



Smart All-In-One LED Display

Quick Start Guide






Foreword

General

This manual introduces the functions and operations of the smart all-in-one LED display (hereinafter referred to as "the Device"). Read carefully before using the Device, and keep the manual safe for future reference.

Safety Instructions

The following signal words might appear in the manual.

Signal Words	Meaning
 WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
 CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, reductions in performance, or unpredictable result.
 NOTE	Provides additional information as a supplement to the text.

Revision History

Version	Revision Content	Release Time
V1.0.1	Updated the language.	September 2023
V1.0.0	First release.	August 2023

Privacy Protection Notice

As the device user or data controller, you might collect the personal data of others such as their face, fingerprints, and license plate number. You need to be in compliance with your local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures which include but are not limited: Providing clear and visible identification to inform people of the existence of the surveillance area and provide required contact information.

About the Manual

- The manual is for reference only. Slight differences might be found between the manual and the product.
- We are not liable for losses incurred due to operating the product in ways that are not in compliance with the manual.
- The manual will be updated according to the latest laws and regulations of related jurisdictions. For detailed information, see the paper user's manual, use our CD-ROM, scan the QR code or visit our official website. The manual is for reference only. Slight differences might be found between the electronic version and the paper version.

- All designs and software are subject to change without prior written notice. Product updates might result in some differences appearing between the actual product and the manual. Please contact customer service for the latest program and supplementary documentation.
- There might be errors in the print or deviations in the description of the functions, operations and technical data. If there is any doubt or dispute, we reserve the right of final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- All trademarks, registered trademarks and company names in the manual are properties of their respective owners.
- Please visit our website, contact the supplier or customer service if any problems occur while using the device.
- If there is any uncertainty or controversy, we reserve the right of final explanation.

Important Safeguards and Warnings

This section introduces content covering the proper handling of the whiteboard, hazard prevention, and prevention of property damage. Read carefully before using the device, and comply with the guidelines when using it.

Storage Requirements



- Stably put the device onto a support platform that is strong enough to prevent the whiteboard from falling.
- Do not place the device in a place exposed to sunlight or near heat sources.
- Store the device under allowed humidity (10%–60% (RH)) and temperature (–20 °C to +60 °C, or –4 °F to +140 °F) conditions.

Installation Requirements



- Securely attach the device to a structure in the building or a mobile stand before you begin to use it.
- Do not drop or splash liquid onto the device, and make sure that there is no object filled with liquid on the device to prevent liquid from flowing into it.
- Select a suitable wall mount with a yellow label and let it be installed by professionals.
- Do not install the device in a place exposed to sunlight or near heat sources.
- Keep the device away from dampness, dust, and soot.
- Install the device on a stable surface to prevent it from falling.
- Install the device in a well-ventilated place, and do not block its ventilation.
- The power supply must conform to the requirements of ES1 in IEC 62368-1 standard and be no higher than PS2. Please note that the power supply requirements are subject to the device label.
- The rated power is 1,600 W (100–180 VAC) or 2,400 W (180–240 VAC).
- The appliance coupler is a disconnection device. Keep it at a convenient angle when using it.
- Make sure to install a circuit breaker or similar devices in the external power circuit.
- Place the device in a location that children cannot easily access.
- Follow the instructions to safely and correctly install the device.

Operation Requirements



- The contact rating of the device is about 13 mA. Before you connect the device to its power supply, make sure the power supply is connected to an earthed power socket.
- Be cautious when using the device to avoid injuring people, especially children.
 - ◇ Follow the recommendations of the manufacturer to select whether to install the device in a cabinet, bracket or to use other mounting methods.
 - ◇ Do not allow people to climb the device and protect the power supply.

- ◇ Protect the line cord and wires from being walked on or squeezed, and organize them so people cannot trip on them.
- ◇ Do not place the device in an unstable environment.
- High voltage inside the whiteboard. Do not disassemble the whiteboard without a qualified professional present to avoid the risk of being exposed to danger.
- Improper use of the battery might result in a fire or explosion.
- Replace unwanted batteries with new batteries of the same type and model.
- Use the standard power adapter. We will assume no responsibility for any problems caused by the use of a nonstandard power adapter.
- Use the power cords that are recommended for the region and conform to the rated power specifications.
- Make sure all cables are connected correctly before plugging the whiteboard into the power. Do not overload the power socket or pull the power code. Otherwise, it might cause fire or electric shock.

**WARNING**

- Avoid using the device in an area with a lot of radio interference.
- There is high pressure in the device. To avoid the risk of electric shock, non-professionals should not open the back cover.
- Improper use of the battery might result in a fire or explosion.
- Make sure to use the same model when replacing the battery.
- Use the standard power adapter. We will assume no responsibility for any problems caused by the use of a nonstandard power adapter.
- Use the power cord that is recommended for the region and conforms to the rated power specifications.
- Do not overload the power socket or unplug the power cord while the adapter is powered on to avoid electric shock and fires breaking out.



- Operate the device within the rated range of power input and output.
- Do not disassemble the device.
- Use the device under allowed humidity (10%–90% (RH)) and temperature (–10 °C to +40 °C, or +14 °F to +104 °F) conditions.
- The appliance coupler is a disconnection device. Keep it at a convenient angle when using it.
- The device has sharp edges. Please be careful when you are next to it.

Maintenance Requirements

**DANGER**

- Make sure to use the same model when replacing the battery to avoid fire or explosion. Dispose the battery strictly according to the instructions on it.
- Power off the device before maintenance to make sure that the device is disconnected from the power supply.



- The front cover at the lower beam of the device is used for quick maintenance. When the bottom row of light panels is removed, you must overcome the magnetic pull of the front cover. There is a safety cable connected to the front cover of the device that protects the front cover.
- Cut off the power before cleaning the device. To clean the device, do not use liquid detergents or spray detergents.

- Use the clean and soft cloth or use the special lens wiping cloth when cleaning the surface of display screen. Do not use the wet cloth to clean the display screen. Otherwise, it may do harm to the screen.

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1 Introduction

The smart all-in-one LED display is an integrated multimedia device, which integrates large screen, electronic whiteboard, application, and central control system. It can be widely used in enterprise, government and finance.

The Device supports the following functions and features:

- Ultra-light and ultra-thin design: the thickness of the screen is less than 19 mm, and the thickness of the wall-mount installation is less than 39 mm.
- With the design of privacy protection, the device adopts a built-in flip camera, which automatically pans up during use, and pans down when it stops working.
- 8 MP wide-angle camera: Diagonal: 99°, horizontal: 87°, vertical: 49°.
- With built-in fingerprint identification module, supports fingerprint for locking and unlocking screen.
- Wi-Fi 6, which is faster than Wi-Fi 5. You can select 2.4G or 5G bands.
- Screen sharing, group settings, multiple screens and moderator control.
- Reverse controlling of the screen through PAD and phone.
- Scan the QR code to share the file.
- Meeting sign-in through person recognition.
- Non-contact gestures to swipe screens or take snapshots.
- Electronic whiteboard.

2 Packing List

Check whether there is any obvious damage on the packing box. Unpack the box and check whether the components are complete according to the packing list.

Table 2-1 Packing list




Name	Quantity	Name	Quantity
LED column	5	Transverse beam	1
Front cover	1	Beam connector	1
Camera	1	Power cable	1
Light modules (box)	13	Remote control	1
Projector	1	Type-C cable (on the camera)	1
HDMI cable (on the camera)	1	Hub accessory package	1
LED accessory package	1	Wall mount screw (preinstalled)	16
OPS sheet metal bracket	1	Quick start guide	1
Column screw	40	M5 × 12 screw	12

3 Installation

3.1 Preparation

To ensure correct function and safety, remember to check whether your site is ready for the installation in the first place.

Table 3-1 Preparation

Item	Description
Grounding	<p>The IR touchscreen requires that the site should be safely grounded.</p> <p>Check the voltage between the live and neutral wires, between the live and ground wires, and between the neutral and ground wires. If the voltage is abnormal, report the issue to the technician.</p>  <p>The specific voltage requirements might vary depending on your local standards.</p>
Power supply	<p>The power supply circuit for the Device should be independent from lighting and other circuits to avoid interference in power frequency.</p>
Wall	<p>Make sure that the wall can bear a load of 160 kg or more.</p>
Space	<p>Make sure that there is enough space for the Device.</p> <p>The ideal reserved space is 10 mm greater than the length and height of the Device.</p>  <p>If you want to embed the Device onto the wall, make sure that there is enough space for camera, OPS installation, and to use the ports and bottoms of the Device.</p>
Tools	<p>Prepare the installation tools.</p> <ul style="list-style-type: none"> To install the Device onto a mobile bracket, you need an electric hammer, allen wrench, crosshead screwdriver, slotted screwdriver, combination wrench, front maintenance tools, work gloves, and other tools. To install the Device onto a wall, you need an electric hammer, impact driver, allen wrench, crosshead screwdriver, slotted screwdriver, laser level or spirit level, tape measure, front maintenance tools, work gloves, and other tools.  <p>You can find the allen wrench and combination wrench in the accessory package.</p>

3.2 Accessories

Figure 3-1 Installation accessories

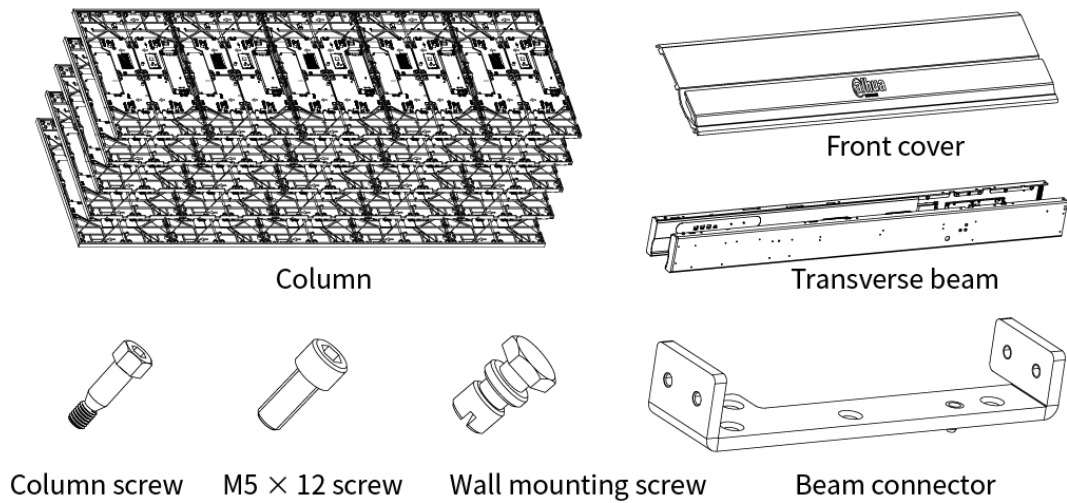


Table 3-2 Quantity of installation accessories

Name	Quantity
Column	5
Front cover	1
Transverse beam	1
Beam connector	1
Column screw	40
M5×12 screw	10
Wall mounting screw	16

3.3 Bracket Installation

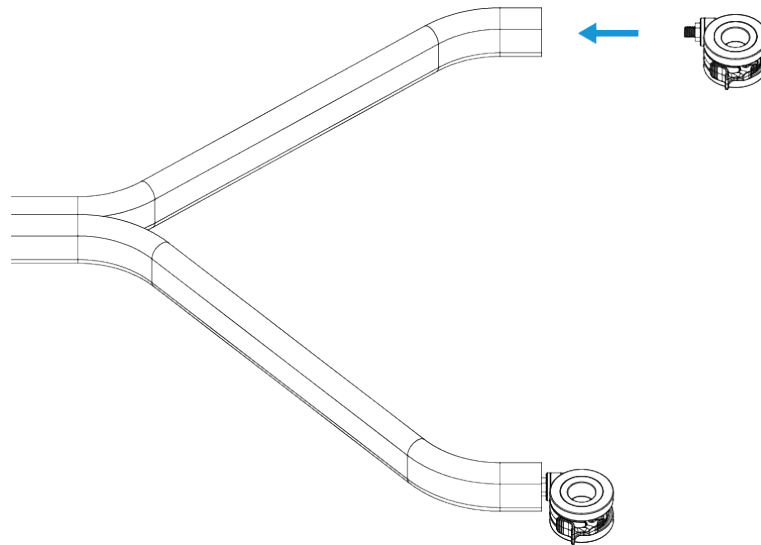
3.3.1 Installing Mobile Bracket

The mobile bracket comes with 2 Y-shaped vertical poles, 2 horizontal poles, 1 strengthen pole, 4 foot wheels, 8 M8 × 16 screws, 8 M8 × 45 screws, 4 mm Allen wrench and combination wrench.

Procedure

- Step 1** Lock the 4 casters, and then screw them into the bottom of the 2 Y-shaped vertical poles. Use the outer hexagonal wrench to tighten the casters.

Figure 3-2 Install the casters

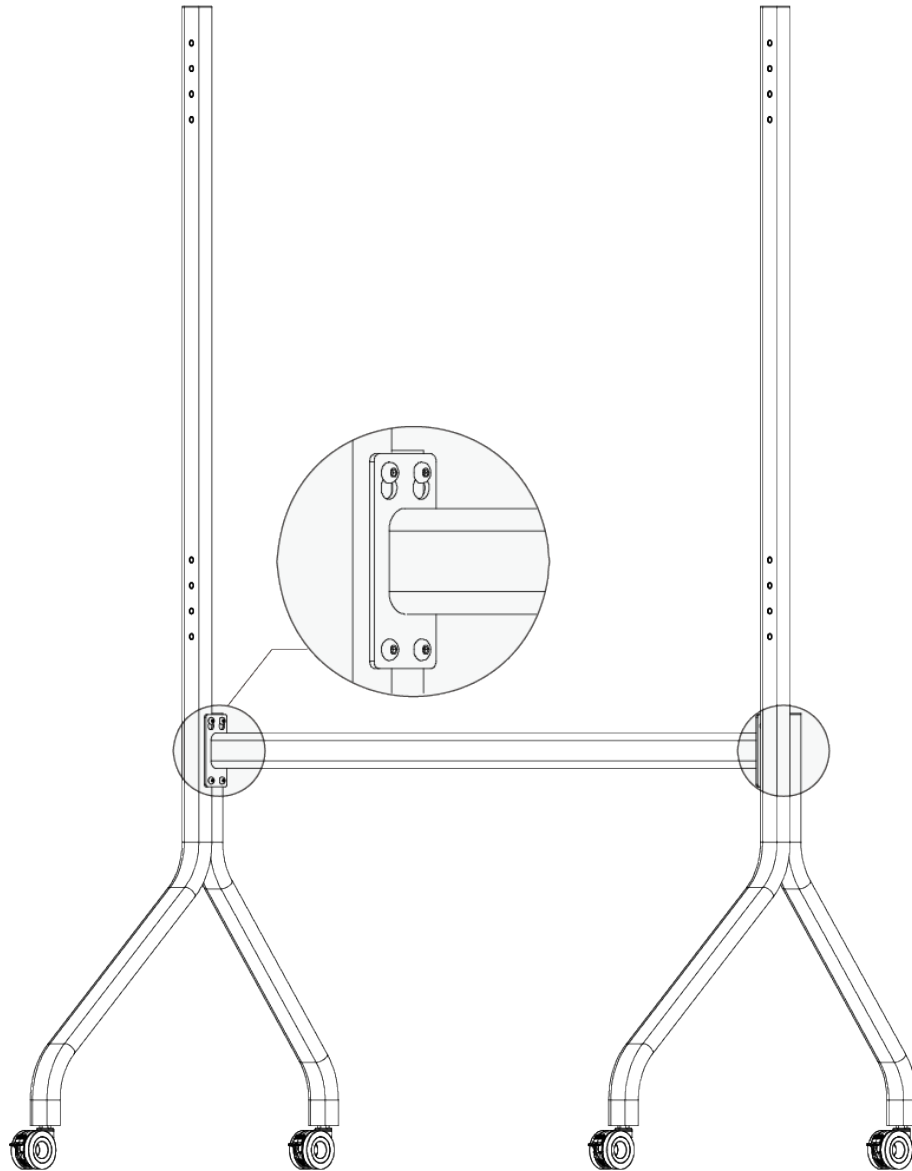


- Step 2** Screw 2 M8×16 screws into the side of the 2 Y-shaped vertical poles to stand the moving bracket upright.



Do not tighten the screws for later adjustment of the columns.

Figure 3-3 Install the strengthen pole

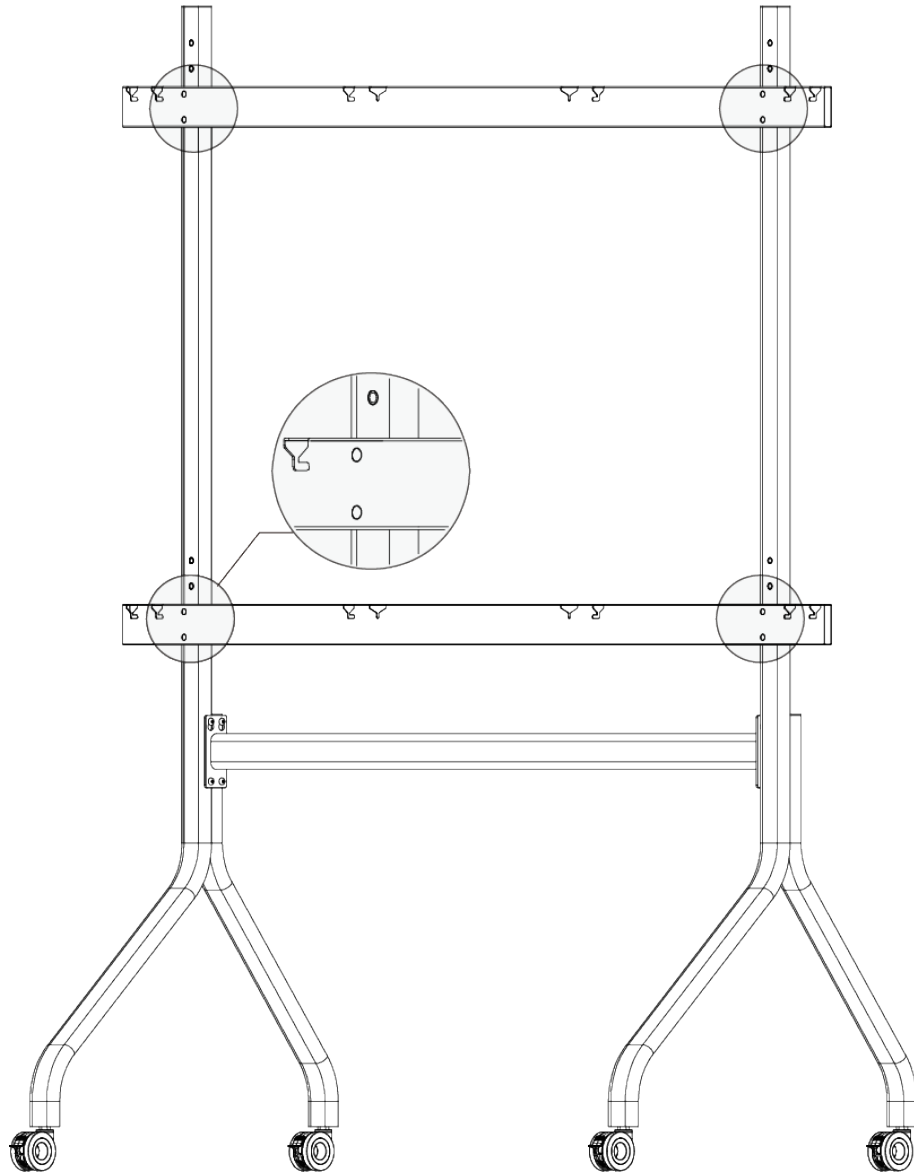


Step 3 Attach the 2 horizontal poles to the Y-shaped vertical poles with M8×45 screws.



Make sure that the mounting holes in the upper and lower part of the 2 horizontal poles align. The holes will be used to adjust the height of the screen.

Figure 3-4 Adjust the horizontal poles



Step 4 Use the 4 mm Allen wrench to tighten all the screws.

3.3.2 Installing Wall Mount Bracket

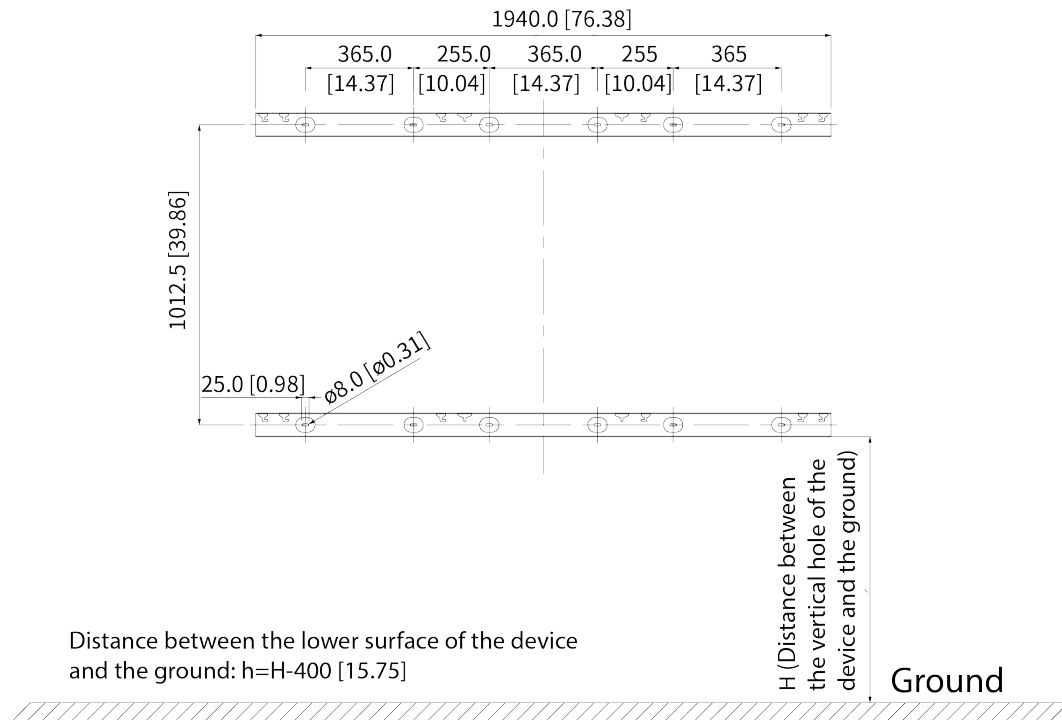
The wall mount bracket comes with 2 horizontal poles and 12 expansion screws (ST6.3).

Procedure

- Step 1** Confirm and mark the installation position on the wall through tape measure or laser level.
- Step 2** Drill holes on the marked positions with diameter of 10 mm and depth of 75 mm.
- Step 3** Use expansion screws to install the horizontal poles on the wall. Make them level and justified.

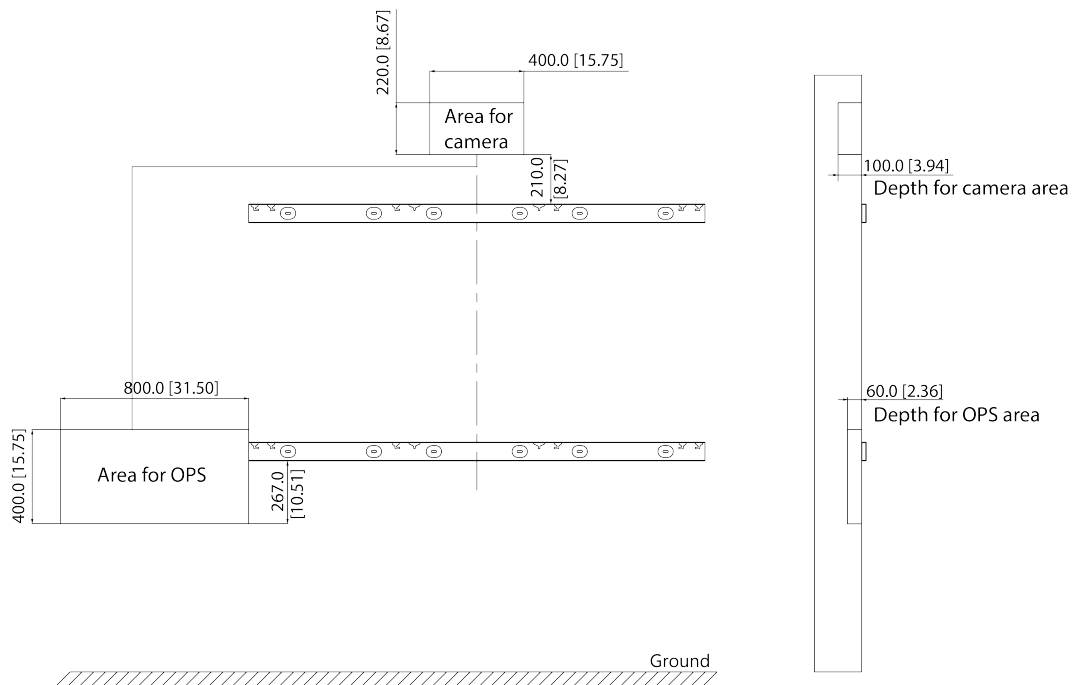
Strictly confirm to the dimensions below.

Figure 3-5 Dimensions of wall mount bracket installation (mm [inch])



When equipped with a camera or OPS, it is necessary to reserve an area on the wall in advance.

Figure 3-6 Reserve an area (mm [inch])

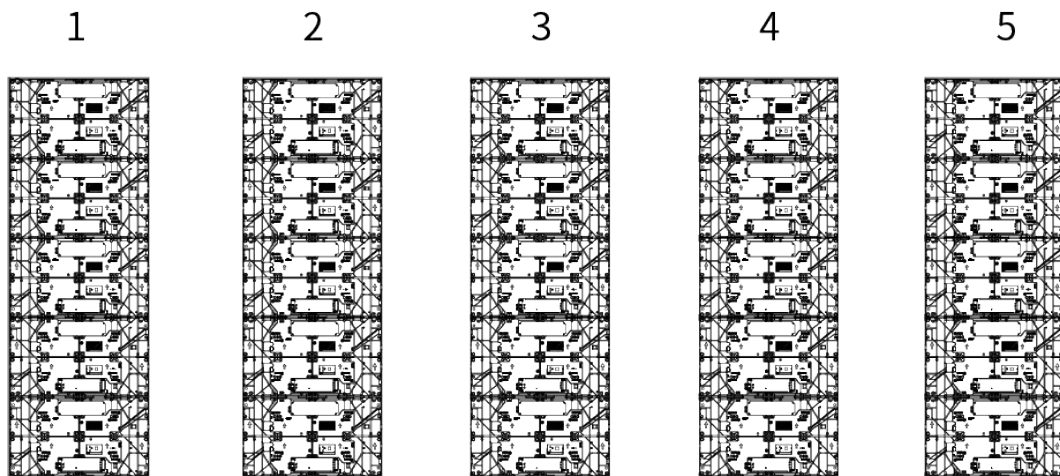


3.4 Column Installation

You can install the device on the mobile bracket or wall. Here we use the installation on the mobile bracket as an example.

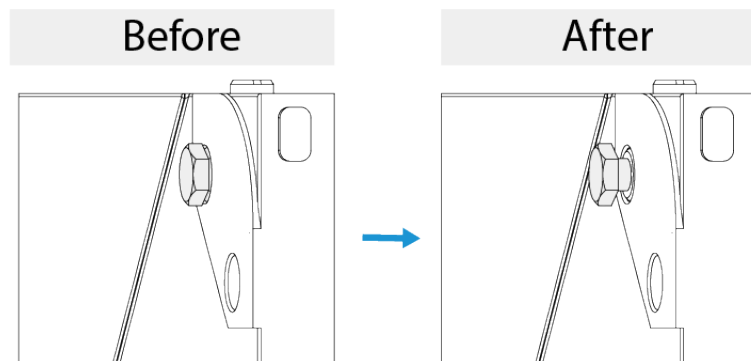
The 5 columns are located in the same column. The edging strips have been pre-installed. Each column is marked with serial numbers from 1 to 5.

Figure 3-7 Pre-installed columns



The wall mounting screws were pre-installed in the specific mounting holes on the back of the columns, and the pre-installed wall mounting screws were tightened. Before attaching the column to the bracket, unscrew the wall mounting screws as shown in the image below.

Figure 3-8 Loosen the screws

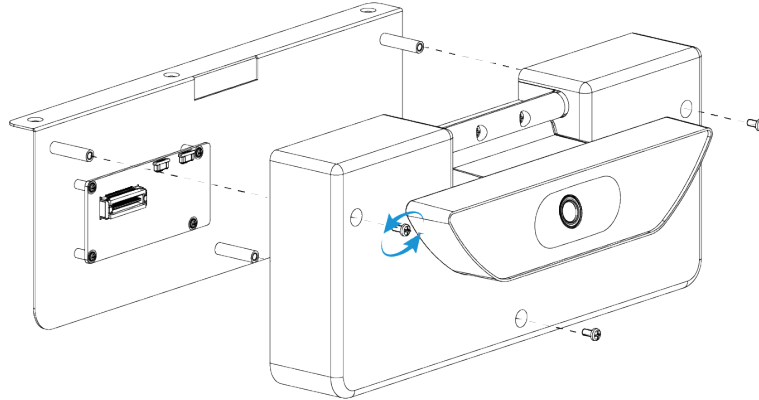


3.4.1 Installing the Middle Column

Procedure

Step 1 Remove the screws and bracket from the camera module.

Figure 3-9 Remove the bracket

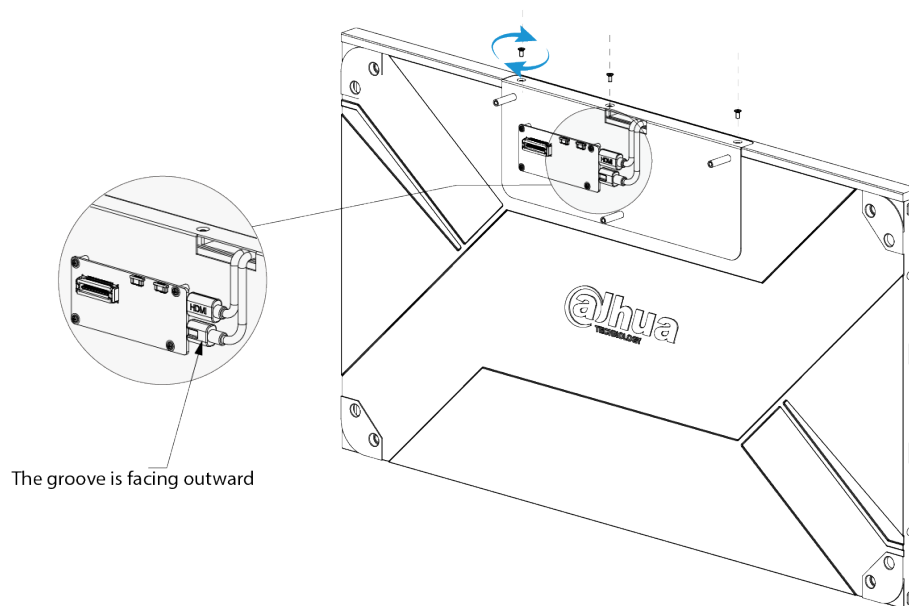


Step 2 Pass the HDMI and Type-C cables of the camera through the edging strip of the middle column and the threading hole of the bracket. Connect the cables to the adapter board, and then fix the sheet metal bracket to the top of the edging strip.



Connect the Type-C cable as below. Do not install the cable facing the wrong direction.

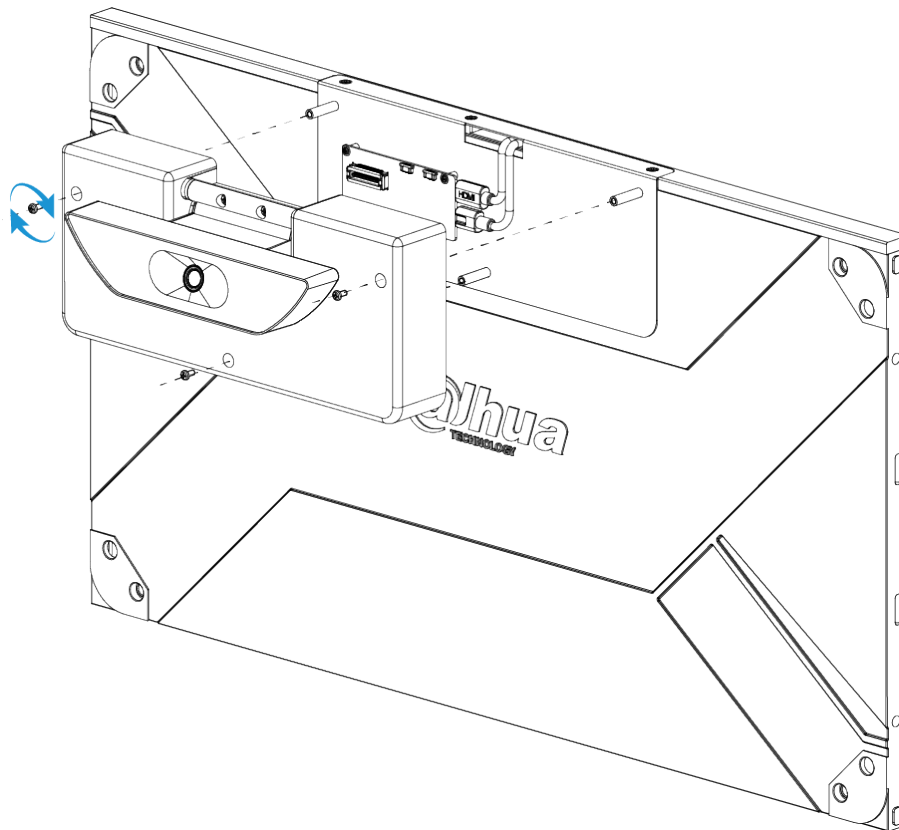
Figure 3-10 Fix the sheet metal bracket



The groove is facing outward

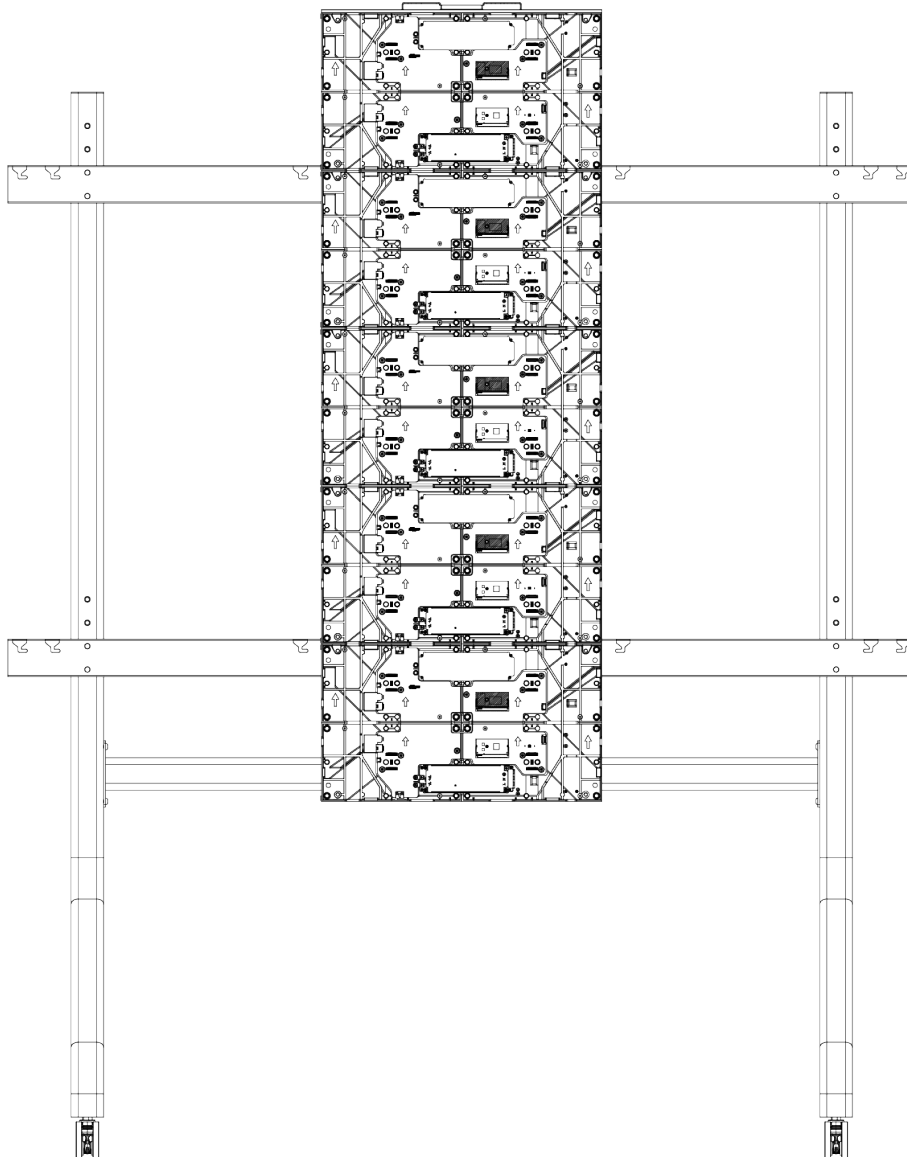
Step 3 Install the camera module on the sheet metal bracket of the camera, and then tighten it with the screws removed in step 1.

Figure 3-11 Fix the camera module



- Step 4 Install the middle column where the camera module is already installed to the middle hole of the bracket by loosening the wall mounting screws.

Figure 3-12 Fix the middle column



3.4.2 Installing Other Columns

Procedure

- Step 1 With the middle column in the center, install the other columns on both sides. After installation, slide them to the middle to ensure that there is no gap between columns, and then use the screws to lock the columns.

Figure 3-13 Install other columns

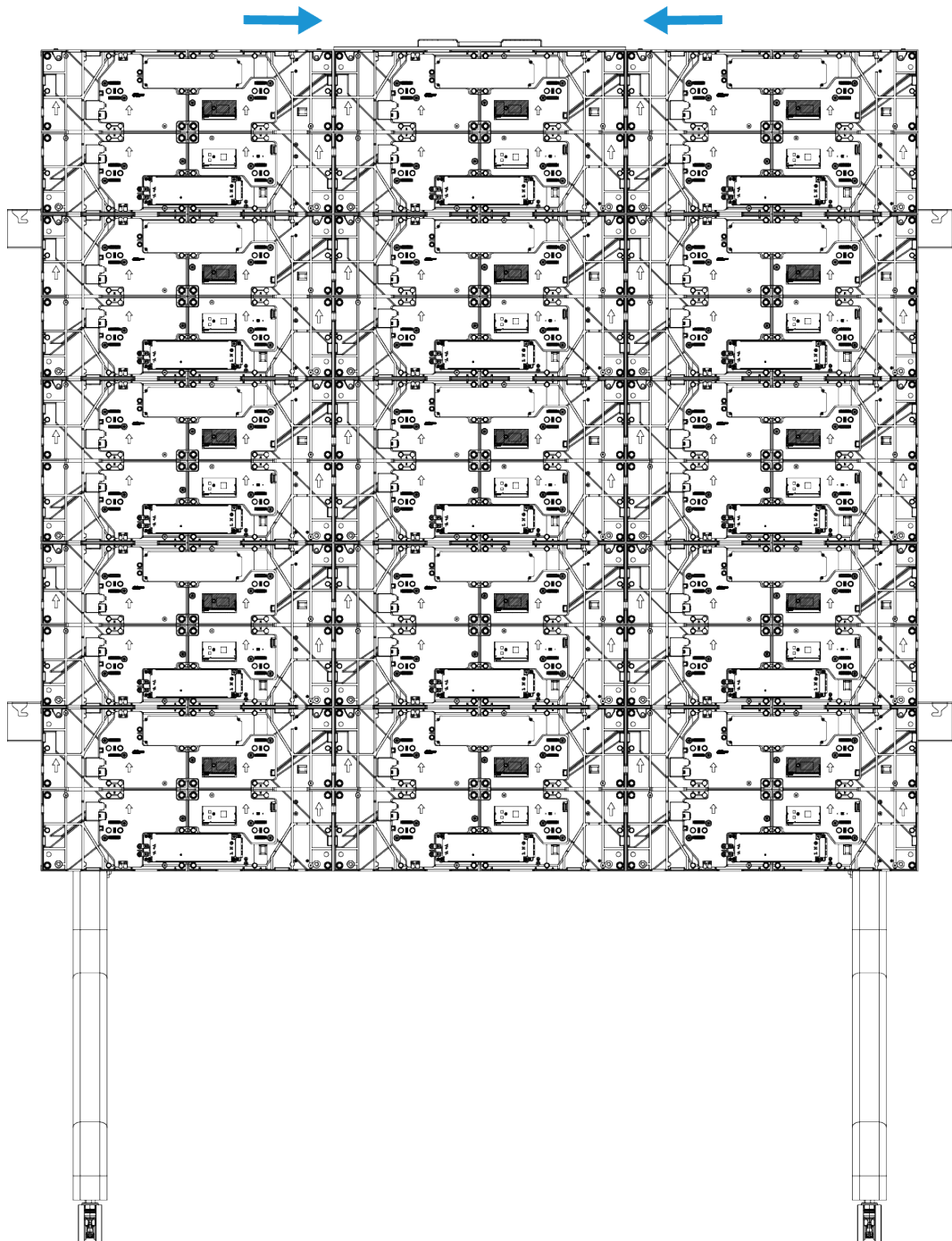
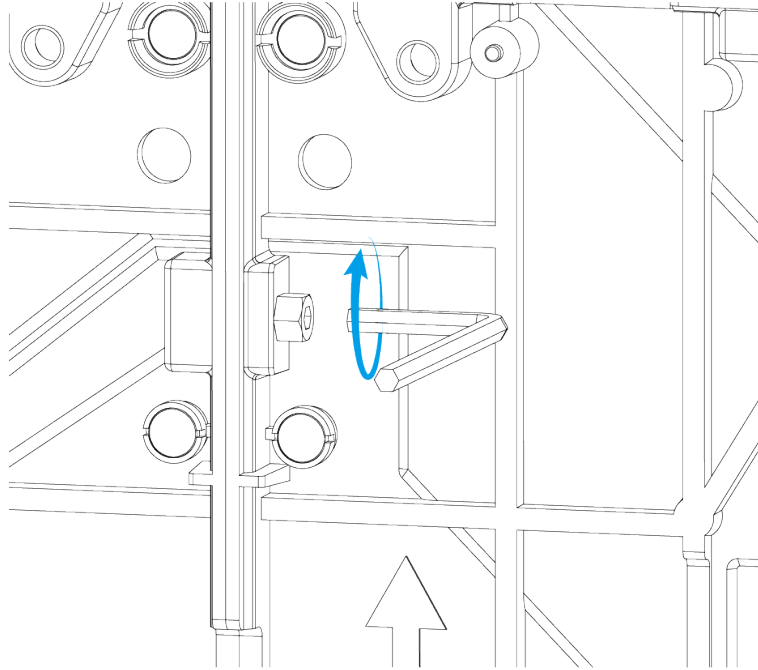


Figure 3-14 Lock the screws



Step 2 After all the columns are installed, use a slotted screwdriver to turn the wall mounting screws counterclockwise from the front of the column to tighten them.

Figure 3-15 Tighten the wall mounting screws (1)

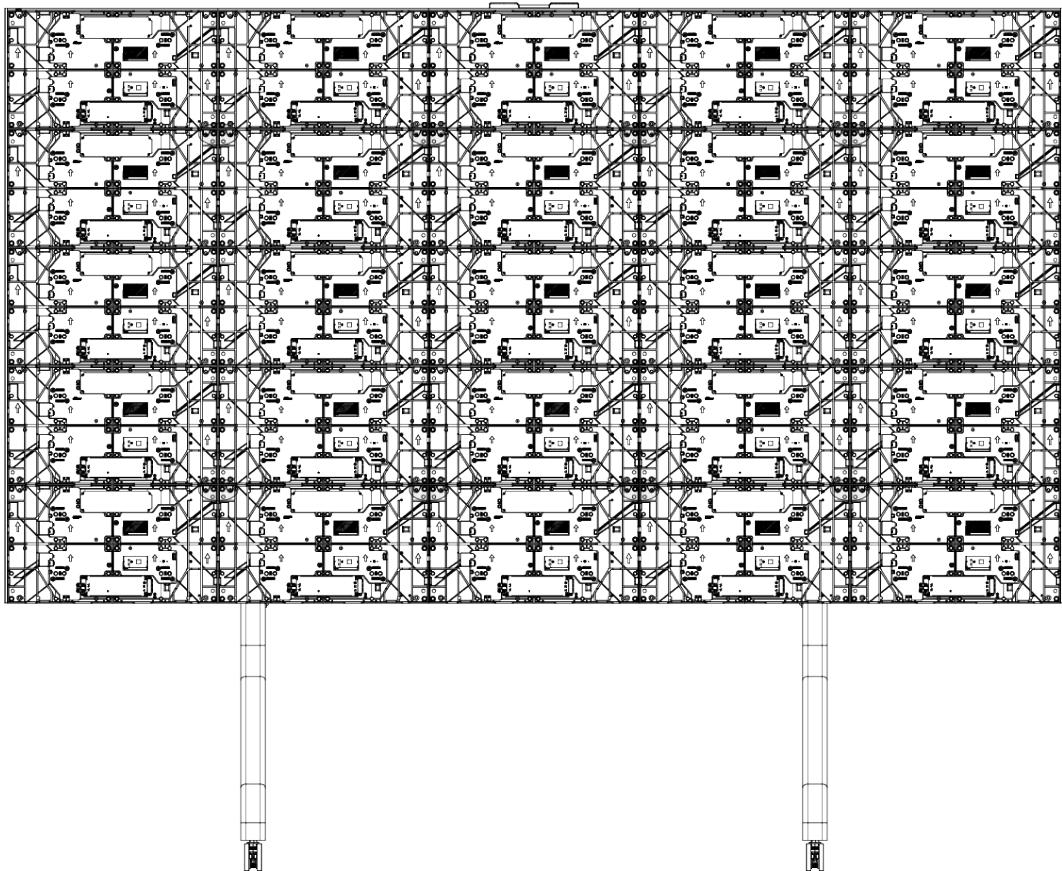
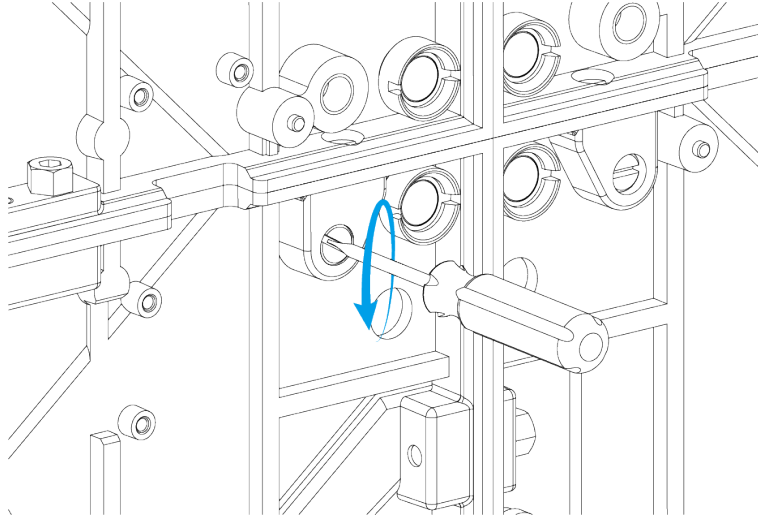


Figure 3-16 Tighten the wall mounting screws (2)

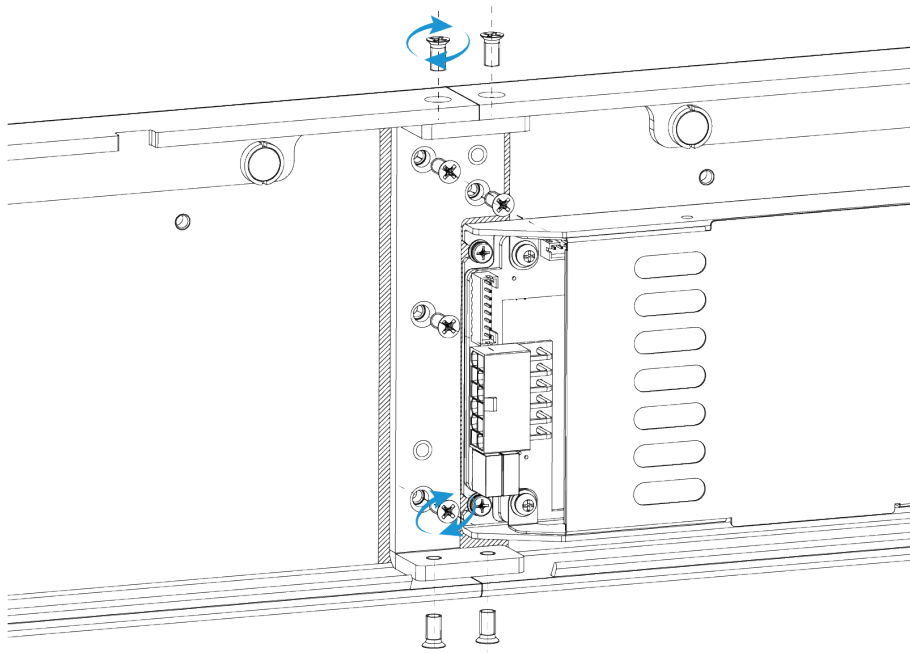


3.5 Transverse Beam Installation

Procedure

- Step 1 Unfold the beam until it is flat and attach the beam connector.

Figure 3-17 Lock the transverse beam



- Step 2 Align the beam to the bottom of the column and attach it with the M5×12 screws.

Figure 3-18 Align the beam

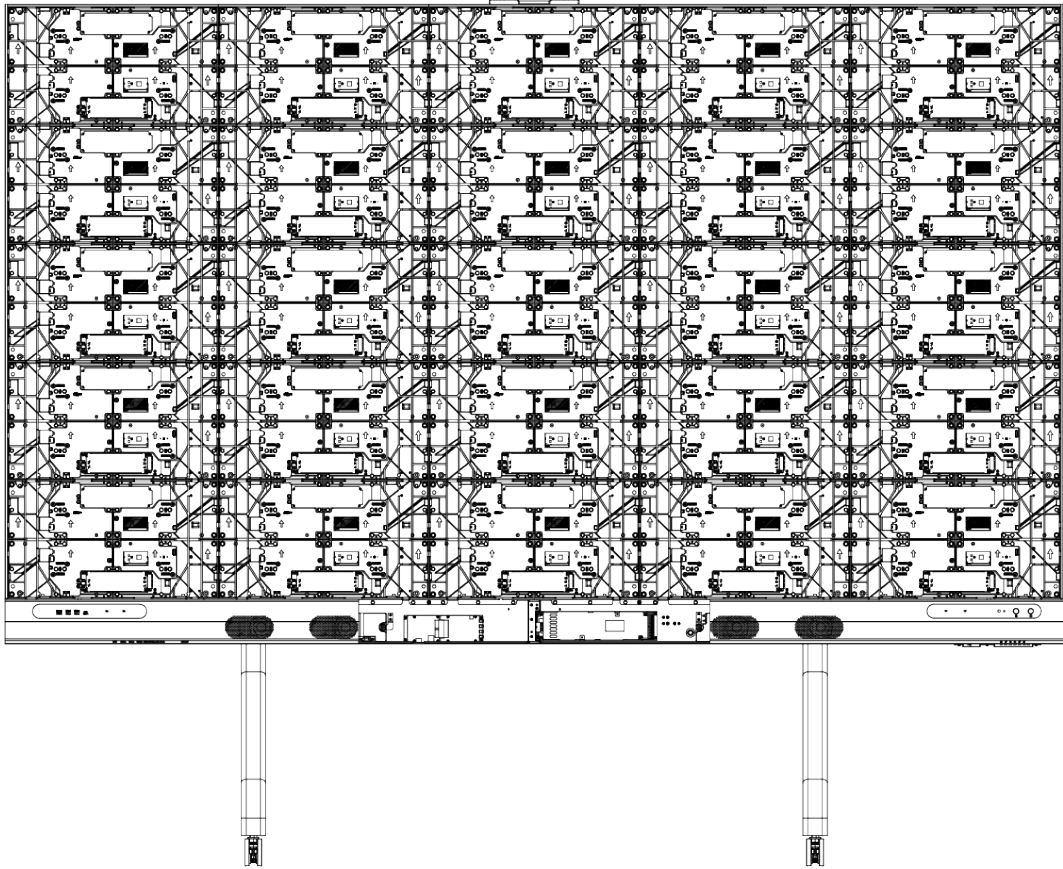
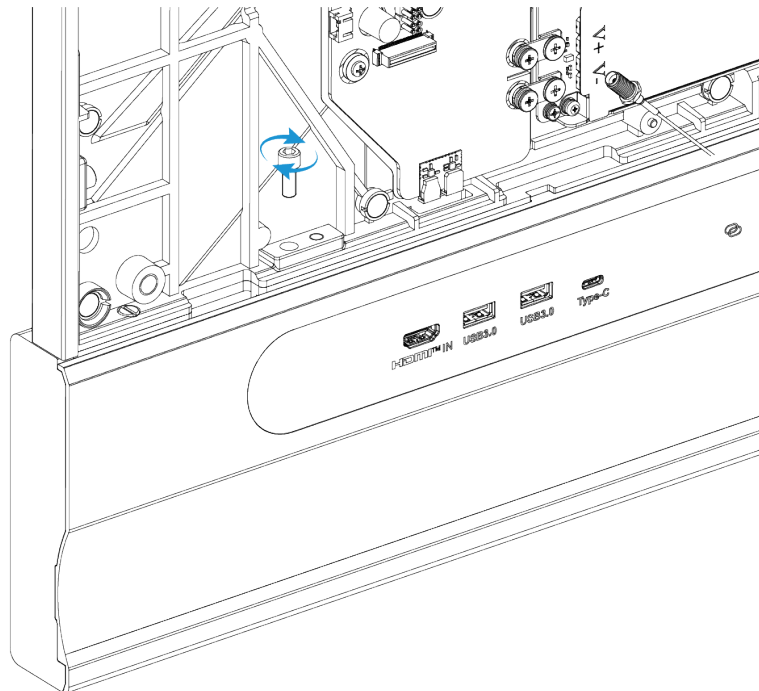
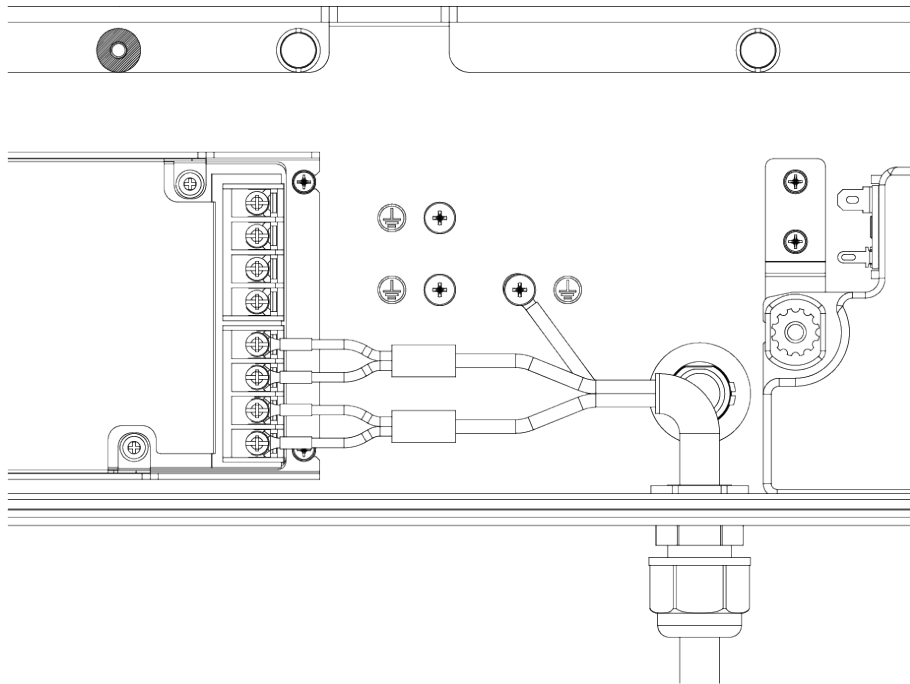


Figure 3-19 Tighten the screws



Step 3 Connect the power cables.

Figure 3-20 Connect the power cables



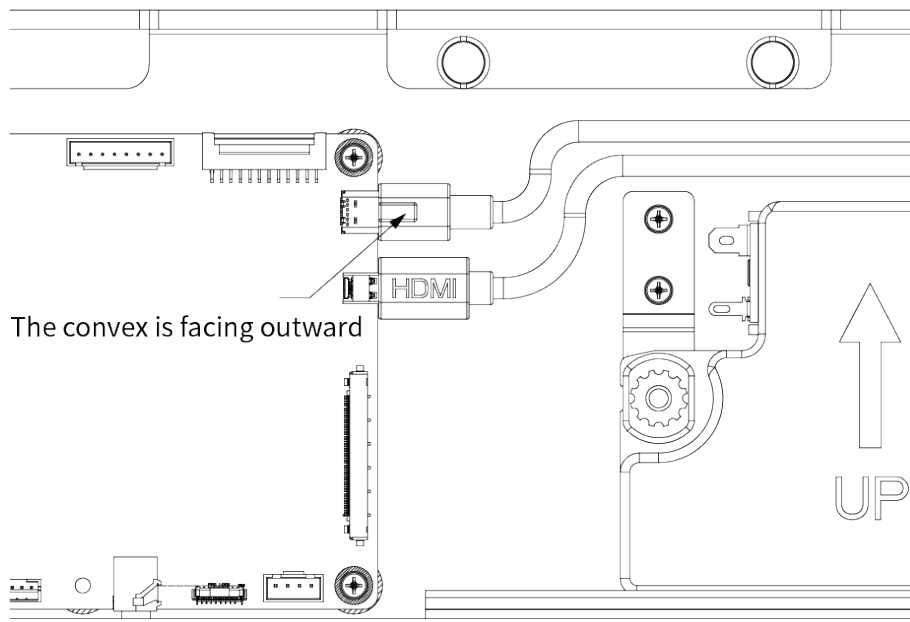
Step 4 Install the safety rope and connect the FFC connector to the front cover.

Step 5 Connect the other end of the HDMI and Type-C cables of the camera to the motherboard.



Connect the Type-C cable as below. Do not install the cable facing the wrong direction.

Figure 3-21 Connect the cable



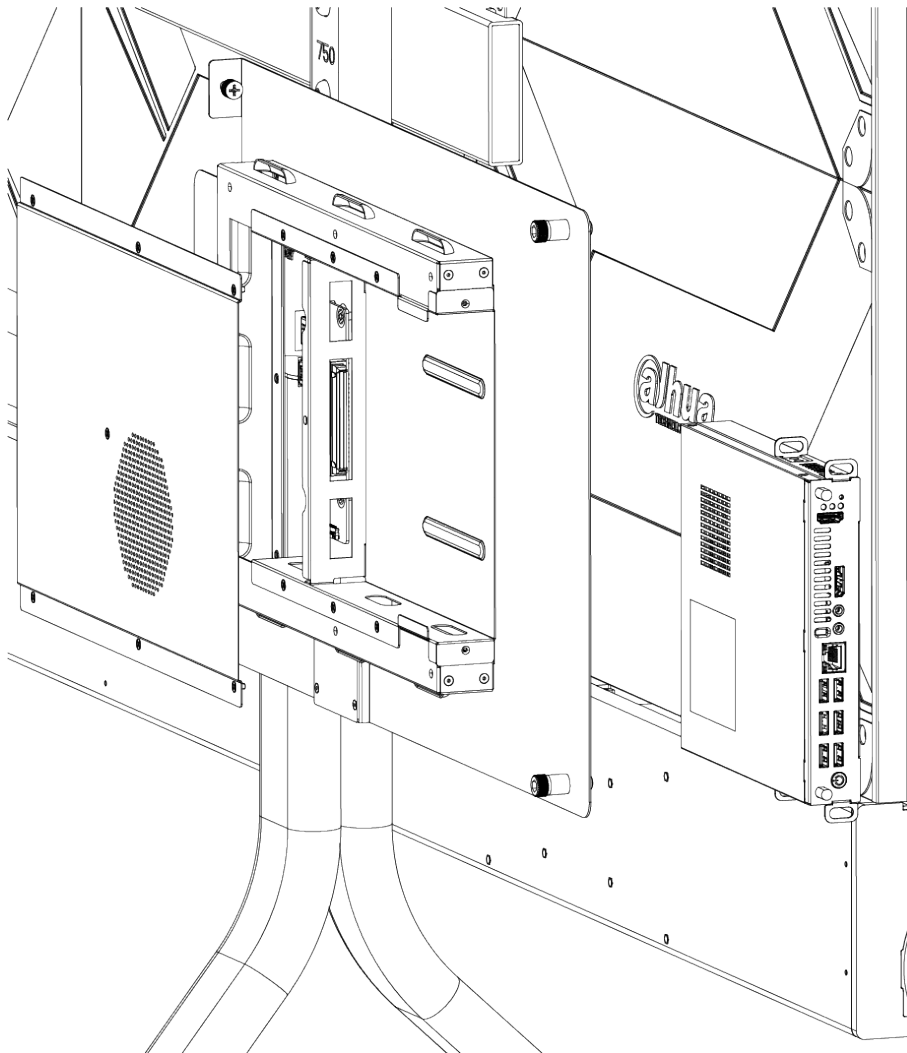
Step 6 Connect the transverse beam to the power cables and network cable of the columns, and then close the front cover.

3.6 OPS Bracket Installation

Procedure

- Step 1 Remove the cover of the OPS cable outlet hole, install the FFC connector which connect to the OPS on the motherboard, and then pass the FFC connector and power cable through the cable outlet hole.
- Step 2 Remove the OPS bracket and the top cover, pass the FFC connector and power cable through the OPS bracket, and then secure the OPS bracket to the bottom of the column in the lower-right corner using the preinstalled screws.

Figure 3-22 Install the OPS bracket



- Step 3 Connect the FFC connector and power cable to their corresponding ports.
- Step 4 Reattach the OPS cover, and then install the OPS as needed.

4 Appearance and Structure

Figure 4-1 Appearance

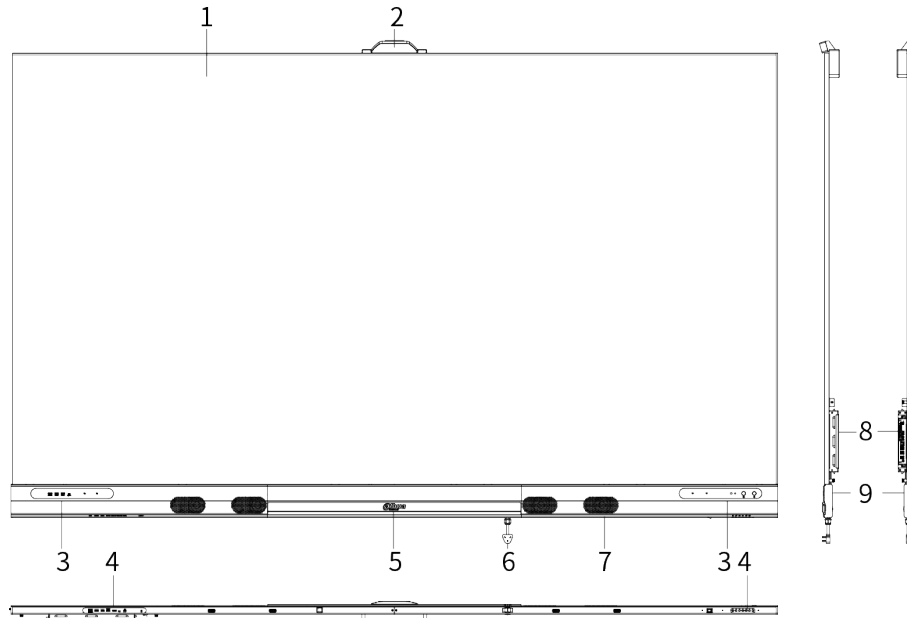




Table 4-1 Description of appearance

No.	Description
1	LED.
2	Camera.
3	Front panel.
4	Bottom panel.
5	Indicator light. The light is red when the Device is on standby and blue when the Device is in normal use.  You can set the display mode of the indicator light as needed.
6	Power input port. Inputs 100–240 VAC power.
7	Speaker. Plays multi-media sound.
8	OPS module. Switches between Android and Windows system.  OPS module does not come with delivery. Please purchase it as needed.
9	Transverse beam, which contains the main control modules.

Front Panel

Figure 4-2 Front panel (1)

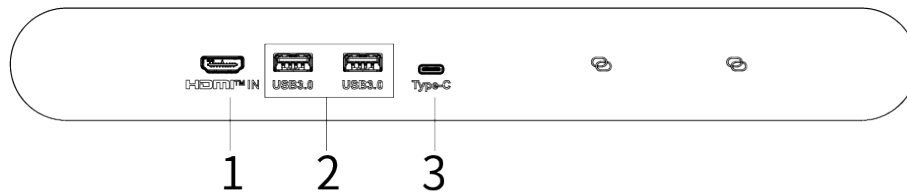


Figure 4-3 Front panel (2)

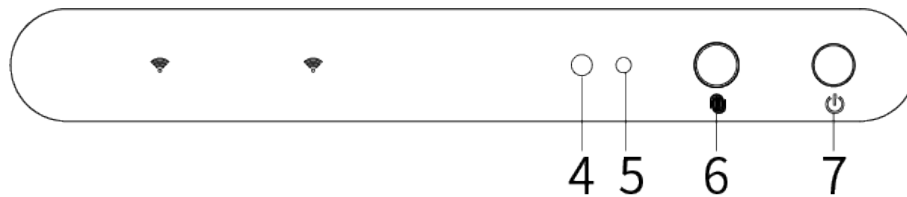


Table 4-2 Front panel description

No.	Description
1	HDMI IN. HD audio and video signal input port. Connects to the computer, set-top box, and other video devices with HDMI output ports.
2	USB 3.0. Connects to USB devices such as mobile hard disk, USB flash drive, USB keyboard, and USB mouse. They are accessible both from the built-in Android system and the optional OPS computer module.
3	Type-C. Connect a laptop or other devices to the Device through the Type-C port for screen sharing and other operations.
4	IR sensor. Receives signals from the remote control.
5	Light sensor. The Device recognizes the ambient brightness through the light sensor and automatically adjusts the backlight brightness according to the ambient brightness.
6	Fingerprint reader. After adding your fingerprint, you can unlock the Device through fingerprint recognition.
7	Power button. Turn on or turn off the screen.

Bottom panel

Figure 4-4 Bottom panel (1)

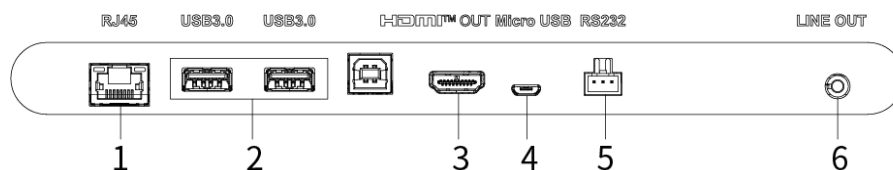


Figure 4-5 Bottom panel (2)

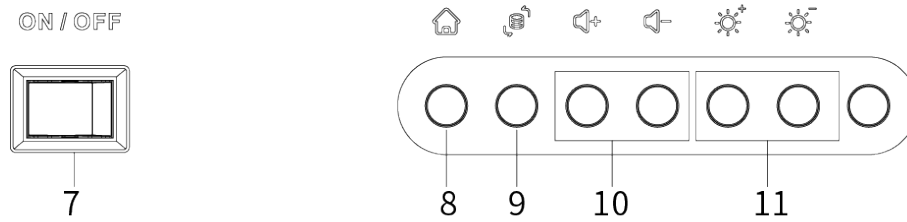


Table 4-3 Bottom panel description

No.	Description
1	Network port. Connects to network cable to access network.
2	USB 3.0 port. Connects to USB devices such as mobile hard disk, USB flash drive, USB keyboard, and USB mouse. They are accessible both from the built-in Android system and the optional OPS computer module.
3	HDMI OUT. HD audio and video signal output port. Transmits uncompressed HD video and multi-channel audio data.
4	Micro USB. Used for debugging Android system.
5	RS-232 port. Transmits data between devices. You can connect to central control devices with RS-232 port.
6	LINE OUT. An audio output port that connects to the earphone or speaker.
7	Power switch. Turn on or turn off the power supply of the Device.
8	Go back to the home screen.
9	Select signal sources.
10	Adjust the column.
11	Adjust the brightness of the screen.

Appendix 1 Cybersecurity Recommendations

Cybersecurity is more than just a buzzword: it's something that pertains to every device that is connected to the internet. IP video surveillance is not immune to cyber risks, but taking basic steps toward protecting and strengthening networks and networked appliances will make them less susceptible to attacks. Below are some tips and recommendations from Dahua on how to create a more secured security system.

Mandatory actions to be taken for basic device network security:

1. Use Strong Passwords

Please refer to the following suggestions to set passwords:

- The length should not be less than 8 characters.
- Include at least two types of characters; character types include upper and lower case letters, numbers and symbols.
- Do not contain the account name or the account name in reverse order.
- Do not use continuous characters, such as 123, abc, etc.
- Do not use overlapped characters, such as 111, aaa, etc.

2. Update Firmware and Client Software in Time

- According to the standard procedure in Tech-industry, we recommend to keep your device (such as NVR, DVR, IP camera, etc.) firmware up-to-date to ensure the system is equipped with the latest security patches and fixes. When the device is connected to the public network, it is recommended to enable the "auto-check for updates" function to obtain timely information of firmware updates released by the manufacturer.
- We suggest that you download and use the latest version of client software.

"Nice to have" recommendations to improve your device network security:

1. Physical Protection

We suggest that you perform physical protection to device, especially storage devices. For example, place the device in a special computer room and cabinet, and implement well-done access control permission and key management to prevent unauthorized personnel from carrying out physical contacts such as damaging hardware, unauthorized connection of removable device (such as USB flash disk, serial port), etc.

2. Change Passwords Regularly

We suggest that you change passwords regularly to reduce the risk of being guessed or cracked.

3. Set and Update Passwords Reset Information Timely

The device supports password reset function. Please set up related information for password reset in time, including the end user's mailbox and password protection questions. If the information changes, please modify it in time. When setting password protection questions, it is suggested not to use those that can be easily guessed.

4. Enable Account Lock

The account lock feature is enabled by default, and we recommend you to keep it on to guarantee the account security. If an attacker attempts to log in with the wrong password several times, the corresponding account and the source IP address will be locked.

5. Change Default HTTP and Other Service Ports

We suggest you to change default HTTP and other service ports into any set of numbers between 1024–65535, reducing the risk of outsiders being able to guess which ports you are using.

6. Enable HTTPS

We suggest you to enable HTTPS, so that you visit Web service through a secure communication channel.

7. **MAC Address Binding**

We recommend you to bind the IP and MAC address of the gateway to the device, thus reducing the risk of ARP spoofing.

8. **Assign Accounts and Privileges Reasonably**

According to business and management requirements, reasonably add users and assign a minimum set of permissions to them.

9. **Disable Unnecessary Services and Choose Secure Modes**

If not needed, it is recommended to turn off some services such as SNMP, SMTP, UPnP, etc., to reduce risks.

If necessary, it is highly recommended that you use safe modes, including but not limited to the following services:

- SNMP: Choose SNMP v3, and set up strong encryption passwords and authentication passwords.
- SMTP: Choose TLS to access mailbox server.
- FTP: Choose SFTP, and set up strong passwords.
- AP hotspot: Choose WPA2-PSK encryption mode, and set up strong passwords.

10. **Audio and Video Encrypted Transmission**

If your audio and video data contents are very important or sensitive, we recommend that you use encrypted transmission function, to reduce the risk of audio and video data being stolen during transmission.

Reminder: encrypted transmission will cause some loss in transmission efficiency.

11. **Secure Auditing**

- Check online users: we suggest that you check online users regularly to see if the device is logged in without authorization.
- Check device log: By viewing the logs, you can know the IP addresses that were used to log in to your devices and their key operations.

12. **Network Log**

Due to the limited storage capacity of the device, the stored log is limited. If you need to save the log for a long time, it is recommended that you enable the network log function to ensure that the critical logs are synchronized to the network log server for tracing.

13. **Construct a Safe Network Environment**

In order to better ensure the safety of device and reduce potential cyber risks, we recommend:

- Disable the port mapping function of the router to avoid direct access to the intranet devices from external network.
- The network should be partitioned and isolated according to the actual network needs. If there are no communication requirements between two sub networks, it is suggested to use VLAN, network GAP and other technologies to partition the network, so as to achieve the network isolation effect.
- Establish the 802.1x access authentication system to reduce the risk of unauthorized access to private networks.
- Enable IP/MAC address filtering function to limit the range of hosts allowed to access the device.

More information

Please visit Dahua official website security emergency response center for security announcements and the latest security recommendations.

ENABLING A SAFER SOCIETY AND SMARTER LIVING

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