LED Controller (C Series)

Quick Start Guide

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Preface

Applicable Models

This manual is applicable to the C series LED controller.

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.

Safety Instructions

Caution

- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region.
- The device must be connected to an earthed mains socket-outlet.
- The socket-outlet shall be installed near the device and shall be easily accessible.
- Do not touch the bare components (such as the metal contacts of the inlets) and wait for at least 5 minutes, since electricity may still exist after the device is powered off.
- Never place the device in an unstable location. The device may fall, causing serious personal injury or death.
- This device is not suitable for use in locations where children are likely to be present.
- CAUTION: Risk of explosion if the battery is replaced by an incorrect type.
- Improper replacement of the battery with an incorrect type may defeat a safeguard (for example, in the case of some lithium battery types).

- Do not dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
- Do not leave the battery in an extremely high temperature surrounding environment, which may result in an explosion or the leakage of flammable liquid or gas.
- Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.
- Dispose of used batteries according to the instructions.
- Keep body parts away from fan blades. Disconnect the power source during servicing.

Note

- Provide a surge suppressor at the inlet opening of the device under special conditions such as the mountain top, iron tower, and forest.
- + identifies the positive terminals of the device which is used with, or generates direct current, and - identifies the negative terminals of the device which is used with, or generates direct current.
- The serial port of the device is used for debugging only.
- The interface varies with the models. Please refer to the product datasheet for details.
- The USB port of the device is used for connecting to a mouse, a keyboard, or a USB flash drive only. The current for the connected device shall be not more than 0.1 A.
- Make sure that the power has been disconnected before you wire, install, or disassemble the device.
- The device shall not be exposed to water dripping or splashing, and no objects filled with liquids, such as vases, shall be placed on the device.
- No naked flame sources, such as lighted candles, should be placed on the device.
- If smoke, odor, or noise arises from the device, immediately turn off the power, unplug the power cable, and contact the service center.
- Install the device according to the instructions in Quick Start Guide.
- To prevent injury, this device must be securely attached to the installation surface in accordance with the installation instructions.
- The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains. The openings shall never be blocked by placing the device on a bed, sofa, rug, or other similar surface.

TABLE OF CONTENTS

Chapter 1 Introduction

1.1 Overview

The LED controller (hereinafter referred to as the device) controls the full-color LED display (hereinafter referred to as the display or screen) and is suitable for various occasions such as meeting rooms, broadcasting studios, stadiums, airports, stations, banks, advertising locations, and home theaters. After connecting the screens, the device can efficiently manage and control the screens and seamlessly splice the screens.

Note

This radio transmitter (IC:20199-DT60P02HDI2) has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna Type: Dipole Antenna with SMA connector

Antenna Gain: 3.5 dBi

1.2 Appearance

1.2.1 Front Panel

DS-DT20C 2K Device

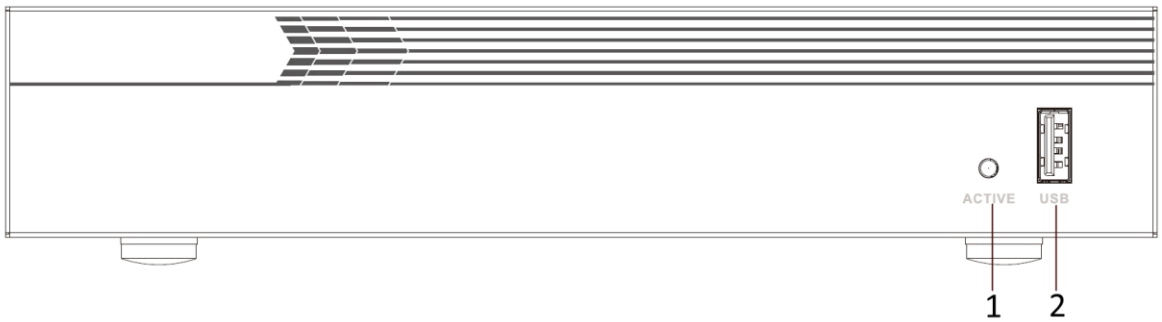

Figure 1-1 Front Panel of DS-DT20C 2K Device

No.	Name	Description
1	Active LED	• Fast flashing: When the device is not in the self-test picture mode, the device is running normally. • Slow flashing: The system is in soft shutdown process.

No.	Name	Description
		• On: The device is in self-test picture mode. • Off: A device exception occurs or the device is not powered on.
2	USB 2.0 port	Supports connecting to the mouse, keyboard, USB flash drive or USB plug of the RF remote control. **Note** The device cannot read the content from the USB flash drive after it is inserted into the device.

DS-DT60C 2K Device

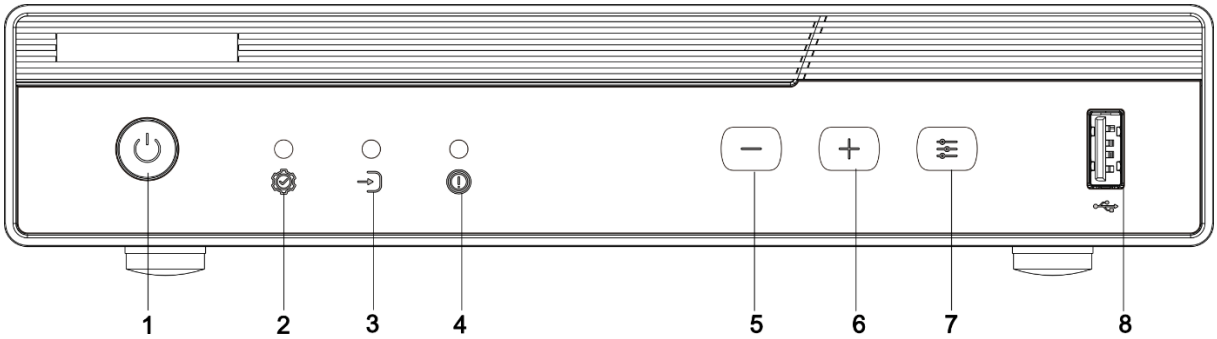

Figure 1-2 Front Panel of DS-DT60C 2K Device

No.	Name	Description
1	Power switch / power LED	The device starts up when powered on. Press the button to power off the device and press it again to power on the device. • When the device is powered on, the power LED is on. • When the device is powered off, the power LED is off.
2	Active LED	• Fast flashing: When the device is not in the self-test picture mode, the device is running normally. • Slow flashing: The system is in soft shutdown process. • On: The device is in self-test picture mode. • Off: A device exception occurs or the device is not powered on.
3	Signal source LED	• Steady green: The device has a valid signal access. • Off: No signal access to the device. • Alternating on and off: The signal is unstable.
4	Error LED	• Steady green: The system has detected an exception or alarm. • Off: The system status is normal.

No.	Name	Description
5	Button –	● Normal status: Press the button to decrease brightness. ● Self-test status: Press the button to switch to the previous self-test picture.
6	Button +	● Normal status: Press the button to increase brightness. ● Self-test status: Press the button to switch to the next self-test picture.
7	Signal source button	● Press the button to switch the signal source. ● Press and hold the button to enter or exit self-test.
8	USB 2.0 port	Supports connecting to the mouse, keyboard, USB flash drive or USB plug of the RF remote control. **Note** The device cannot read the content from the USB flash drive after it is inserted into the device.

1.2.2 Rear Panel

DS-DT20C 2K Device

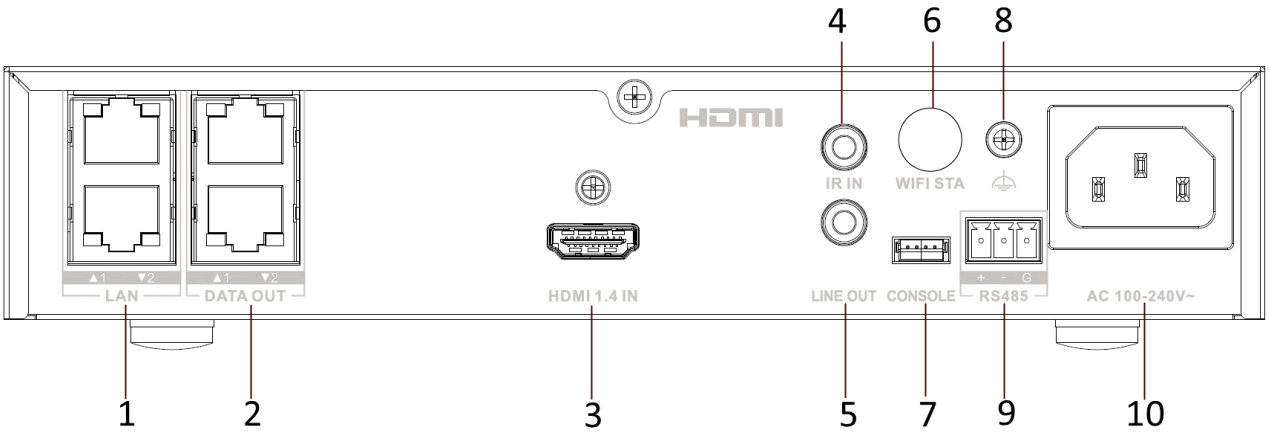

Figure 1-3 Rear Panel of DS-DT20C 2K Device with 2 Outputs

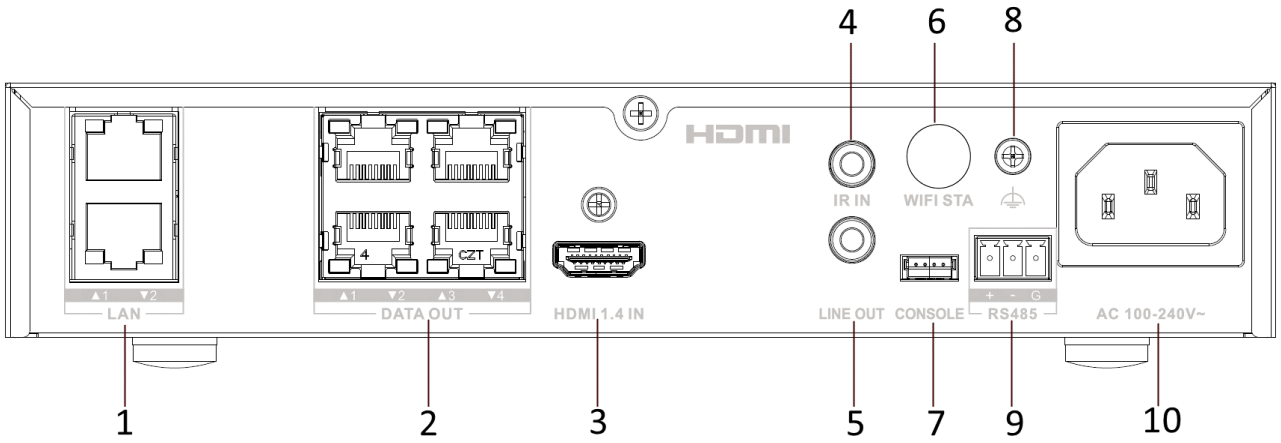

Figure 1-4 Rear Panel of DS-DT20C 2K Device with 4 Outputs

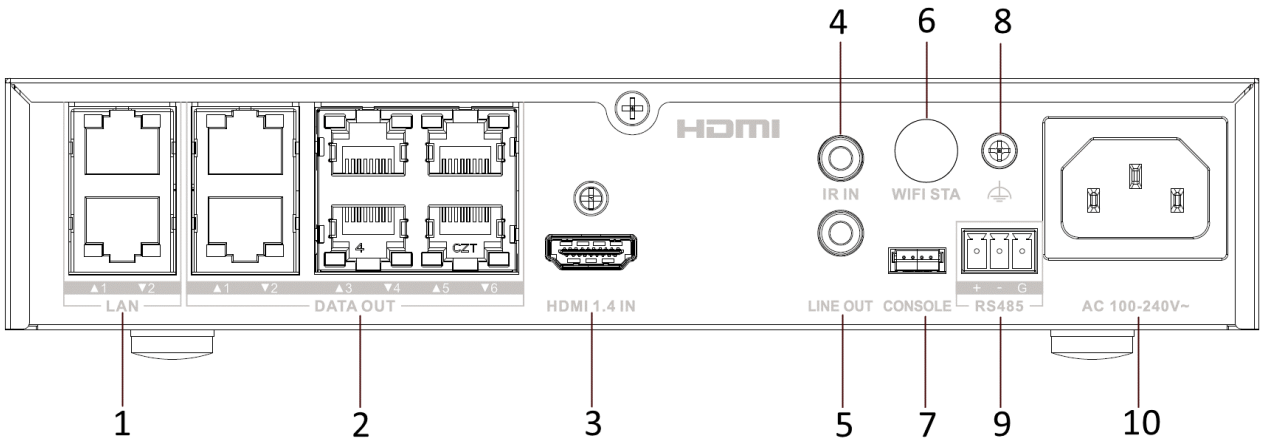

Figure 1-5 Rear Panel of DS-DT20C 2K Device with 6 Outputs

No.	Name	Description
1	Debugging network port (LAN)	Connects to the network cable for device debugging.
2	Output network port (DATA OUT)	Connects to the LED display. **Note** The device controls only the HUB receiving cards.
3	HDMI input port (HDMI 1.4 IN)	Connects to a signal source that uses the HDMI port with a resolution of less than 2.6 MP.
4	IR input port (IR IN)	Connects to the IR device.
5	Audio output port (LINE OUT)	Connects to the audio playback device with the amplifier. **Note** When a video wall is bound with multiple signal sources, the audio playback device connected to the LINE OUT

No.	Name	Description
		port will output the audio from the enabled signal source. One video wall supports only one enabled audio. The audio of the first signal source displayed on the video wall will be enabled by default, and you can enable the audio of another signal source.
6	Wireless port (WIFI STA)	Reserved.
7	Console port	Connects to the serial port cable for device debugging.
8	Grounding point	Connects to the grounding cable.
9	RS-485 port	Connects to the RS-485 port of central control device.
10	Power supply socket (AC 100-240V)	Connects to the power cord.

Note

The DS-DT20C device supports controlling only the receiving cards that use the hub ports.

DS-DT60C 2K Device

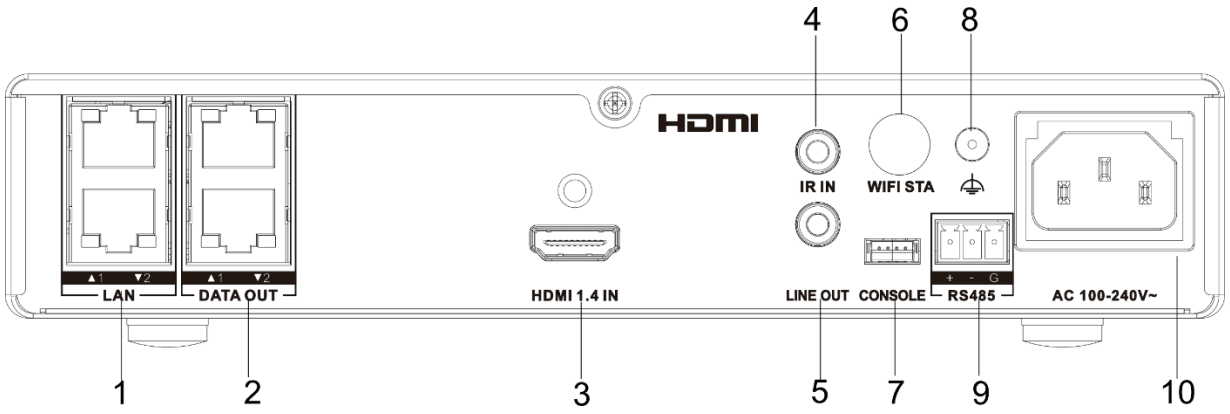

Figure 1-6 Rear Panel of DS-DT60C 2K Device with 2 Outputs

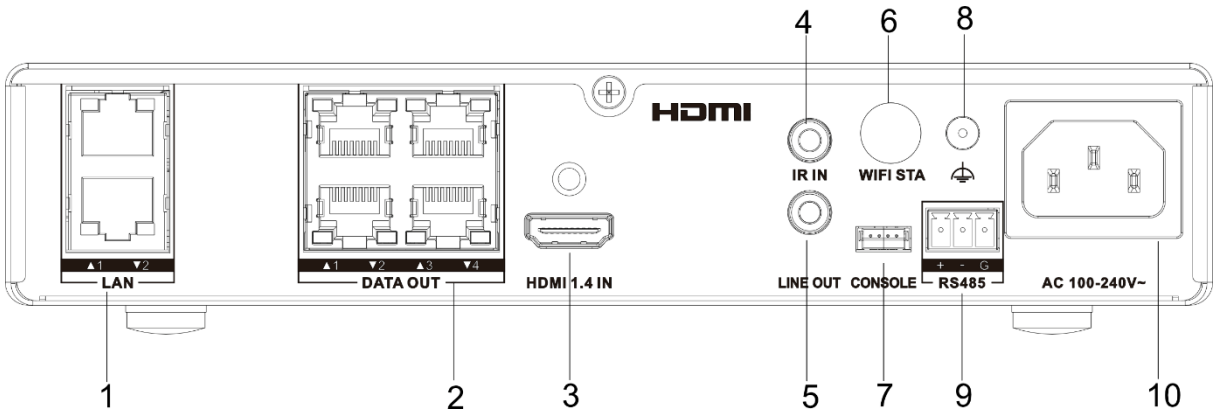

Figure 1-7 Rear Panel of DS-DT60C 2K Device with 4 Outputs

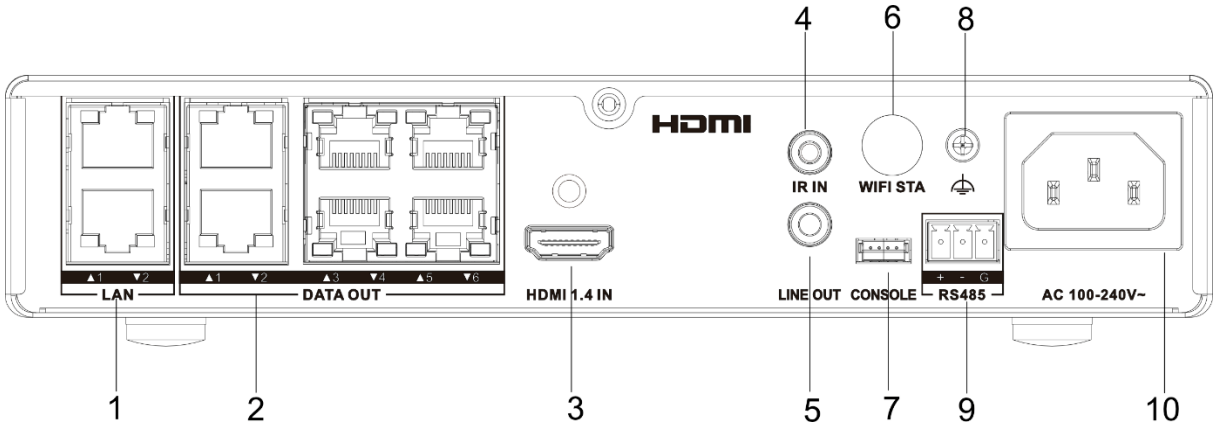

Figure 1-8 Rear Panel of DS-DT60C 2K Device with 6 Outputs

No.	Name	Description
1	Debugging network port (LAN)	Connects to the network cable for device debugging.
2	Output network port (DATA OUT)	Connects to the LED display.
3	HDMI input port (HDMI 1.4 IN)	Connects to a signal source that uses the HDMI port with a resolution of less than 2.6 MP.
4	IR input port (IR IN)	Connects to the IR device.
5	Audio output port (LINE OUT)	Connects to the audio playback device with the amplifier. **Note** When a video wall is bound with multiple signal sources, the audio playback device connected to the LINE OUT port will output the audio from the enabled signal source. One video wall supports only one enabled audio. The audio of the first signal source displayed on the

No.	Name	Description
		video wall will be enabled by default, and you can enable the audio of another signal source.
6	Wireless port (WIFI STA)	Reserved.
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8	Grounding point	Connects to the grounding cable.
9	RS-485 port	Connects to the RS-485 port of central control device.
10	Power supply socket (AC 100-240V)	Connects to the power cord.

Chapter 2 Installation

2.1 Safety Precautions

Caution

As a high-precision, system-level electronic product, the device should be installed and maintained by professionals.

In order to avoid personal and property injury, please read the safety precautions in this section carefully before installation. The following safety recommendations do not cover all possible dangerous situations.

Electricity Safety

- During the installation, wiring, disassembly, and maintenance of the device, please disconnect the power supply and do not operate with electricity (except for the operation of the hot plug).
- In the installation and use of the device, make sure to follow the local electrical safety regulations.
- In case of abnormal phenomena such as smoke or odor occur during the use of the device, please cut off the power immediately, unplug the power cord from the socket, and contact the after-sales service center in time.

Anti-Static Measures

The equipment is a precision electronic device. In order to avoid static electricity from damaging the components, in addition to anti-static measures in the equipment room, you must wear anti-static gloves or anti-static wrists during the installation process.

Grounding Requirements

In order to ensure personal safety and device safety, the device must be grounded.

Power Supply Requirements

The device supports 100 VAC to 240 VAC@50/60 Hz power supply. To ensure the stable operation of the device, it is recommended to install UPS for power supply.

Anti-Interference Requirements

- The on-site power supply system must have effective measures to prevent grid interference.

- Do not use the working ground together with the grounding device or lightning protection grounding device of power equipment, and keep the two as far away as possible.
- Keep away from high-power radio transmitters, radar transmitters, and high-frequency and high-current equipment.
- When necessary, electromagnetic shielding can be used for anti-interference.

Environmental Requirements

The device is a system-level monitoring equipment, which is generally placed in the central equipment room of the monitoring system at all levels. The selection of the installation site should comply with the relevant standards of the equipment room construction in the country and region of use.

The device is a standard rack-mounted equipment. Please pay attention to the following information during installation and use:

- Ensure that the temperature in the rack is from 0 °C to 45 °C.
- Ensure that the humidity in the equipment room is between 10% RH and 90% RH.
- Ensure that the rack is strong enough to support the weight of the device and its accessories. During the installation, avoid the risk caused by uneven mechanical load.
- Ensure that there is enough installation space for the video and audio cables. The bending radius of a cable should not be less than 5 times the cable outer diameter.
- To ensure good ventilation, install the device at the position above the ground of at least 4 cm.
- Do not block the air vents and outlets of the device. Keep the air vents and outlets at least 4 cm away from the chassis surface.

2.2 Open Package and Check Items

Open the device package to verify that all items in the package are intact according to the packing list.

Table 2-1 Packing List

Device Type	Item	Quantity
2K device	Device	1
	3-Slot Phoenix contact	1
	Regulatory compliance and safety information manual	1
	Mounting bracket	1 pair
	Connecting bracket	1 pair
	AC power cord	1

Device Type	Item	Quantity
4K device	Device	1
	Regulatory compliance and safety information manual	1
	4-Slot Phoenix contact	2
	Mounting bracket	1 pair
	AC power cord	1
	Rubber feet	1 pair

2.3 Install the Device in the Rack

Note

- Prepare the rack and screws by yourself.
- There are two types of connecting brackets. Please select the installation method according to the type of the actual connecting bracket.

Install 2K Device via Connecting Bracket 1

Step 1 Use two KM3 × 6 countersunk screws (1) to install one mounting bracket (2) to the left side of the first device front panel. Use the same method to install the other mounting bracket to the right side of the second device front panel.

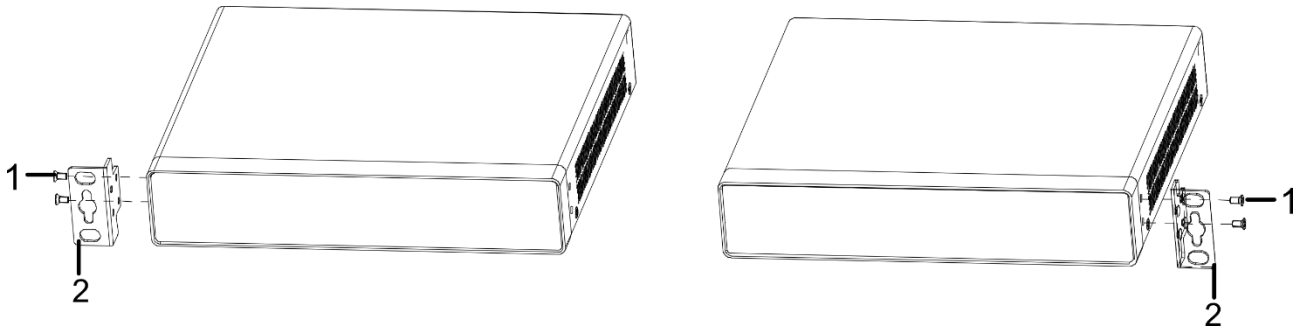

Figure 2-1 Install the Mounting Brackets

Step 2 Use two TWM3 × 6 pan-head screws (4) to install two connecting brackets (3) to the inner sides of two devices with the FRONT surface facing forward.

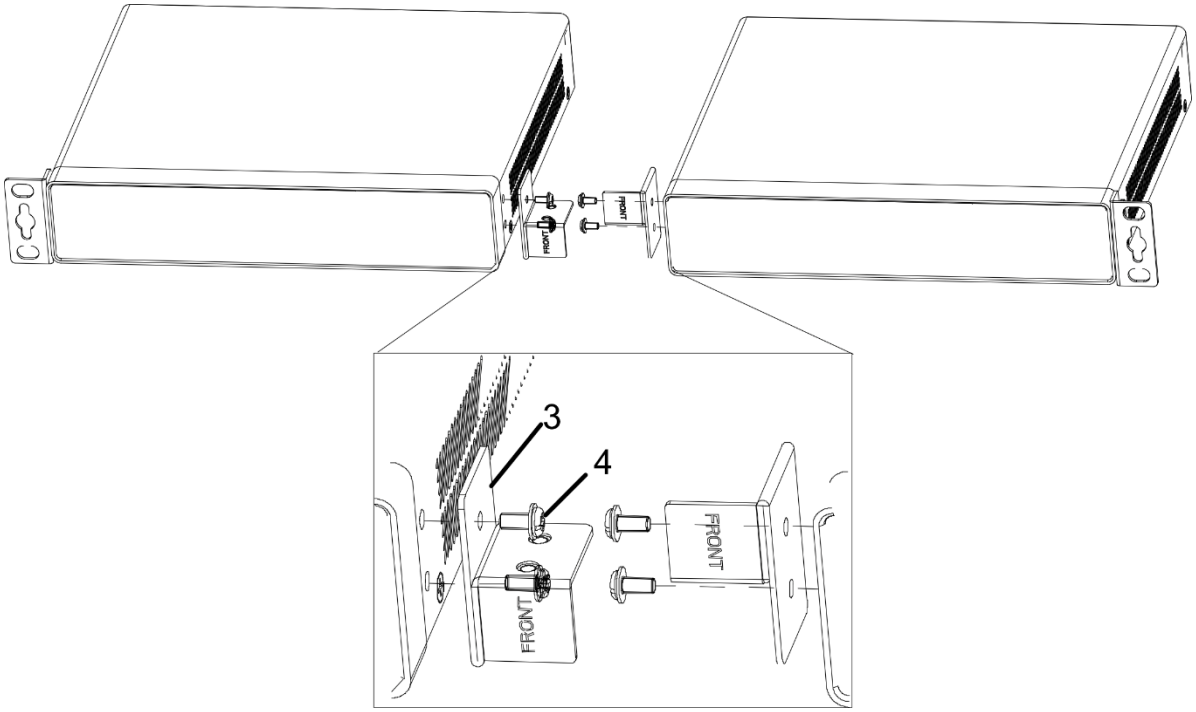

Figure 2-2 Install the Connecting Brackets 1

Step 3 Use two TWM3 × 6 pan-head screws (4) to secure the connecting brackets (3).

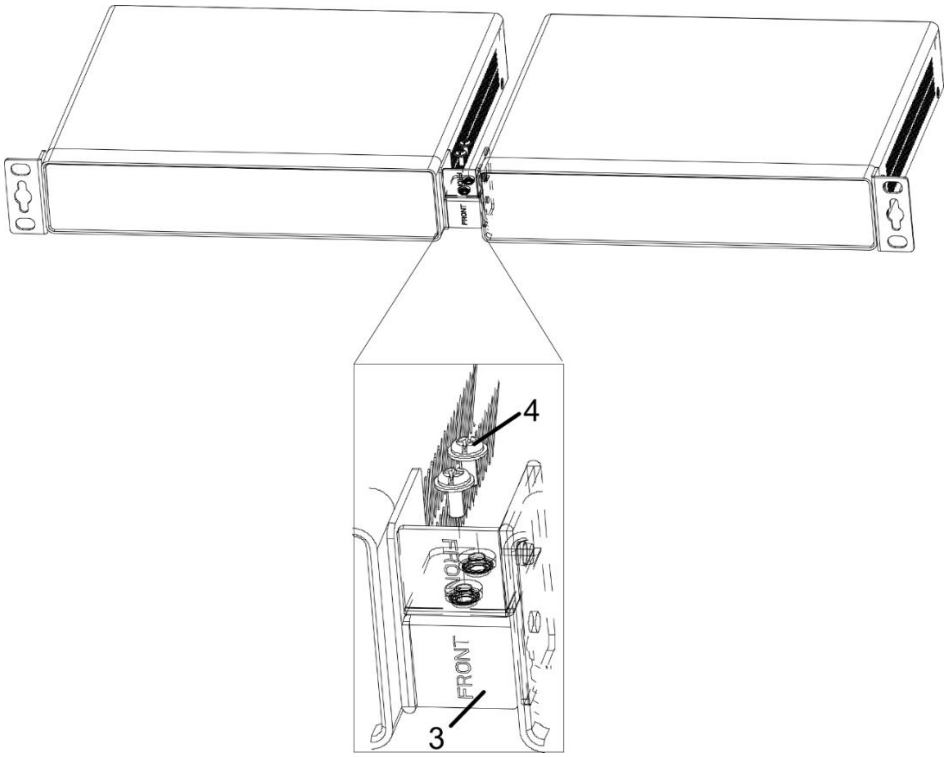

Figure 2-3 Secure the Connecting Brackets 1

Step 4 Prepare the clip nuts and M5 screws or M6 screws (6) to secure two devices (5) to the rack post (7).

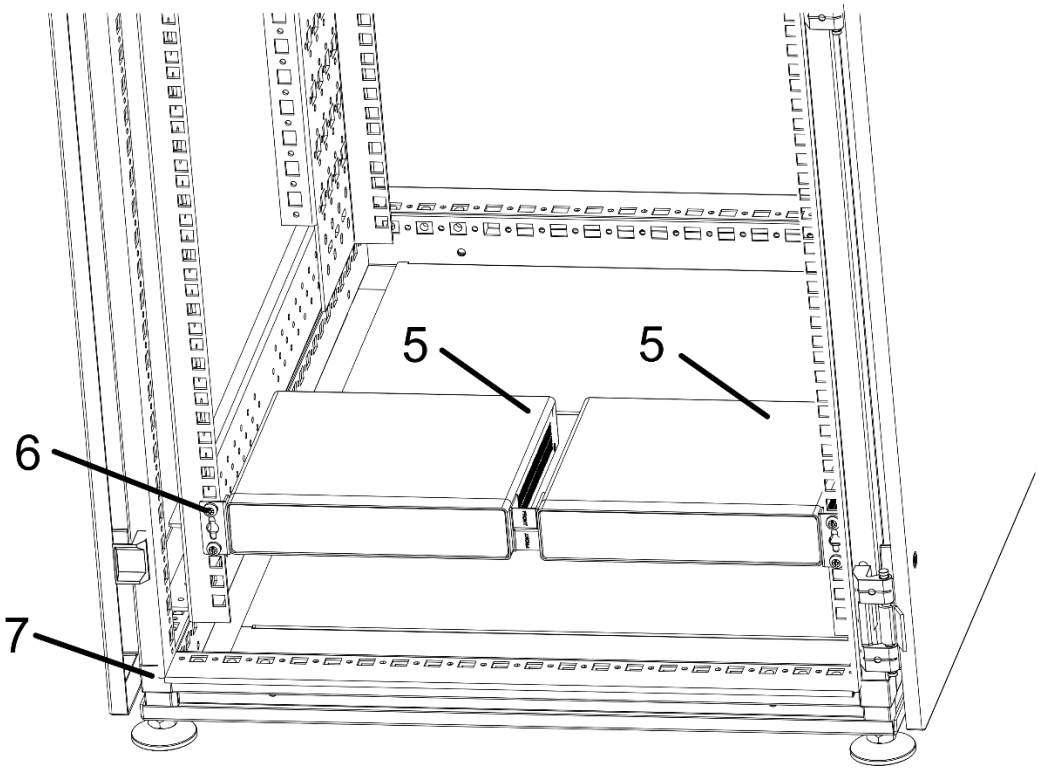

Figure 2-4 Secure Devices to the Rack

Note

If you install multiple layers of devices in the rack, keep at least one rack post hole between each layer of devices.

Install 2K Device via Connecting Bracket 2

Step 1 Use two KM3 × 6 countersunk screws (1) to install one mounting bracket (2) to the left side of the first device front panel. Use the same method to install the other mounting bracket to the right side of the second device front panel.

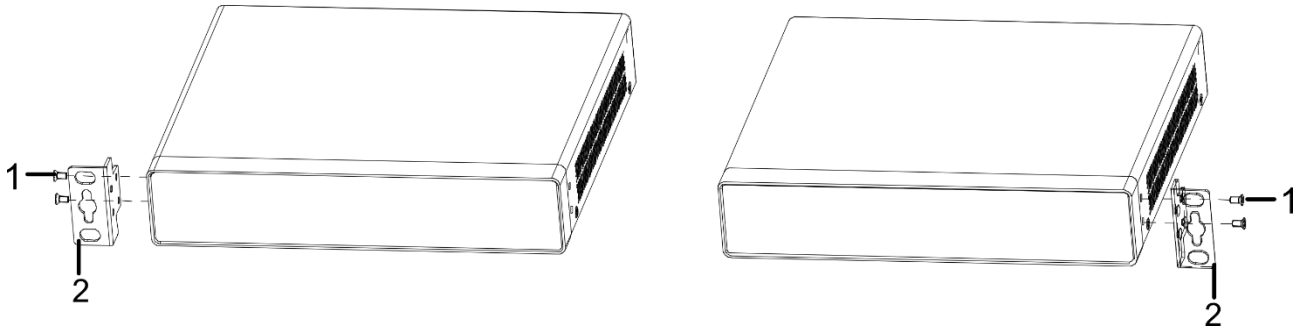

Figure 2-5 Install the Mounting Brackets

Step 2 Use two KM3 × 6 countersunk screws (1) to install two connecting brackets (3) to the inner sides of two devices with the FRONT surface facing forward and arrow facing upward.

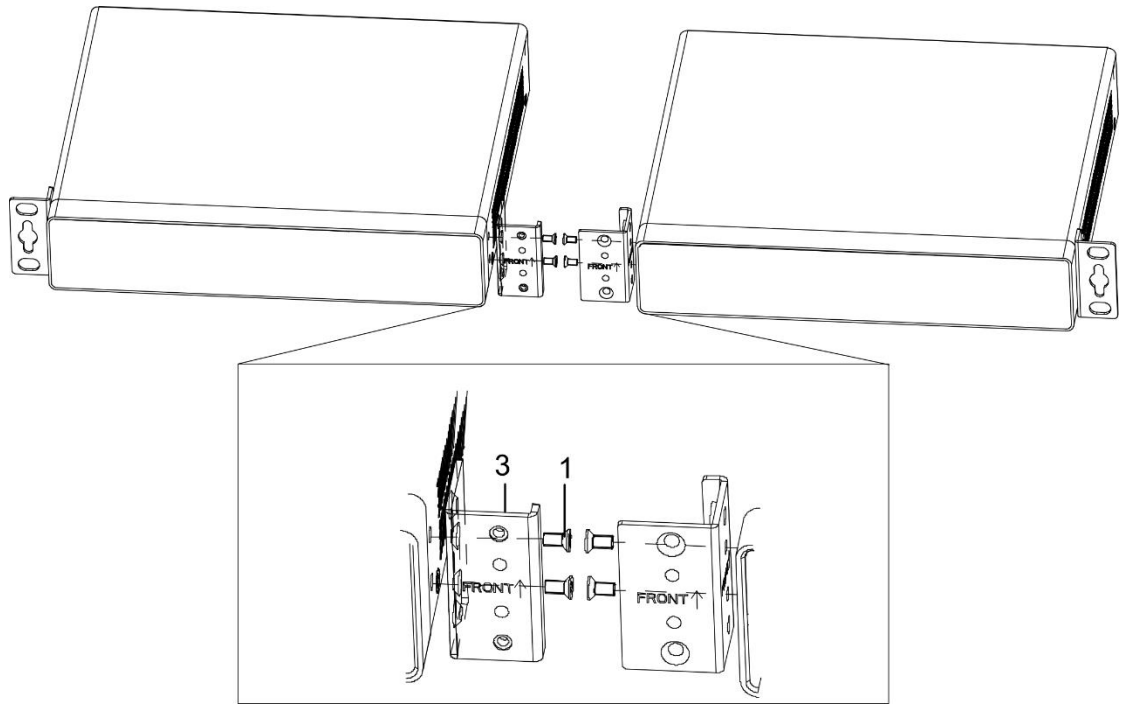

Figure 2-6 Install the Connecting Brackets 2

Step 3 Use two KM3 × 6 countersunk screws (1) to secure the connecting brackets (3).

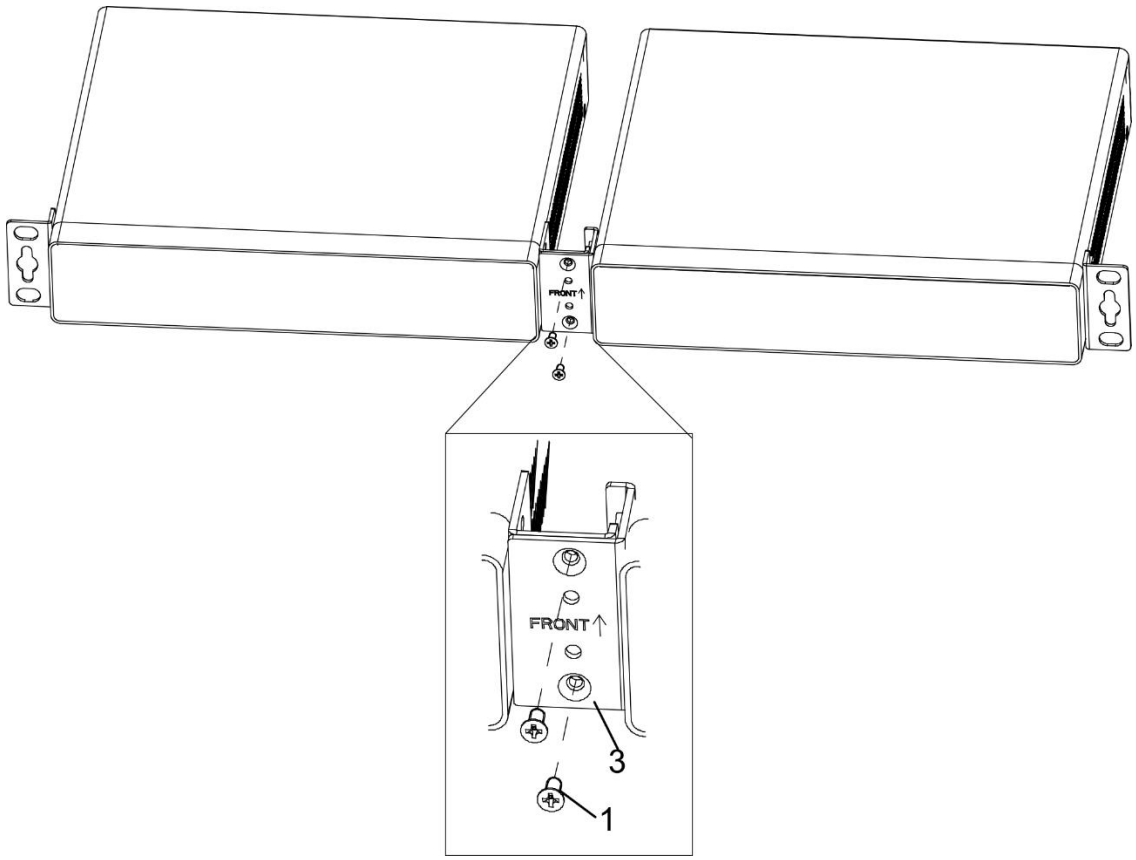

Figure 2-7 Secure the Connecting Brackets 2

Step 4 Prepare the clip nuts and M5 screws or M6 screws to secure two devices to the rack post.

Note

If you install multiple layers of devices in the rack, keep at least one rack post hole between each layer of devices.

2.4 Connect Cables

2.4.1 Connect the Grounding Cable

Connecting the grounding cable can release the excessive voltage and current induced by lightning shock. Please select the most suitable connection mode to protect the grounding cable according to the installation environment.

Use Grounding Bar

Step 1 Connect one end of the grounding cable (2) to the grounding terminal of the grounding bar (3) in the equipment room.

Step 2 Connect the other end of the grounding cable to the grounding terminal of the device (1) and tighten the screw.

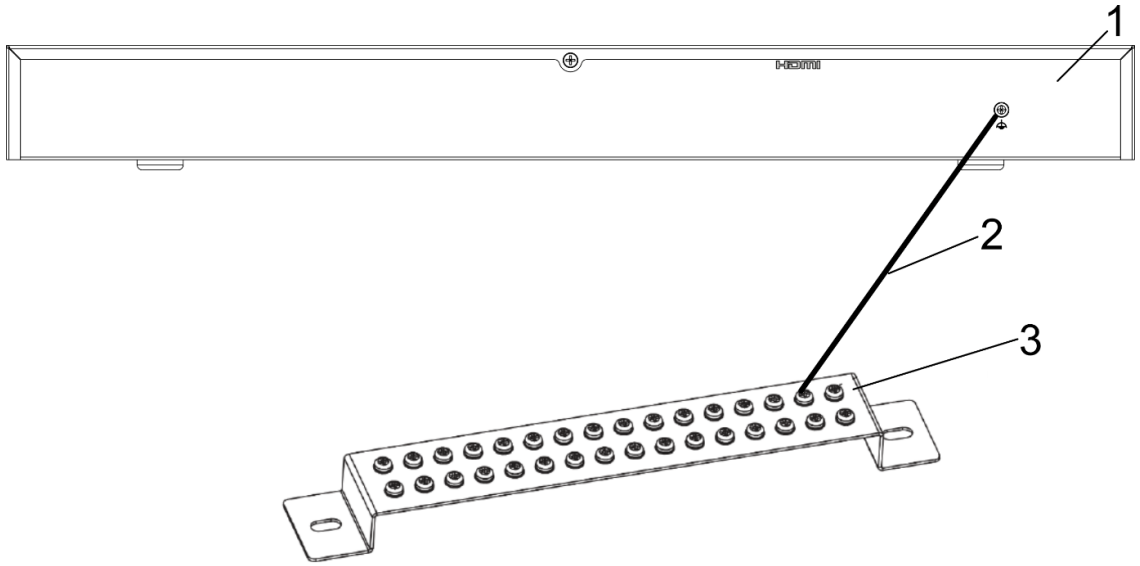

Figure 2-8 Connect the Grounding Cable to the Grounding Bar

Use Grounding Electrode

Step 1 Drive a grounding electrode (4) into the ground (3) of at least 0.5 m.

Step 2 Weld one end of the grounding cable (2) to the grounding electrode and treat the welding points with corrosion protection (electroplate or coating).

Step 3 Connect the other end of the grounding cable to the grounding terminal (1) of the device.

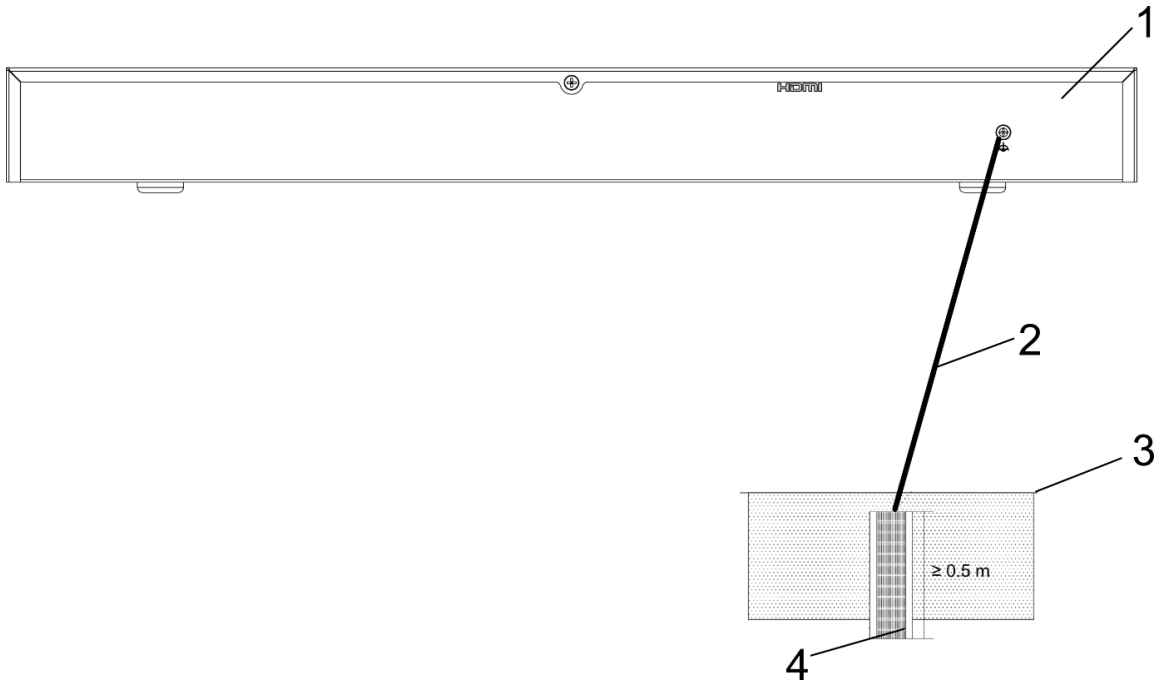

Figure 2-9 Connect the Grounding Cable to the Grounding Electrode

2.4.2 Connect the Network Cable

The device is connected to the network through networking equipment such as switches. It is recommended to use the CAT 6 Ethernet cable to connect the network port of the device to the network port of the networking equipment.

2.4.3 Connect the Power Cord

Use a power cord to connect the power supply socket of the device to the power supply in the equipment room. After the power cable is connected, the device is powered on.

2.5 Control Display

2.5.1 Use the Client

- Use the LED batch controller client and device to control the LED display.
  1) Download the LED batch controller client.
  2) Scan the QR code below to get the user manual of the LED batch controller client.

Figure 2-10 User Manual of the LED Batch Controller Client

- Use the LED Tool client and device to control the LED display.
  1) Download the LED Tool client.
  2) Scan the QR code below to get the user manual of the LED Tool client.

Figure 2-11 User Manual of the LED Tool Client

- Use the web page of device to control the LED display.
  Scan the QR code below to get the LED controller user manual.

Figure 2-12 LED Controller User Manual

2.5.2 (Optional) Use the Remote Control

You can purchase the remote control to control the LED display.

Step 1 Use the LED batch controller client or the web page of the device to lighten the display.

Step 2 Connect the remote control to the device.

- The valid distance between IR remote control and device is about 10 m within 45° angle in the left and right. Insert the 3.5 mm plug of IR remote control into the IR IN port of the device.
- The valid distance between RF remote control and device is about 15 m within 45° angle in the left and right. Insert the USB plug of RF remote control into the USB port of the device.

Step 3 Press the menu button of the remote control to enter the main page.

Step 4 Use the remote control to configure the LED display.

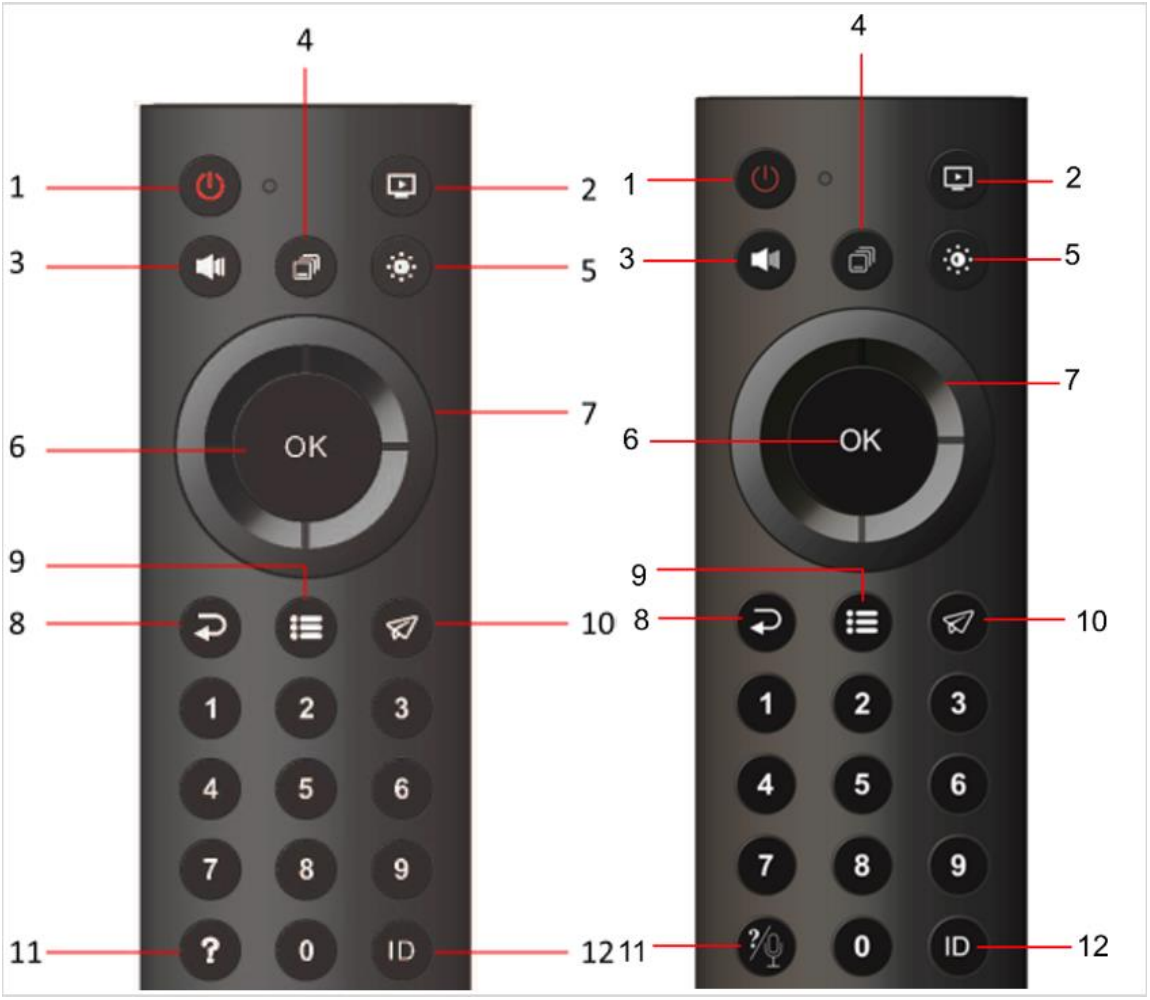

Figure 2-13 IR Remote Control (Left) and RF Remote Control (Right)

Table 2-2 Remote Control Button Description

No.	Name	Description
1	Power	Press the button to put the display into sleep mode, and press it again to wake it up.
2	Signal source switchover	Press the button to call out the signal source channel page. Press the left and right buttons to switch the signal source channel and press OK to confirm the channel selection.
3	Volume	Press the button to call out the volume adjustment page. Press the left and right buttons to adjust the volume.
4	Quick menu	• Press the button to display system parameters, signal source parameters, scene, smart dehumidification, and optimal resolution. • To switch the device scene: Press the button to call out the scene switching page. Press the left and right buttons to switch the scene and press OK to confirm the selected scene.

No.	Name	Description
5	Brightness adjustment	Press the button to call out the brightness adjustment page. Press the left and right buttons to adjust the brightness. If you press the button once, the brightness value is increased or decreased by 5.
6	OK	Confirm the current configuration.
7	Direction	Control the upper, lower, left and right directions.
8	Exit	Exit the current page.
9	Menu	Enter the main menu page.
10	Back	Return to the main menu page.
11	Help	Press the button to call out the remote control help instruction. **Note** Voice control is not supported.
12	ID	Press the button to display the device ID.


See Far, Go Further