newline

USER MANUAL

DV Pro / DV Premier LED Display

newline

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Safety Guides

✧ Please read this manual carefully and follow the instructions before use.。

✧ Please follow the methods for installation in the user manual to complete the installation.

✧ In the process of installation and maintenance, the power must be cut off to prevent electric shock, and avoid short circuit caused by live parts on PCB board touching metal frame.

✧ DO NOT place the product face down on an irregular surface to avoid permanent damage to the display surface of the product.

✧ DO NOT place the product on the tilted or unstable table or card, if not, the product may fall or topple, which will cause permanent damage to the product.

✧ DO NOT place any heavy object on the power cable to avoid damaging the cable and causing electric shock or fire.

✧ DO NOT repeatedly bend or move the power cable or data cable frequently to avoid damaging the cable and causing electric shock or fire.

✧ Please connect the power cable and/or the data cable as recommended by newline.

✧ Please arrange, tie and fix the power cable and data cable orderly after the installation, and separate the strong and weak current.

✧ Please use soft, non-corrosive and non-staining material to clean the display regularly. If there is any question about cleaning, please contact the customer service.

✧ Please use in a well-ventilated environment.

✧ DO NOT contact the product for a long time or expose it to the environment with a lot of dust strong acid and/or strong alkaline substances, if not, the product may be damaged ermanently.

✧ DO NOT place fire or any device that gives off high heat around the display.

✧ Please use newline original accessories; please contact the customer service if using self-Purchased accessories.

✧ Arrange professionals to inspect the display regularly.

Important Warnings

WARNING: DANGER OF ELECTRIC SHOCK

- High Voltage.Non professionals are prohibited from opening the back cover. Prohibit live plugging and unplugging of power plugs.

WARNING: DANGER OF PERSONAL CASUALTIES

- It is necessary to take corresponding protective measures for high-altitude operators to avoid accidents.

WARNING: KEEP AWAY FROM FLAMMABLES AND/OR EXPLOSIVES

- Keep the screen away from flammables and explosives.

ATTENTION: REGULARLY POWER ON

- When the display is not in use for an extended period, it is advisable to regularly turn on the power supply to prolong the service life of the product.

Attention: Class I equipment, pay attention to screen grounding

- The display must be grounded.

Attention: Power supply

- When wiring the power supply, please pay attention to load balancing, and strictly avoid overload. Before installation, ensure that the operating voltage of the display is suitable for the local grid voltage.

Copyright Notice

- newline reserves the right to make changes to this product manual without prior notice. We are

not responsible for any direct, indirect, intentional or unintentional damages or hidden dangers caused by not following the product manual for installation or improper use.

- newline is the registered trademark of newline. The ownership of other trademarks involved in this manual belongs to the corresponding product manufacturers。

Warning Signs

Preventive measures:

For your personal safety and to avoid unnecessary property damage, it is important to pay attention to the prompts in this manual. The reminder for personal safety is indicated by . And the reminder only related to property damage does not include a warning triangle. The warning reminder varies from high to low according to the level of danger, as follows:

Danger: Failure to take appropriate protective measures may result in death or serious personal injury.

Caution: Failure to take appropriate protective measures may result in minor personal injury.

Attention: If corresponding protective measures are not taken, it may lead to unexpected results.

Safety Regulations

- Non-professionals are not permitted to disassemble the product without authorization to prevent the risk of electric shock from high voltage.
- Please consult the local power supply authorities if you are unsure about the local grid voltage.
- Personnel working at heights should be equipped with appropriate safety gear.
- The frame structure of the LED display must be designed and constructed by professionals.
- Ensure proper safety measures, including grounding the equipment, are implemented.

Documentation

Scope of application of this document:

This article is applicable to Newline DV Pro and DV Premier series product.

Agreement

In this document, the term "LED display" or "product' refers specifically to the DV Pro or DV Premier series fixed-mounted LED display.

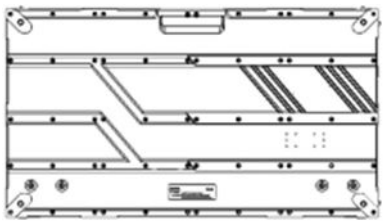
1. Product Overview

- The indoor DV Pro/Premier Series display is modular in design and can be used for indoor fixed installations.
- The DV Pro/Premier series has the characteristics of ultra-light, ultra-thin, fast installation and maintenance, convenient operation, space saving. It can be widely used in conference rooms, monitoring and command centers, television stations, commercial advertising and other places.

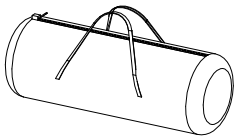
1.1. Features

- The cabinet size is 600 x 337.5mm, 16:9. It can easily achieve standard resolution.
- Light: Weight of single cabinet is not exceeding 5.0KG, about 24.7kg/㎡;
- Thin: The thickness is 38mm, and the thickness of screen can be only 56mm.
- Quick and comprehensive maintenance.

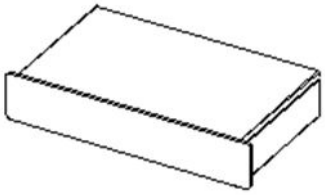
1.2. Product and Accessories



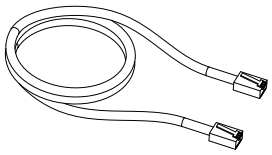
LED Cabinet

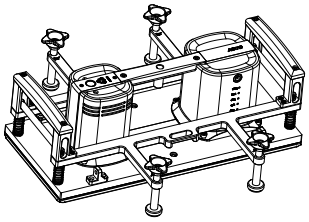


Tool cabinet



LED Controller



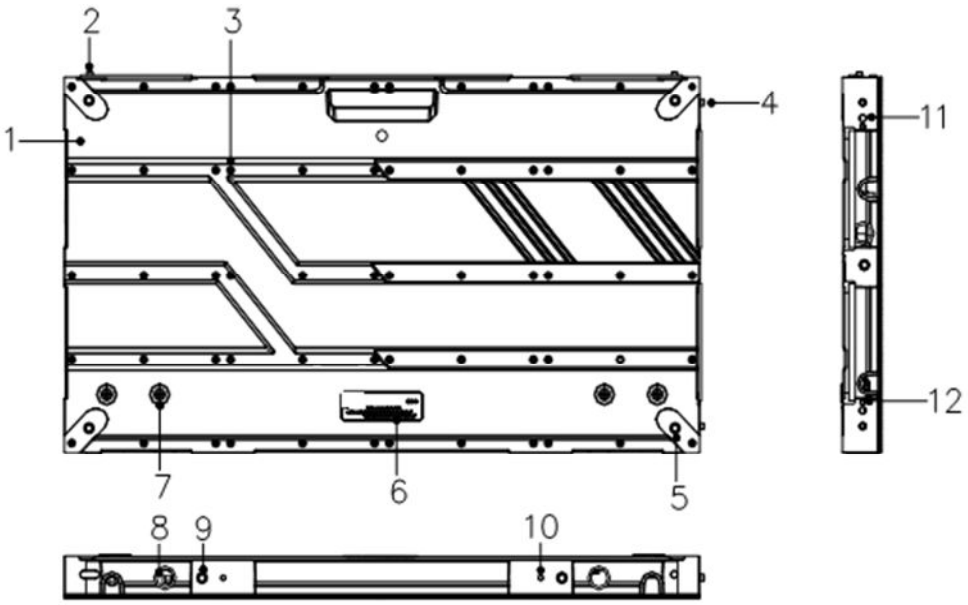


Cat 5E Data Cable	Vacuum Front Maintenance Tool

Note: The above product accessories are for reference only, and the specific requirements of the order shall prevail.

1.3. LED Cabinet Instruction

This product is shown in the figure below (some features have been simplified).



No.	Name	Description
1	Frame	Support structure, used to fix components such as modules, power supplies, control cards, etc.
2	Top locating pin	Positioning device, used for quick positioning between upper and lower cabinets.
3	Flatness adjustment hole	Adjustment device, used to adjust the flatness from the back.
4	Right locating pin	Positioning device, used for quick positioning between left and left cabinets.
5	Mounting Hole	Fixed structure, used to fix with the screen mounting structure.
6	Nameplate	Show information on manufacturer's trademark,

		brand, product parameters,etc.
7	Rubber hole	Rear incoming sleeve.
8	Cable-through holes of upper and lower cabinets	Cable cascade holes of upper and lower cabinets.
9	Fixing holes of upper and lower cabinets	Connect and fix the upper and lower cabinets.
10	Bottom spacing adjustment hole	Adjustment device, used to adjust the gap between the upper and lower cabinets.
11	Right spacing adjustment hole	Adjustment device, used to tighten the gap between the left and right cabinets.
12	Right spacing adjustment hole	Adjustment device, used to increase the gap between the left and right cabinets.
13	Left and right fixing holes	Fixed device, used to connect and fix the left and right cabinets.

2. Installation Guide

Before installation, please carefully read the following safety precautions and formulate strict safety measures to ensure the safety of construction.

2.1. Precautions

✧After the product is unpacked, please check whether the product is damaged or scratched.

✧The installation structure of LED display shall be designed and constructed by professionals.

✧At least two people are required to participate in the installation process to ensure safety.

✧Please take necessary measures to prevent the product from falling during installation.

✧Operators shall use safety belts and helmets correctly when working at heights.

✧Ensure that the bracket and support beam of LED display are horizontal.

✧The bracket and support beam of LED display shall have enough strength so that the bracket and support beam cannot be deformed after the display is installed.

✧Be careful as to not drop objects on the LED display.

✧DO NOT install this product in a closed environment, so as not to impede the heat dissipation of the product and affect the display. When the conditions on site has special requirements please ensure that there is a certain ventilation passage at the front and rear of the cabinet and take appropriate heat dissipation measures.

✧Installation is prohibited in environments where iron filings, wood shavings, and paint are produced.

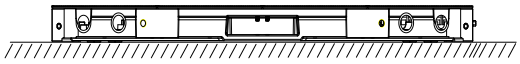
✧When moving the cabinet please do not touch the LED and take anti-static measures to prevent static electricity from damaging the LED or IC device.

✧If the LED cabinet needs to be temporarily placed somewhere before installing the display, please ensure the LED face is oriented upwards. If it is necessary to place the LED face downwards, please

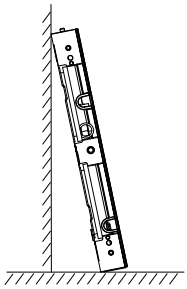
place a layer of anti-static buffer material underneath. If the cabinet needs to be placed vertically, pay attention to avoid stress on the LED. Do not place heavy objects on the cabinet and avoid erecting the cabinet without any protection to prevent it from toppling over.

✧In the process of installation, the power must be cut off to prevent electric shock,and avoid short circuit caused by live parts on PCB board touching metal frame.

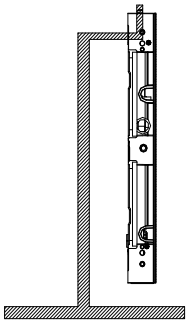
1.Tile (LED surface down - Anti-static foam)



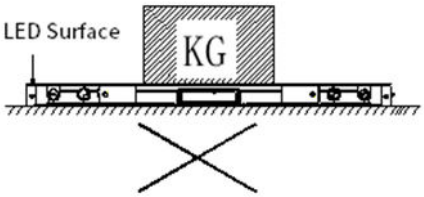
2.Tile(LED surface up)



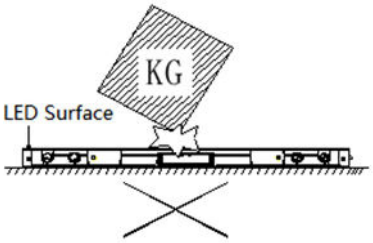
3. Lean against the wall



4. Suspend with a holder

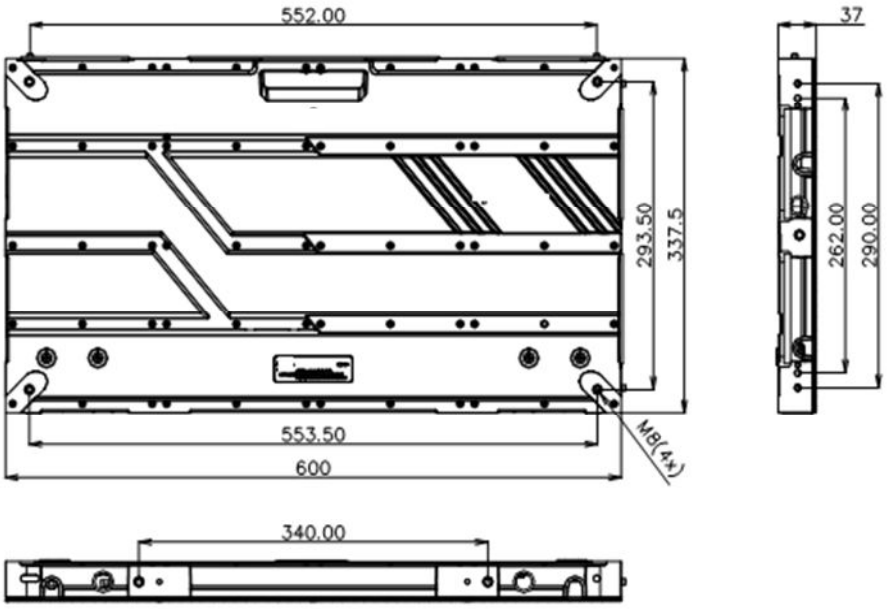


5. DO NOT stack heavy objects on the cabinet.



6. Prevent objects from falling and bumping the LED surface.

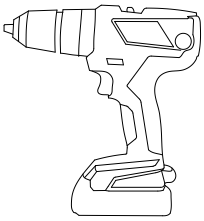
2.2. Installation Dimensions



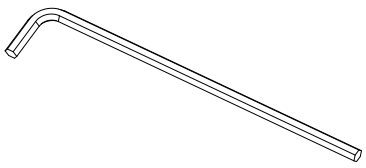
2.3. Installation steps

2.3.1 Stacking Installation

Tools :



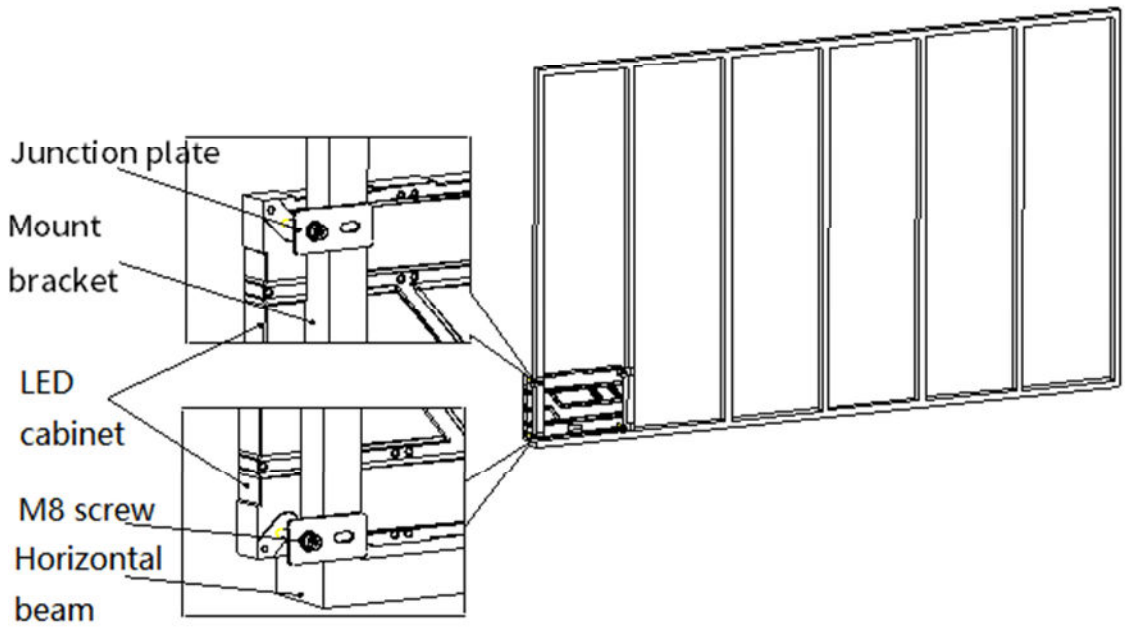
Electric screwdriver



Hexagon (6mm)

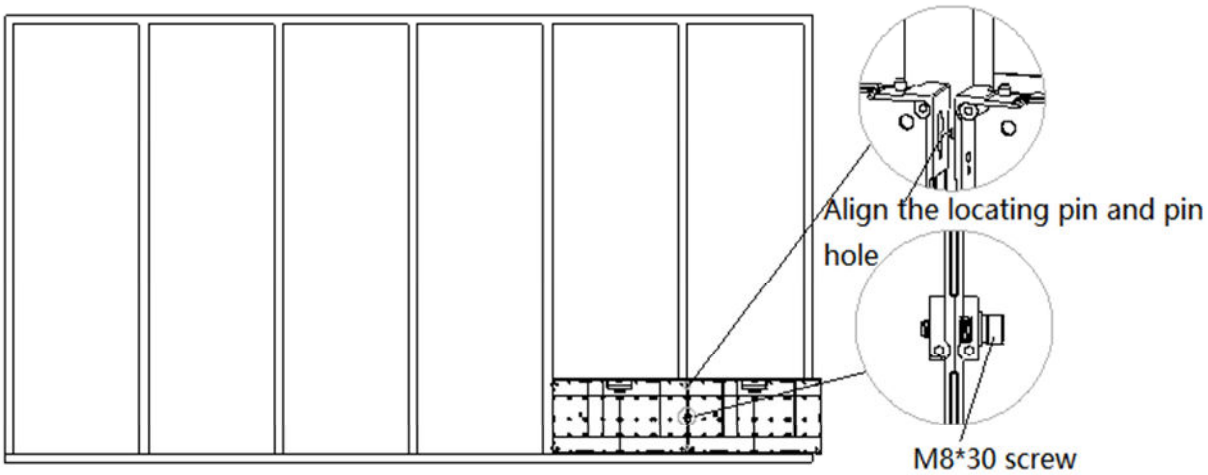
Step 1: Install the first cabinet.

Steadily place the first cabinet on the horizontal beam base, then proceed to secure the cabinet to the mounting bracket using screws. (Please note that the mounting bracket structure provided is for reference only, and the actual engineering application scheme should be followed.)

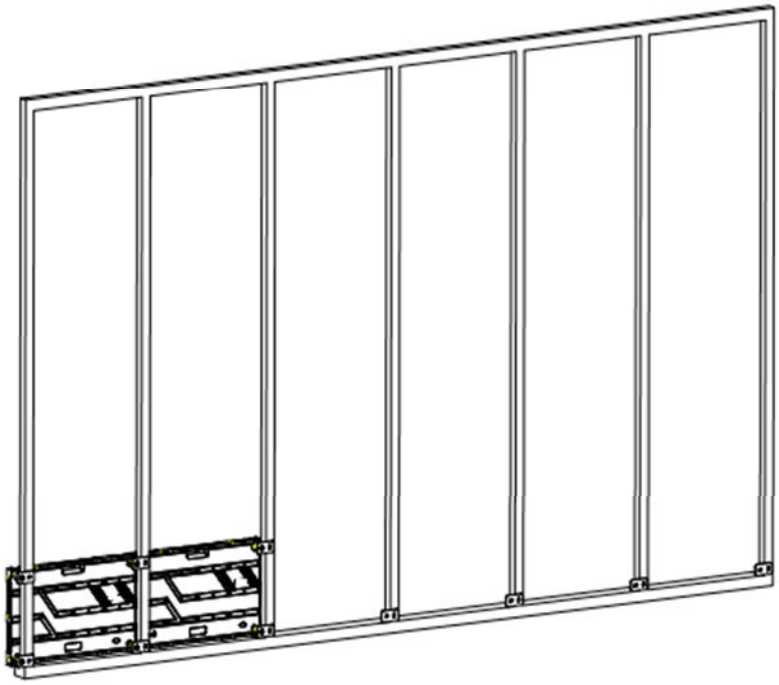


Step 2: Install the second cabinet in the first row.

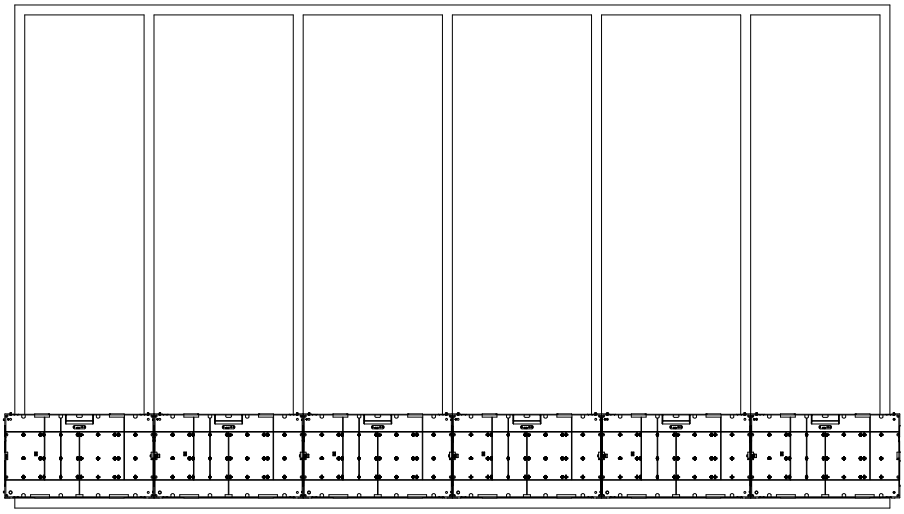
Place the second cabinet on the horizontal beam, aligning the locating stud of the second cabinet with the locating slot of the first cabinet. Close the two cabinets together, then proceed to tighten the upper and lower M8 *30 screws.



Step 3: Fix the second cabinet to the mounting bracket (Same as Step 1).

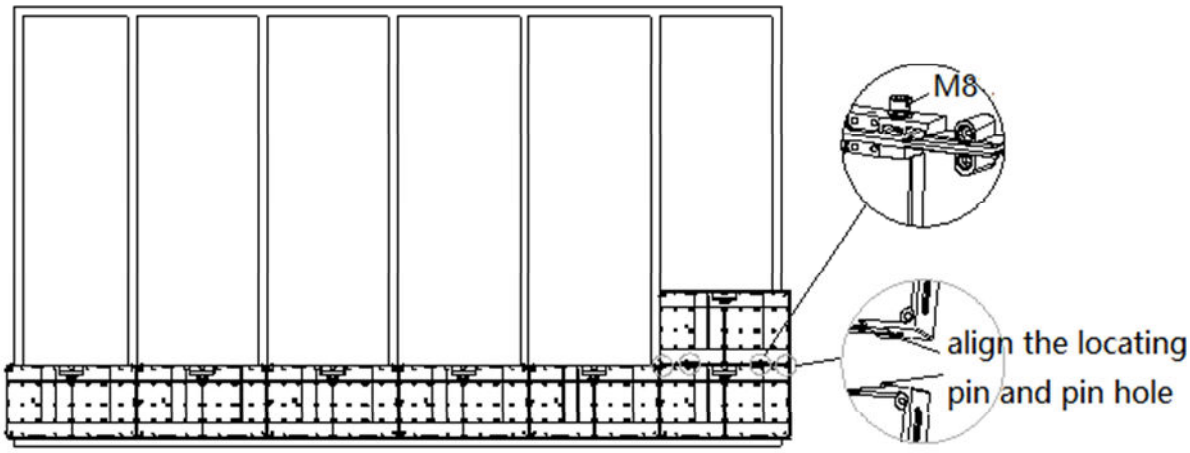


Step 4: Follow the steps in 1-3 to install the remaining cabinets in the first row from left to right.

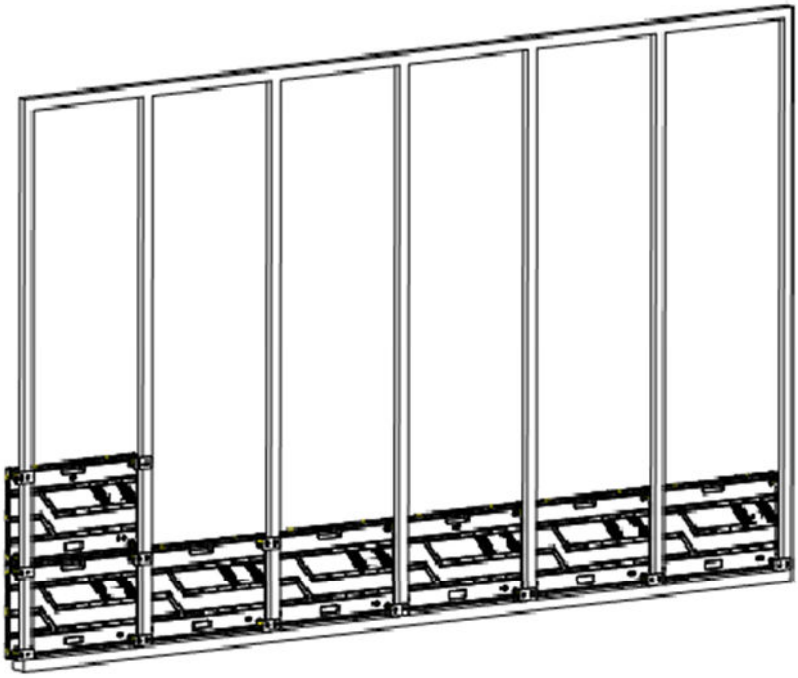


Step 5: Install the first cabinet in the second row.

Align the pin hole of the upper cabinet with the locating pin of the lower cabinet and place it on the lower cabinet, and tighten the left and right M8 * 30 screws.



Step 6: Install the first cabinet of the second row to the mounting bracket (Same as Step 1)

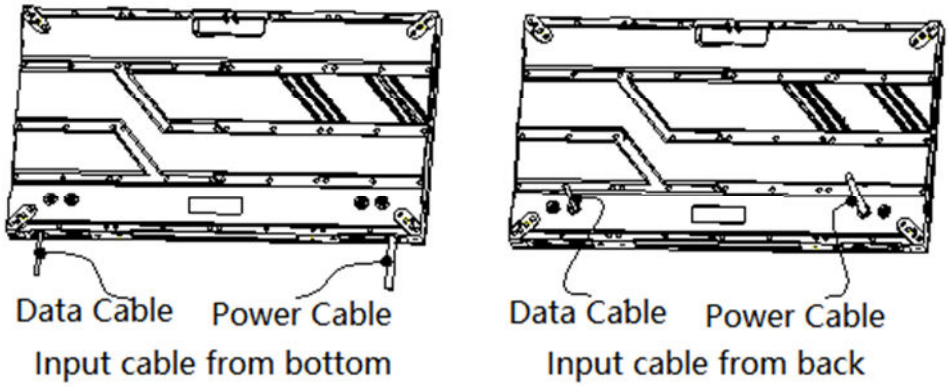


Step 7: Install all the cabinets of the display according to the above steps.

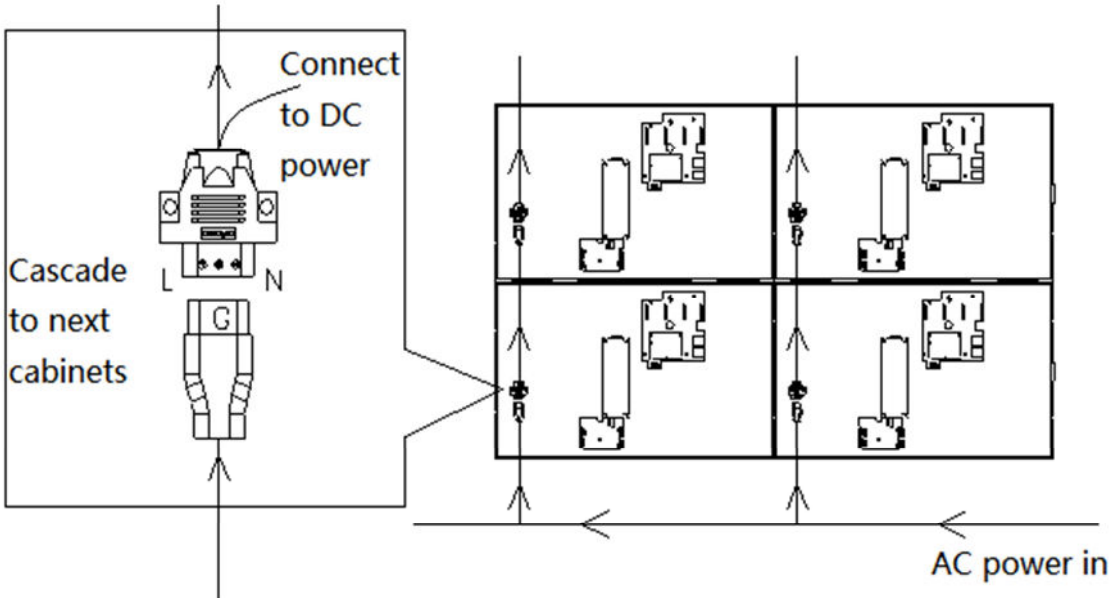
Step 8: Connect the power cable and data cables between cabinets.

The external power cable and data cables can enter the screen from the bottom or rear of the display.

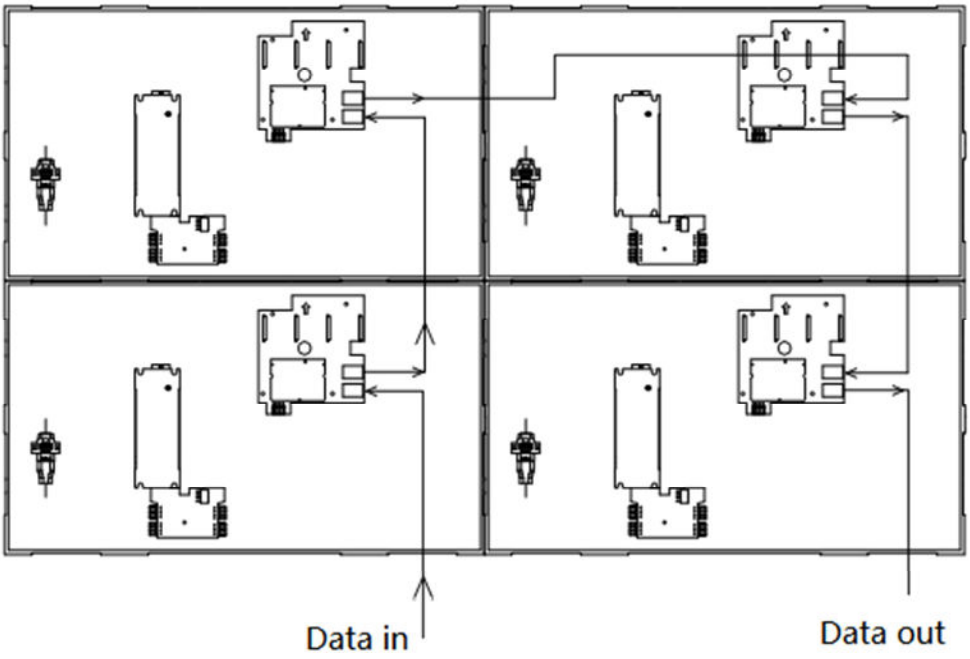
Please select the appropriate routing mode according to the actual engineering application.



The example of power cable connection between cabinets is as follows. For practical engineering applications, please connect the power cable according to the power cable connection scheme in the system diagram.

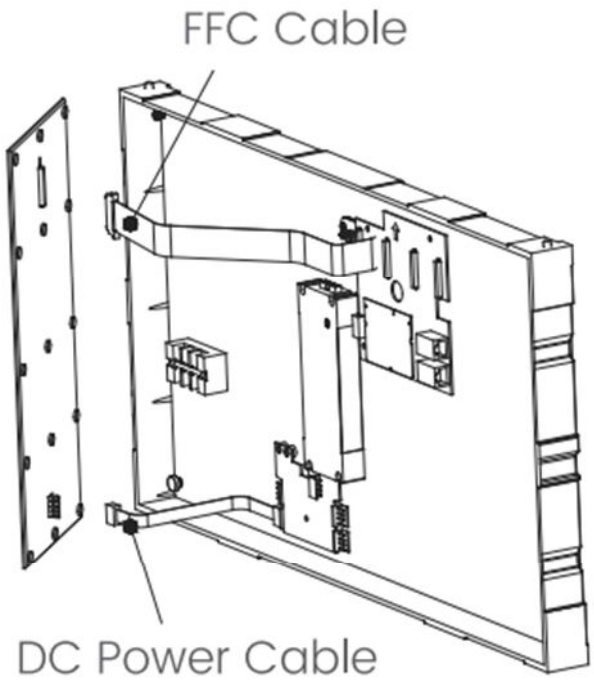


The example of data cable connection between cabinets is as follows. For practical engineering applications, please connect the data cable according to the data cable connection scheme in the system diagram.



Step 9: Install the module.

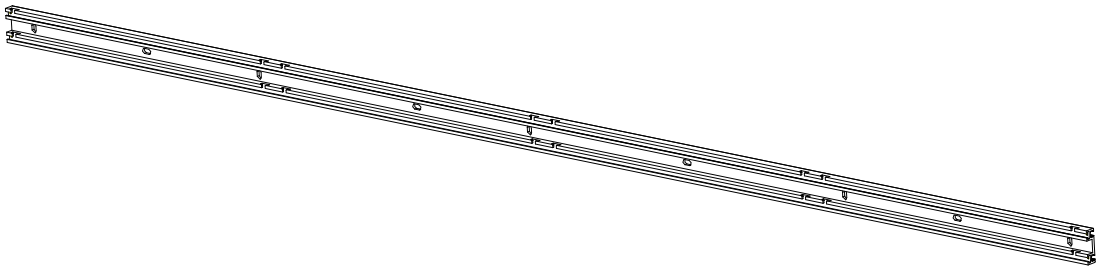
First connect the FFC cable and DC power cable, then align the stainless iron on the module with the magnet on the cabinet, and then attach the module to the cabinet.



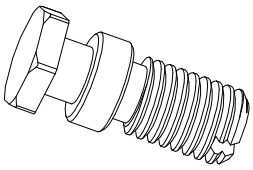
Step 10: Install all modules on the display from left to right and from top to bottom.

2.3.2 Wall-mounted

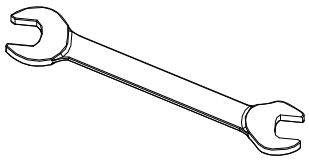
Tools：



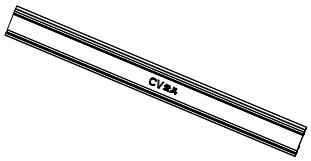
Wall-mounted beam



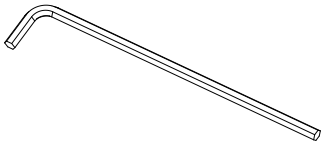
Wall hanging screws



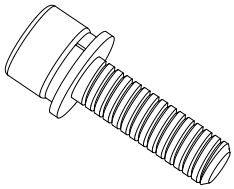
Open end wrenches



Gauge



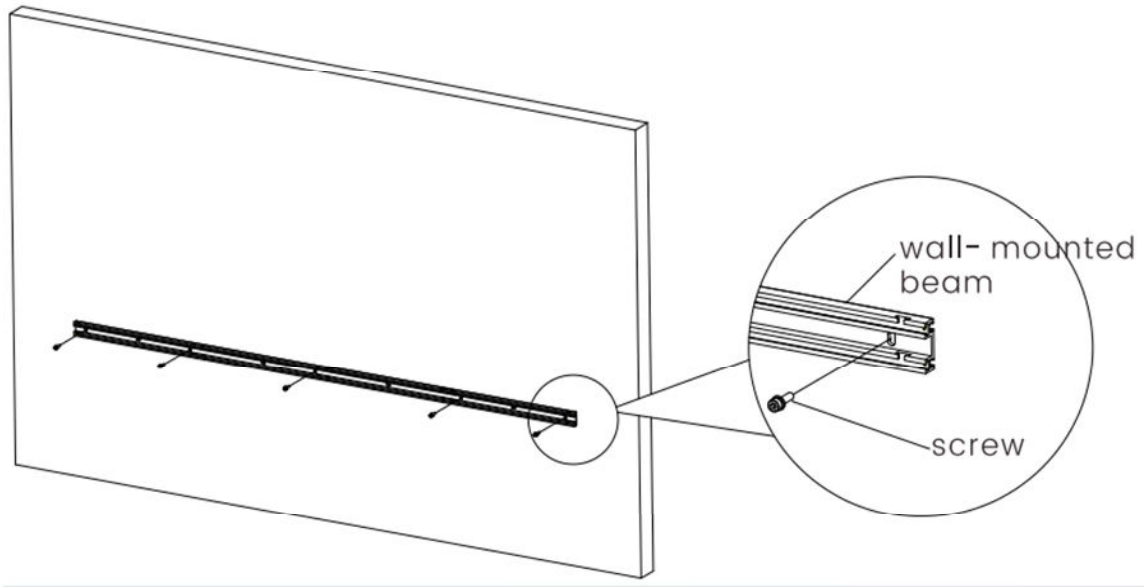
Hexagon



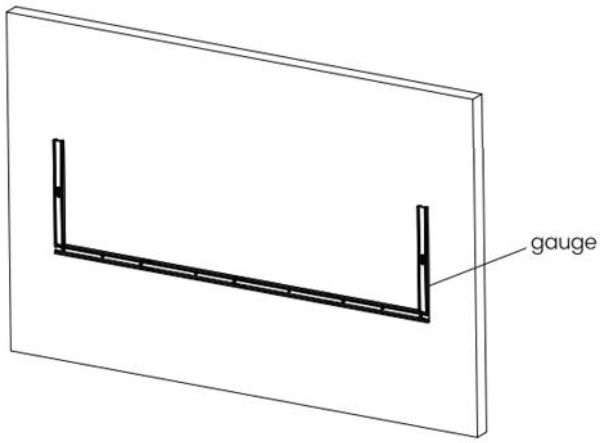
M8 screw

Step 1: Install the first wall-mounted beam.

Secure the wall hanging beam on the wall using M8 bolts (or expansion screws). Ensure that the wall-mounted beam is horizontally level and that the hanging holes are facing upward.

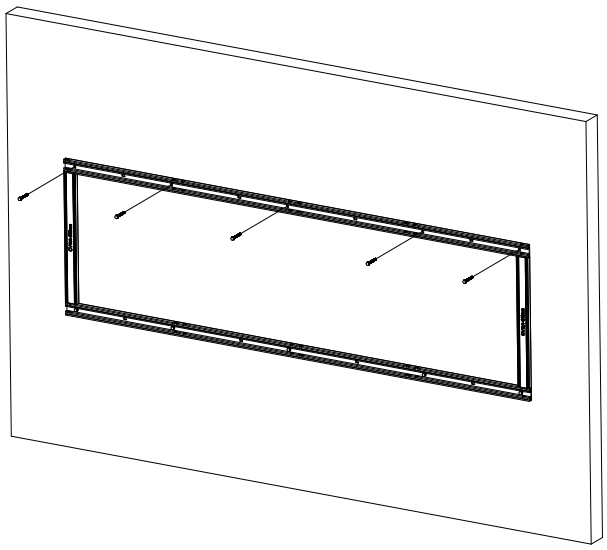


Step 2: Place the gauges on first wall-mounted beam, and make sure the gauge is vertical.

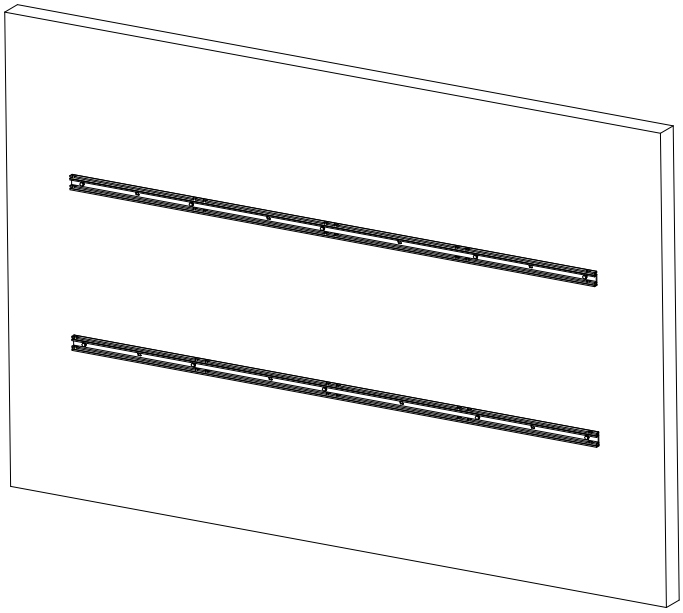


Step 3: Install the second wall-mounted beam.

Place the second wall-mounted beam on the gauges, and fix the second wall-mounted beam with M8 bolt (or expansion screw). The gauges are used to ensure the location between two wall-mounted beams.



Step 4: Take the gauges out.



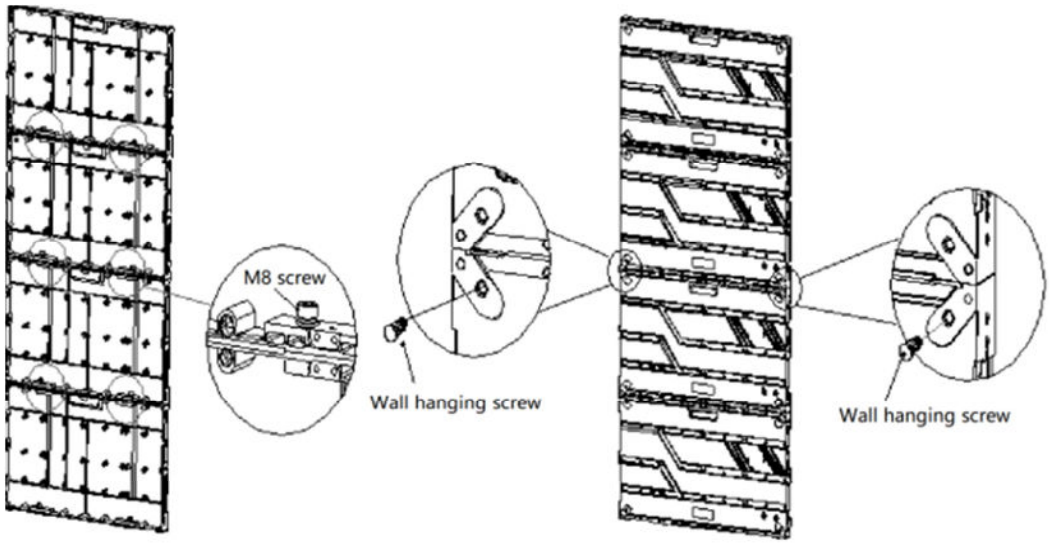
Step5: Assemble the cabinet frame and wall mounted screws.

Use M8*30 screws to splice four cabinet frame components of a row together.

Note: If the wall mounted gauge is 3 times the height of the cabinet, the upper and lower 5 cabinet frames need to be spliced together for installation.

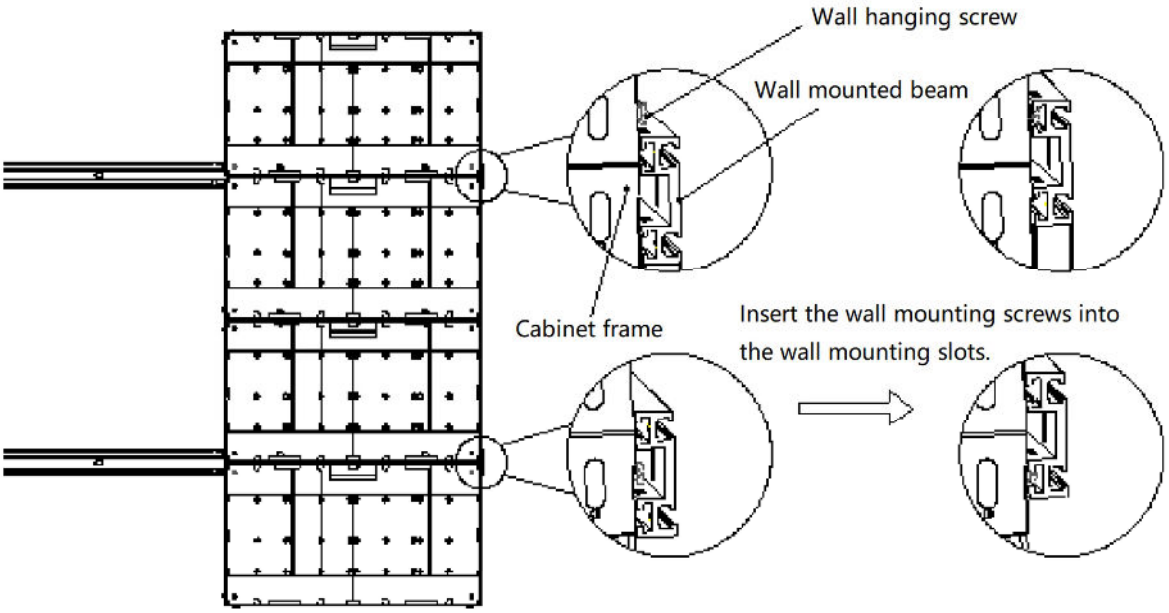
Step 6: Install wall hanging screws on the back of the cabinet frame.

Make sure that the position of the screws for wall hanging corresponds to the position of the wall mount holes.



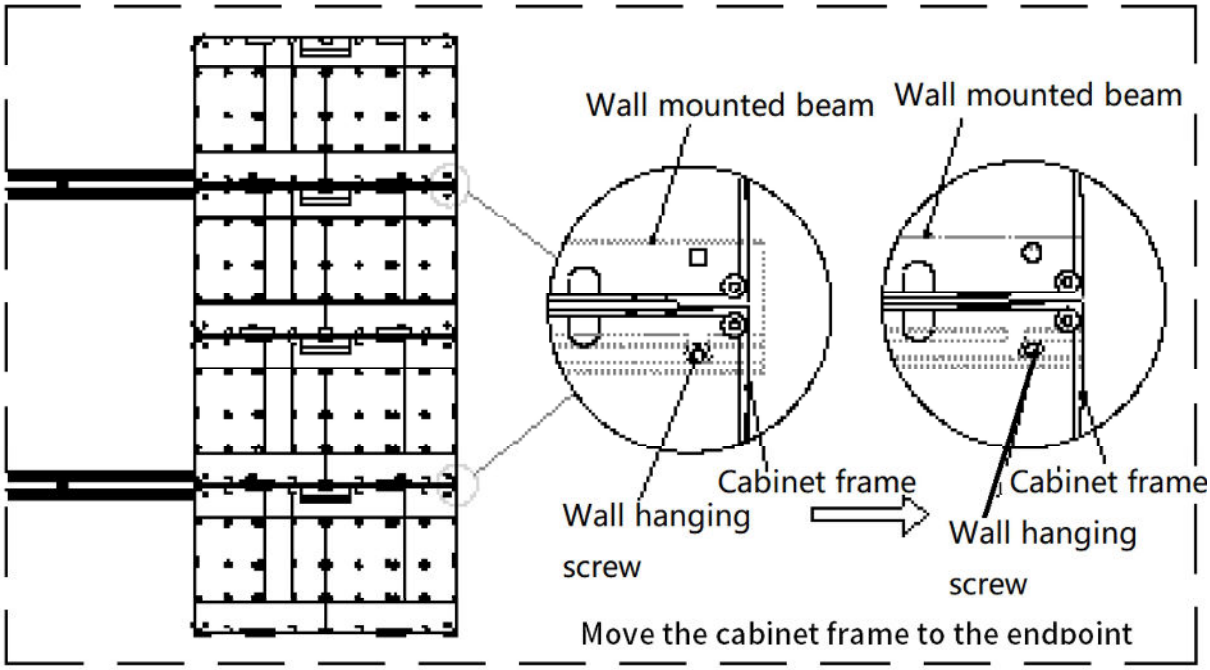
Step 7: Hang the first column cabinet frame components on the wall-mounted beam.

Move the cabinet frame components from top to bottom along the wall-mounted holes, ensuring the screws for wall hanging clip into the wall-mounted holes.

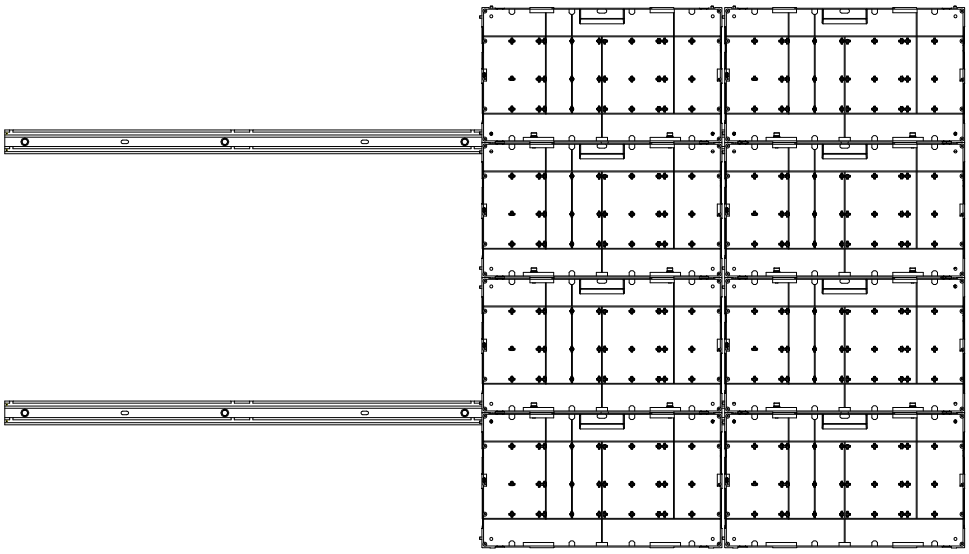


Step 8: Move the cabinet frame to the endpoint.

Move the cabinet frame so that the side of the cabinet frame is flush with the side of the wall mounted crossbeam.

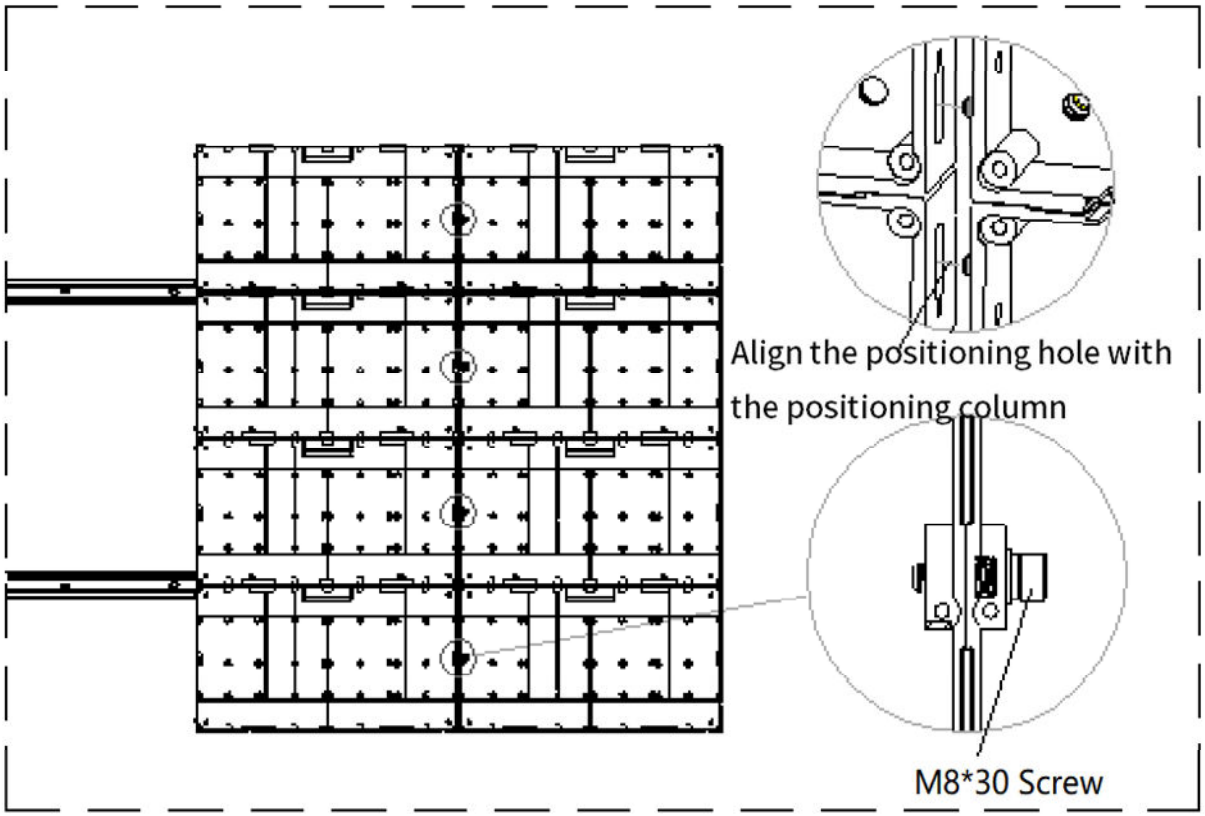


Step 8: Install the second column cabinet frame onto the wall mounted crossbeam according to steps 5 and 6.



Step 9: Connect and fix the two rows of cabinets.

Move the second column cabinet frame so that the positioning holes align with the positioning columns. After the two columns of cabinet frames are tightly attached, use M8 * 30 screws to lock and connect the first and second column cabinet frames. During this process, be careful to prevent the framework from being misaligned.



Step 10: Install the remaining framework.

Follow the above steps to install all cabinet frames of the screen body

Step 11: Connect the power cable and data cable, refer to 2.3.1 relevant contents of seat Installation.

Step 12: Install the modules, refer to 2.3.1 relevant contents in installation.

Precautions:

1.To prevent the risk of shock, do not power on the cabinet before connecting the power cables and data cables.

2.The voltage of this product is 100 ~ 240V, 50 / 60Hz. Please use the product within the specified power range to avoid fire or electric shock.

3.The power cable cannot be overloaded.

4.Please tighten the screws of the power cable to prevent the product from burning due to the

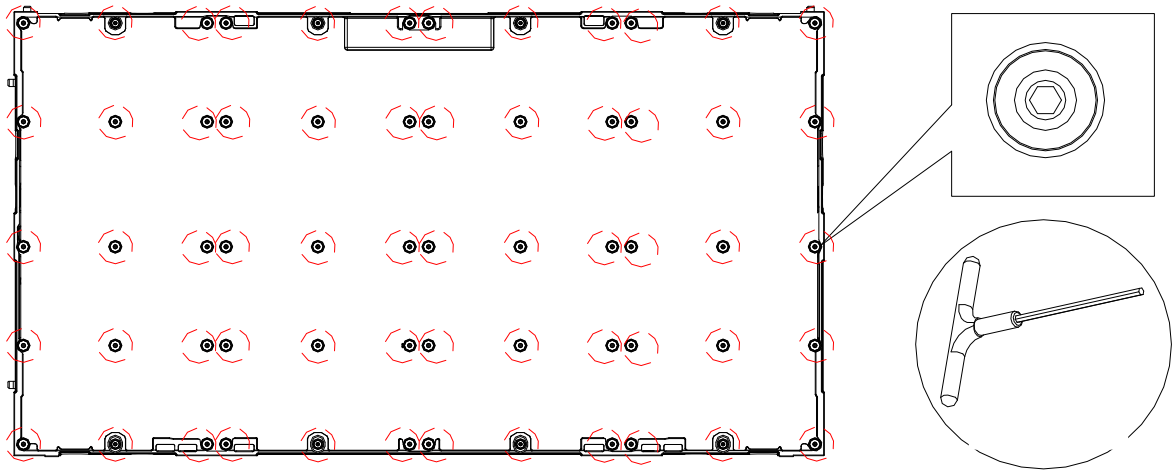
excessive instantaneous current when power on, which may cause fire.

5.After the data cable is inserted into the signal input port, there will be a "click' sound indicating that the data cable is well inserted.

6.The locking torque of M8 screws during installation shall not exceed 8N•m, and the locking torque of M6 screws shall not exceed 5N • m.

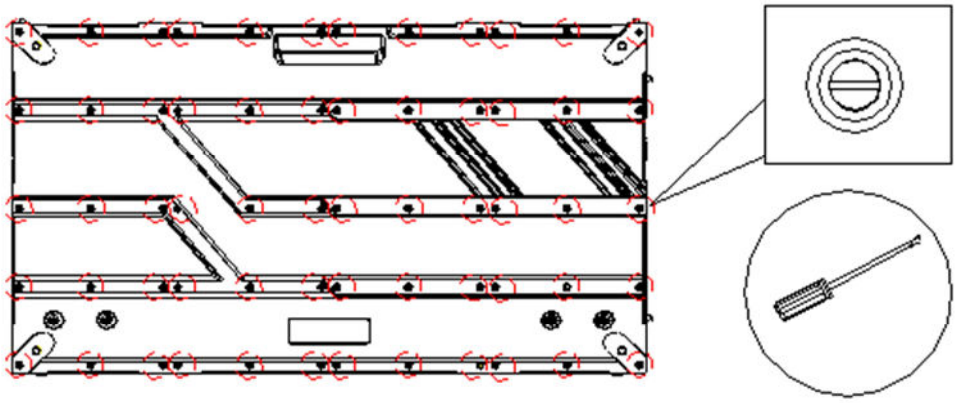
2.4. Segment Gap Adjustment of Display Module

After installation, if the entire screen is not flat or if there is any segment gap, use a screwdriver to adjust the corresponding magnet set. The maximum adjustable gap is 0.5mm. Each unit cabinet has 60 adjustable positions for the magnet, which can be adjusted from the front or rear of the display. It is recommended to adjust the magnet set from the rear of the display. If there is insufficient space behind the display, adjustments can be made from the front. When adjusting the magnet from the front, remove the module from the cabinet. Refer to section 3.2 "Front Maintenance" for details on module removal. Use a 2.5 Phillips screwdriver to rotate the magnet set and adjust the magnet up and down during front maintenance.



When adjusting the magnet set from rear of display, use a straight screwdriver to rotate the magnet set

to adjust the position of the magnet set.



3. Maintenance

3.1. Precautions

1. Before conducting maintenance on the LED display, disconnect or turn off the power supplied to the display to prevent electric shock, and avoid a short circuit caused by live parts on the PCB board touching the metal frame.

2. Please ensure to monitor the battery power before utilizing the font maintenance tools. When the battery power indicates less than 40%, exercise caution and charge the vacuum promptly to maintain its functionality.

3. Be careful to avoid damage to the module surface when conducting maintenance via the front of the display.

4. Please pay attention to anti-static measures when using the front maintenance tools, and ensure to wear anti-static gloves to prevent static damage.

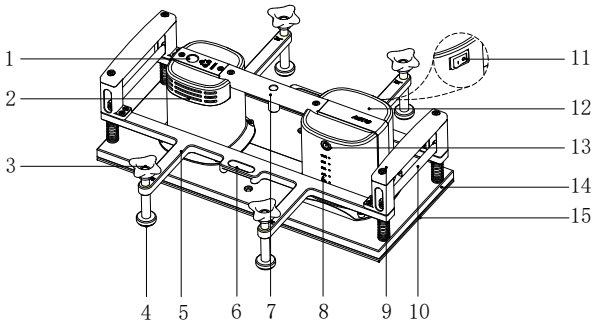
5. Be careful when removing the module vertically, avoid dropping the module as collision with the edge of adjacent modules could be damaged.

6. The vacuum tool cannot operate continuously for extended periods. After removing the module, please remember to turn off the power to prevent burning out the motor.

3.2. Screen maintenance

3.2.1 Maintenance tool

This product supports front module maintenance. The tools required for front maintenance are vacuum front maintenance tools, as shown below: :



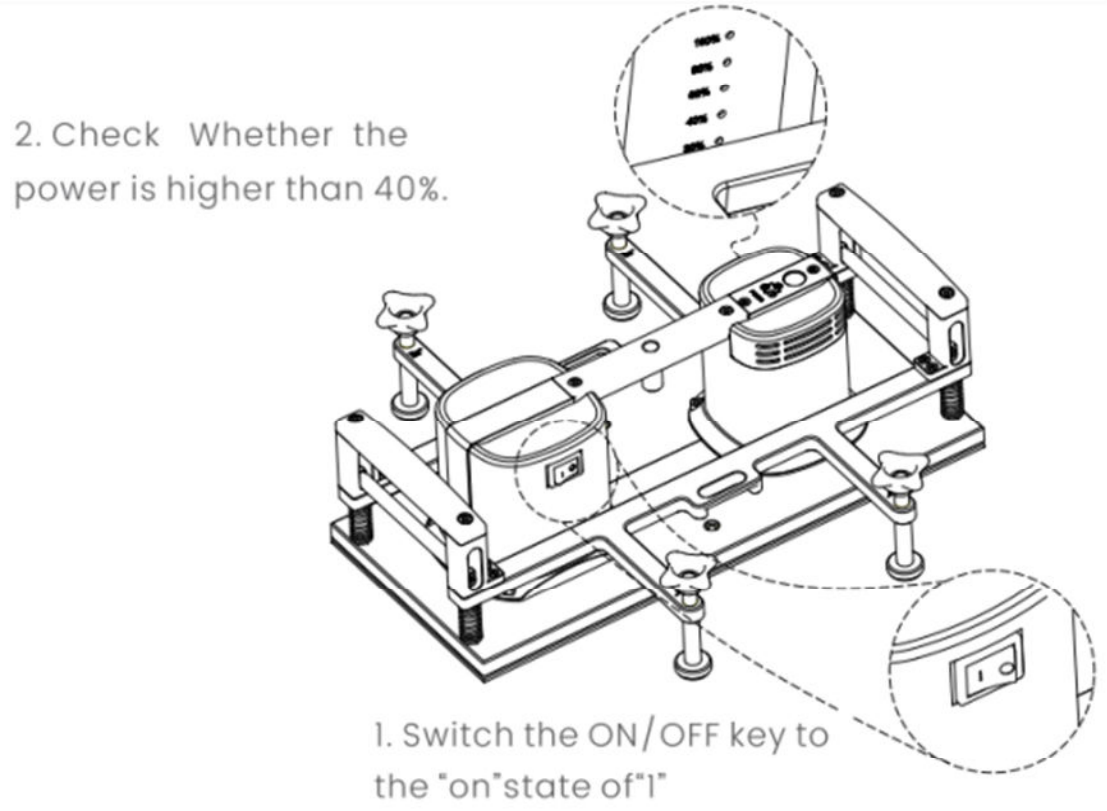
No.	Description	Remarks
1	Fan button	Fan start and power switching: [0] Shutdown. [1] low power. [2] high power.
2	Fan cover	Fixed fan
3	Knob	Fixed fan
4	Foot pad	Supporting bracket
5	Bracket	Vertical pull out of LED module
6	Button hole of safety rope	Temporary locking of safety rope of LED module
7	Handle	Convenient to hold the tool
8	Battery Indicator	Indicates the remaining battery capacity
9	Handle	For holding bracket
10	Draw bar	For drawing the sucker
11	ON/OFF	Switching power supply: """" on; "o" off
12	Battery module	Power supply for fans
13	Charge socket	For battery charging
14	Sucker	Seal between tools and LED module
15	Rubber ring of sucker	Ensure good sealing

Note: after the ON/OFF key is switched to ‘I’ , click the fan button for the first time, and the fan will operate at [1] low power. Click the fan button for the second time, and the fan will operate at [2] high power.

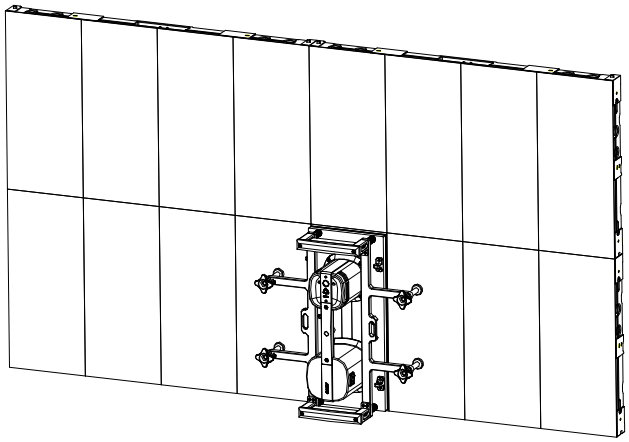
3.2.2 Maintenance process

Step 1: Turn off the power of the display.

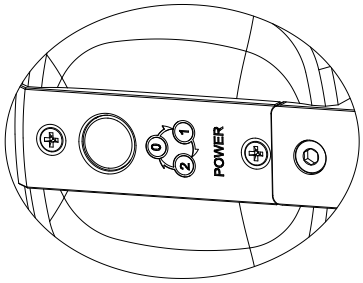
Step 2: Press the ON/OFF key to switch to the "on" state of "|", and check whether the power is higher than 40%.



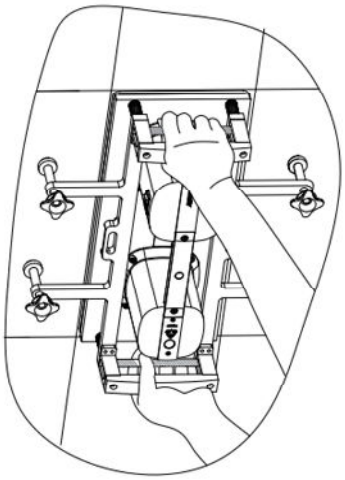
Step 3: Hold the handle and the draw bar with both hands at the same time, place the maintenance tools in the center position of the module and close to the surface of the module.



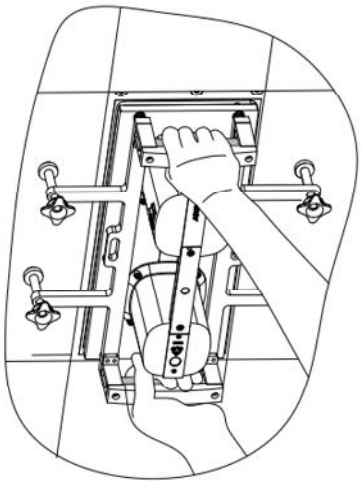
Step 4: Gently touch the fan button to [1] to operate the vacuum suction maintenance tool at low power.



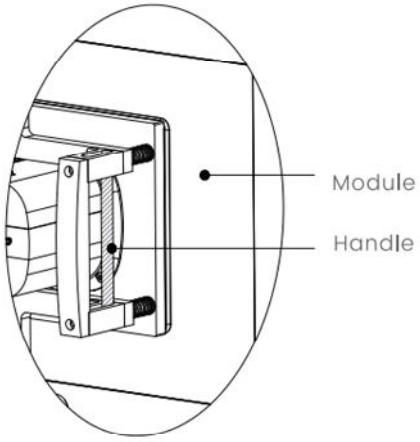
Step 5: Hold the handle with both hands, wait about 3s, pull up the handle, make the handle from the position in state 1 to the position in state 2, and pull out the module.



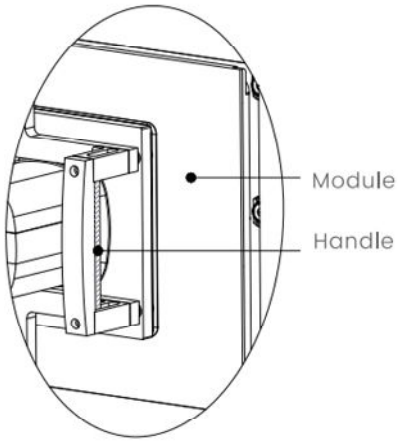
1.Hold the handle with both hands



2. Pull up the handle .



State 1



State 2

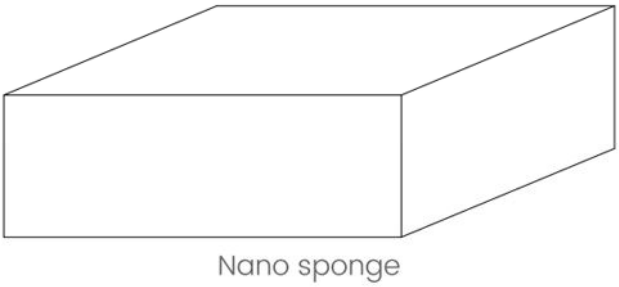
Step 6: Remove the module and place it in a secure location. Afterward, remember to turn off the vacuum.

Step 7: After removing the module, maintenance can be performed on the lamp panel, internal power supply, and control card.

3.3. Cleaning

During the use of the product, dust or other stains may adhere to the surface of the cabinet, affecting

the effect of the display, so the display needs to be cleaned regularly to ensure that it is in the best effect.

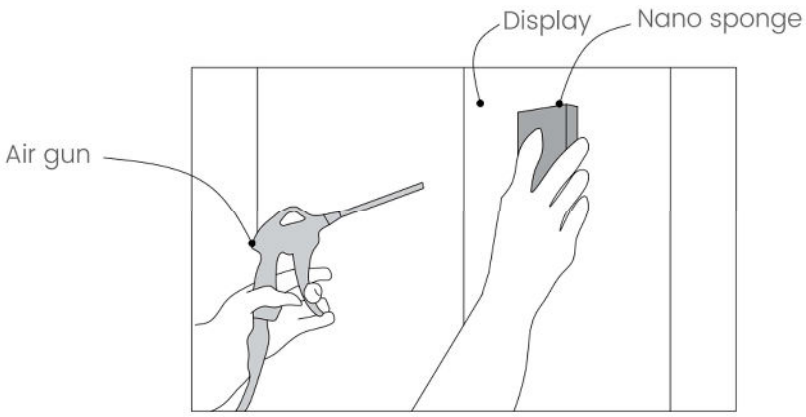


Cleaning method:

Step 1: Turn off the display.

Step 2: Identify the dirty areas of the cabinet.

Step 3: Use a nano sponge to target the dirty areas on the LED surface, and while gently wiping with the nano sponge, lightly use an air gun to clean the dirt away.



Note:

1. Do not use industrial grease cleaning agent in the cleaning process, only use materials or chemicals that have no reaction, corrosion, damage, or trace.

2. Do not use scrubbing brush.

3. Take anti-static measures to prevent the static electricity from damaging the LED.

4. It should be noted that the wiping direction should be consistent.

5. After cleaning, the nano sponge needs to be replaced in time if dirty.

3.4. Common Fault Analysis

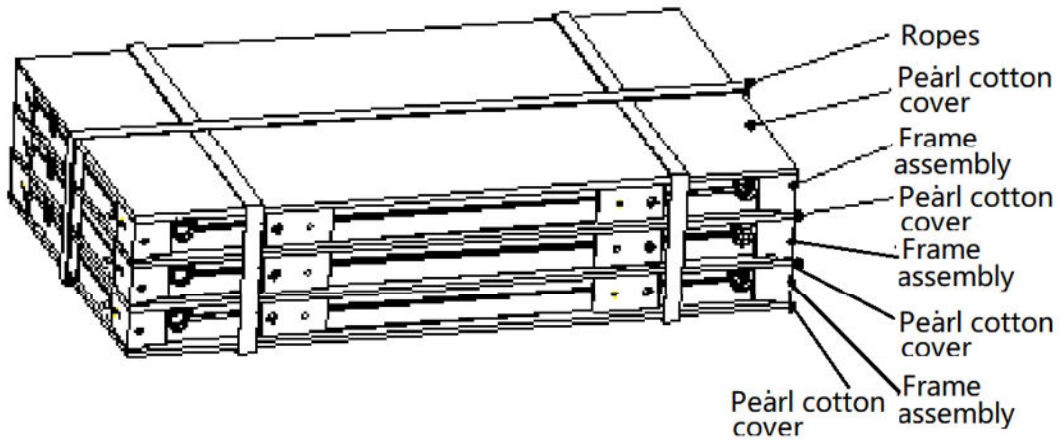
Appearance	Analysis	Solution
Black screen	Check if the display is powered on.	Power on.
	Check the computer settings to ensure that the computer signal is output to the acquisition card(graphics card settings).	Correctly set the output mode of graphics card.
	Check whether the controller Or indicator is working properly.	1.Replace the data cable. 2.Replace the controller.
Disordered screen picture	Check whether the connection diagram is configured correctly.	Reconfigure the connection diagram correctly.
The consecutive cabinet does not light.	Check whether the unlighted cabinet is energized or whether the indicator is normal.	1.Check if the faulty cabinet power supply is working properly. 2. Check if the first faulty cabinet and the adjacent network cables are in good contact. 3. Replace the scanning card of the first faulty cabinet and consult customer service for professional repair services.
LED cabinet black	1. The power indicator light of the cabinet is not working properly. 2. The cabinet operation indicator light is flashing abnormally or constantly on. 3. The data cable is not connected properly. 4.The power cable is not	1. Check the data cable. 2. Check the external power cable. 3. Replace the switch power supply. 4. Replace the product system scanning card.

LED cabinet is blurred	1.Data cable is not connected properly. 2.The products operating data is lost.	1.Check the data cable. 2.Resend the product configuration parameters in the existing Project file Please contact customer service for details. 3.Replace the product's internal scan card; or re-upgrade the control card
LED module failure	I. LED failure or IC failure. 2.The module data port is loose and the contact is poor. 3.Module's color correction data is lost. 4. Data port of HUB card is of poor contact	1.Replace the module. and consult customer service for professional repair service. 2.Replace the HUB card and consult the customer service for professional repair service.

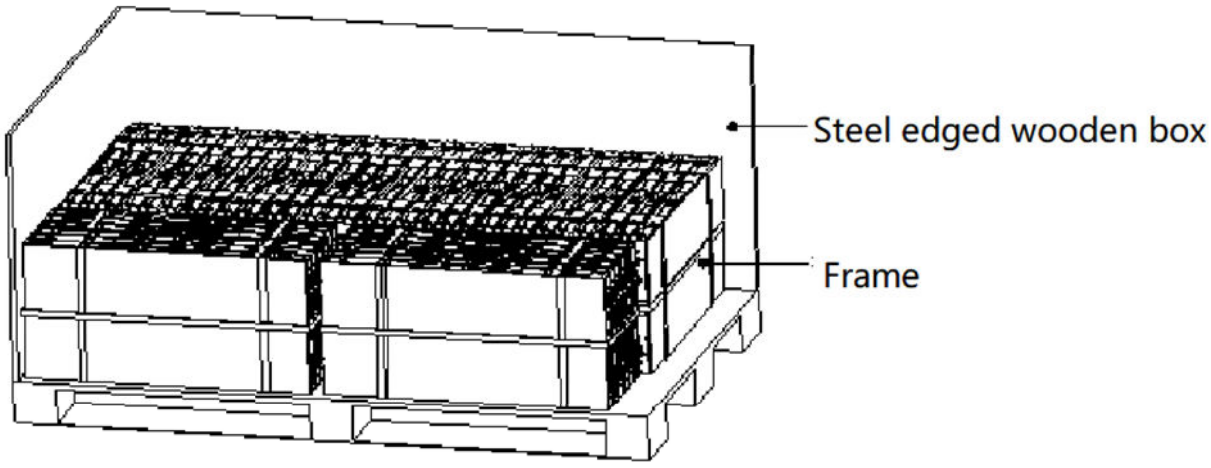
4. Unpacking The LED Cabinet

4.1. Packing Method

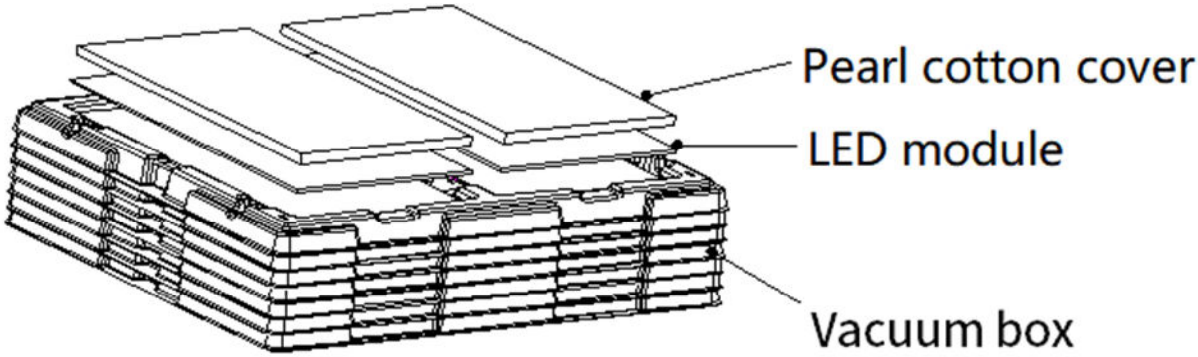
The cabinet frame and LED module are packaged with ropes and vacuum boxes respectively, and then placed in steel edged wooden boxes. Three frame components are bundled together by ropes, and the frame packaging method is as follows:



Place the bundled frame components in a steel edged wooden box, with 42 frame components packed in one wooden box. The placement and packaging methods are as follows:

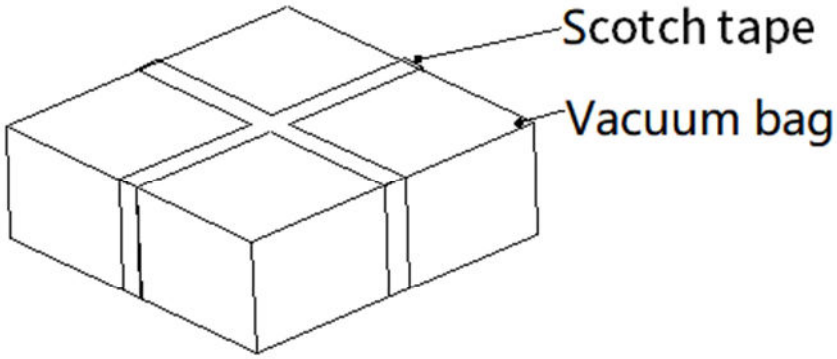


Place the module in the vacuum box, and place anti-static film on each layer of the module to prevent the vacuum box from scratching the surface of the lamp board. Place a pearl cotton cover plate on the top layer of the module surface.



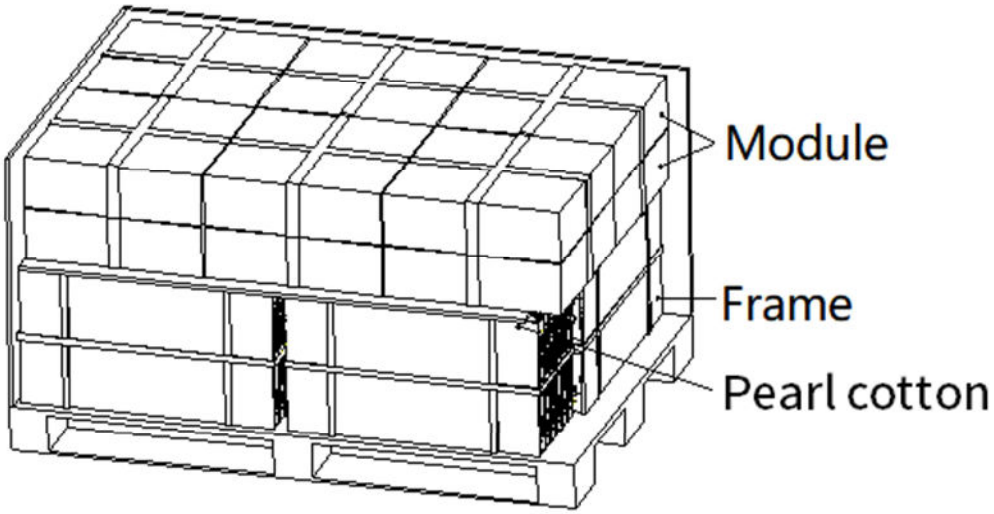
Pack 14 modules in a 7-layer blister box together, wrap the blister box with pearl cotton and place it in a vacuum bag for vacuum treatment. Wrap the vacuum bag around with transparent tape to prevent it from leaking and causing the module to scatter.

Note: If the module is a GOB or MIP, the anti-static film needs to be replaced with 2mm pearl cotton.



Place the packaged module above the frame inside the wooden box, with a total of 12 packages in 2

layers. A 10mm thick pearl cotton gasket is used to separate the frame from the module.



4.2. Unpacking method

After opening the upper cover of the load-bearing carton, you can access the packaging carton containing the module and cabinet assembly. Remove the carton and open it to extract the cabinet and module.

Attention: When dismantling the module packaging, anti-static measures should be taken to prevent static electricity from damaging the lamp beads.

Transportation And Delivery

Transportation

Packaged products are suitable for air, sea, and land transportation. During long-distance transportation, it is not allowed to be loaded in open cabins or carriages, and during intermediate transportation, it is not allowed to be stored in open-air warehouses. During transportation, it is not allowed to transport flammable, explosive, or corrosive items in the same vehicle (or other transportation vehicles), and the product is not allowed to be exposed to rain, snow, or other liquid substances or mechanical damage.

Delivery

When storing products, they should be stored in the original packaging box. The warehouse environment for storing products should have a temperature of 20-30 ℃ and a relative humidity of<60% RH. The warehouse should not contain any harmful gases, flammable, explosive products, or corrosive chemicals, and there should be no strong mechanical vibration, impact, or strong magnetic field effects.

Attention: Risk of damaging equipment!

1.When transporting the product in cold weather conditions, extreme temperature changes should be noted. In this case, please ensure that no water droplets (condensation) are formed on or inside the device. If condensation has formed on the device, please wait at least 12 hours before connecting the device.

2. When the product is damp, please keep the storage environment ventilated. After drying the product, put it back into the original packaging box for storage.

3. Unpacking and inspection of delivered equipment.

Equipment unpacking

Please pay attention to the following points when unpacking the equipment:

1. It is recommended that you do not discard the meta packaging materials. Please keep the original packaging materials for use when transporting the equipment again.

2. Please store the document in a safe place. This document is required when debugging equipment in case of accidents, and it is a part of the equipment.

3. Check the delivered equipment to see if there is any obvious damage caused during transportation.

4. Verify whether the shipped goods include complete equipment and accessories that you ordered separately. If there are any discrepancies or transportation damages, please contact customer service personnel.

5. After unpacking, the product should not be exposed to the installation site environment under construction for a long time.

Warranty

1.The warranty period of the product shall be based on the contract signed by both parties.

2.Product malfunctions caused by the following situations are not covered by the warranty:

- All damages caused by human factors, self modification, upgrading, and online burning.
- Exceeding the valid warranty period and warranty scope; Inconsistent, altered, or lost warranty documents.
- Any damage or warranty changes caused by force majeure factors.
- Excessive product wear or functional failure caused by unsuitable usage environment.
- Other faults caused by reasons other than normal wear and tear (normal wear and tear refers to the wear and tear of the product itself, components, and software systems that occur under the premise of complying with this document);

3.newline Company shall not be liable for any personal, property, or other losses caused by failure to comply with the contents of this document, including but not limited to guidance, steps, specifications, warnings, etc.