Media Convertor

Quick Start Guide

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Applicable Models

This manual is applicable to the model listed in the following table.

Model	Description
DS-3D504P-A-2SC	Gigabit PoE media convertor, 4 × 10/100/1000 Mbps auto-negotiation PoE RJ45 port and 2 × gigabit SC fiber optical port, 20 km fiber distance

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
Note	Provides additional information to emphasize or supplement important points of the main text.
Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

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Chapter 1 Introduction

1.1 Product Introduction

DS-3D504P-A-2SC is a gigabit PoE media convertor, providing four 10/100/1000 Mbps auto-negotiation PoE RJ45 ports and two gigabit SC fiber optical ports. The device uses single-mode fibers to transmit and receive data, enabling high-speed, lossless signal transmission over distances of up to 20 km.

Compliant with the IEEE 802.3at standard while maintaining backward compatibility with IEEE 802.3af powered devices (PDs), the device incorporates PoE power management that prioritizes continuous and stable power supply of high-priority ports.

With its compact design, ease of use, wide dynamic range, and high cost-effectiveness, this Convertor is ideal for establishing efficient network systems in hotels, scenic spots, factories, office buildings, apartments, parking lots, and security applications.

1.2 Packing List

Please check if the package is damaged first. If the package is intact, unpack it and check whether the accessories provided with the product are available by referring to the packing list. Then, you can continue to install the device.

Table 1-1 Packing List

Accessory	Quantity
Media Convertor	× 1
Power Adapter	× 1
Power Cord	× 1
Regulatory Compliance and Safety Information	× 1

1.3 Appearance

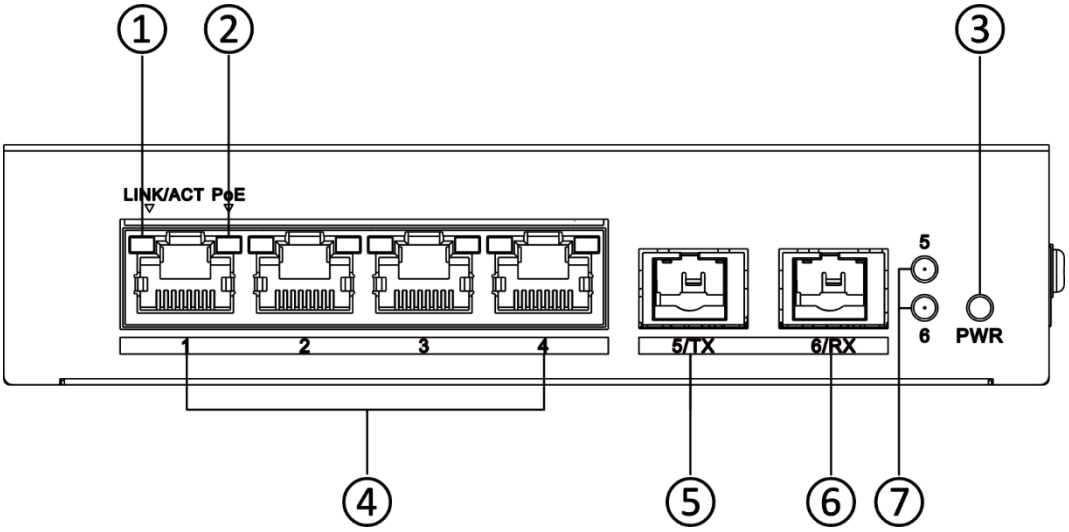

Figure 1-1 Front Panel

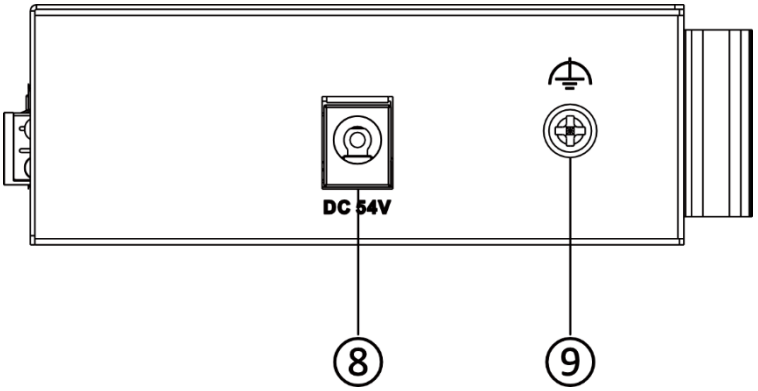

Figure 1-2 Side Panel

Table 1-2 Port/Indicator Description

No.	Port/Indicator	Description
①	LINK/ACT Indicator	● Solid on: The 10/100/1000 Mbps auto-negotiation PoE RJ45 port is connected. ● Flashing: The 10/100/1000 Mbps auto-negotiation PoE RJ45 port is transmitting or receiving data. ● Unlit: The 10/100/1000 Mbps auto-negotiation PoE RJ45 port is disconnected or connection is abnormal.
②	PoE Indicator	● Solid on: The device supplies power to a PD normally.

		● Unlit: The device is disconnected from a PD or power supply is abnormal.
③	PWR Indicator	● Solid on: The device is powered on normally. ● Unlit: No power supply connected or power supply is abnormal.
④	PoE RJ45 Port	10/100/1000 Mbps auto-negotiation PoE RJ45 port, used for connection to a PD such as a network camera (IPC) or switch via a network cable.
⑤	Gigabit SC Fiber Optical Port (TX)	The TX port (Transmit port) is responsible for sending data signals out from the media convertor. It converts electrical signals generated by the transceiver into optical signals and transmits them through the fiber link to a remote device.
⑥	Gigabit SC Fiber Optical Port (RX)	The RX port (Receive port) is responsible for receiving incoming data signals. When data is sent over the fiber link, it arrives at the RX port. The media convertor then converts the optical signals back into electrical signals that can be processed by the devices connected via Ethernet cables.
⑦	Fiber Optical Port Indicator (Ports 5 and 6)	● Solid on: The gigabit SC fiber optical port is connected via an optical fiber. ● Flashing: The gigabit SC fiber optical port is transmitting or receiving data. ● Unlit: The gigabit SC fiber optical port is disconnected or connection is abnormal.
⑧	DC Power Jack	Use the attached power adapter and power cord to connect the device's power jack to a power socket.
⑨	Grounding Terminal	Used for connection to a grounding cable to protect the device from lightning.

1.4 Typical Application

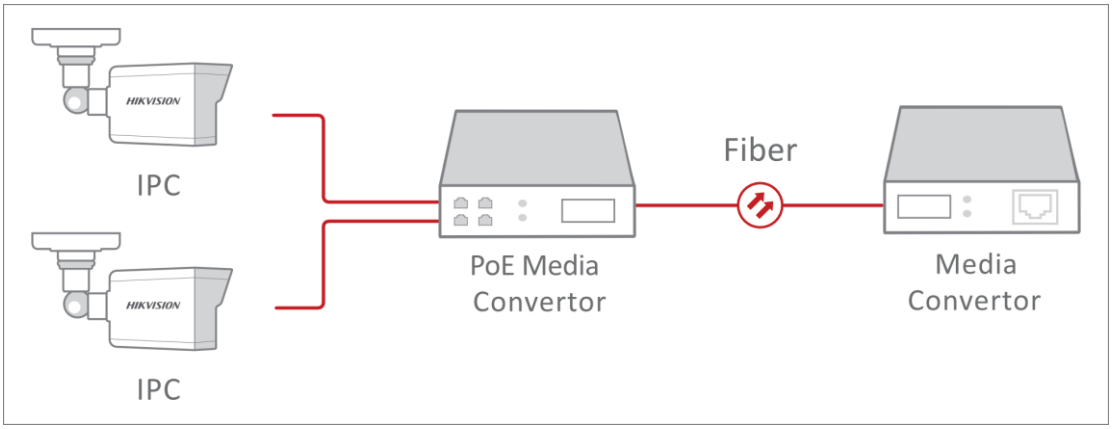

Figure 1-3 IPCs Connected Remotely via a PoE Media Convertor

Chapter 2 Installation

This chapter describes how to install the media convertor. To avoid device damage and other harmful consequences, read this chapter carefully.

Note

- The device is made of metal shell with anti-rust and anti-corrosion treatment on the surface.
- The device shell is not waterproof. Therefore, the installation box should be waterproof.

2.1 Lightning Protection, ESD Protection, and Grounding

- When installing the device, fully consider the impact of lightning strikes at the installation site, and take grounding and lightning protection measures.
- Excessive static electricity may damage optical components and data modules in the device. It is recommended to power off the media convertor when you plug or unplug any cables to and from the data port(s) on the device.
- Use a self-prepared grounding cable to connect with the grounding terminal for device grounding. The copper core insulated wire and cable used in the grounding cable should have a cross-sectional area of no less than 6 mm^2, a buried depth of no less than 0.5 m, and a grounding resistance of less than 4 Ω.

Caution

- Lightning strikes and static electricity may damage internal components of the device.
- Poor grounding can cause interference to video signals and control signals, seriously leading to the inability of front-end devices.

2.2 Optical Fiber and Optical Component Protection

- The device uses single-mode optical fibers for data transmission. The installation and transmission specifications of optical fiber links should comply with relevant international or national standards and requirements.
- The optical component(s) of a media convertor is/are fragile. When plugging or unplugging optical fibers, care should be taken to avoid permanent damage to the optical component(s). Reasonably lay out optical fibers in the equipment room. Do not bend an optical fiber overly (recommended curvature radius ≥ 50 mm).
- The optical fiber connector cannot be contaminated. Please gently wipe it with anhydrous alcohol before use; otherwise, the transmission effect may be affected. If the optical fiber

connector is not properly connected, large power loss may occur. Therefore, adjust the optical fiber connector according to the actual situation.

- If the fiber optical ports and optical fibers are not in use for a long time, they should be protected from dust by protective covers.

Caution

The light source generated by the optical component(s) of the media convertor can cause permanent damage to human eyes. Do not look directly at the optical component(s) or the fiber optical ports when the media convertor is powered on. To measure the optical power of a media convertor, use a special instrument such as an optical power meter.

2.3 Optical Fiber Connection

Step 1 Check whether the optical fiber link meets the installation requirements described in the preceding sections.

Step 2 Use an optical fiber to connect the TX port of the PoE media convertor to the OPT port of the remote convertor, ensuring the remote device is set up to receive optical signals on its OPT port.

Step 3 Check whether the fiber optical indicator is solid on to determine whether the optical fiber is properly connected.

2.4 Device Installation

Please select an appropriate installation method according to the actual needs. The following figure is for your reference only.

Note

- Ensure that the desktop or rail is stable and firm enough.
- Keep the room well-ventilated. Leave at least 10 cm heat dissipation space around the device.

2.4.1 Desktop Placement

Place the device on a clean and stable desk.

Caution

Keep the device top facing upward when moving or using the device.

2.4.2 Rail-Mounted Installation

Note

Use a standard 35 mm-wide DIN rail for rail-mounted installation.

Step 1 Align the DIN rail mounting clip with the mounting holes on the device and secure it with screws.

Step 2 Tilt the rear end of the device (with the slot) into the groove of the DIN rail-mounted unit, allowing the device to hang on the rail.

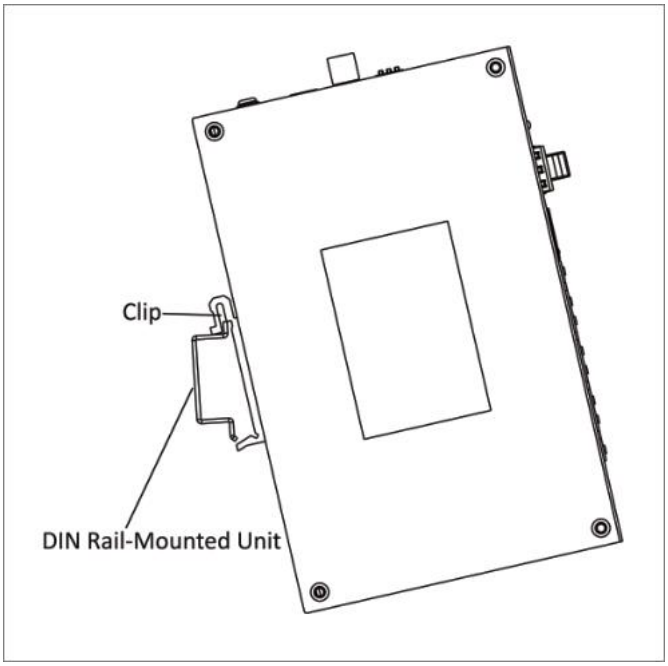

Figure 2-1 Rail-Mounted Installation

Step 3 Push the front end of the device forward until you hear a click, ensuring the clip fully engages with the rail.

Step 4 Optional: Use M3 screws packed with the DIN rail mounting clip (if any) to secure the DIN rail-mounted unit to the device.

Chapter 3 Grounding

Grounding is used to quickly release overvoltage and overcurrent induced by lightning on the device, and to protect personal safety. Select an appropriate grounding method according to the installation conditions.

Note

- Please prepare a grounding cable yourself.
- The grounding terminal may be located on the rear or side panel of the device. The following figures are for illustration only.

3.1 With Grounding Bar

Step 1 Connect one end of the grounding cable to the binding post on the grounding bar.

Step 2 Connect the other end of the grounding cable to the grounding terminal of the device and tighten the screw.

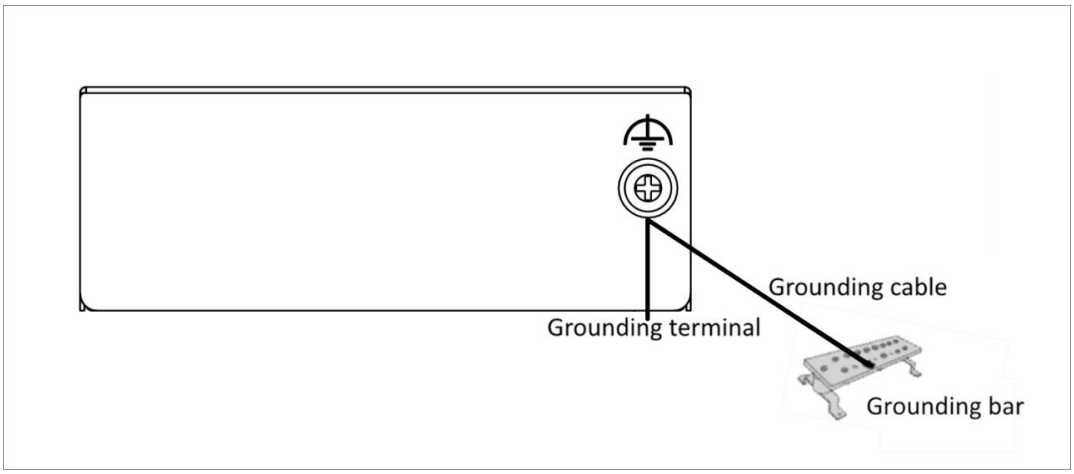

Figure 3-1 Grounding with Grounding Bar

3.2 Without Grounding Bar

Step 1 Bury an angle steel or steel pipe (≥ 0.5 m) into the earth.

Step 2 Weld one end of the grounding cable to the angle steel or steel pipe and embalm the welding point via electroplating or coating.

Step 3 Connect the other end of the grounding cable to the grounding terminal.

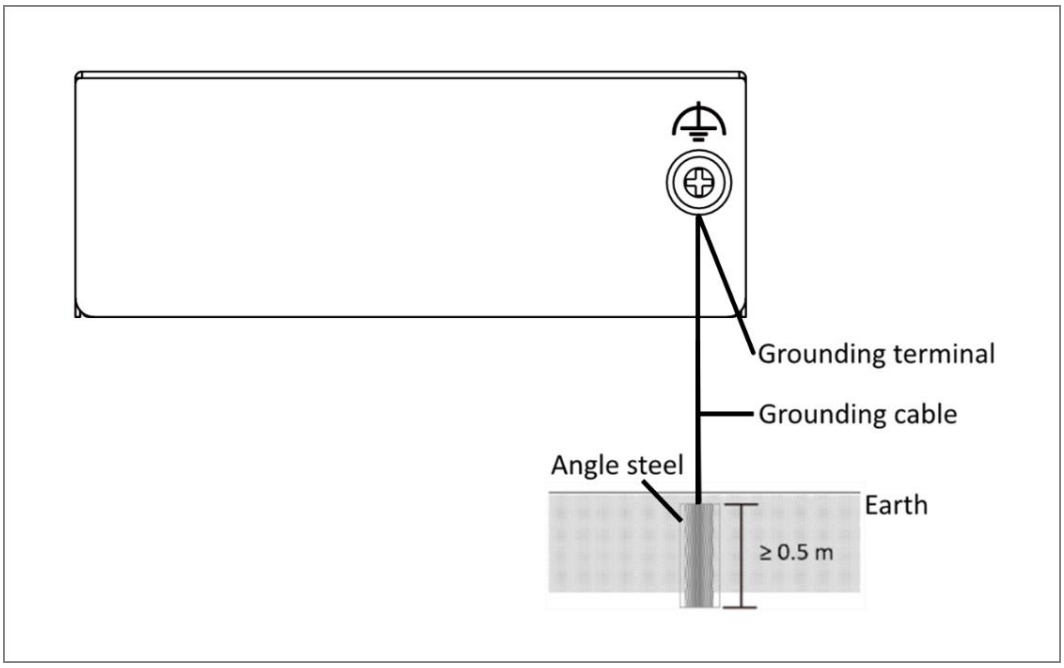

Figure 3-2 Grounding with Angle Steel

Chapter 4 Powering On

Please use the attached power adapter and power cord to power on the device.

Before powering on your device, make sure that:

- The operating power supply is compliant with rated input standard.
- Port cables and grounding cables are correctly connected.

See Far, Go Further

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