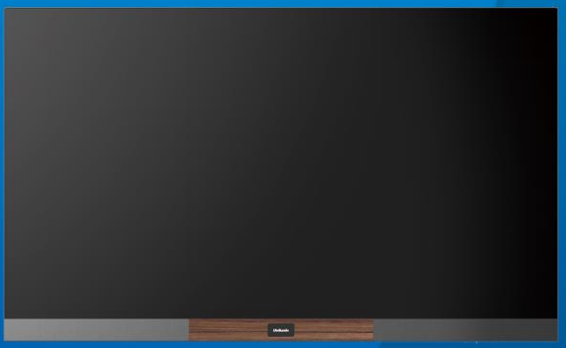
Unilumin 洲明
股票代码: 300232

Unilumin | L2 Conferencing All-in-one (AIO) Machine

Product Installation & Maintenance Manual



Unilumin Group Co., Ltd.

Revision History

No.	Version	Brief Description of Revision	Revision Date
1	First edition	Initial release	September 14, 2022
2			

This manual is subject to change without further notice.

Special Instructions

Thanks for selecting our product. To ensure your convenient use, read this Product Manual carefully before use. There may be careless mistakes although the Manual has been prepared with every effort to maintain the accuracy and reliability, and Unilumin sincerely appreciate your understanding since it may modify and change the Manual at any time without further notice. If you have any problems or suggestions during use, please feel free to contact us according to the contact information provided in this Manual. We will try our best to help you with your problems in time, sincerely appreciate your suggestions and adopt them as soon as possible after evaluation.

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Trademark

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To ensure the correct use of the display screen, please read the following carefully:

◆Warning!

Ignoring the warnings is very likely to cause equipment damage and recovery failure.

1) Do not put the equipment upside down or throw it during handling and storage;
2) Do not use the support or casters from any third party without verification, which may result in the danger of tipping;
3) Do not tilt, scratch, or collide the equipment during installation;
4) Do not spray or soak the equipment with water;
5) Do not keep the air outlet of air conditioner close to the display screen;
6) Do not place or use the display screen in a place with volatile, corrosive and combustible chemicals;
7) Do not clean the display equipment with water and chemical solvents;
8) Do not use the electrical accessories that are not certified by the equipment manufacturer;
9) Ensure that the display screen and auxiliary equipment are correctly and reliably grounded before use;
10) Cut off the power immediately and contact professional personnel in case of any display screen abnormalities, such as odor, smoke, electricity leakage and temperature abnormality;
11) Do not install the APK application software that has not been tested by Unilumin, and in case the system is stuck or crashed caused thereby, please contact the professionals; and
12) Practical and feasible measures shall be taken since this product may cause radio interference in the living environment.

◆Caution！

Ignoring precautions is very likely to cause the failure to get the optimal display effect.

1) Anti-static gloves and wrist straps must be worn when installing and maintaining products;
2) The display screen should be stored in a ventilated and dry place with humidity not exceeding 85%;
3) Normally the display screen must be powered on at least twice a week, with running time not less than 2 hours each time;
4) Installing the display screen at the seaside, in a saline-alkali area, sulfur-containing gas area, near the kitchen smoke exhaust, or in the places with large indoor and outdoor temperature difference may cause equipment failure and affect its service life and, if such installation is necessary, please consult our professionals at service outlets.
5) The items marked with * mean optional devices/software.

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Chapter I Equipment Installation

L2 series conferencing all-in-one machine, Unilumin's third generation commercial LED TV product, is a new-generation smart display based on the concept of integrating hardware, software and AIO design, which will perfectly replace the traditional display equipment applied in large and medium-sized conference rooms. Compared with conventional LED display screen, the product features simple and fast installation, lower requirements for installation environment, dispense with debugging, etc.

1.1 Installation method

Wall-mounted

The screen is fixed and installed on the solid wall by expansion bolts. The minimum bearing capacity should be 3 times the weight of the screen.
Installation environment: solid brick wall, concrete wall, etc. Please consult professional technicians for other conditions.

Mobile bracket

Provide standard mobile bracket, and install the product on the floor (the horizontal floor) without using any wall or auxiliary structures.
Installation environment: horizontal floor

1.2 Installation process

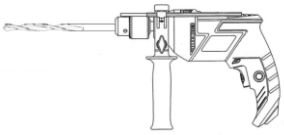
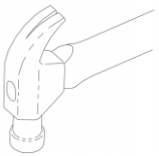
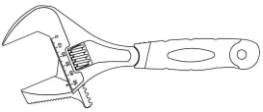
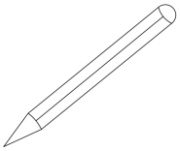
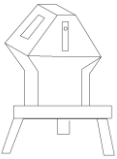
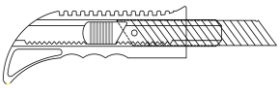
1.3 Preparation before installation

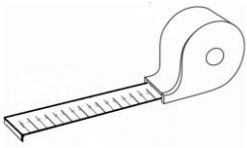
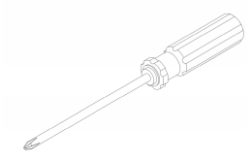
1.3.1 Precautions for installation

- ✧ Generally at least two installation personnel is required, including at least a technician with the ability to install and debug LED display.
- ✧ If, before installation, it is necessary to re-lay network cables or power sockets (such as through-wall wiring), the customer should ask professionals for help in advance, and ensure that the specifications meet the requirements of the equipment.
- ✧ Without taking proper dust prevention measures, it is not allowed to install equipment in the conference room during decoration and construction, because excessive dust will affect the service life of the equipment.
- ✧ The temperature and humidity in the installation site shall be maintained within a range that the equipment can work normally. **Pay special attention to check whether the air outlet of air conditioner is facing the display**. If so, communicate with the customer to change the position of air outlet. The relative humidity in the place where the product is installed should **not be greater than 70%**. In case of a too high humidity, the customer is recommended to install a dehumidification equipment (like an air conditioner with dehumidification function, a special dehumidifier), etc
- ✧ For wall-mounted installation, confirm whether the installation position meets the installation requirements, for example, whether the wall can bear load, has radian, and meet the size requirement. Arc installation is not applicable to this series of products.
- ✧ Confirm the installation size and refer to the corresponding dimension drawing and wiring diagram in the attachment.

1.3.2 Tools to be prepared

Name of Tools	Description	Figures
Step ladder	Used for climbing by installation personnel	

Percussion drill bit φ 12 (for wall-mounting)	Punch holes on the wall and install expansion bolts	
Hammer (for wall-mounting)	Hammer expansion bolts into mounting holes	
Wrench (for wall-mounting)	The expansion bolt nut can be fixed with wrench, or with a socket spanner of corresponding specification	
Marker pen (for wall-mounting)	Used as a mark when marking the hole position	
Level (for wall-mounting)	Measure the levelness of the hanging beam, and it is recommended to prepare a tripod	
Paper cutter	Unpack equipment and module	

Tape measure	Measurement	
Hexagon (provided)	Lock the cabinet	
Cross screwdriver (provided)	Tighten cross screws	

1.4 Unpacking inspection

Carefully check whether the package is damaged. If the package is in normal condition, continue to check the shipping list for main components. Please contact us in time in case of any discrepancy.

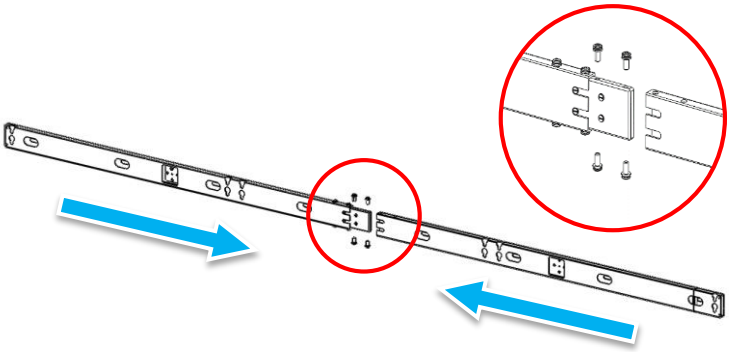
Main components: box, module, remote control handle, screen projector (optional), audio (optional) cable, etc. See the shipping list for specific components and quantities.

1.5 Equipment installation

1.5.1Wall-mounted installation

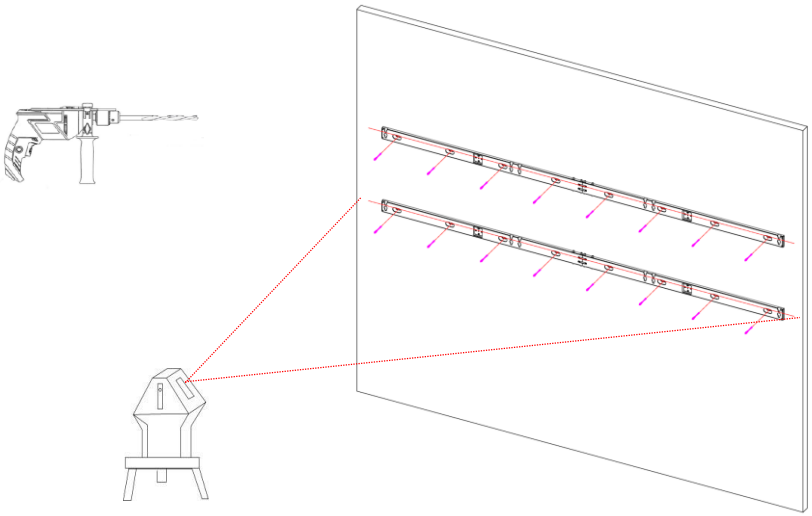
Step 1: Splicing of beams

Take all wall-mounting parts out of the package and splice them into a hanging beam with connectors and bolts. According to the size of the screen, there will be wall-mounting parts with different number of sections, which are subject to the actual size on site.



Step 2: Fix the hanging beam

The height of hanging beam from the ground can be jointly determined according to the height of the conference table and the wall. Stick the hanging beam at the determined position, keep the beam horizontal using the laser level, and mark the hole position with a marker pen. Take off the beam and drill at the marked position with an impact drill (installed with φ 12 drill bit), and finally fix the beam with expansion bolts. Refer to the drawings in Chapter III for the setting-out plan of hole location.



Precautions for installation:

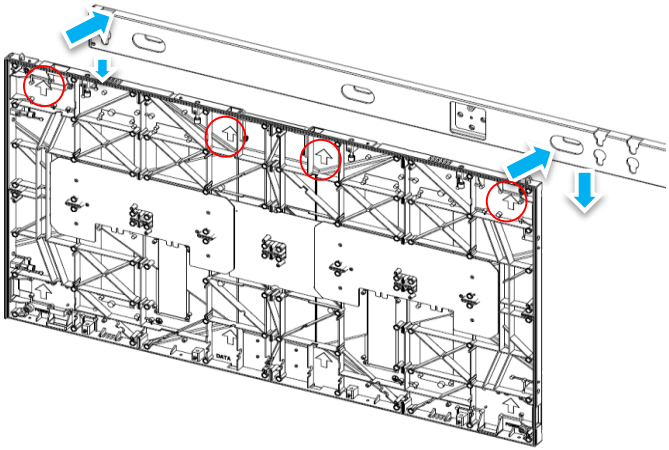
Expansion bolt nuts must be tightened well. The wall unevenness is more likely to affect the installation accuracy of the screen. A cushion can be added between the concave wall and the hanging beam to adjust the flatness of hanging beam. To protect the installation against the relative distance error between the upper and lower hanging beams, try to hang the middle row before the expansion bolts are fully fastened.

Step 3: Box Installation

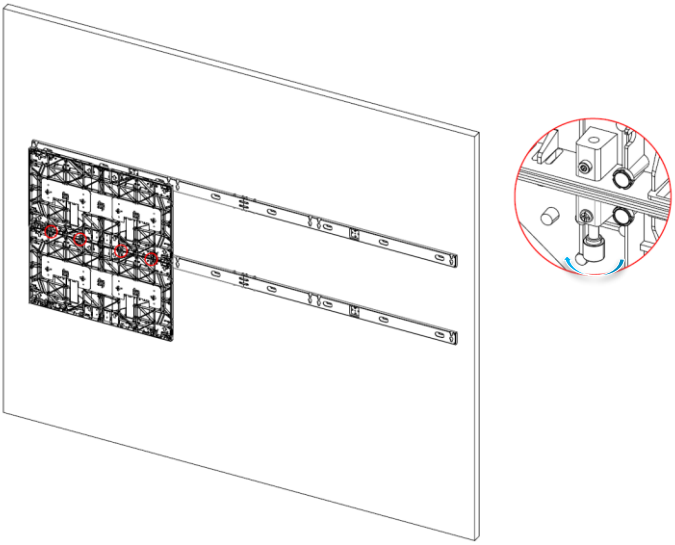
Precautions for installation:

the cabinet should be installed under natural conditions, instead of by violent means such as knocking, pulling and kicking. Should you find that the cabinet cannot be installed, please consult our technicians.

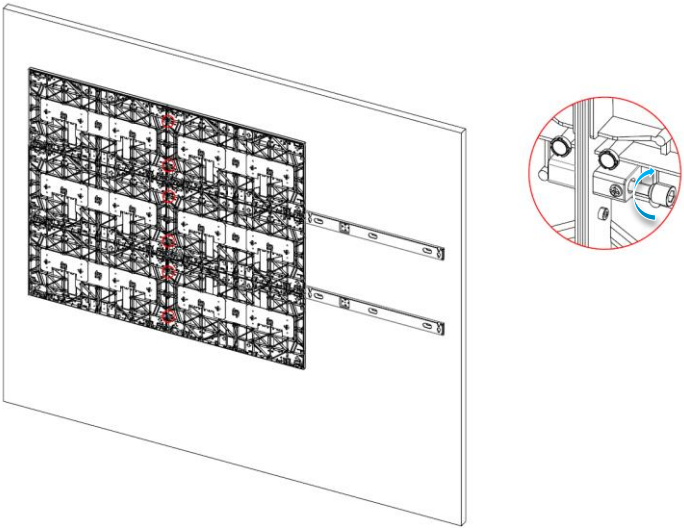
1. Take out the cabinet at the lower left corner according to the corresponding code, align the cabinet lug with the hole corresponding to the hanging beam, and hang the cabinet on the hanging beam according to the upward direction, as directed by the identification arrow. Please refer to Chapter III Drawings for coding.

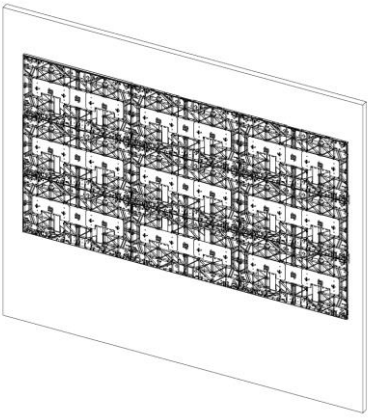


2. Based on the codes, hang the cabinet on the hanging beam from bottom to top, and synchronously with the installation, fix the upper and lower connecting bolts of the cabinet, and complete the installation of the first column of box.



3. Repeat the above steps to install the second column of boxes. The left and right connecting bolts of the first and second columns of boxes should be fixed synchronously with the installation of a single box.

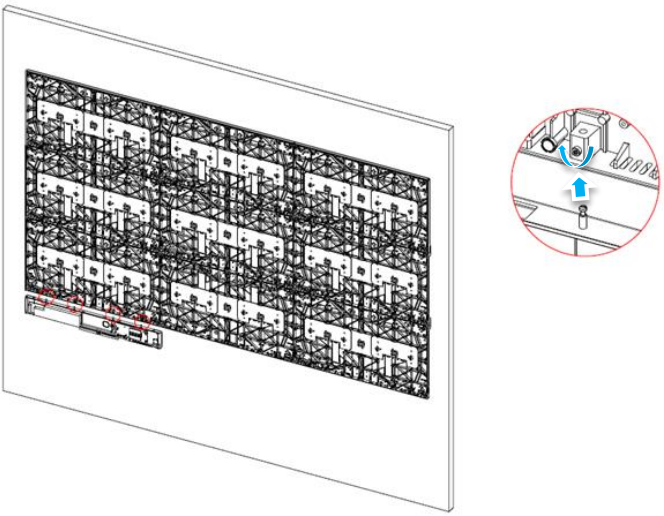




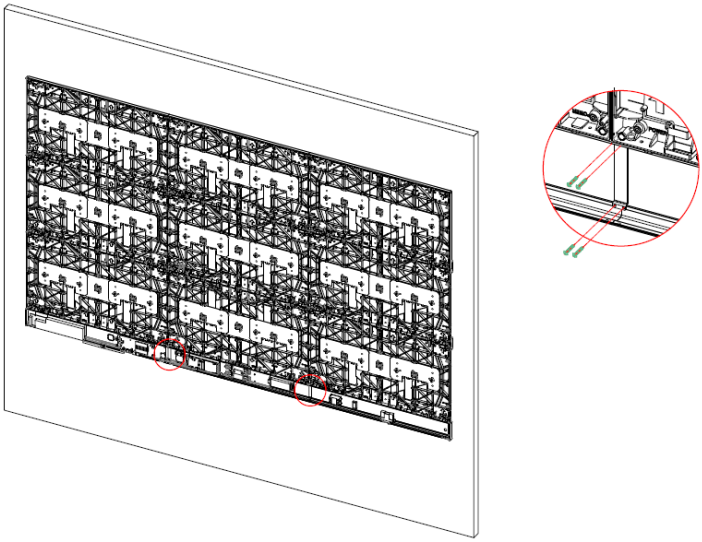
4. Install other boxes according to the above method.

Step 4: Control box installation

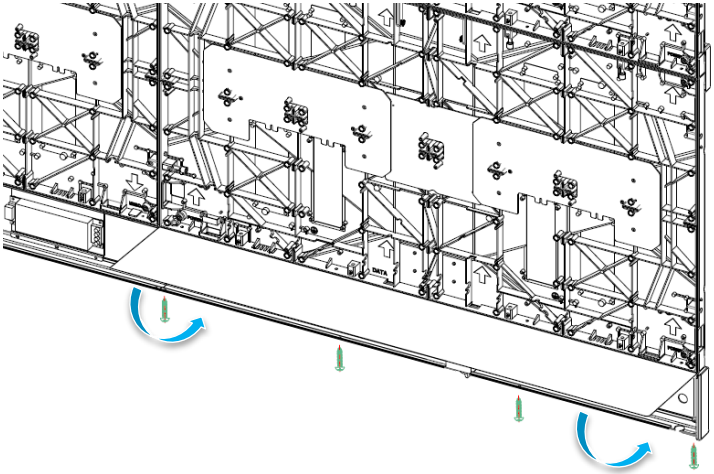
1. Take out the first section of control box on the left side, with its fixing pin corresponding to the hole position on the lower side of the cabinet, and then lock the screw to install the single section of control box.



2. Based on the drawings, repeat the above steps to install other control boxes and connect the two adjacent control boxes with connecting plates.



3. Insert the upper edge of cover plate into the corresponding fixing slot of the control box, close the cover plate downward and fix it with screws. **The cover plate should be installed after the display and system are in normal operation.**



Step 5: Cable connection

Complete the cable connection between control boxes, between the control box and the cabinet, and between the cabinets according to the corresponding signal line and cable connection drawing in Chapter 3. The power line connection at the "O" terminal should be firm and the phase sequence should be correct. Other plug-in connector cables should be plugged in the correct direction and in place. After cable connection, it is advisable to conduct power-on test on the circuit and check whether the control box and the receiving card of cabinet are provided with normal power supply.

Step 6: module installation

Take out the module, install the module to the cabinet in sequence according to the code and the arrow direction on the back of the module, and the module will be attached onto cabinet surface through the magnet. Please pay special attention to the following during installation.

The modules must be installed with caution and special attention should be paid to the following:

1. Modules shall be installation in the power-off state, and must be installed by the technicians in charge of LED display screen installation.
2. Anti-static gloves must be wore, because they can not only prevent static electricity, but also keep the module surface clean.
3. The light beads on the edge of the module are very likely to fall off, they must be handled with care when we align the modules. The modules will automatically attach themselves by magnetic force after correct alignment, and then can be adjusted by hand gently.
4. The installation personnel shall protect the light beads against damage due to collision.

5. Unevenness during installation, if any, should be adjusted in time before proceeding with installation. Unevenness may be caused by the following:

① Check whether the lock catch (or bolt) of the corresponding cabinet is too loose or tight.

② Check the cabinet surface or the back of modules for foreign matters.

③ Adjust the height of the magnet on the cabinet

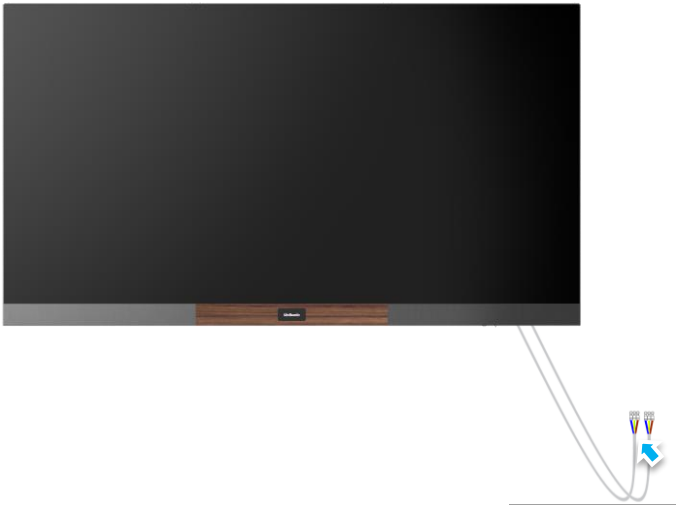
6. The top module can be installed with solid objects, like ladders and chairs, as a cushion. To prevent falling, do not use unsafe objects or tread on a module package. Safety helmets and belts must be worn when working at a height more than 2 meters.

7. It is not allowed to take out and position the module at any places where the module is more likely to fall.

Step 7: Power-on test

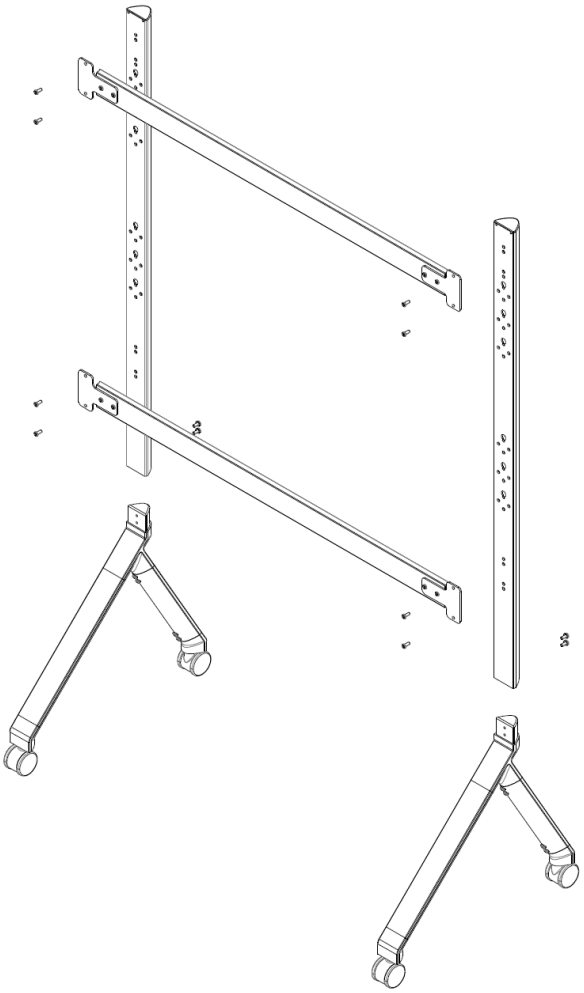
Turn on the power supply, connect signal source, enable the power switch at the lower right corner, and individual areas of the display screen may flash for a moment. The signal source image will be displayed in a moment. Check the screen display and functions and, if they are in an abnormal condition, please refer to Chapter 2 for troubleshooting.

The control system of L2 conferencing AIO machine has been configured with brightness correction and LED parameters before delivery, so no software debugging is required on the product site. If you want to know the specific parameters and debugging methods, please contact our technician.



1.5.2 Installation of mobile bracket

Refer to the installation drawing of the accessories accompanying the bracket if you have purchased a mobile bracket.



No.	Check Items	Check Method
1	The equipment is installed horizontally, with appropriate height, and an ideal overall perspective is available so that the full screen can be seen when sitting at the last position of the conference table.	Check
2	Normal screen display, correct resolution setting, free from picture distortion, blurred screen, etc	Check
3	The bracket is installed firmly so that the screen is not shaken or tilted.	Check
4	The equipment is, in appearance, free of scratches, paint peeling, cracks and others, and the frame is installed flat without warping.	Check
5	The module surface is clean and flat, without finger marks, warps, dents, excessive gaps and others.	Check
6	No blind or dead lights, color block, flash screen, mosaic screen or other defects.	Check
7	Normal key functions	Operational testing
8	Normal startup and standby	Operational testing
9	The remote control operates normally	Operational testing
10	The video is played with adjustable sound	Operational testing
11	Obtain normal projection through computer and mobile phone.	Operational testing
12	The list of spare parts is complete and handed over and kept in place	Inspection

1.6 Self-check after installation

This step can be synchronized with Step 7: power-on test in Clause 1.5.1.

1.7 Acceptance and handover

After equipment installation and self-inspection, it is required to notify the project leader of the user to organize training and acceptance, and sign the Installation Receipt.

Chapter II Common Troubleshooting and Component Replacement

This chapter introduces how to determine the faulty component, but not the faulty elements, of the product through basic inspection and troubleshooting.

If the problem remains not solved through the general methods introduced in this chapter, please contact our technical service engineer according to the specific contact information attached.

2.1 Common troubleshooting

Note: Emergency temporary replacement and repair refers to the method of restoring the display for temporary use by other methods when no supporting spare parts are available on site.

2.1.1 No display on the whole screen (black screen)

Fault cause:

1. Abnormal power supply of equipment
2. Hardware failure of system box (power supply, sending card)

Inspection and troubleshooting methods:

1. Check the status of working indicator of the equipment. A red indicator means the equipment is powered on, and a blue one means the equipment is started.
2. If the indicator does not display:
① Check whether the air switch of main power is on.
② Check whether the power socket works normally, the power cord is connected well or faulty, and carry out testing with a multimeter or a socket board with indicator light.
3. If the indicator shows normally:
① Check whether control system box is provided with normal power supply
② Check the sending card for failure, and input other HDMI video signals externally (such as computer) for test

Emergency temporary replacement and repair:

In case the system box has power supply failure, connect to the power supply with the same output voltage, and in case of sending card failure, the sending card of the same series of conventional LED display can be used instead.

2.1.2 The whole screen flickers, shakes, and is accompanied with abnormal colors

Fault cause:

1. Abnormal input signal source (video signal, HDMI cable, projector)
2. Hardware failure of system box (sending card, HDMI cable)
3. Bottom program error or loss of LED display control system

Inspection and troubleshooting methods:

1. Check whether the signal source is normal, and replace the signal source for test
2. Replace HDMI cable, test the projector, and connect different video input ports to check whether the display is abnormal
3. Check the sending card fault and connect external input HDMI video signal (computer) for test
4. Reboot and send the lost bottom program using the system setting software.

Emergency temporary replacement and repair:

The sending card fault can be replaced by the sending card of the same series of conventional LED display.

2.1.3 The unit cabinet fails to display

Fault cause:

1. The cabinet shows fault in power supply, receiving card or adapter card.
2. The cabinet of previous stage (or the corresponding output port of the sending card) is abnormal.
3. The signal line connected to the cabinet is faulty or loose.

Inspection and troubleshooting methods:

1. Measure the voltage at the DC end of power supply and at the input end of the receiving card, the signal indicator of receiving card in the cabinet, and check whether the adapter card and the receiving card are in good contact.
2. Check the signal output of the receiving card (or the corresponding output port of the sending card) of the previous stage cabinet. Note: Generally jumper method is used for inspection, that is, introduce signals from different interfaces of the sending card and observe whether they are normal.
3. Replace with normal network cable and confirm whether the network cable is faulty or loose.

Emergency temporary replacement and repair:

The receiving card or adapter board that causes the cabinet of latter stage fail can be adjusted to the position of the cabinet at the end of signal .

2.1.4 No display/color bar at module level

Fault cause:

1. Poor contact or failure of module
2. Poor contact or failure of receiving card
3. Failure of adapter card

Inspection and troubleshooting methods:

1. Replace the module and check whether the module is abnormal
2. Replace the adapter board or the adapter board data interface, and check whether the adapter board is abnormal

Emergency temporary recovery scheme:

None

2.1.5 Color difference of single module

Fault cause:

1. The module calibration data is not uploaded
2. Mixed with other screen modules

Inspection and troubleshooting methods:

1. Restart the power and check whether the module calibration data can be uploaded automatically
2. Use software corrected data
3. Replace with the same screen module

Emergency temporary recovery scheme:

None

2.1.6 Projection failure

Fault cause: 1. Screen hotspot is not enabled 2. The hotspot has been changed, but the projector is not paired again 3. The antenna is not connected or blocked, resulting in poor signal 4. The projector fails to fall within the same network segment as the screen body
Inspection and troubleshooting methods: 1. Check whether the hotspot is enabled 2. Pair the projector again 3. Check whether the antenna is external and in good contact 4. Check whether the network connected to the projector falls within the same network segment as the screen
Emergency temporary recovery scheme: Connect the computer and display screen by using HDMI cables, and select the corresponding interface for the signal source.

2.2 Replacement of major components

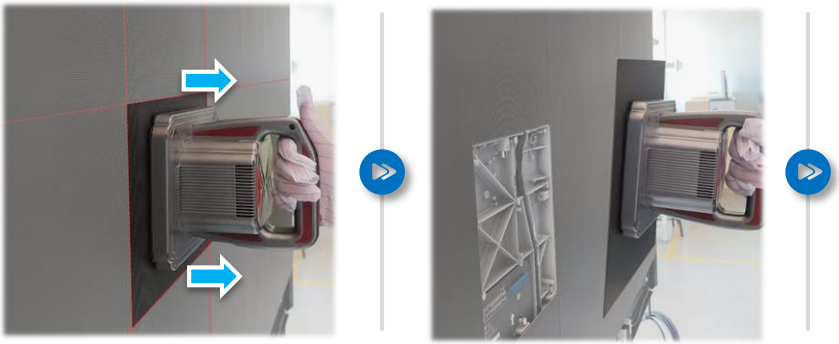
2.2.1 Replacement of modules

1. Locate the faulty module, power off the equipment, and keep the maintenance tool (vacuum sucker) in contact with the surface of the faulty module. Please be noted that the module boundary should be kept away from other modules.

2. Press the button switch at the handle of maintenance tool, and pull out the module in the direction of the display face after the air suction tool completely absorbs the module. Hold the module with another hand during pulling to prevent accidental falling.

3. Release the red button on the tool to weaken the wind, separate the tool from the module, and keep the module temporarily in a suitable place, with the display face upward. After installing the spare modules, place faulty ones in the module box.

4. Take out the spare modules from the module box and install the module to the cabinet in the arrow direction shown on the back of the module. For details, refer to the installation method in Step 7 of 1.5.1. Power on the equipment to check whether the module is normal.



Note: Maintenance tools (vacuum sucker) are subject to the actual delivery.

2.2.2 Replacement of adapter card and receiving card

1. Power off the equipment, and remove the modules at the position of adapter card and receiving card according to the replacement method. Refer to 2.2.1 for specific methods.

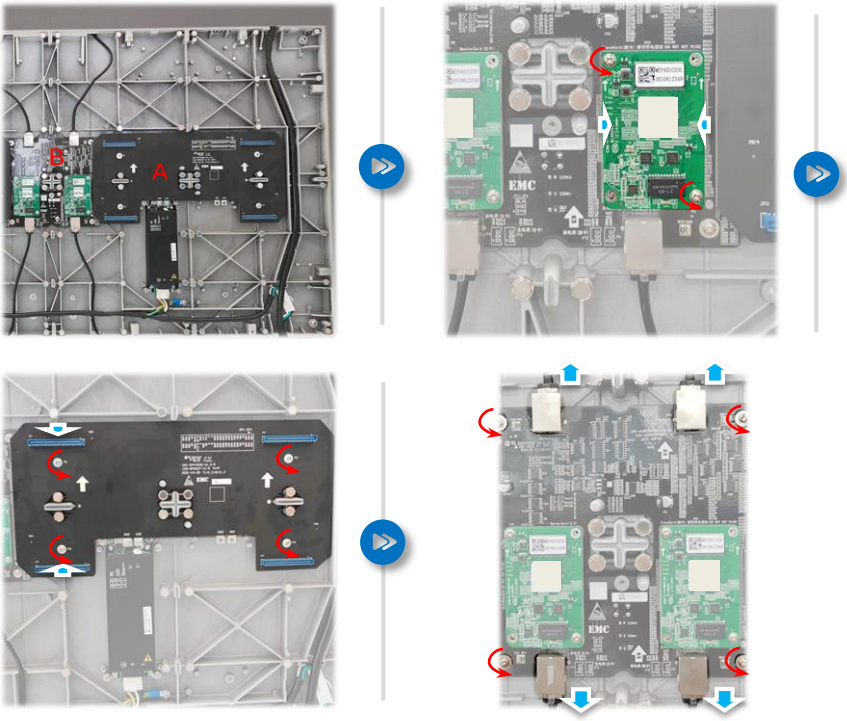
2. Remove the fixing screws of the receiving card, and pull out the receiving card with a force perpendicular to the display face.

3. Remove the fixing screw of adapter board A and DC5V power screw, and pull out the adapter card with the force perpendicular to the display face.

4. Remove the twisted pair and fixing screw of adapter board B, and pull out adapter board B with the force perpendicular to the display face.

5. With the arrow facing upward, install the adapter board and receiving card in reverse order according to the above steps, and connect the twisted pair.

6. Install the removed module as shown in Step 7 of 1.5.1. Power on the equipment and check the display.



Note: Remove the faulty parts only in the sequence shown above, and it is unnecessary to remove all parts.

2.2.3 Replacement of power supply

1. Power off and remove the module at the position of power supply according to the module replacement method, specifically as described in 2.2.1.

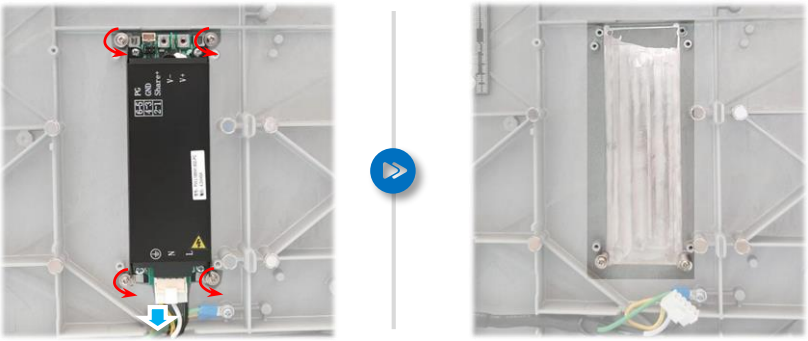
2. Remove adapter board A as described in 2.2.2.

3. Pull out the AC 220V plug, remove the fixing screw above the power supply (DC 5V output end), loosen the screw below the power supply (AC 220V input end), and take out the power supply.

4. Take out the spare power supply and check whether the specification and model are the same as the faulty one. Place the power supply on the installation position in the original direction, and tighten all fixing screws.

5. Install adapter board A, plug in the AC 220V plug, power on to check whether the power supply works normally and whether the screen at the rear of signal terminal displays normally.

6. Power off the equipment and install the removed modules as shown in step 7 of 1.5.1.

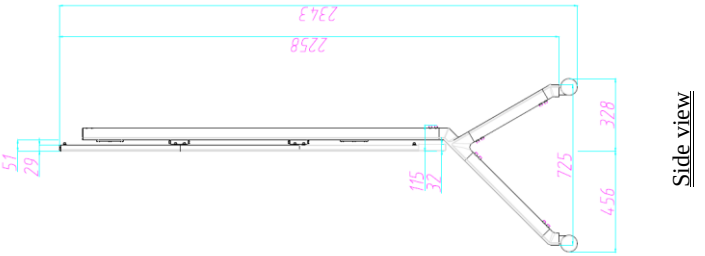


Note: Other components must be replaced in the power-off state. Before disassembly, pay attention to the installation direction of components and the sequence of cable connection.

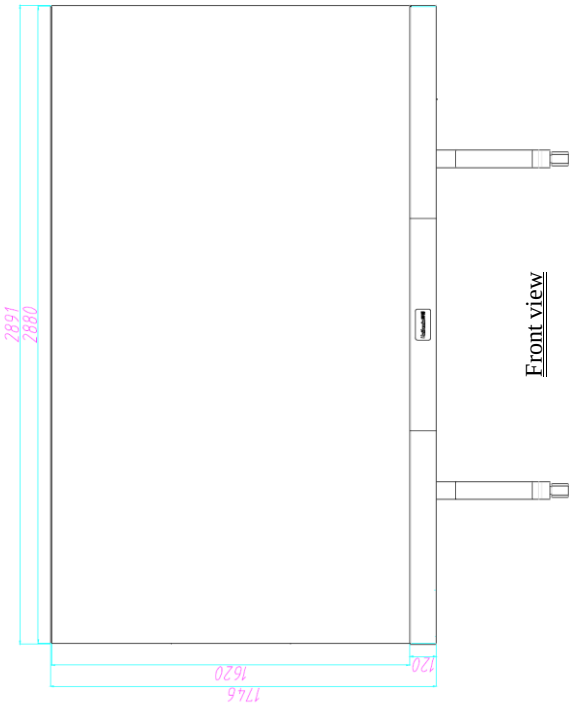
Chapter III Drawings and Accessories

Instructions for drawing interpretation: The following drawings are based on the equipment version at the time of manual revision and are for reference only, and they are subject to update without notice. The latest drawings provided by the project leader shall prevail.

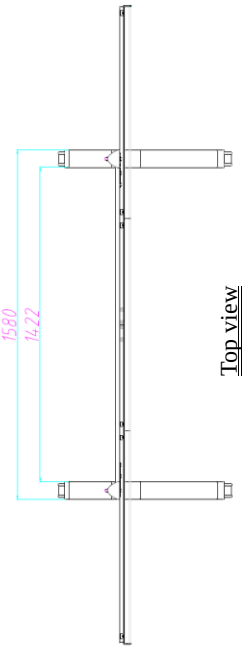
3.1 Dimension drawing of AIO machine



Side view



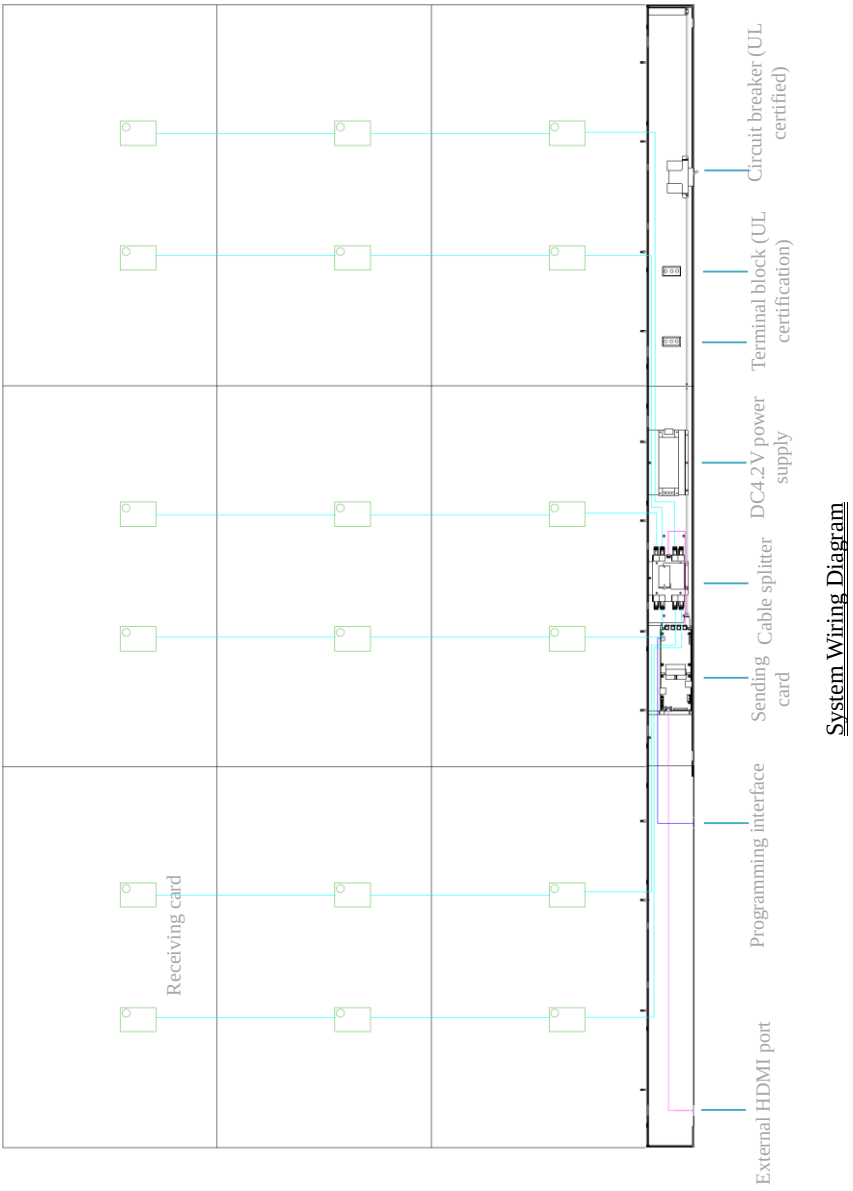
Front view



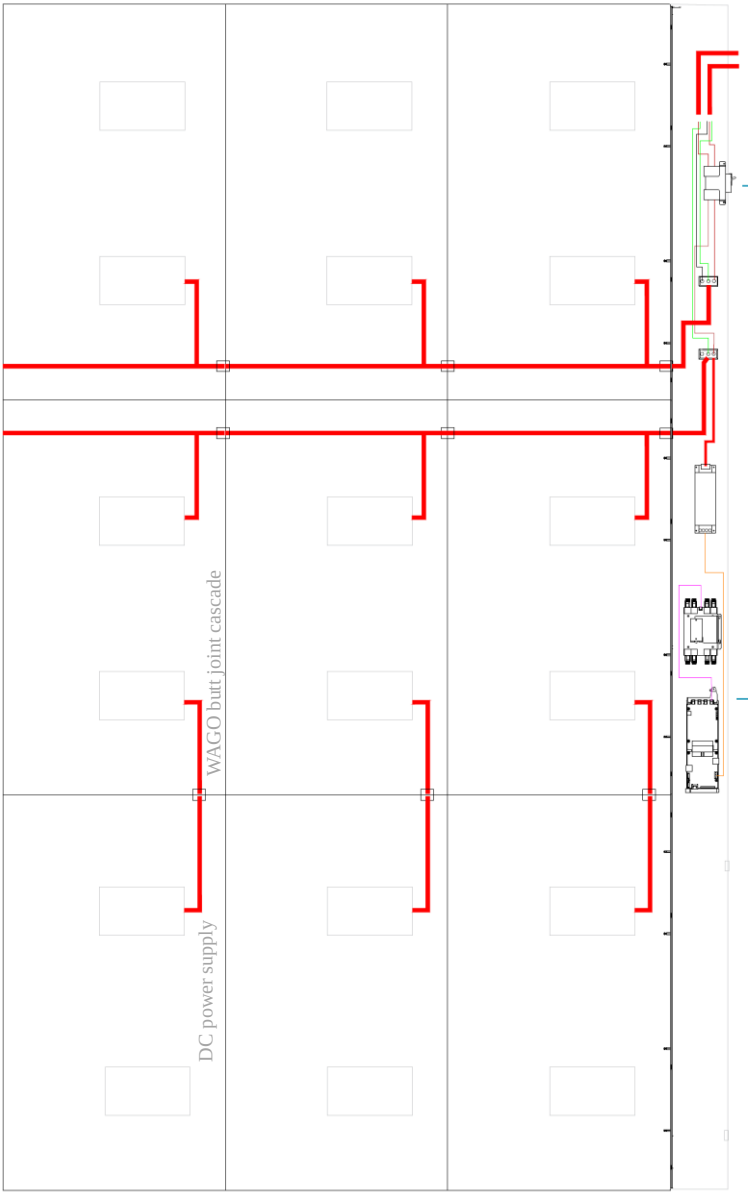
Top view

Setting-out Drawing of Wall-mounted Installation installation and

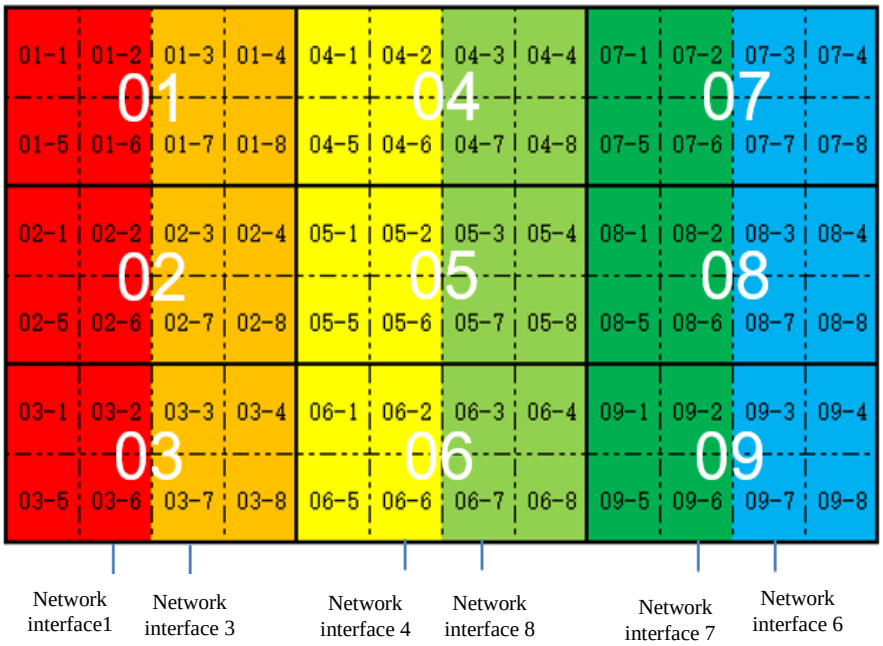
3.2 Wiring diagram of AIO machine



System Wiring Diagram

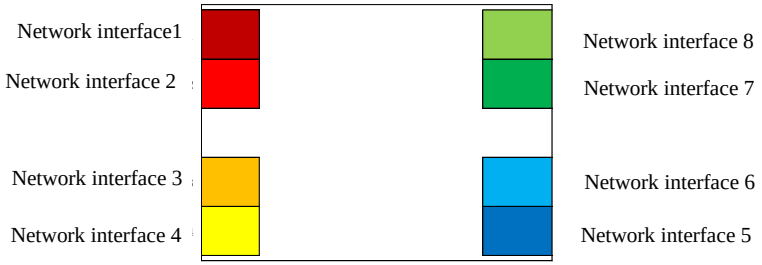


Cable Connection Diagram



3.3 Serial number for AIO installation

Serial numbers for assembling cabinet and modules



Interface number of cable splitter

Note: Serial No.: XX-X, where “XX” refers to the cabinet number, and “X” refers to the module number.

Contact

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After-sales service hotline: (844) 263-3675

After-sales service mailbox: service@UNILUMIN-USA.COM

Cutting Line

Installation Handover Acceptance Form of AIO Machine

User		Contact person	
Detailed address		Phone number	
Seller		Date of purchase	
Reporting date of installation		Date of installation	
Equipment Handover Acceptance and List of Accessories			
Name	Specification and model	Quantity	Remarks
Conclusion of handover acceptance	The AIO machine has ideal appearance, normal display, and the functions meeting the requirements. The above equipment and accessories have been handed over and corresponding operation training has been carried out. Signature: Date:		
Satisfaction evaluation	To better help us improve the quality of products and services, please provide suggestion objectively and truthfully.		

Product Warranty Card

Contract No.		Date of delivery			Warranty period	
Product model					Product quantity	
Name of customer			Customer's contact information			
	Address:					
	Remarks:					
	Record of Warranty Service					

Date of Repair		Fault and Solution	Date of completion	Signature of Customer

Unilumin 洲明

股票代码: 300232

Unilumin Group Co., Ltd.