Figure 2-8 Airflow of AX2630S-48T4XW, AX2630S-24P4XW, and AX2630S-48P4XW


Exhaust
Intake

### 2.9.2 Cooling conditions

Secure a space of at least 50 mm from each side of the Switch to ensure air flow.

⚠ **Caution**

Do not obstruct the ventilation slots of the Switch. Doing so causes heat to accumulate inside the Switch, and could result in a fire. Maintain a space of at least 50 mm around the ventilation slots.

NOTE

Ensure that the intake air temperature of the Switch is within the operating temperature range of the Switch. If the intake air temperature does not meet Switch installation conditions, this may cause malfunction or failure.

NOTE

When installing other equipment with a forced air-cooling system such as fan units, around the Switch, if the airflows of multiple equipment interfere with each other, the cooling of the Switch will be adversely affected as shown below, resulting in malfunction. Secure a sufficient space between peripheral devices so that the airflows of the devices do not interfere with each other, or install partitions between the devices to prevent airflow interference. When installing partitions, leave a space of at least 50 mm from each side plate of the Switch.

### 2.9.3 Cooling conditions for rack mounting

To ensure airflow, secure a space of at least 50 mm between the Switch and rack structures such as rack side plates, posts, guide rails, front and rear doors.

⚠ **Caution**

Do not obstruct the ventilation slots of the Switch. Doing so causes heat to accumulate inside the Switch, and could result in a fire. Maintain a space of at least 50 mm around the ventilation slots.

NOTE

Ensure that the temperature inside the rack is within the operating temperature range of the Switch. If the temperature inside the tack does not meet Switch installation conditions, this may cause malfunction or failure.

NOTE

When mounting other equipment with a forced air-cooling system, such as fan units, above and below the Switch, if airflows of multiple equipment interfere with each other, the cooling of the Switch will be adversely affected as shown below, resulting in malfunction or failure.

## 2.10 Device noise

The Switch has built-in cooling fan units, which generate noise. Before installing the Switch, consider such noise to plan your layout.

For device noise, see "2.2 Installation conditions".

If AX2630S-24T4XW is not equipped with PS-26AF15 or PS-26DF15, noise will not occur.

---

**NOTE**

The following are some examples of a layout that reflects considerations specific to noise.

- Use screens or shelves to prevent direct sound from being heard.
- Do not install the Switch near places that are frequently used by people (offices, meeting rooms, desks, etc.)
- Place the Switch in the corner of an office space.
- House the Switch in a rack.
- Avoid installing near sound-reflecting objects such as glass windows.

---

# 3

# Preparation of Interface Cables and a Terminal

This chapter describes interface cables and a terminal to be used with the Switch.

3.1 Interface cable list

3.2 Network Interface specifications

3.3 Terminal and connection cables

## 3.1 Interface cable list

Interface cable connections with the Switch are listed below.

The following cables must be prepared by the customer.

For interface cables to be used for the transceiver, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

Table 3-1 Interface cables

| Port | Transceiver | Interface | Cable | Connector |
|---|---|---|---|---|
| 10BASE-T/<br>100BASE-TX/<br>1000BASE-T port<br>(PoE is not supported.) | — | 10BASE-T | UTP cable (category 3 and higher) | RJ-45 Connector |
| | — | 100BASE-TX | UTP cable (category 5 and higher) | |
| | — | 1000BASE-T | UTP cable (Enhanced category 5 and higher) | |
| 10BASE-T/<br>100BASE-TX/<br>1000BASE-T port<br>(PoE support) | — | 10BASE-T | UTP cable (category 5 and higher) *1 | |
| | — | 100BASE-TX | UTP cable (category 5 and higher) | |
| | — | 1000BASE-T | UTP cable (Enhanced category 5 and higher) | |
| Console port | — | RS-232C | RS-232C crossover cable | |

*1 When connecting devices with PoE, it is recommended to use UTP cables of category 5 and higher.

NOTE

For interface cables and a terminal to be connected to the Console port, see "3.3 Terminal and connection cables".

## 3.2 Network Interface specifications

### 3.2.1 Ethernet 10BASE-T/100BASE-TX/1000BASE-T

#### (1) Mode setting for ports

For Ethernet 10BASE-T/100BASE-TX/1000BASE-T ports, the mode can be specified from the following. When shipped from the factory, the Switch is set to auto-negotiation.

- Auto-negotiation (default)
- 100BASE-TX full duplex (fixed)
- 100BASE-TX half duplex (fixed)
- 10BASE-T full duplex (fixed)
- 10BASE-T half duplex (fixed)

---

NOTE

On Ethernet 10BASE-T/100BASE-TX/1000BASE-T ports, auto-negotiation is enabled for the following modes:

- 1000BASE-T full duplex
- 100BASE-TX full duplex
- 100BASE-TX half duplex
- 10BASE-T full duplex
- 10BASE-T half duplex

---

NOTE

Fixed settings and half-duplex communication are not supported for 1000BASE-T.

---

#### (2) Flow control functionality

This functionality is valid during full-duplex communication.

#### (3) Auto MDI/MDI-X functionality

The auto MDI/MDI-X function is enabled during auto-negotiation.

When using a fixed setting, the port type is identified as MDI-X.

## (4) Physical specifications

Table 3-2 10BASE-T/100BASE-TX/1000BASE-T physical specifications

| Item | Physical specifications | | |
|---|---|---|---|
| | 10BASE-T | 100BASE-TX | 1000BASE-T |
| UTP cable | Category 3 and higher | Category 5 and higher | Enhanced category 5 and higher |
| Transmission distance (maximum) | 100m | 100m | 100m |

Table 3-3 10BASE-T/100BASE-TX/1000BASE-T pin configuration

| RJ-45 Pin No. | Physical specifications | |
|---|---|---|
| | 10BASE-T<br>100BASE-TX | 1000BASE-T |
| 1 | Receive (+) (A) | Send/Receive A (+) (A) |
| 2 | Receive (-) (a) | Send/Receive A (-) (a) |
| 3 | Send (+) (B) | Send/Receive B (+) (B) |
| 4 | Not used[*1] (C) | Send/Receive C (+) (C) |
| 5 | Not used[*1] (c) | Send/Receive C (-) (c) |
| 6 | Send (-) (b) | Send/Receive B (-) (b) |
| 7 | Not used[*1] (D) | Send/Receive D (+) (D) |
| 8 | Not used[*1] (d) | Send/Receive D (-) (d) |

*1 When using a 4-pair, 8-core twisted cable, use the pin to connect the cable.

*2 Since it is a twisted pair wire, pair (A) and (a), (B) and (b), (C) and (c), (D) and (d) for 4-pair, 8-core wires, (A) and (a), (B) and (b) for 2-pair, 4-core wires.

### 3.2.2 Ethernet 10BASE-T/100BASE-TX/1000BASE-T (PoE)

#### (1) Mode setting for ports

For Ethernet 10BASE-T/100BASE-TX/1000BASE-T ports (PoE), the mode can be specified from the following. When shipped from the factory, the Switch is set to auto-negotiation.

- Auto-negotiation (default)
- 100BASE-TX full duplex (fixed)
- 100BASE-TX half duplex (fixed)
- 10BASE-T full duplex (fixed)
- 10BASE-T half duplex (fixed)

---

NOTE

On Ethernet 10BASE-T/100BASE-TX/1000BASE-T ports, auto-negotiation is enabled for the following modes:

- 1000BASE-T full duplex
- 100BASE-TX full duplex
- 100BASE-TX half duplex
- 10BASE-T full duplex
- 10BASE-T half duplex

---

NOTE

Fixed settings and half-duplex communication are not supported for 1000BASE-T.

---

#### (2) Flow control functionality

This functionality is valid during full-duplex communication.

#### (3) Auto MDI/MDI-X functionality

The auto MDI/MDI-X function is enabled during auto-negotiation.
When using a fixed setting, the port type is identified as MDI-X.

#### (4) PoE power supply method

AX2630S-24P4XW and AX2630S-48P4XW support power supply to IEEE 802.3af and IEEE 802.3at compliant devices (powered devices).

For PoE power supply pin assignment, the method, Alternative A is adopted, which is a 2-pair power supply method specified by IEEE 802.3af and IEEE 802.3at.

The power supply pin assignment of the Switch is shown below.

Table 3-4 Power supply pin assignment

| RJ45 pin number | Pair | Signal name |
|---|---|---|
| 1 | A | Negative Vport |
| 2 | A | Negative Vport |
| 3 | B | Positive Vport |
| 4 | C | - |
| 5 | C | - |
| 6 | B | Positive Vport |
| 7 | D | - |
| 8 | D | - |

## (5) Physical specifications

Table 3-5 10BASE-T/100BASE-TX/1000BASE-T physical specifications

| Item | Physical specifications | | |
|---|---|---|---|
| | 10BASE-T | 100BASE-TX | 1000BASE-T |
| UTP cable | Category 5 and higher | Category 5 and higher | Enhanced category 5 and higher |
| Transmission distance (maximum) | 100m | 100m | 100m |

Table 3-6 10BASE-T/100BASE-TX/1000BASE-T pin configuration

| RJ-45 Pin No. | Physical specifications | |
|---|---|---|
| | 10BASE-T 100BASE-TX | 1000BASE-T |
| 1 | Receive (+) (A) | Send/Receive A (+) (A) |
| 2 | Receive (-) (a) | Send/Receive A (-) (a) |
| 3 | Send (+) (B) | Send/Receive B (+) (B) |
| 4 | Not used[*1] (C) | Send/Receive C (+) (C) |
| 5 | Not used[*1] (c) | Send/Receive C (-) (c) |
| 6 | Send (-) (b) | Send/Receive B (-) (b) |
| 7 | Not used[*1] (D) | Send/Receive D (+) (D) |
| 8 | Not used[*1] (d) | Send/Receive D (-) (d) |

*1 When using a 4-pair, 8-core twisted cable, use the pin to connect the cable.

*2 Since it is a twisted pair wire, pair (A) and (a), (B) and (b), (C) and (c), (D) and (d) for 4-pair, 8-core wires, (A) and (a), (B) and (b) for 2-pair, 4-core wires.

### 3.2.3 Ethernet 1000BASE-X

#### (1) Mode setting for ports

For Ethernet 1000BASE-X ports, the mode can be specified from the following. When shipped from the factory, the Switch is set to auto-negotiation.

- Auto-negotiation (default)
- 1000BASE-X full duplex (fixed)

NOTE Half-duplex communication is not supported.

#### (2) Flow control functionality

This functionality is valid during full-duplex communication.

#### (3) Physical specifications

For the optical fiber cable used for each transceiver, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

### 3.2.4 Ethernet 10GBASE-R

#### (1) Mode setting for ports

The full-duplex (fixed) setting is only available for the mode setting of Ethernet 10GBASE-R.

NOTE Auto-negotiation or half-duplex communication is not supported.

#### (2) Flow control functionality

This functionality is valid during full-duplex communication.

#### (3) Physical specifications

For the optical fiber cable used for each transceiver, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

### 3.2.5 Stack port

**NOTE** The stack function optional license is required to use the SFP+ slots as stack ports.

#### (1) Supported ports

The following ports can be used as stack ports.

- AX2630S-24T4XW SFP+ slots (Ports 29, 30)
- AX2630S-48T4XW SFP+ slots (Ports 53, 54)
- AX2630S-24P4XW SFP+ slots (Ports 29, 30)
- AX2630S-48P4XW SFP+ slots (Ports 53, 54)

#### (2) Flow control functionality

Both receiving and sending operations are turned off.

#### (3) Physical specifications

For a stack link, directly connect a line between the stack ports of two member switches. No other network device can be connected between the stack ports connecting the two member switches. Transceivers and direct attach cables that can be used to configure a stack link are as follows.

Table 3-7 Transceivers and direct attach cables supported for stack ports

| Type | Transceiver and Direct attach cable | Stack port |
|---|---|---|
| SFP | SFP-SX | Supported |
|  | SFP-LX |  |
|  | SFP-LH |  |
|  | SFP-BX1U/1D |  |
|  | SFP-BX4U/4D |  |
|  | SFP-T |  |
| SFP+ | SFPP-SR | Supported |
|  | SFPP-LR |  |
|  | SFPP-ER |  |
|  | SFPP-BR1U/1D |  |

| Type | Transceiver and Direct attach cable | Stack port |
|---|---|---|
| SFP+ | SFPP-BR4U/4D | Supported |
| | SFPP-CU30C | |
| | SFPP-CU1M | |
| | SFPP-CU3M | |
| | SFPP-CU5M | |

## 3.3 Terminal and connection cables

### 3.3.1 When connecting an operation terminal to the Console port

#### (1) Operation terminal

When connecting an operation terminal to the Console port of the Switch, prepare a personal computer or workstation that supports the following functionalities.

Table 3-8 Operation terminal (when connecting to the Console port)

| Item | | Specifications |
|---|---|---|
| Communication port | | RS-232C port |
| Communication software | | Communication software that satisfies the following "Communication settings" |
| Communication settings | Communication parameters | 8 bits, 1 stop bit, no parity bit |
| | Communication speed [*1] | 115200 bit/s, 19200 bit/s, 9600 bit/s, 4800 bit/s, 2400 bit/s |

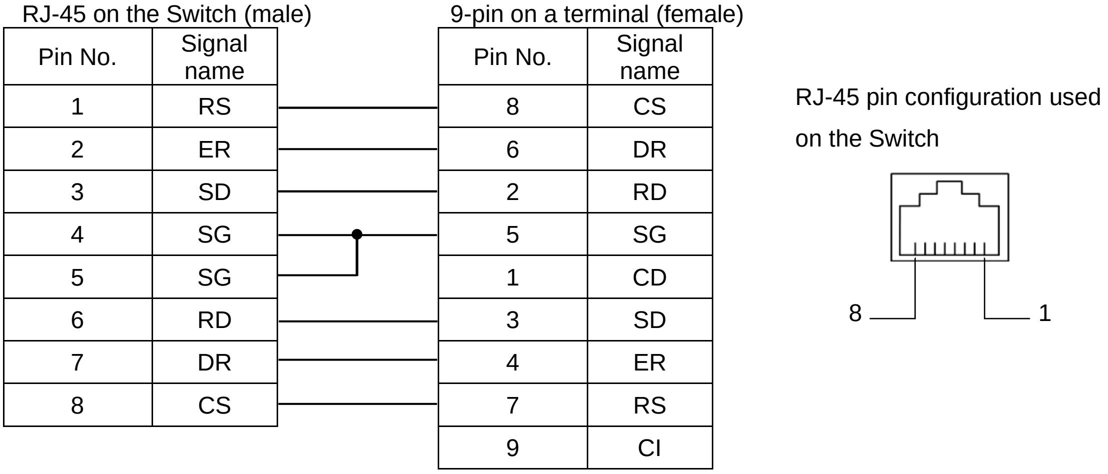
*1 The communication speed of the Switch is set to 115200 bit/s when shipped from the factory.

#### (2) RS-232C crossover cable

Use an RS-232C crossover cable (RJ-45 (male) - D-Sub 9-pin (female)) to connect an operation terminal to the Console port of the Switch.

Pin configuration of the RS-232C crossover cable is shown below.

Figure 3-1 Connection cable for an operation terminal



RJ-45 on the Switch (male)

| Pin No. | Signal name |
|---|---|
| 1 | RS |
| 2 | ER |
| 3 | SD |
| 4 | SG |
| 5 | SG |
| 6 | RD |
| 7 | DR |
| 8 | CS |

9-pin on a terminal (female)

| Pin No. | Signal name |
|---|---|
| 8 | CS |
| 6 | DR |
| 2 | RD |
| 5 | SG |
| 1 | CD |
| 3 | SD |
| 4 | ER |
| 7 | RS |
| 9 | CI |

**NOTE**

You can use an RS-232C cable that conforms to Cisco Systems' specifications, but please check the signal line specifications for both the RS-232C cable and an operation terminal in advance.

# 4

# Installation of the Switch

This chapter describes how to install the Switch.

4.1 Necessary tools and equipment
4.2 Read the following before you begin
4.3 Installing the Switch
4.4 Connecting and disconnecting the power cable
4.5 Inserting and removing the memory card
4.6 Connecting and disconnecting the transceiver.
4.7 Connecting an operation terminal
4.8 Connecting an interface cable
4.9 Turning the power on and off

## 4.1 Necessary tools and equipment

The following tools and equipment are required to install the Switch.

#2 Phillips screwdriver:

Used to attach rack mounting brackets to the Switch or to attach or remove the Switch to or from a rack using M5 screws.

It is also used to connect or disconnect a grounding cable when using a DC power supply unit.

#3 Phillips screwdriver:

Used to attach or remove the Switch to or from a rack using M6 screws.

2 mm diameter slotted screwdriver:

Used when using PS-26DF15, when connecting or disconnecting the DC power cable to or from the DC connector, or when inserting or removing the DC connector to or from PS-26DF15.

Anti-static wrist strap:

Used to protect the Switch from static electricity.

NOTE

Use the above screwdriver sizes as a guide, and check whether your actual screwdriver matches the groove size of screws before using the screwdriver. Using a wrong size screwdriver may damage screw grooves.

## 4.2 Read the following before you begin

| | |
|---|---|
| ⚠ **Caution** | Keep the Switch out of reach of children. The Switch is not suitable for use where children may be present. |
| ⚠ **Caution** | Place the Switch horizontally when to be used on a table. The Switch may fall over if placed in a vertical position or leaned against a wall, resulting in injury or failure. |
| ⚠ **Caution** | When installing the Switch on a table, install it on a horizontal and stable surface, not on an unstable surface such as a wobbly or inclined table. Failure to do so may cause the Switch to fall over, resulting in injury. |
| ⚠ **Caution** | When mounting the Switch onto a rack, perform the task with at least two people. Lifting the Switch by yourself may cause it to fall over, which could result in injury. |
| ⚠ **Caution** | Do not place any objects on the Switch. Doing so might damage the Switch. Furthermore, the Switch might fall, or become unbalanced, resulting in injury. |
| ⚠ **Caution** | The ventilation slots of the Switch are to prevent the internal temperature from rising. Avoid blocking the ventilation slots of the Switch by placing objects on or against it. Doing so causes heat to accumulate inside the Switch, potentially leading to smoke or failure. Maintain a space of at least 50 mm around the ventilation slots.<br>Also, periodically check and clean the ventilation slots to prevent dust accumulation. |
| **Notification** | Be sure to wear an anti-static wrist strap. If you handle the Switch without wearing an anti-static wrist strap, the Switch might be damaged by static electricity. |
| NOTE | Install the Switch in a position where the status of LEDs can be easily checked. |
| NOTE | Pass cables through ducts or protect them with cable covers. In particular, optical fiber cables should be protected by metal covers, etc., with the bending radius of at least 100 mm in the major axis direction and at least 50 mm in the minor axis direction. |
| NOTE | When preparing an optical fiber cable, consider in advance the length (3 m) required for maintenance of the Switch, and leave the extra length of the cable bundled and wound near the Switch. Also, if optical fiber cables and other interface cables are used together, do not apply excessive force to the optical fiber cables. |

## 4.3 Installing the Switch

This section describes how to install the Switch on a table and in a rack. Please follow the steps below.

**⚠ Caution** When moving the Switch, do not hold the handle on the rear of the Switch. The handle might come off, resulting in the device falling and possibly causing injury. Also, the power supply module might become deformed, resulting in a fire or electric shock.

### 4.3.1 Installing the Switch on a table

The Switch can be installed on a horizontal and stable flat surface. Follow the following steps to install the Switch.

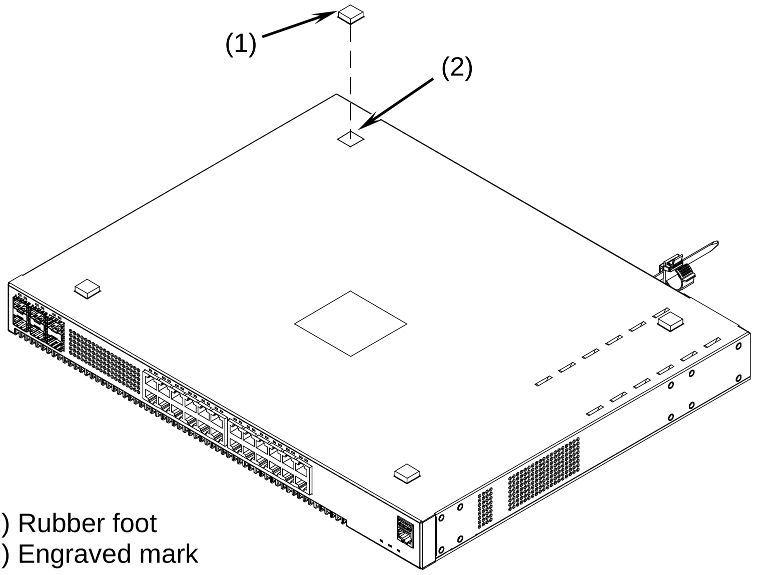
[Step 1]

Place the Switch upside down on a flat surface.

[Step 2]

Attach the rubber feet (4 pieces) to the Switch (attach the rubber feet to fit inside engraved marks on the back of the Switch).

Figure 4-1 Attaching rubber feet



(1) Rubber foot
(2) Engraved mark

NOTE Make sure that there is no dirt on the positions where rubber feet are attached. If it is dirty, wipe it off with a dry cloth before attaching the rubber feet.

[Step 3]

Turn over the Switch into its original orientation and place it on a table.

## 4.3.2 Mounting the Switch in a rack

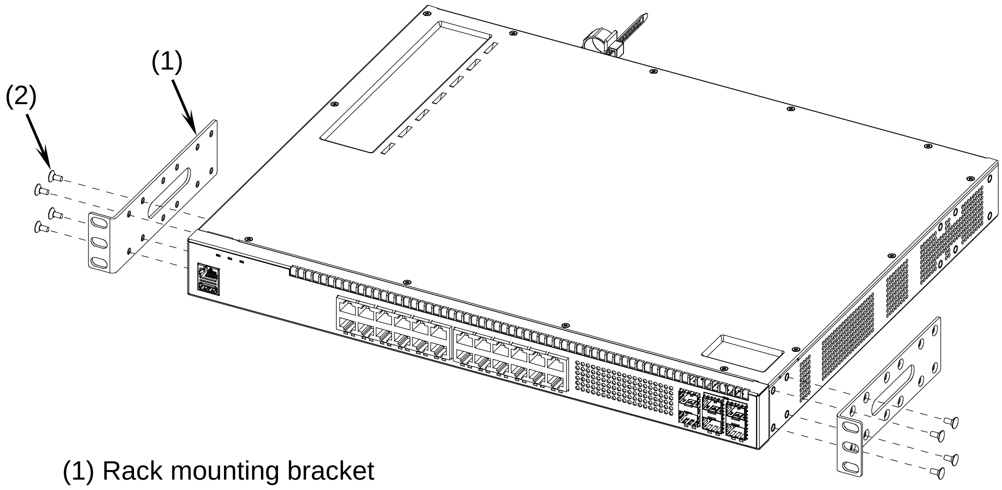
The Switch can be mounted in a 19-inch cabinet rack conforming to EIA standard. Follow the following steps to mount the Switch in a rack.

[Step 1]

Attach rack mounting brackets to the Switch.

**NOTE** Use the supplied screws to attach the rack mounting brackets to the Switch.

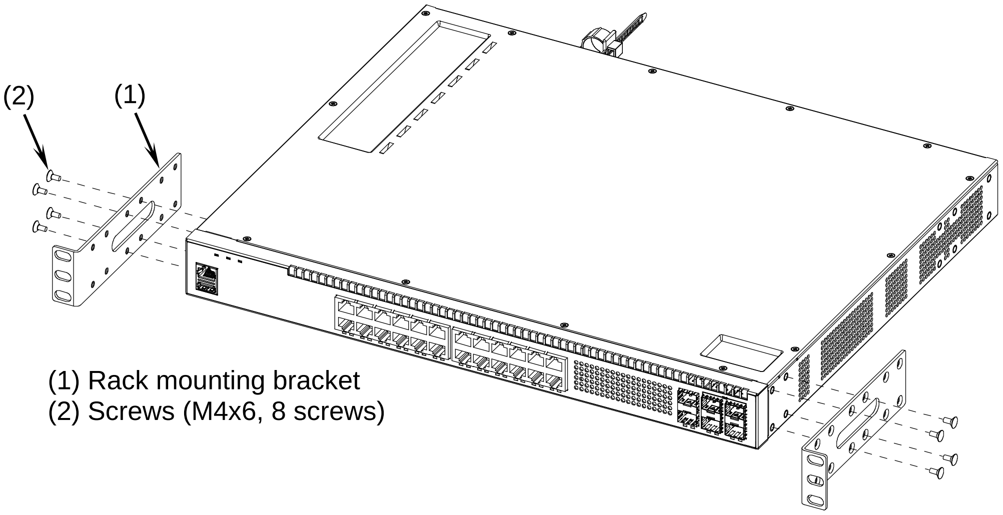
Figure 4-2 Attaching the rack mounting brackets



(1) Rack mounting bracket
(2) Screws (M4x6, 8 screws)

**NOTE** When mounting the Switch in a rack, if it is not possible to secure a space (for pulling out cables) in front of the Switch, attach the rack mounting brackets to protrude 50 mm from the front side as shown in the figure below. For the space required in front of the Switch (for pulling out cables), see "Table 2-12 Rack conditions".

Figure 4-3 Attaching the rack mounting brackets (when adjusting the front position of the Switch 50 mm deeper)



(1) Rack mounting bracket
(2) Screws (M4x6, 8 screws)

[Step 2]

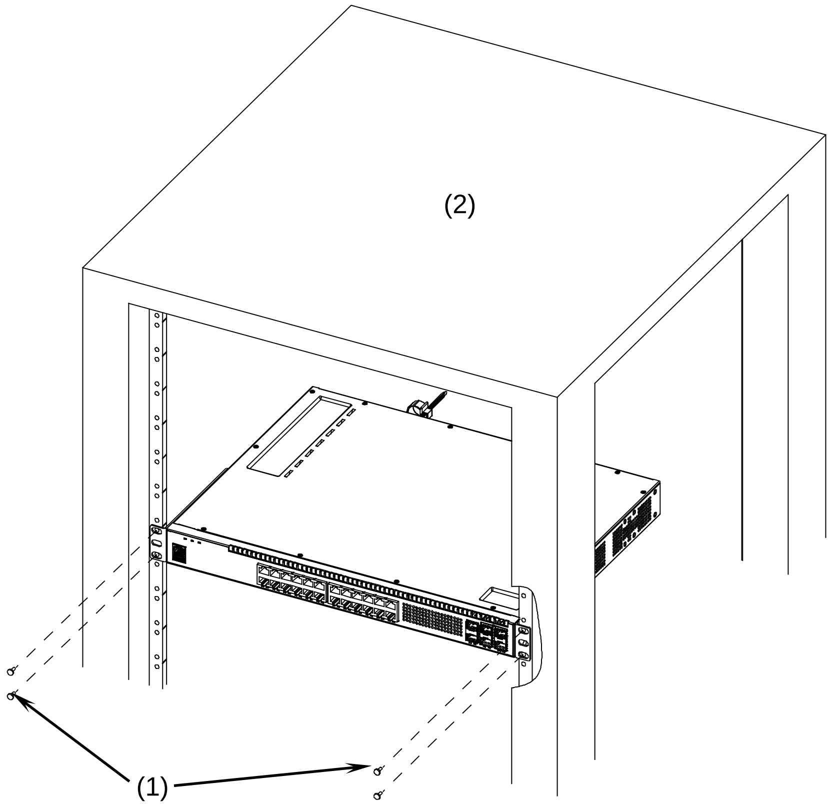
Mount the Switch in a rack.

**⚠ Caution** When mounting the Switch onto a rack, perform the task with at least two people. Lifting the Switch by yourself may cause it to fall over, which could result in injury.

**⚠ Caution** When mounting the Switch in a rack, make sure that the Switch is stable. If the Switch is unstable, it might fall, resulting in injury.

NOTE Use M5 or M6 screws provided with the rack when mounting the Switch in the rack.

Figure 4-4 Mounting the Switch in the rack



(1) Screw (M5 or M6, 4 screws)
(2) 19-inch cabinet rack

## 4.4 Connecting and disconnecting the power cable

This section describes steps for connecting/disconnecting the power cable to/from the Switch.

Follow the steps below to connect/disconnect the power cable.

### 4.4.1 Connecting and disconnecting the AC power cable

⚠ **Warning**

Use the supplied or a designated power cable. Using another cable could result in fire or electric shock. In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock.

⚠ **Warning**

Always use a grounded power outlet. Using the Switch without grounding could result in an electric shock as well as failures due to electrical noise.

NOTE

When the Switch is mounted in a rack, fix a cable with a cable holder provided with a rack so that the power connector and clamp are not subjected to a load.

NOTE

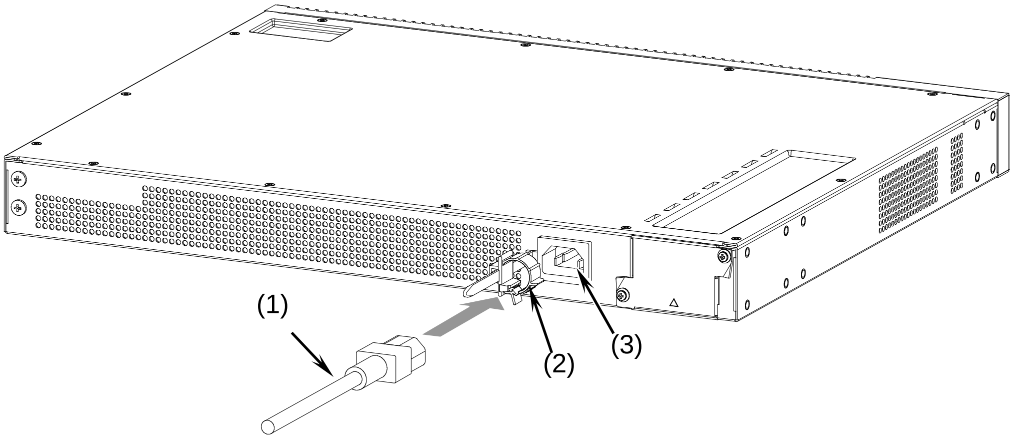
When using the separately-sold right-angle type CBL-A05 and CBL-A05R, do not use a cable clamp for the Switch or power supply unit.

#### (1) How to connect the cable

[Step 1]

Connect the supplied power cable to the AC connector on the rear of the Switch.

Figure 4-5 Connecting the power cable



(1) Power cable
(2) Cable clamp
(3) AC connector

⚠ **Warning**

Connect or disconnect the power cable while the power supply unit is installed in the Switch. If the power cable is connected, power is supplied to the power supply. Because of this, if you remove the power supply with the power cable connected, a fire or electric shock could result.

⚠ **Warning**

When using the Switch at 200 V AC, use the power cable that we sell separately or the one with specifications defined by ALAXALA. Using another cable could result in a fire or electric shock.

In addition, do not use our supplied power cable with equipment other than the Switch. Doing so could result in a fire or electric shock.

NOTE

For the power cable with specifications defined by ALAXALA, see "2.3.2 200 V AC power facility".

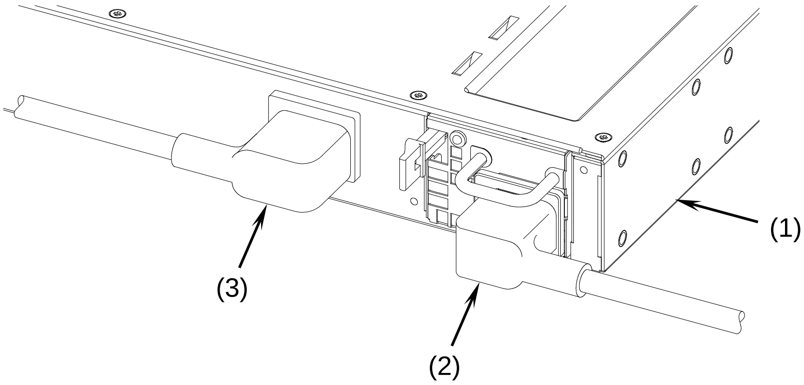
NOTE

The Switch does not have a power switch. Connecting the power cable starts suppling power to the Switch.

NOTE

When using the separately-sold right-angle type CBL-A05 and CBL-A05R, connect the power cables as shown in the following figure.

Figure 4-6 Connecting the power cable

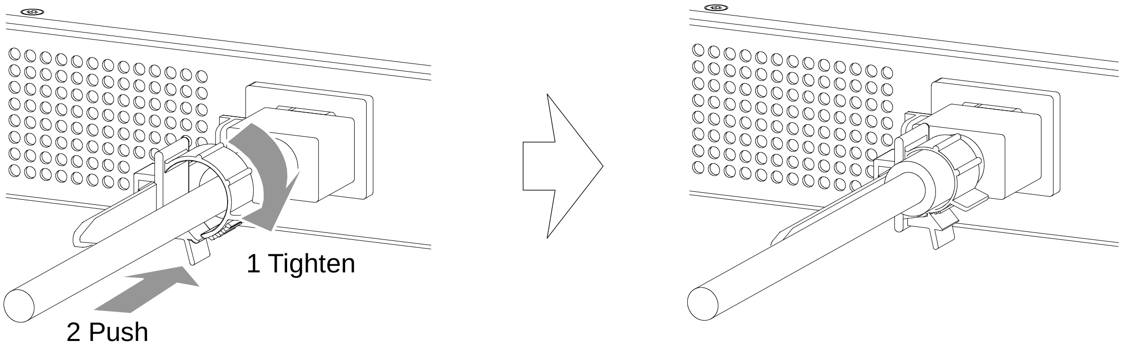


(1) AX2630S-24T4XW or AX2630S-48T4XW
(2) CBL-A05
(3) CBL-A05R

[Step 2]

Clamp the connector of the power cable with the cable clamp.

Figure 4-7 Clamping the power cable



**Notification** Securely fix the power cable with the supplied cable clamp.

NOTE When using the separately-sold right-angle type CBL-A05 and CBL-A05R, do not use a cable clamp for the Switch or power supply unit.

NOTE The figure above is an example of AX2630S-24T4XW. Follow the same steps for other models and power supply units.

## (2) How to disconnect the cable

Remove the cable clamp and disconnect the power cable.

⚠ **Warning** Connect or disconnect the power cable while the power supply unit is installed in the Switch. If the power cable is connected, power is supplied to the power supply. Because of this, if you remove the power supply with the power cable connected, a fire or electric shock could result.

⚠ **Caution** Depending on the temperature of the installation environment, the surfaces of the Switch and transceivers may become hot. Do not touch them during operation and just after power-off. Doing so could result in burns.
Before touching the Switch or transceivers, turn off the power and make sure that their surfaces have cooled enough to touch them, or use heat-resistant gloves.

### 4.4.2 Connecting and disconnecting the DC power cable.

**⚠Warning**

If the Switch has a DC power supply unit, connect a grounding cable to ground the Switch. Using the Switch without grounding could result in an electric shock as well as failures due to electrical noise.

**⚠Warning**

When using DC power, use a power facility for which the primary side and the secondary side are insulated. Using a power facility that is not insulated could result in an electric shock.

**⚠Warning**

Connecting or disconnecting a DC power cable to or from a power facility must be performed by a trained technician or maintenance personnel. Terminal connections are required for connection of the DC power cable to the power facility. For this reason, incorrect handling of the DC power cable could result in a fire or electric shock.

**⚠Warning**

Use the DC power cable with specifications defined by ALAXALA. Using another cable could result in fire or electric shock.

**⚠Warning**

Turn off the circuit breaker of the distribution board before connecting or disconnecting the DC power cable to or from the power facility. Connecting or disconnecting the DC power cable while the circuit breaker is turned on could result in an electric shock.

**⚠Warning**

Turn off the circuit breaker of the distribution board before inserting or removing the DC connector. Inserting or removing the DC connector while the circuit breaker is turned on could result in an electric shock.

NOTE

For the power cable with specifications defined by ALAXALA, see "2.3.3 -48 V DC power facility".

NOTE

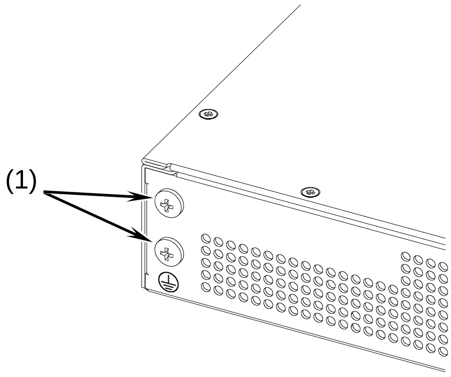
Secure the DC power cable with a cable holder or the like so that no load is applied to the root of the cable. When the Switch is mounted in a rack, secure the DC power cable with a cable holder provided with the rack.

### (1) How to connect the cable

[Step 1]

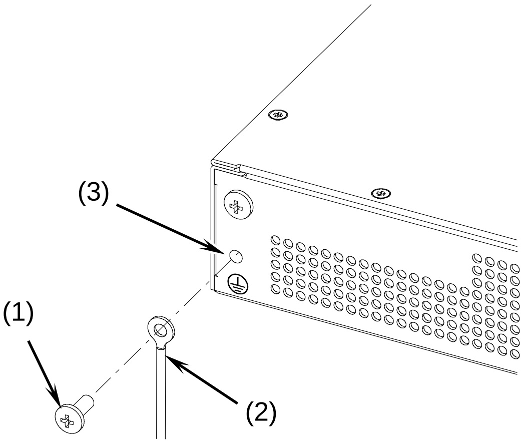
When connecting the Switch to the DC power supply, connect the DC power cable after connecting the grounding cable.

Figure 4-8 Rear of the Switch



(1) Ground terminals (the screws have been attached to the Switch.)

Figure 4-9 Connecting the grounding cable



(1) Screw
(2) Grounding cable
(3) Ground terminal

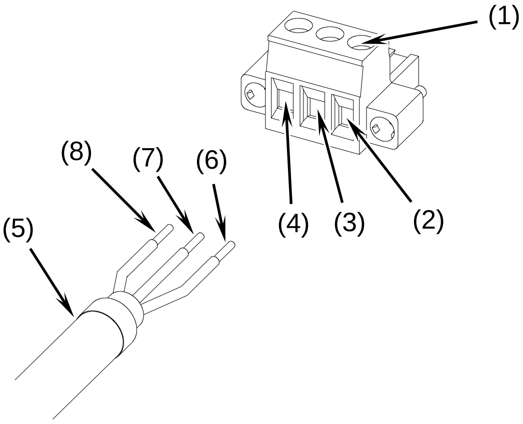
**⚠ Warning** Be sure to connect a grounding cable for grounding. Using the Switch without grounding could result in an electric shock as well as failures due to electrical noise.

NOTE There are two ground terminals. Connect a grounding cable to either one.

[Step 2]

Insert a screwdriver into the hole of each cable fixing screw on the DC connector and loosen the screw.

Figure 4-10 Connecting the DC power cable -1

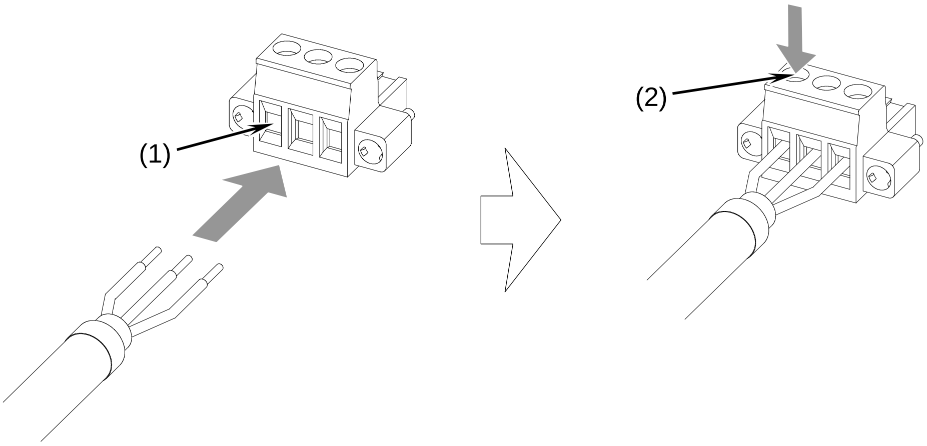


(1) Cable fixing screw hole
(2) Wire insertion hole (+)
(3) Wire insertion hole (-)
(4) Wire insertion hole (FG)
(5) DC power cable
(6) 0V
(7) -48 V DC
(8) FG

[Step 3]

Insert the terminals of the DC power cable into the wire insertion holes of the DC connector, and then insert a screwdriver into the hole of each cable fixing screw and tighten the screw.

Figure 4-11 Connecting the DC power cable -2



(1) Wire insertion hole
(2) Cable fixing screw hole

**⚠ Warning**

Turn off the circuit breaker of the distribution board before connecting or disconnecting the DC power cable. Connecting or disconnecting the DC power cable while the circuit breaker is turned on could result in an electric shock.

**⚠ Warning**

Observe the specified stripping length of the sheath (the switch end) for DC power cables. If the striping length is too short, connection might fail or the cable might become disconnected. Conversely, if the striping length is too long, the core will be exposed, risking a fire or electric shock.

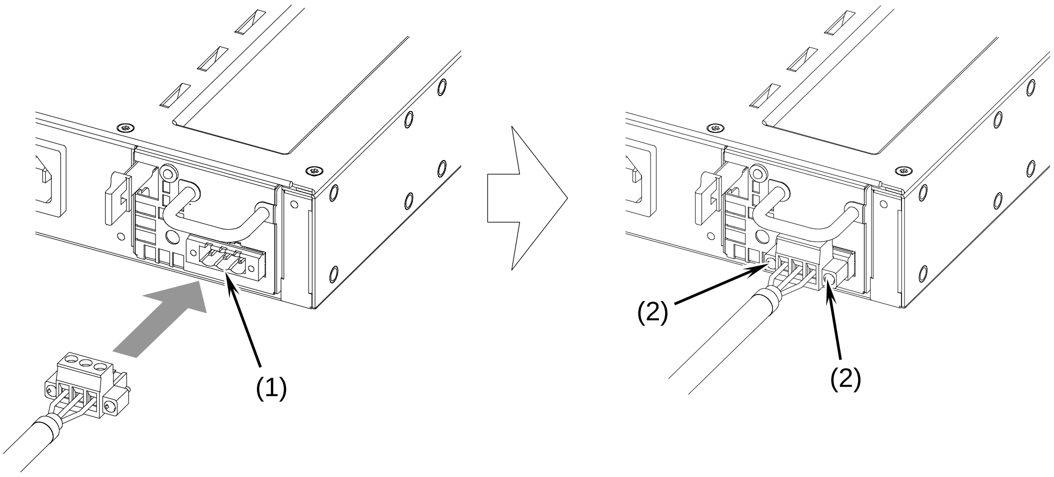
**⚠ Caution**

Connect the DC power cable with the polarities in place. Wrong polarities could result in a malfunction.

[Step 4]

Insert the DC connector into the DC power supply unit and secure the connector with the screws on the left and right.

Figure 4-12 Inserting the DC connector



(1) Connector of the DC power supply unit
(2) Screws

**⚠ Warning**

Turn off the circuit breaker of the distribution board before inserting or removing the DC connector. Inserting or removing the DC connector while the circuit breaker is turned on could result in an electric shock.

NOTE

The Switch does not have a power switch. Connecting the power cable starts suppling power to the Switch.

NOTE

Secure the DC power cable with a cable holder or the like so that no load is applied to the root of the cable. When the Switch is mounted in a rack, secure the DC power cable with a cable holder provided with the rack.

### (2) How to disconnect the cable

To disconnect the DC power cable, follow the procedure in "(1) How to connect the cable" in the reverse order.

| | |
|---|---|
| ⚠ **Warning** | Turn off the circuit breaker of the distribution board before connecting or disconnecting the DC power cable to or from the power facility. Connecting or disconnecting the DC power cable while the circuit breaker is turned on could result in an electric shock. |

| | |
|---|---|
| ⚠ **Warning** | Turn off the circuit breaker of the distribution board before inserting or removing the DC connector. Inserting or removing the DC connector while the circuit breaker is turned on could result in an electric shock. |

## 4.5 Inserting and removing the memory card

The memory card can be inserted and removed while the Switch is powered on.

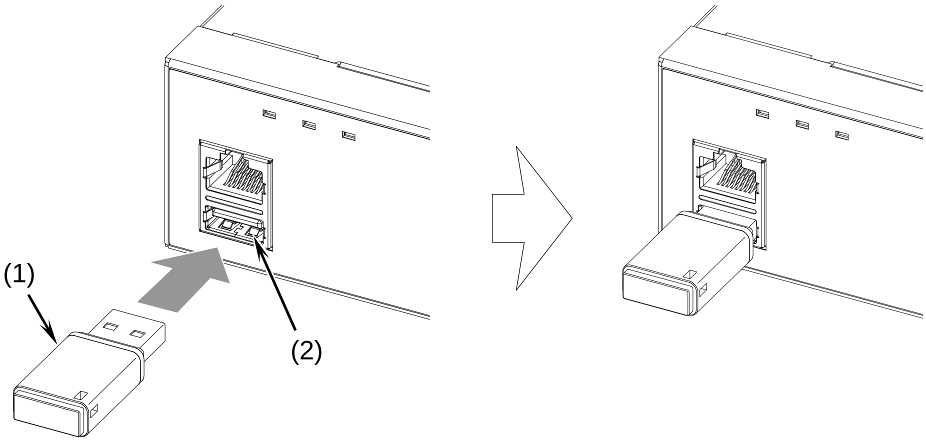
**Notification**

When moving the Switch, remove USB memory and operation-verified USB extension cables from the Switch. If the USB memory or operation-verified USB extension cables are subjected to excessive force while the Switch is being moved, the USB memory, the operation-verified USB extension cables, or the connector of the memory card slot might be damaged.

### (1) How to insert the memory card

Insert the memory card all the way into the memory card slot.

Figure 4-13 Inserting the memory card



(1) Memory card (UM04G)
(2) Memory card slot

**Notification**

When inserting USB memory or connecting an operation-verified USB extension cable, do not insert or connect it at an angle or push it strongly. Doing so might damage the USB memory, operation-verified USB extension cables, or the connector of the memory card slot.

**Notification**

When using an operation-verified USB extension cable, do not place USB memory on the Switch. In particular, the fanless model AX2630S-24T4XW dissipates heat from the top plate of the Switch, which may cause the USB memory to malfunction due to heat. When the Switch is mounted in a rack, secure an operation-verified USB extension cable with a cable holder provided with the rack.

NOTE

If there is dust in the memory card slot, wipe it off with a dry cloth before inserting the memory card.

NOTE

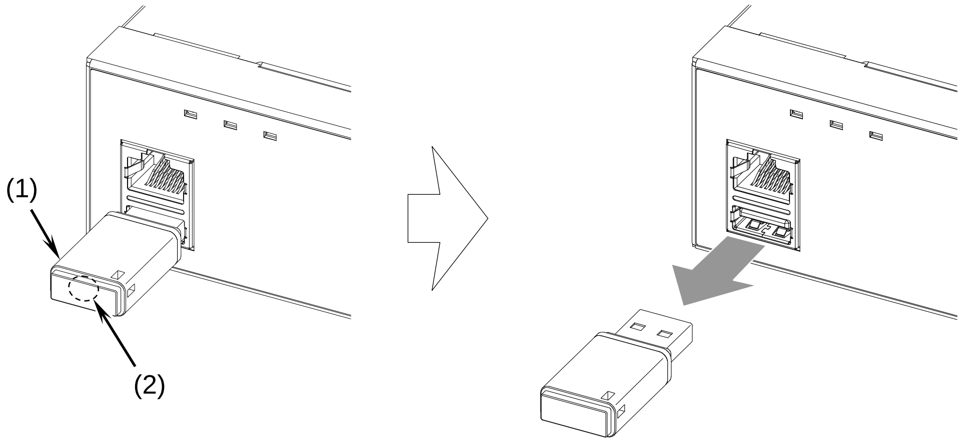
The figure above is an example of our standard USB memory (UM04G). Follow the same steps for operation-verified USB memory and extension cables.

### (2) How to remove the memory card

[Step 1]

After confirming that the UM04G LED is off, slowly pull out the memory card straight.

Figure 4-14 Removing UM04G



(1) Memory card (UM04G)
(2) Memory card LED

---

**Notification**

When the memory card LED is lit, the memory card is being accessed. When the memory card is being accessed, do not remove the memory card or turn off the power. Doing so might damage the memory card.
In addition, some commands require a certain amount of time after being entered to finish accessing the card. Make sure that the memory card is no longer being accessed before removing the card or turning off the power.

---

**Notification**

When removing the memory card, slowly pull it out straight. Failure to do so might damage the USB memory, operation-verified USB extension cables, or the connector of the memory card slot.

---

NOTE

The figure above is an example of our standard USB memory (UM04G). Follow the same steps for operation-verified USB memory and extension cables.

## 4.6 Connecting and disconnecting the transceiver.

For information on connecting and disconnecting transceivers supported by the Switch, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

## 4.7 Connecting an operation terminal

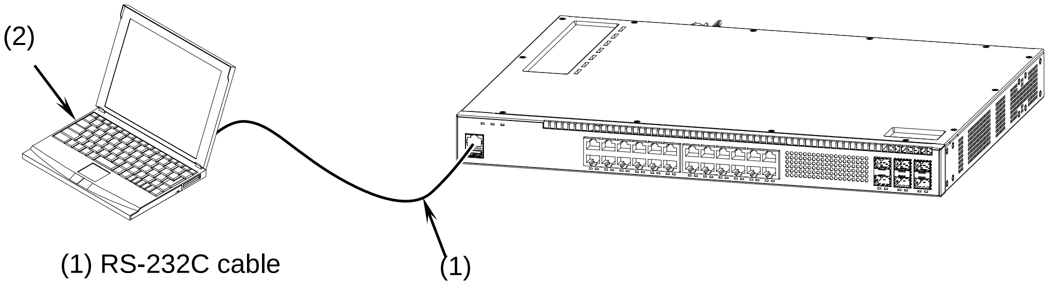
An operation terminal is connected to the Console port of the Switch.

To connect an operation terminal, use an RS-232C crossover cable (RJ-45 (male) - D-Sub 9-pin (female)).

[Step 1]

Insert the connector of an RS-232C cable into the Console port of the Switch until it clicks.

Figure 4-15 Connecting an RS-232C cable



(1) RS-232C cable
(2) Operation terminal

---

**Notification**

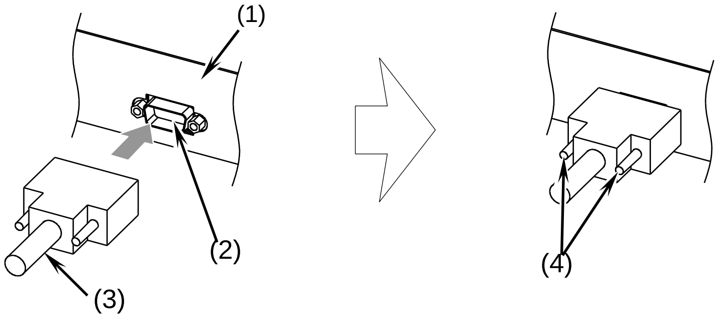
When connecting the RS-232C cable, make sure that the USB memory and operation-verified USB extension cables are not subjected to a load. Failure to do so might damage the USB memory, operation-verified USB extension cables, or the connector of the memory card slot.

---

[Step 2]

Connect the RS-232C cable to the operation terminal.

Figure 4-16 Connecting an RS-232C cable



(1) Operation terminal
(2) D-Sub 9-pin connector
(3) RS-232C cable
(4) Screws

---

NOTE

Connecting the cable and then tighten the screws. Also, make sure that the cable has been secured firmly.

---

## 4.8 Connecting an interface cable

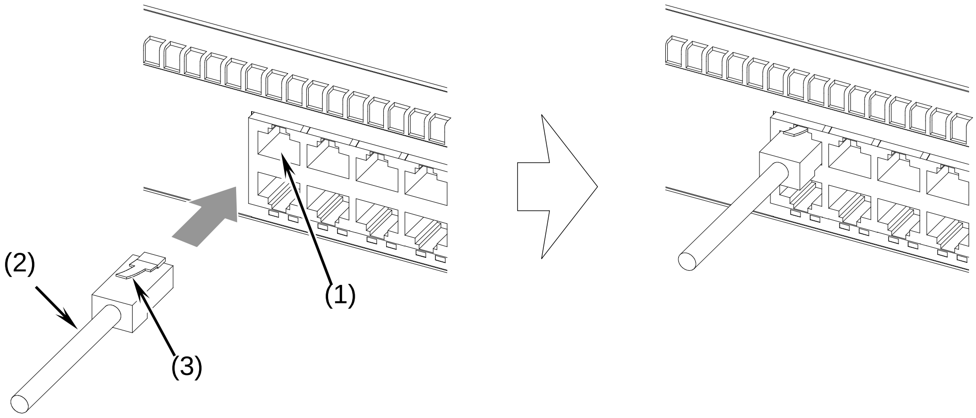
NOTE

For information on connecting and disconnecting interface cables for transceivers, see "ALAXALA Transceiver Hardware Instruction Manual (AX-COM-H001)".

### (1) UTP cable

UTP cables can be connected and disconnected while the Switch is powered on. Insert the connector until it clicks.

Figure 4-17 Connecting a UTP cable



(1) 10/100/1000BASE-T port
(2) UTP cable
(3) Claw

**Notification**

When using a PoE port, if you disconnect and connect a UTP cable within 2 seconds after its previous connection, the power class of a powered device may not be recognized correctly. Also, doing so could cause the powered device to malfunction.
Leave an interval of at least 2 seconds between disconnecting and reconnecting the cable.

NOTE

To disconnect the cable, pull it out while pressing the claw.

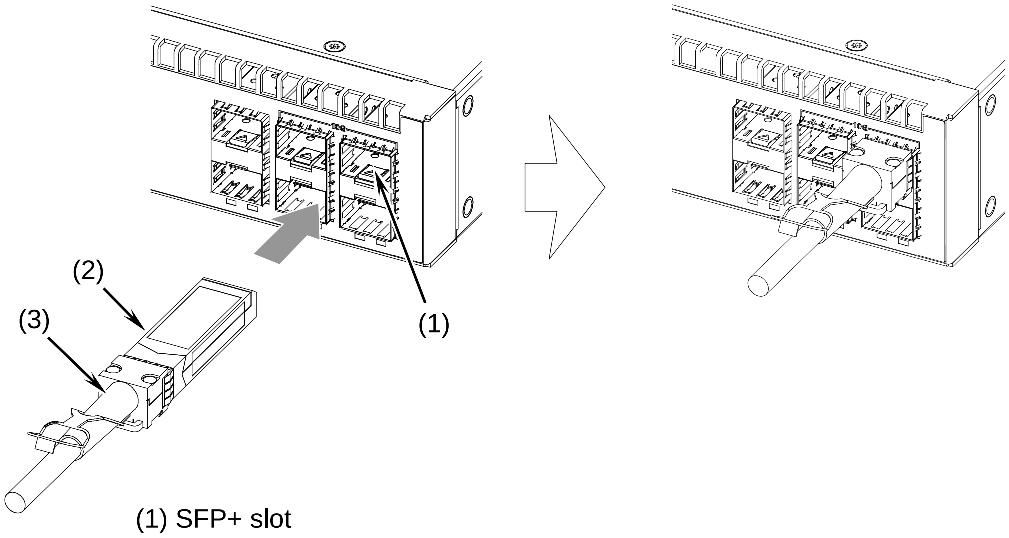
### (2) Direct attach cable

Direct attach cables can be connected and disconnected while the Switch is powered on.

[How to connect the cable]

Hold the root of the cable and insert the connector until it clicks.

Figure 4-18 Connecting a direct attach cable



(1) SFP+ slot
(2) Connector
(3) Cable root

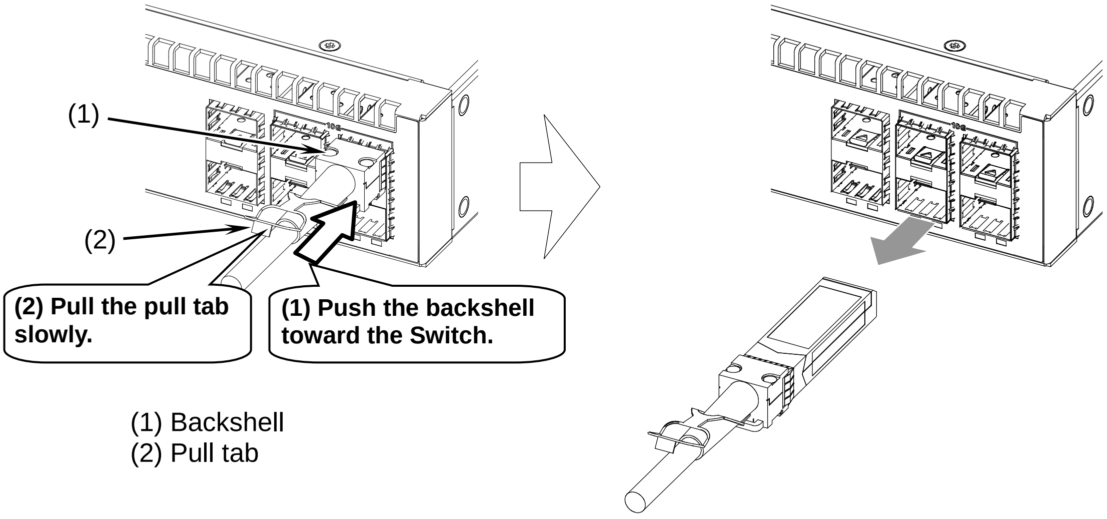
| **Caution** | To prevent the cable from bending over time, fix a direct attach cable with a cable holder provided with a rack so that no load is applied to the root of the cable. |
|---|---|

| NOTE | The figure above is an example of connecting the cable to an upper SFP+ slot. When connecting the cable to a lower slot, insert the connector upside down. |
|---|---|

[How to disconnect the cable]

When removing the direct attach cable, push and hold the back shell of the direct attach cable horizontally toward the Switch ((1) in the figure below), and pull the pull tab slowly ((2) in the figure below). After the lock is released, pull out the cable.

Figure 4-19 Disconnecting a direct attach cable


(1)
(2)
(2) Pull the pull tab slowly.
(1) Push the backshell toward the Switch.

(1) Backshell
(2) Pull tab

**Notification**

When removing the direct attach cable, push and hold the back shell of the direct attach cable horizontally toward the Switch, and pull the pull tab slowly. Forcibly pulling the pull tab may break the pull tab and cause the direct attach cable to malfunction.

## 4.9 Turning the power on and off

NOTE

The following is an example of turning on and off the power when an AC power supply unit is installed. Follow the same steps when a DC power supply unit is installed. For information on connecting the DC power cable, see "4.4.2 Connecting and disconnecting the DC power cable.".

NOTE

The Switch does not have a power switch. The power is turned on and off as soon as the power cable is connected or disconnected.

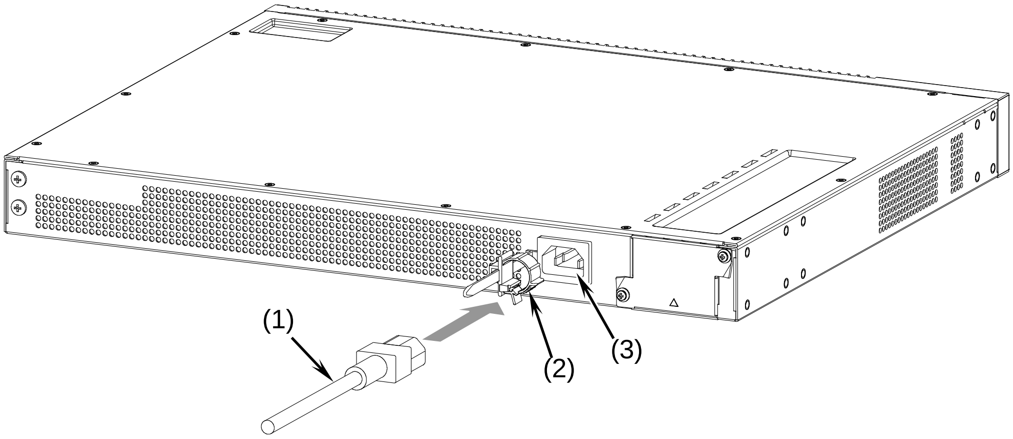
### (1) Turning the power on

[Step 1]

Connect the power cable to the power connector on the rear of the Switch.

For information on connecting the power cable, see "4.4 Connecting and disconnecting the power cable".

Figure 4-20 Turning the power on



(1) Power cable
(2) Cable clamp
(3) AC connector

⚠ **Warning**

Connect or disconnect the power cable while the power supply unit is installed in the Switch. If the power cable is connected, power is supplied to the power supply. Because of this, if you remove the power supply with the power cable connected, a fire or electric shock could result.

NOTE

The figure above is an example of an AC power supply unit. Follow the same steps for a DC power supply unit.

[Step 2]

- When an AC power supply unit is installed
  Insert the power plug into an outlet.
- When a DC power supply unit is installed
  Turn on the circuit breaker of the distribution board.

### (2) Turning the power off

Disconnect the power cable from the rear of the Switch.

For information on disconnecting the power cable, see "4.4 Connecting and disconnecting the power cable".

---

⚠ **Warning**

If multiple power supply units are installed, there is a risk of electric shock or burns that could lead to death or injury. To power off the Switch, use the following methods.

- If the Switch has an AC power supply unit, unplug all power cables.
- If the Switch has a DC power supply unit, turn off all the circuit breakers of the distribution board that supply power to the Switch.

---

⚠ **Warning**

Connect or disconnect the power cable while the power supply unit is installed in the Switch. If the power cable is connected, power is supplied to the power supply. Because of this, if you remove the power supply with the power cable connected, a fire or electric shock could result.

---

⚠ **Caution**

In the following case, do not turn off the power until the ST1 LED changes from blinking green to solid green. Turning off the power could result in a switch fault.

- While the Switch is in a preparatory state (switch is starting up)
- While software is being updated

---

**Notification**

When the memory card LED is lit, the memory card is being accessed. When the memory card is being accessed, do not remove the memory card or turn off the power. Doing so might damage the memory card.
In addition, some commands require a certain amount of time after being entered to finish accessing the card. Make sure that the memory card is no longer being accessed before removing the card or turning off the power.

---

NOTE

Leave an interval of at least 15 seconds between turning off and then turning on the power again.

# 5

# Adding and Replacing a Power Supply Unit

This chapter describes steps for adding and replacing a power supply unit.

5.1 Necessary tools

5.2 Read the following before you begin

5.3 Adding and replacing a power supply unit

## 5.1 Necessary tools

The following tools are required to add, replace, and remove devices.

#2 Phillips screwdriver:

Used for removing and attaching blank panels.

It is also used to disconnect or connect a grounding cable when using a DC power supply unit.

2 mm diameter slotted screwdriver:

Used when using PS-26DF15, when disconnecting or connecting the DC power cable from or to the DC connector, or when removing or inserting the DC connector from or to PS-26DF15.

Anti-static wrist strap:

Used to protect the Switch from static electricity.

⚠ **Caution**

Use the above screwdriver sizes as a guide, and check whether your actual screwdriver matches the groove size of screws before using the screwdriver. Using a wrong size screwdriver may damage screw grooves.

## 5.2 Read the following before you begin

**⚠Warning** Adding or replacing a power supply unit must be performed by a trained technician or maintenance personnel. Adding or replacing a power supply unit requires connecting and disconnecting power cables. If anyone other than those mentioned above performs these tasks incorrectly, a fire, electric shock, or failure could result.

**⚠Caution** The surfaces of a power supply unit might become hot. Do not touch them just after power-off. Doing so could result in burns.

**⚠Caution** Do not carelessly put your hands inside the Switch. The frame and components might cause injury. In addition, the components inside the Switch may become hot, which may cause burns.

**⚠Caution** After removing a power supply unit, attach a blank panel. If you use the Switch without attaching a blank panel, the following problems might occur.

- Heat might accumulate inside the Switch and could cause a failure.
- The frame and components might cause injury.
- If foreign objects fall into the Switch, the Switch might no longer work properly.
- The radio waves generated by the Switch might affect another device, or the radio waves generated by another device might affect the Switch, resulting in a malfunction.

**Notification** Before installing or removing a power supply unit, remove the power cable from the power supply unit.

**Notification** Be sure to wear an anti-static wrist strap. If you handle the Switch without wearing an anti-static wrist strap, the Switch might be damaged by static electricity.

**Notification** Do not touch the installed components or solder surface of a power supply unit. Also, when storing the power supply unit, use an anti-static bag.

## 5.3 Adding and replacing a power supply unit

A power supply unit can be replaced while the Switch is powered on.

| | |
|---|---|
| **⚠Warning** | Adding or replacing a power supply unit must be performed by a trained technician or maintenance personnel. Adding or replacing a power supply unit requires connecting and disconnecting power cables. If anyone other than those mentioned above performs these tasks incorrectly, a fire, electric shock, or failure could result. |

| | |
|---|---|
| **⚠Caution** | The surfaces of a power supply unit might become hot. Do not touch them just after power-off. Doing so could result in burns. |

| | |
|---|---|
| **⚠Caution** | After removing a power supply unit, attach a blank panel. If you use the Switch without attaching a blank panel, the following problems might occur.<br>・ Heat might accumulate inside the Switch and could cause a failure.<br>・ The frame and components might cause injury.<br>・ If foreign objects fall into the Switch, the Switch might no longer work properly.<br>・ The radio waves generated by the Switch might affect another device, or the radio waves generated by another device might affect the Switch, resulting in a malfunction. |

| | |
|---|---|
| **Notification** | Do not apply excessive force to the lock lever of a power supply unit.<br>Doing so might damage the lock lever. |

| | |
|---|---|
| NOTE | When adding a power supply unit, remove a blank panel. Keep the removed blank panel in a safe place. |

### (1) How to disconnect the cable

| | |
|---|---|
| NOTE | The cable can be disconnected while the Switch is powered on only if the power supply is redundant. If the power supply is not redundant, turn off the Switch before removing the cable. |

[Step 1]

Disconnect the power cable from the power supply unit to be replaced.

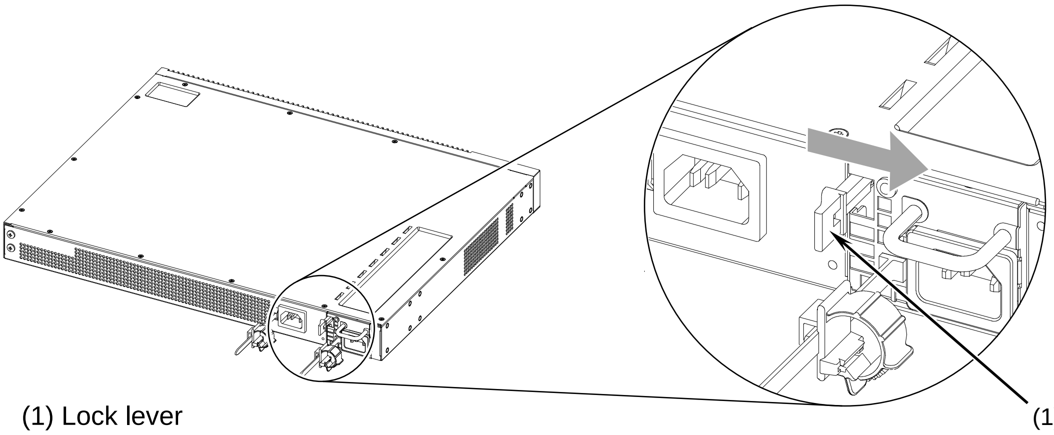
For information on disconnecting the power cable, see "4.4 Connecting and disconnecting the power cable".

[Step 2]

Push down the lock lever of the power supply unit in the direction of the arrow.

Figure 5-1  Removing (unlocking) a power supply unit

- For AX2630S-24T4XW and AX2630S-48T4XW:

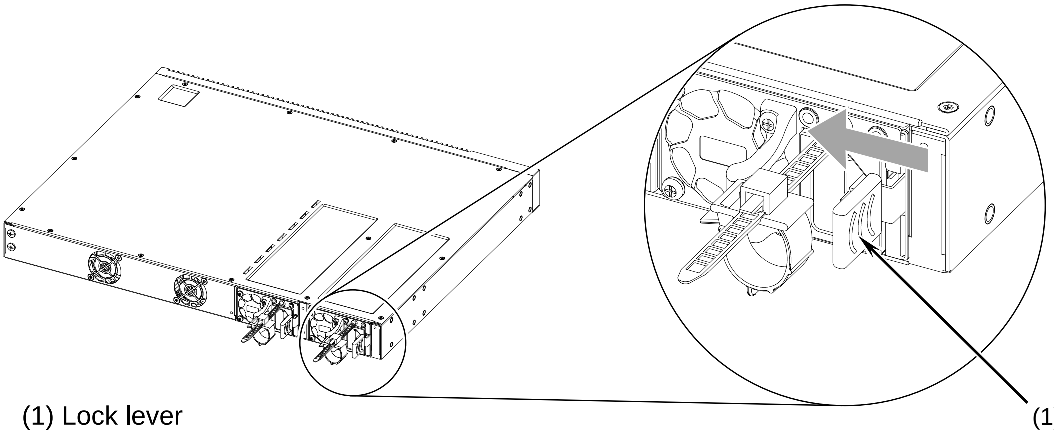


(1) Lock lever

NOTE

It may be difficult to remove a power supply unit. Push down the lock lever completely.

- For AX2630S-24P4XW and AX2630S-48P4XW:



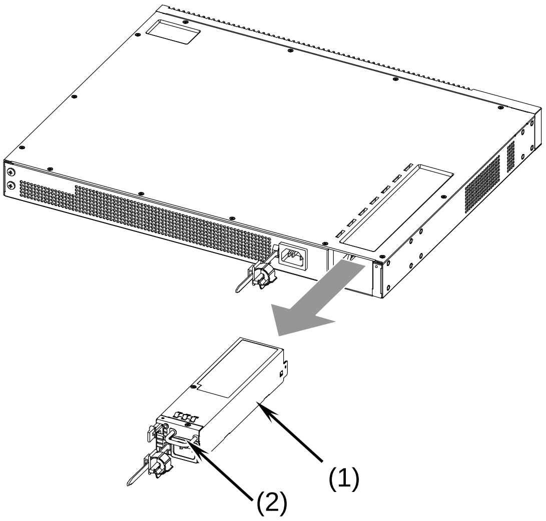
(1) Lock lever

[Step 3]

Remove the power supply unit by slowly pulling it forward you while keeping the locking lever completely down. (Hold the handle, pull the power supply unit a little first, and then pull it out while supporting the bottom surface.)

Figure 5-2 Removing a power supply unit

- For AX2630S-24T4XW and AX2630S-48T4XW:



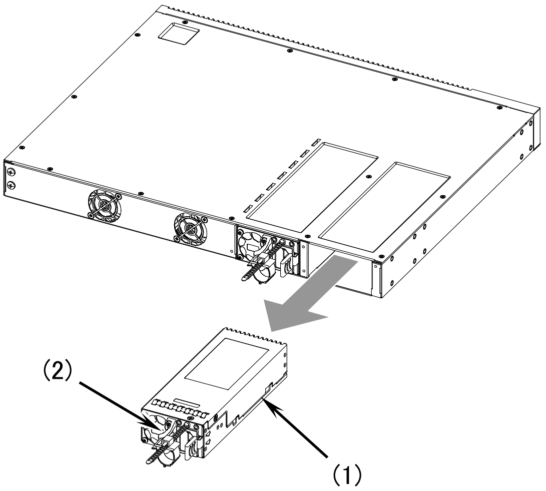
(1) Power supply unit

(2) Handle

**NOTE** If it is difficult to remove a power supply unit, push the body of the power supply unit toward the Switch and push down the lock lever completely to remove it.

**NOTE** [Step 1] to [Step 3] are examples of PS-26AF15. Follow the same steps for PS-26DF15 as well.

- For AX2630S-24P4XW and AX2630S-48P4XW:



(1) Power supply unit

(2) Handle

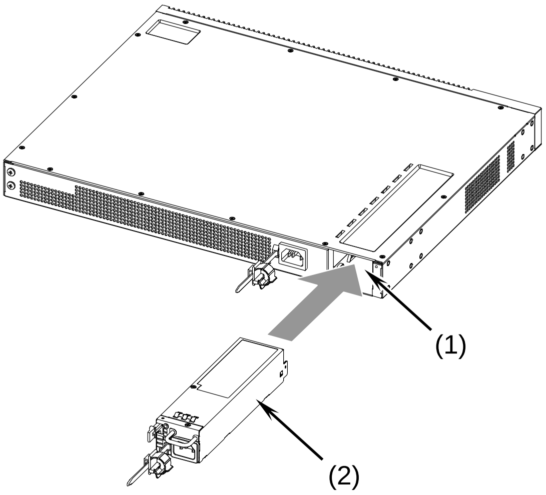
⚠ **Caution** The surfaces of a power supply unit might become hot. Do not touch them just after power-off. Doing so could result in burns.

### (2) How to install a power supply unit

[Step 1]

Install a power supply unit in the power supply unit slot. (Please install it while supporting the bottom surface.)

Figure 5-3 Installing a power supply unit



(1) Power supply unit slot

(2) Power supply unit

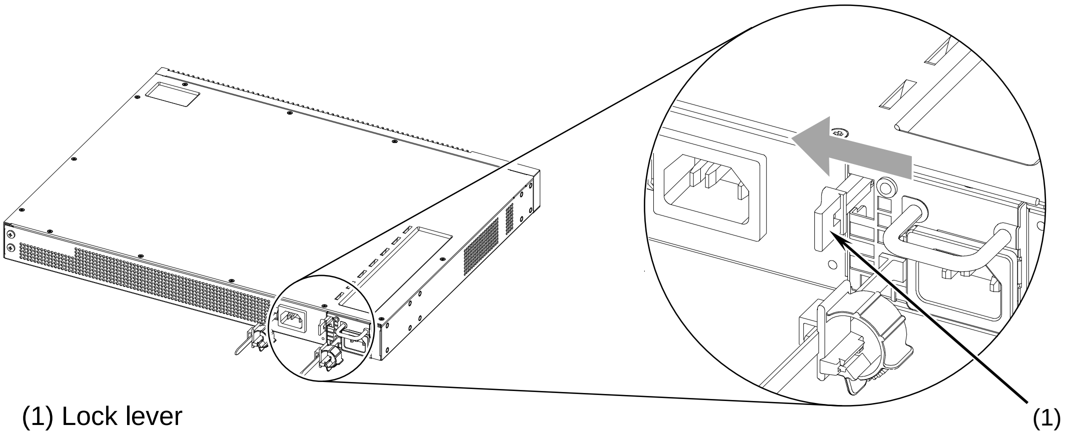
**NOTE** The figure above is an example of AX2630S-24T4XW. Follow the same steps for other models.

[Step 2]

Insert the power supply unit until it clicks and confirm that it is locked.

Figure 5-4 Installing a power supply unit (checking the lock)

- For AX2630S-24T4XW and AX2630S-48T4XW:

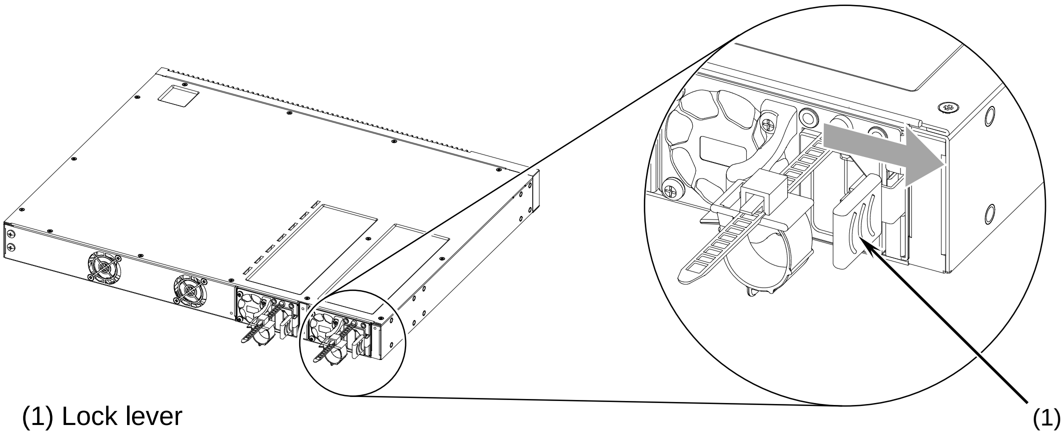


(1) Lock lever

NOTE

[Step 1] and [Step 2] are examples of PS-26AF15. Follow the same steps for PS-26DF15 as well.

- For AX2630S-24P4XW and AX2630S-48P4XW:



(1) Lock lever

[Step 3]

Connect the power cable to the power supply unit.

For information on connecting the power cable, see "4.4 Connecting and disconnecting the power cable".

# 6

# Operations Required for Initial Installation

This chapter describes how to set the administrator mode password, add and delete user accounts, and set the time, all of which are required for initial installation.

6.1 Points to be checked before initial installation
6.2 Operations Required for Initial Installation
6.3 Subsequent operations

## 6.1 Points to be checked before initial installation

The following are the points that you must check before initial installation.

### (1) Confirm the progress until the device starts up

The process from turning on the power to starting up the Switch is described below.

- After the power is turned on, the ST1 LED on the front panel of the Switch blinks green, and the startup process begins.
- When the Switch starts up successfully, the ST1 LED lights green.

### (2) Remove the memory card and boot up the Switch

The memory card is used in the following cases:

- To use the Switch in MC operation mode.
- To save failure information when failure occurs
- To update software

For information on inserting and removing the memory card, see "4.5 Inserting and removing the memory card".

## 6.2 Operations Required for Initial Installation

The operations required for initial installation are described below.

### 6.2.1 Overview of command input modes

The command input mode for the Switch command line interface (CLI) includes user mode, administrator mode, and configuration command mode.

To set and change the configuration or check the status of the Switch, you must enter an appropriate command input mode, and then type a configuration command or operation command.

The features of each command input mode are as follows.
The table below shows commands for mode transition and mode exit for each command input mode.

Table 6-1 Command input modes

| Command input mode | Mode transition command | Prompt | Exit command | Description |
|---|---|---|---|---|
| User mode | login: <User name> | > | > logout | Operation commands can be used, except some commands, for example, the configure command. |
| Administrator mode | > enable | # | # disable | All operation commands can be used. |
| Configuration command mode | # configure | (config)# | (config)# exit | All configuration commands can be used. |

### ● User mode

When you log in to the Switch, you are in user mode.

In user mode, operation commands can be used, except some commands.
The configure command, which newly registers or deletes a user account and switches to configuration command mode, cannot be executed in user mode. The command must be executed in administrator mode.

### ● Administrator mode

When you type the enable command in user mode, you are in administrator mode.

In administrator mode, all operation commands can be used.

During initial installation, no password is set for the enable command. To ensure security, we recommend that you set a password for the enable command and limit the users who can execute the command to enter administrator mode.

- Configuration command mode

When you type the configure command in administrator mode, you are in configuration command mode.

By using configuration commands in configuration command mode, the configuration of the Switch can be set and changed.

NOTE

Each command input mode in which operation commands can be executed is described in the "Software Manual Operation Command Reference".
Each command input mode in which configuration commands can be executed is described in the "Software Manual Configuration Command Reference".

## 6.2.2 Overview of initial installation operations

This section describes an overview of the operations required during initial installation.

The details of each operation can be found in the following sections.

NOTE

The following are the minimum required operations during initial installation.
For subsequent operations, see the manual listed in "6.3 Subsequent operations".

### (1) Login

Log in to the Switch. Use the user ID "operator" provided during initial installation. (Since no password is set for "operator", you can log in without authentication.)

### (2) Set a password for administrator mode

Set a password to be required when using the enable command to enter administrator mode. During initial installation, the password is not set. To ensure security, set the password for administrator mode.

### (3) Add a user account and remove "operator" user account

Add a new user account.
If you do not intend to use the pre-defined "operator" login user account, to prevent any security risk, ALAXALA Networks Corporation recommends that you delete the "operator" user account by executing the rmuser command after you create the new user account.

### (4) Set the time

Set the time zone and the time. During initial installation, the correct time is not set. The time is important information for collecting failure information, so set the exact time.

## 6.2.3 Login

The "login" prompt appears when the Switch has started up. Enter your user ID after the "login" prompt to log in to the Switch.

```
login: operator                               …Type the user name "operator".
Password:                                     …Press the [Enter] key.
No password is set. Please set password!      …A banner appears.

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```

## 6.2.4 Set a password for the device administrator

Set a password for the device administrator.

```
> enable                             …Enter administrator mode.
# password enable-mode               …Enable password setting for administrator mode.
Changing local password for admin
New password: ********               …Type a password for administrator mode.
                                       (The actual characters are not shown).
Retype new password: ********        …Re-type the password for confirmation.
                                       (The actual characters are not shown).
#
```

**NOTE**

We recommend that you use at least 6 characters for a password. If fewer than six characters are entered, an error is displayed. Note, however, that if you re-enter the same password, it will be accepted. Also, the maximum number of characters that can be used for a password is 128. If you enter 129 or more characters, only the first 128 characters are registered for the password. We recommend that you use upper-case alphabetic characters, numbers, and symbols in addition to lower-case alphabetic characters. If a password consists of only lower-case alphabetic characters, an error is displayed. Note, however, that if you re-enter the same password, it will be accepted.

### 6.2.5 Add a user account and remove "operator" user account

[Step 1] Create a user account and set a login password

Create a new user account and set a login password.
The following example shows how to create a new user name "newuser" and set a login password.

```
# adduser newuser                      …Set a new user name "newuser".
User(empty password) add done. Please setting password.
Changing local password for newuser.
New password: ********                 …Set a login password for the user name "newuser".
                                         (The actual characters are not shown).
Retype new password: ********          …Re-type the password for confirmation.
                                         (The actual characters are not shown).
# disable                              …Return to user mode.
> logout                               …Log out of the Switch.
```

NOTE

We recommend that you use at least 6 characters for a password. If fewer than six characters are entered, an error is displayed. Note, however, that if you re-enter the same password, it will be accepted. Also, the maximum number of characters that can be used for a password is 128. If you enter 129 or more characters, only the first 128 characters are registered for the password. We recommend that you use upper-case alphabetic characters, numbers, and symbols in addition to lower-case alphabetic characters. If a password consists of only lower-case alphabetic characters, an error is displayed. Note, however, that if you re-enter the same password, it will be accepted.

[Step 2] Delete the user account "operator"

Delete the user account "operator" provided during initial installation.

```
login: newuser                    …Log in the Switch with the newly created user name "newuser".
Password: ********                …Type the login password (specified in Step 1).
                                    .
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> enable                          …Enter administrator mode.
Password: ********                …Type a password for administrator mode.
# rmuser operator                 …Delete the user name "operator" provided during initial installation.
Delete user 'operator'? (y/n): y
#
```

### 6.2.6 Set the time

The following example shows the steps for setting the time to "August 6, 2021, 15:30" in Japan time.

```
# configure                          …Switch to configuration command mode.
(config)# clock timezone JST +9      …Set the time zone to JST and the offset from UTC to +9.
!(config)# save                      …Save the time zone setting.
(config)# exit                       …Return to administrator mode.
# set clock 2108061530               …Enter the date and time (year, month, day, hour, minute),
                                     each with 2 digits.
Fri Aug 6 15:30:00 JST 2021          …The set time is displayed.
# disable                            …Return to user mode.
> logout                             …Log out of the Switch.
```

NOTE

Once the configuration is changed, a "!" symbol is displayed at the beginning of the prompt. When the configuration is saved, the "!" symbol disappears.

You have completed the required settings of the time, administrator mode password, user account addition and deletion during initial installation.

NOTE

For operation management and configuration settings after performing the above operations, see the manual listed in "6.3 Subsequent operations".

## 6.3 Subsequent operations

### (1) Operation management and configuration setting

For details on operation management and configuration setting, see the following manuals. (The number in parentheses indicates the manual number.)

- Manuals to be referenced during operation management and configuration setting
  - Software Manual Configuration Guide Vol. 1 (AX26S-S001)
  - Software Manual Configuration Guide Vol. 2 (AX26S-S002)

- Manuals to be referenced for details of configuration commands
  - Software Manual Configuration Command Reference (AX26S-S003)

- Manuals to be referenced for details of operation commands
  - Software Manual Operation Command Reference (AX26S-S004)

**NOTE**

After setting the configuration, back up the operating information. If you make a backup, you can easily restore the operating information after replacing the Switch due to a failure.
For information on backup, see "Software Manual Configuration Guide Vol. 1".

### (2) System linkage test

Test whether the set configuration is correct before actually operating the system.

### (3) Troubleshooting

For troubleshooting when any problem occurs, see the following manual.

- Troubleshooting Guide (AX23S-T001)