



## **A27 V3 Series Product User Manual**

**A2712 V3/A2715 V3/A2719 V3/A2725 V3**




**Shenzhen Absen Optoelectronic Co.,Ltd.**

# CONTENT

|  |           |
|--|-----------|
| <b>Safety Information.....</b>                                 | <b>2</b>  |
| <b>1 Product Introduction.....</b>                             | <b>5</b>  |
| 1.1 Product application scenarios.....                         | 7         |
| 1.2 Main features.....   | 7         |
| 1.3 Product parameters.....                                    | 9         |
| <b>2 Introduction of Product Components.....</b>               | <b>10</b> |
| 2.1 Product size introduction.....                             | 10        |
| 2.2 Introduction of cabinet components.....                    | 11        |
| <b>3 Preparation before installation.....</b>                  | <b>14</b> |
| 3.1 Installation tools.....                                    | 14        |
| 3.2 Installation environment requirements.....                 | 15        |
| 3.3 Precautions before installation.....                       | 15        |
| <b>4 Product Installation.....</b>                             | <b>17</b> |
| 4.1 Steel structure installation.....                          | 17        |
| 4.2 Wall mounting.....   | 18        |
| 4.3 Hanging installation.....                                  | 19        |
| <b>5 Product Wiring.....</b>                                   | <b>21</b> |
| 5.1 Preparation before connection.....                         | 21        |
| 5.2 Power cable connection.....                                | 21        |
| 5.3 Signal cable connection.....                               | 22        |
| 5.4 The test of setting up an electric circuit.....            | 24        |
| <b>6 Product Maintenance.....</b>                              | <b>25</b> |
| 6.1 Preparation Tools.....                                     | 25        |
| 6.2 Module maintenance.....                                    | 25        |
| 6.3 Adapter board/receiving card/power supply maintenance..... | 26        |
| 6.4 Product maintenance precautions.....                       | 28        |
| 6.5 Troubleshooting.....                                       | 30        |







## SAFETY INFORMATION



**WARNING!**

Please read the safety measures listed in this section carefully before installing, powering on, operating, or doing maintenance on this product.

The following marks on the product and in this manual indicate important safety measures.

|   |   |   |   |   |   |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| WARNING!<br>Safety risk! Might cause equipment damage or safety risk.             | WARNING!<br>Please read the manual before operating.                              | WARNING!<br>Dangerous voltage! Might cause equipment damage or electric shock.    | WARNING!<br>Hot surface! Do not touch.  | WARNING!<br>Flammable!  | WARNING!<br>Possible damage to eyes.  |



**WARNING:** Be sure to understand and follow all safety guidelines, safety instructions, warnings and precautions listed in this manual. This product is for professional use only! This product may result in serious injury or death due to fire hazard, electric shock, and crushing hazard.



Please read this manual carefully before installing, powering up, operating and maintenance of this product. Follow safety instructions in this manual and on the product. If you have any questions, please seek help from Absen.



**Beware of Electric Shock!**

- To prevent electric shock the device must be properly grounded during installation. Do not ignore using the grounding plug, or else there is a risk of electric shock.
- During a lightning storm, please disconnect the device's power supply, or provide other suitable lightning protection. If the equipment is not in use for a long time, please unplug the power cable.
- When performing any installation or maintenance work (e.g. removing the fuses, etc.,) make sure to turn off the master switch.
- Disconnect AC power when the product is not in use, or before disassembling, or installing the product.
- The AC power used in this product must comply with local building and electrical codes, and should be equipped with overload and ground fault protection.
- The main power switch should be installed at a location near the product and should be clearly visible and easily reached. This way in case of any failure the power can be promptly disconnected.
- Before using this product check all electrical distribution equipment, cables and all connected devices, and make sure all meet current requirements.
- Use appropriate power cables. Please select the appropriate power cable according to the required power and current capacity, and ensure the power cable is not damaged, aged or wet.

If any overheating occurs, replace power cable immediately.

- For any other questions, please consult a professional.



**Beware of Fire!**

- Use a circuit breaker or fuse protection to avoid fire caused by power supply cables overloading.
- Maintain good ventilation around the display screen, controller, power supply and other devices, and keep a minimum 0.1 meter gap with other objects.
- Do not stick or hang anything on the screen.
- Do not modify the product, do not add or remove parts.
- Do not use the product in case ambient temperature is over 55 °C.



**Beware of Injury!**



- Warning: Wear a helmet to avoid injury.
- Ensure any structures used to support, fix and connect the equipment can withstand at least 10 times the weight of all the equipment.



- When stacking products, please hold products firmly to prevent tipping or falling.
- Ensure all components and steel frames are securely installed.
- When installing, repairing, or moving the product, ensure the working area is free of obstacles, and ensure the working platform is securely and stably fixed.
- In the absence of proper eye protection, please do not look directly at the lit screen from within a 1 meter distance.
- Do not use any optical devices that have converging functions to look at the screen to avoid burning the eyes.



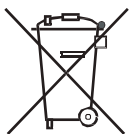
WARNING: Beware of suspended loads.



LED lamps used in the module are sensitive and can be damaged by ESD (electrostatic discharge). To prevent damage to LED lamps, do not touch when the device is running or switched off.



WARNING: The manufacturer shall not bear any responsibility for any incorrect, inappropriate, irresponsible or unsafe system installation.



**Product Disposal**

- Any component that has a recycling bin label can be recycled.
- For more information on collecting, reusing and recycling, please contact the local or regional waste management unit.
- Please contact us directly for detailed environmental performance information.

---

**Warning:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user' s authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**This Class B digital apparatus complies with Canadian ICES-003.**

**This Class B digital apparatus complies with Canadian ICES-003.**

**Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canada.**

# 1 Product Introduction

The "∞" element in design implies a visual feast full of infinite possibilities. The elegant black appearance shows Absen's unwavering efforts in the display industry, and its confidence and commitment to offering high-quality products.

The A27 V3 series is specifically designed for high-end enterprises, high-end retail and other fields to develop indoor high-definition fixed display screens. The panel size is 610x343mm and is designed in a 27.5 inch 16:9 ratio. The 2x2 panel size is exactly 55 inches, which can perfectly replace the 55 inch LCD splicing wall and achieve seamless splicing.



High definition image quality, enjoying the giant screen. The panel is designed in a 27.5-inch 16:9 ratio, providing multiple pixel pitch products, making it easy to build a point-to-point 2K/4K/8K large screen. Customers can easily get the best high-definition visual experience under different viewing distances.

APS energy-saving technology, low-carbon and environmentally friendly. Using Absen APS energy-saving technology \*, precise power supply, efficient energy saving, resulting in a power consumption reduction of over 30% compared to A27 PLUS.

Overcurrent protection, stable operation. By using overcurrent protection technology, module components can be protected when abnormal currents occur externally; When components experience short circuits or internal faults due to various reasons, major accidents such as fires can be avoided.

Lightweight design, with a panel thickness of only 44.5mm and a weight of only 24kg/m<sup>2</sup>, it is Lightweight and stylish.

A5C+point by point correction technology, extremely realistic. Adopting A5C+point by point correction technology, effectively improving screen display uniformity and color consistency, significantly increasing color saturation, and restoring the true field of view.

Professional color management is amazing. Thanks to Absen's professional color management technology, adaptive video source color gamut, full color display, high-definition, rich dark texture, and precise color display.

Wide visual angle and high color consistency. The entire series has a visual angle of 160/160, with uniform color presentation, and no color deviation when viewed from anywhere within the visual range.

Highlight, fearless of sunlight. After calibration, the brightness of the A2712/15 V3 series can reach 800nit; After calibration, the brightness of the A2719/25 V3 series can reach 1000nit.

The module automatically reads back data. Replacing the module does not require manually loading the configuration file, and it will automatically display normally after power outage and restart.

---

Dual card and dual power versions provide effective protection. The dual card and dual power version can be configured to ensure uninterrupted screen display and stable information transmission, making it more suitable for scenes such as control rooms and radio and television studios

## 1.1 Product application scenarios

This product is mainly used in the following application scenarios (indoor):

Retail: display screens at the entrance of the store, pillar screens inside the store, and large wall display screens inside the store;

Enterprises: corporate lobby, corporate exhibition hall, corporate conference room, monitoring center, etc;

## 1.2 Main features

### 1.2.1 Structural design

- The module adopts a bottomless design, with higher splicing accuracy.
- The module is connected to the HUB using high-precision floating connectors, which are installed in a wireless plug type and support adjusting the splicing gaps between the modules from top to bottom, left to right.
- The display unit adopts a die-cast aluminum panel frame, with high splicing accuracy.
- The internal structure of the panel adopts a hard connected modular design and innovative integrated power supply base design, ensuring safety and stability.
- Levelness adjustment connecting plates are installed inside the panel , wall mounting and hanging support manual adjustment of front and rear flatness.
- The panel supports XYZ three axis and six direction adjustment, achieving better flatness between the panel and the panel .



- Support front installation, front or rear wiring, and support hanging, wall mounting, and steel structure installation methods.
- The bottom of the panel is designed with a protective lamp stand to reduce lamp drop during floor and splicing installation.
- The rear cover of the panel adopts a rotary shaft type buckle design, which can meet the needs of fast rear wiring without removing the cover.
- The product comes standard with an exquisite edge trim design scheme.
- The receiving card adopts high-precision connectors for docking, which is stable, reliable, and convenient for maintenance.

## 1.2.2 Feature design

- The panel supports signal and power backup, with dual receiving cards and dual power configurations.
- The pixel design of the panel meets the 16:9 ratio, which can achieve point-to-point 2K/4K/8K.
- Adopting advanced hidden circuit design, there is no "caterpillar" or "ghost" phenomenon.
- Adopting PWM constant current output high-end chips, achieving high gray in low brightness, rich color levels, and precise presentation of details.
- Adopting Absen A5C+ point by point chromaticity and brightness correction technology to improve display consistency and make colors more natural and accurate. The module is equipped with a module that can store correction parameters.
- Equipped with black screen and partial black screen dynamic energy-saving function, the dynamic energy-saving mode is automatically activated during use, which is efficient and energy-saving (not supported by A2725 V3).
- The product meets the EMC Class B civilian level radiation requirements.
- Through the German Rhine TÜV low blue light certification, it filters out harmful blue light and takes care of the eyes.
- The panel supports signal loop backup.
- The attenuation coefficient is set for a single module to ensure that there is no color difference after maintenance and replacement.
- The software has the function of adjusting the light and dark lines with one click.
- The calibration data can be stored on the receiving card and the module itself, and the software can read back the data from both.
- The external test button and indicator light make the panel testing and operation status clear at a glance.

## 1.3 Product parameters

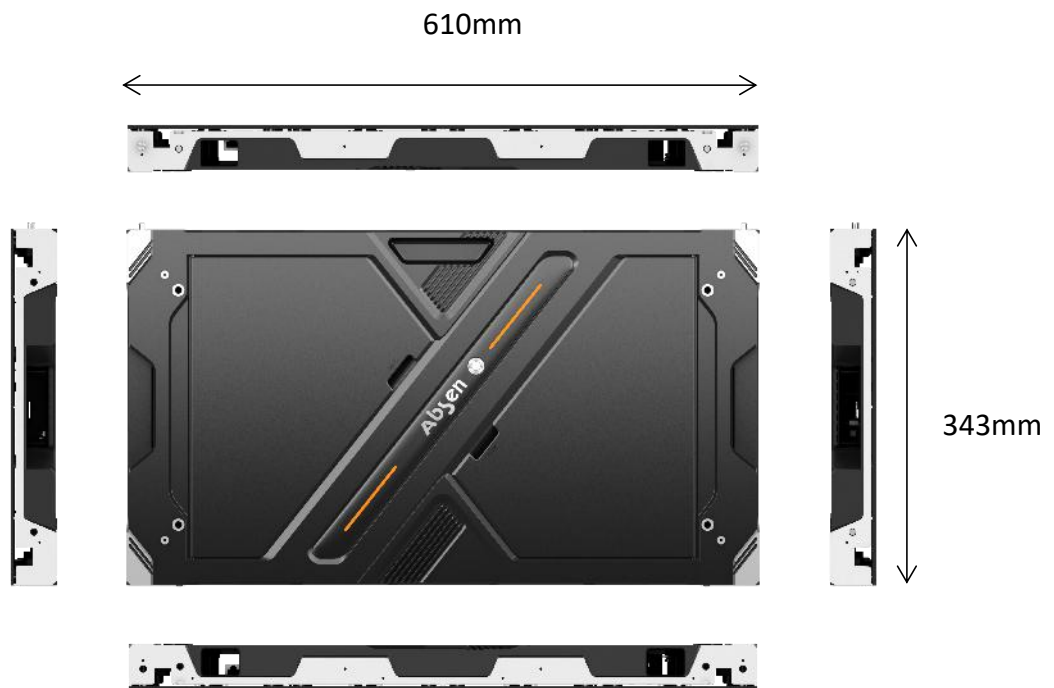
| Parameters               |   | A2712 V3                            | A2715 V3        | A2719 V3 | A2725 V3 |
|--------------------------|---|-------------------------------------|-----------------|----------|----------|
| Physical Parameter       | Diode Type  | SMD1010<br>CHIP                     | SMD1010<br>CHIP | SMD1515  | SMD2121  |
|                          | Pixel Pitch (mm)  | 1.2                                 | 1.5             | 1.9      | 2.5      |
|                          | Panel Dimensions (WxHxD)/(mm)                           | 610*343*44.5                        |                 |          |          |
|                          | Pixel Per Panel   | 480*270                             | 384*216         | 320*180  | 240*135  |
|                          | Panel Weight (kg)                                       | 10.5                                | 10.5            | 10.4     | 10.3     |
|                          | Panel Material  | Die-cast aluminum                   |                 |          |          |
|                          | Module Dimensions (WxH)/(mm)                            | 152.5*343                           |                 |          |          |
| Optical Parameter        | Brightness (nit)  | 800~1000nits                        |                 |          |          |
|                          | Refresh Rate (Hz)                                       | 3840                                |                 |          |          |
|                          | Gray scale (bit)  | 14 bit                              |                 |          |          |
|                          | Contrast Ratio  | 4000:1                              | 4500:1          | 4500:1   | 4000:1   |
|                          | Color Temperature (K)                                   | 6500                                |                 |          |          |
|                          | Viewing Angle (H/V) (°)                                 | 160/160                             | 160/160         | 160/160  | 160/160  |
|                          | Driving Type  | 1/45                                | 1/48            | 1/40     | 1/27     |
|                          | AC Operating Voltage (V)                                | 100~240                             |                 |          |          |
|                          | Power Consumption (Max./Avg.)(W/m <sup>2</sup> )        | 561/187                             | 540/180         | 471/157  | 300/100  |
| Application Parameter    | Storage Temperature                                     | -40 ~ +60                           |                 |          |          |
|                          | Operating Temperature                                   | -10 ~ +40                           |                 |          |          |
|                          | Storage Humidity  | 10% ~ 85%                           |                 |          |          |
|                          | Operating Humidity                                      | 10% ~ 80%                           |                 |          |          |
|                          | LED Lifetime  | 100000                              |                 |          |          |
| Installation/Maintenance | Module maintenance                                      | Full front                          |                 |          |          |
|                          | Power & other maintenance                               | Full Front                          |                 |          |          |
|                          | Installation method                                     | Hanging, Wall mounting and Stacking |                 |          |          |
| EMC level                | CLASS B (The dual backup version only supports Class A) |                                     |                 |          |          |
| Certification            | CCC/CE/FCC/ETL/ROHS/TUV/CB/UKCA                         |                                     |                 |          |          |

Note: Power consumption tolerance:  $\pm 15\%$ , according to the actual situation.

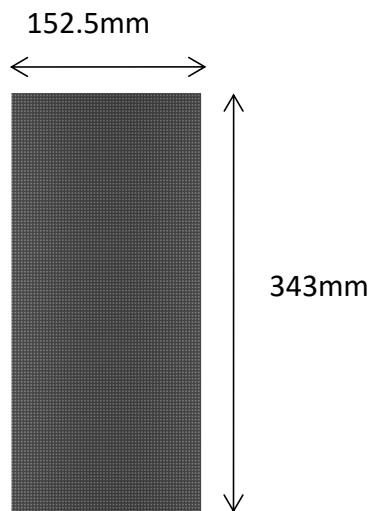
## 2 Introduction of Product Components

### 2.1 Product size introduction

#### 2.1.1 Cabinet size drawing

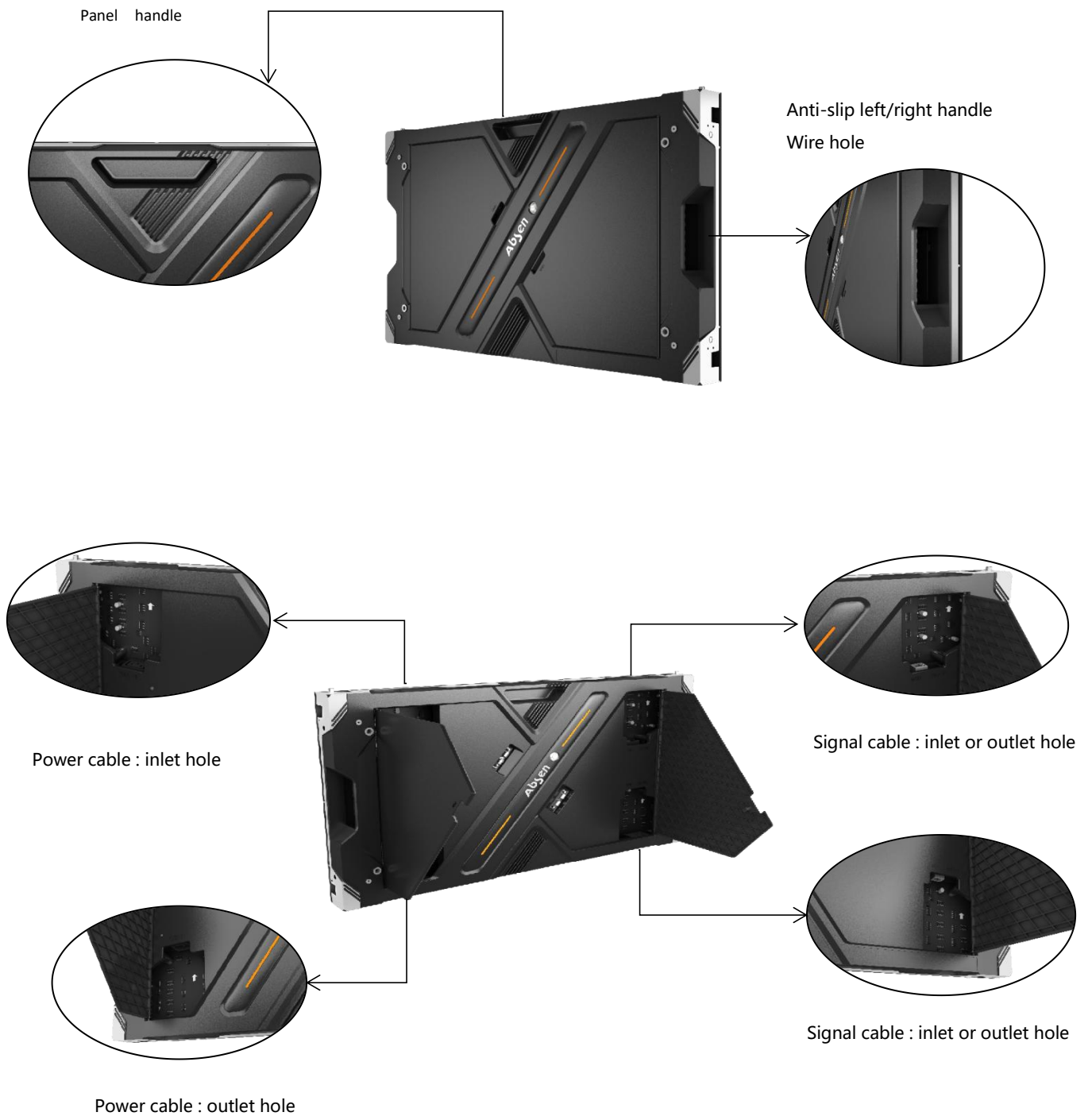


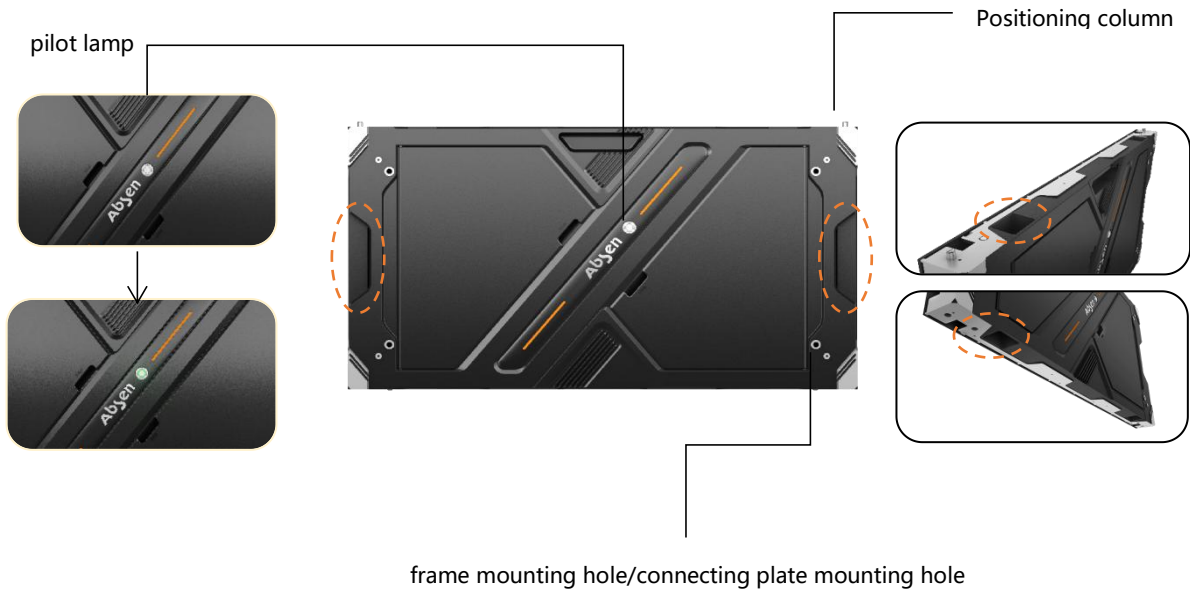
#### 2.1.2 Module size drawing



## 2.2 Introduction of cabinet components

### 2.2.1 Introduction to Panel Structure





Note: Supports both horizontal and vertical wiring. The default vertical wiring is configured when placing an order, and the panel comes with connecting screws

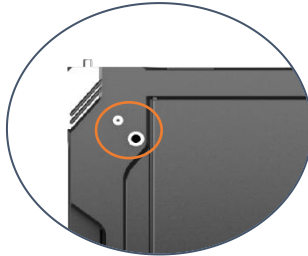
## 2.2.2 Introduction to Adjusting the Flatness of Panel Structure

In addition to the XYZ three axis and six direction adjustment, a new method for adjusting the flatness of the connecting plate inside the panel is added, which can also be used for wall mounting with higher accuracy and better display effect.

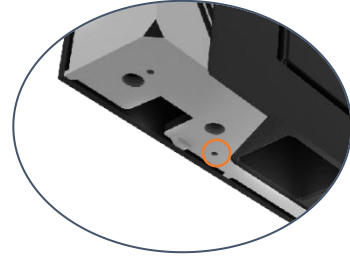
Adjustment method for flatness of steel structure installation:



Left and right adjustment holes

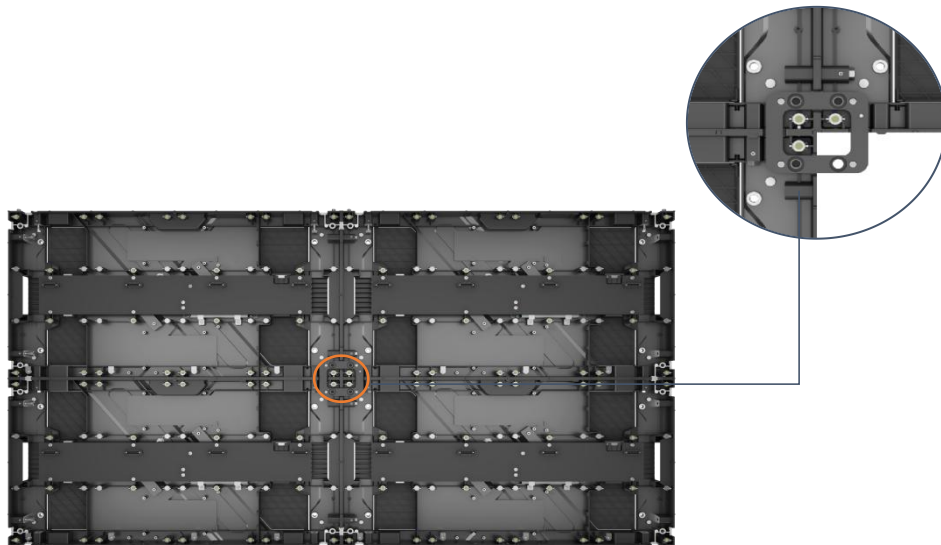


Front and rear adjusting holes



Upper and lower adjusting holes

Adjustment method for the flatness of the front and rear connecting plate in the wall mounting installation and hanging installation



### 3 Preparation before installation

#### 3.1 Installation tools

| <b>Installation<br/>Tool List</b> | Tool type              | function                                       | picture   |
|-----------------------------------|------------------------|--|---|
|                                   | knife                  | Open the cabinet                               |    |
|                                   | Hexagon screwdriver    | Install and remove the hexagon socket screws   |    |
|                                   | 6mm T-wrench           | Install the connecting plate screws            |    |
|                                   | 5mm T-wrench           | Install the "Z" axis adjustment screw          |    |
|                                   | Socket hexagon wrench  | Install the screws between the LED cabinets    |   |
|                                   | PH2 screwdriver        | Maintenance and disassembly                    |  |
|                                   | Multimeter             | Measuring power cable and distribution cabinet |  |
|                                   | Spirit level           | Check the flatness of the cabinet installation |  |
|                                   | Rubber hammer          | Adjusting the flatness of the panel structure  |  |
|                                   | Front maintenance tool | Install& maintain the LED module               |  |
|                                   | Diagonal pliers        | Handling cable ties when arranging cables      |  |
|                                   | tape measure           | Measure the distance                           |  |
|                                   | Laser level            | Measuring installation position                |  |

## 3.2 Installation environment requirements

1. The small spacing series requires on-site temperature and humidity testing to ensure that the temperature is within 35 °C and the humidity is within 70% RH;
2. When the temperature exceeds (35 °C, 70% RH), the product cannot be installed on site;

## 3.3 Precautions before installation

### Before installation

1. Determine the power distribution plan:

Provide a specific power distribution plan based on the size and arrangement order of the actual display screen, determine the specifications and quantity of the power distribution panel , main power lines, and the number of power lines connected to the cabinet. Determine the specifications and quantity of the sending panel and video processor, as well as the number of network cables, based on the total pixel points and arrangement order.

2. Power distribution precautions

- ① The wiring should be neat, horizontal and vertical, and non cable cables must be laid with wire slots or conduits;
- ② The signal line and power line are laid separately to avoid interference;
- ③ The wiring should consider three-phase power balance, and try to have an equal number of display panel es for each phase of electrical load;
- ④ The cable head needs to be pressed with wire terminals;
- ⑤ Encode the wire ends, and ensure that the overall distribution diagram is consistent with the actual wiring for easy troubleshooting in the future;
- ⑥ Under the premise of considering the safe carrying capacity, lay the cables from the distribution panel to the display screen panel based on the actual arrangement of the panel;
- ⑦ Long distance wiring, considering line loss voltage, to ensure that the display terminal voltage is within the allowable range;



---

3. Tool preparation: commonly used tools for screen installation, including matching and preparing models with tools such as screwdrivers, wrenches, and multimeters.

During installation

4. Installation of distribution panel : The installation of distribution panel must be firm and reliable. Reliable protective grounding.

5. Panel installation: equipment handling. Adequate manpower must be provided to ensure safety. Pay attention to handling with care and avoid damaging the appearance and function of the panel due to collision. Install the display screen and check if the magnet legs are tightened. Confirm that the power cord and network cable are connected in place and correctly, the network cable is inserted in place, and the screen connection sequence is correct.

6. Wiring sequence: First, connect the panel in series with a power cord connected to the panel, and then connect the main power cord from the distribution panel or socket to the bottom layer of the panel.

7. Power connection: Firstly, confirm that the power supply end is in a "disconnected" state and must start connecting from the power consumption end (equipment switch or distribution panel , etc.). Only after checking the correct connection of the power supply end can the power supply end be connected. First, connect the protective grounding, then connect the zero line, and finally connect the phase line. After connecting to the power supply: Check the power supply switch or equipment distribution voltage, confirm that there are no errors, and then "disconnect" the power supply. The power cord must be distinguished by color for ground wire, neutral wire, and phase wires such as A, B, and C.

8. Panel adjustment: Check if the display screen is flat and clean. Perform micro silicon adjustment on the gaps between modules and between panel es. When installing, be sure to lock the panel tightly with screws to ensure the smoothness of the left, right, top, and bottom between the panels.

9. Power test: Before supplying power to the entire screen and providing control signals, please carefully check whether the power and signal lines are connected correctly; Please carefully check the "L" line, "N" line, and "PE" line on the AC power input port of each panel to ensure that there is no short circuit between the three (measured with a multimeter).

10. Power on detection: Fault diagnosis, checking the appearance of the power on detection for any broken screen and correct text output; If a fault occurs, make a judgment based on the fault phenomenon and eliminate the

fault.

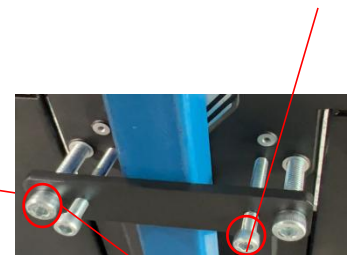
## 4 Product Installation

### 4.1 Steel structure installation

Install layer by layer from bottom to top. First, lock the connecting screws between the panels, and then use connecting plates and M8x55mm screws to fix them on the square joint. Install M6x50mm "Z" axis adjustment screws on the connecting plates.



Z-axis adjustment screw

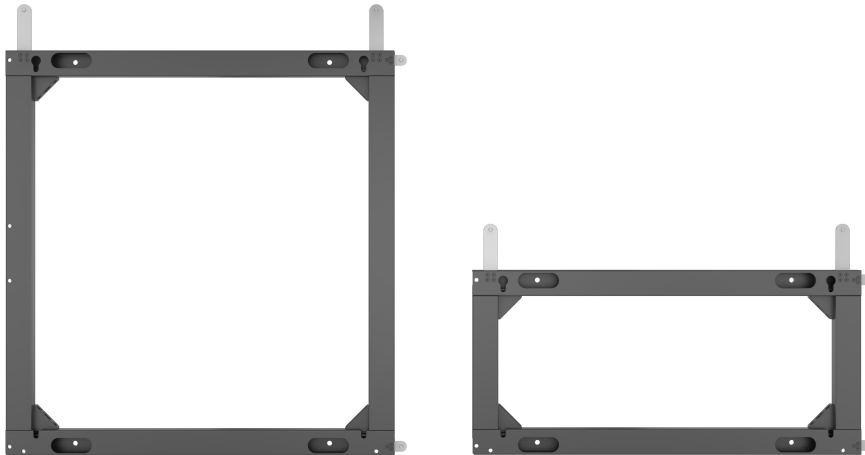


Connecting piece M8 \* 55mm fixing screw

After the installation of the panel is completed, confirm that the wires are connected before installing the module on the panel according to its number.

## 4.2 Wall mounting

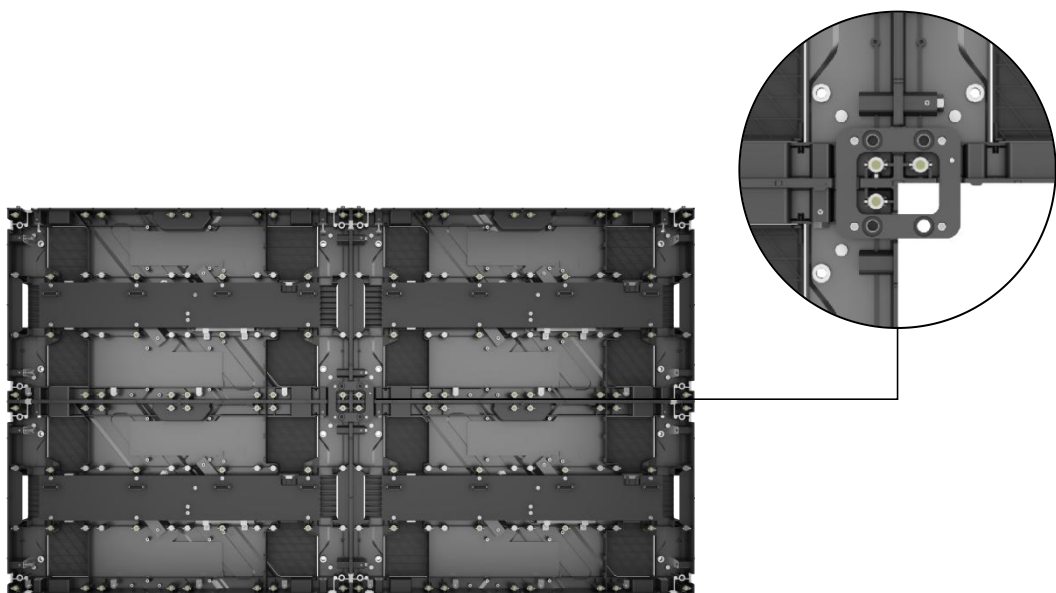
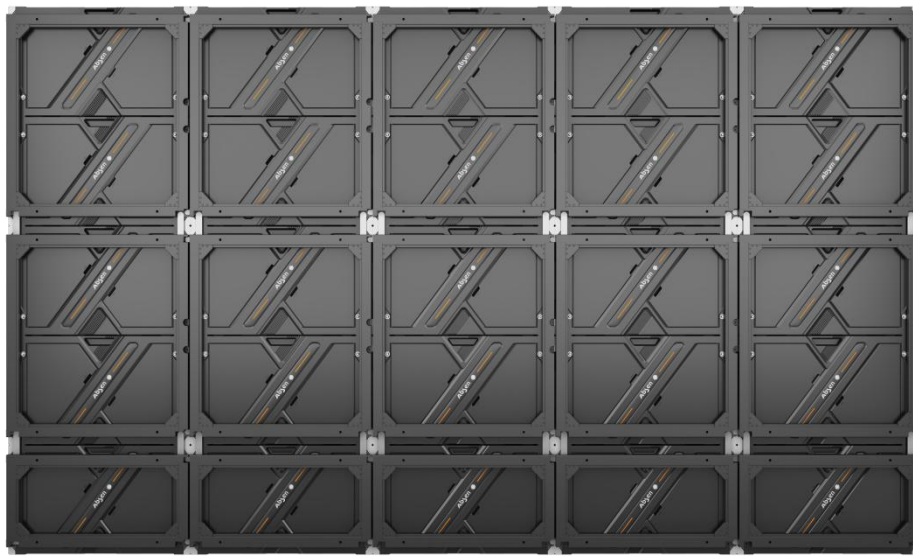
Step 1: Use M6 self tapping screws or M6 expansion screws to fix the frame on a flat wall. Single or double frames are optional.



Step 2: Install the hanging nails on the installation holes on the back of the panel, and each frame needs to install 4 hanging nails.



Step 3: Install the panel frame (excluding the module) on the frame: layer by layer from bottom to top, and complete the installation of the inner connecting plate.



Step 4: Connect the signal cable and power cable Step after installing the panel.

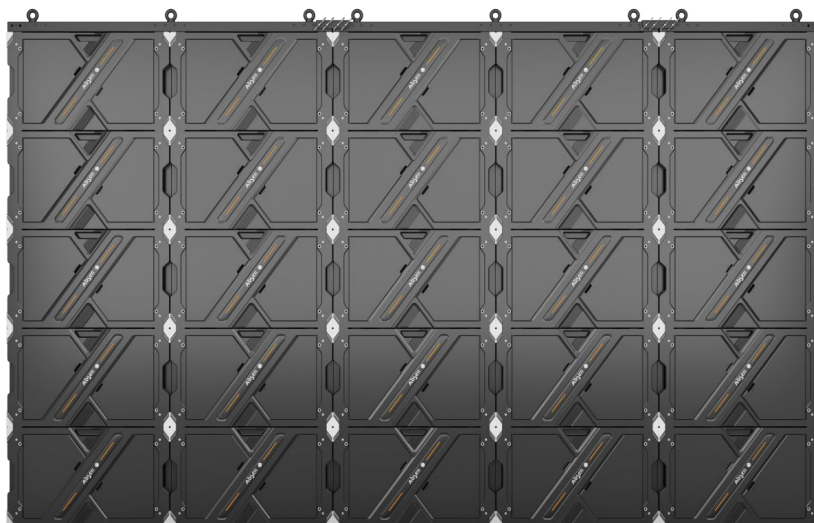
Step 5: Install the module, paying attention to the corresponding numbering of the module and the panel.

### 4.3 Hanging installation

Use screws on the top and bottom of the panel to connect the hanging bar. The hanging bar can lift up to 20 panels, and internal connecting plates need to be installed. Single and double hanging bars are optional.

Installation steps:

- (1) Fix the hanging bar on the structure;
- (2) Align the screws of the panel with the installation holes on the hanging bar, and install the panel under the hanging bar;
- (3) Install other panels and tighten screws in four directions;
- (4) Install internal connecting plates;
- (5) Complete the connection between the network cable and the power cable;
- (6) Complete module installation;



---

## 5 Product Wiring

### 5.1 Preparation before connection

Before connecting: Before supplying power to the entire screen, please carefully check whether the power cable between the cabinets is connected, and whether the main power cable between the screen and the distribution cabinet is properly connected; check and confirm the AC power input port of each cabinet "L" wire, "N" wire, and "PE" wire, confirm that there is no short circuit between the three (measured with a multimeter).

And before providing control signals, Please calculate the power cable connection scheme according to the maximum power consumption and select the appropriate power distribution cabinet or socket model. For specific options, please consult your electrician or power distribution cabinet manufacturer. The input voltage of the cabinet is 100-240V/AC, and a 3X1.5mm<sup>2</sup> power cable is used from the distribution cabinet to the cabinet. Please confirm the input voltage, different voltages and different product models, and each power cable carries a load of the cabinet The quantity will be different (when unable to confirm, please contact our customer service department!).

### 5.2 Power cable connection

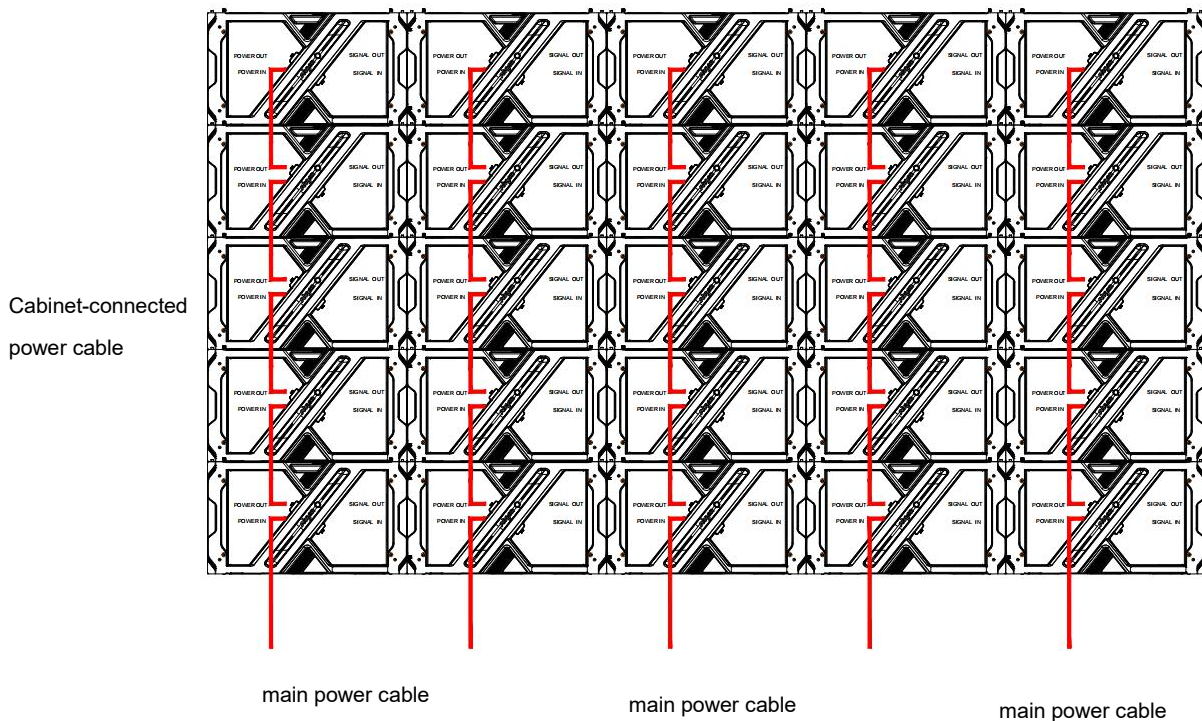
When the input voltage is 220V, each power cable can carry a maximum of 12 panels; When the input voltage is 110V, each power cable can carry a maximum of 6 panels.

Taking the 5x5 A2715 V3 panel as an example, the connection method of the power cord is introduced as follows:

25 A2715 V3 panels are equipped with 5 main power lines carrying 5 panels. Each line carries 5 panels. First, connect the panels in series with power cables connected to the panel, and then connect 3 x 1.5mm<sup>2</sup> power cables from the distribution panel or socket to the bottom of the panel .



| Model    | Panel size(mm) | Power consumption (maximum) | Power cable on load (220V) | Power cable on load (110V) |
|----------|----------------|-----------------------------|----------------------------|----------------------------|
| A2712 V3 | 610x343x44.5   | 561 W/m <sup>2</sup>        | 12                         | 6                          |
| A2715 V3 | 610x343x44.5   | 540 W/m <sup>2</sup>        | 12                         | 6                          |
| A2719 V3 | 610x343x44.5   | 471 W/m <sup>2</sup>        | 12                         | 6                          |
| A2725 V3 | 610x343x44.5   | 300 W/m <sup>2</sup>        | 12                         | 6                          |



### 5.3 Signal cable connection

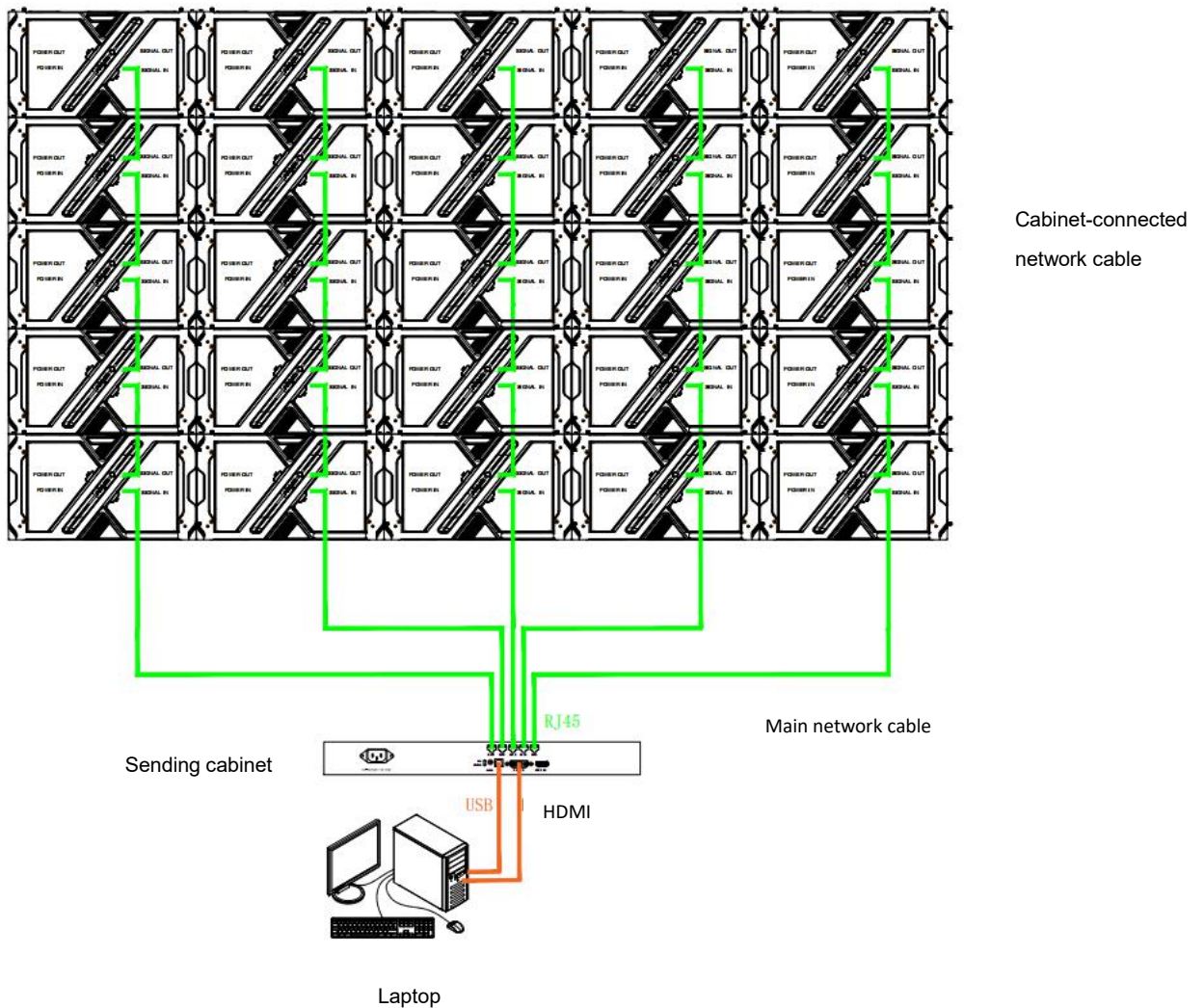
The signal cable adopts RJ45 CAT5 network cable, and the network cable interface of the panel can be used for input and output. The method of connecting the "S" type up and down is to calculate the resolution based on each panel pixel and connect the signal cable according to the load range of the sending card. Pay attention to the load on each network port.

The pixel range cannot exceed 655360 points (as shown in the following figure)

Taking the 5x5 A2715 V3 panel as an example, the connection method of the power cable is introduced as follows:

The pixel count of a single A2715 V3 panel is  $384 \times 216 = 82944$ , and 25 A2715 V3 panels are loaded with 5 network cables, with each cable carrying 5 panels.

| Model    | Panel size   | Panel resolution | Single network port with load | Note  |
|----------|--------------|------------------|-------------------------------|---|
| A2712 V3 | 610x343x44.5 | 480x270          | $5 \leq$ panels               | When calculating the actual maximum number of panels carried by a single network cable, the calculation is based on the number of panels in the rectangular area carried by the network cable |
| A2715 V3 | 610x343x44.5 | 384x216          | $7 \leq$ panels               |   |
| A2719 V3 | 610x343x44.5 | 320x180          | $11 \leq$ panels              |   |
| A2725 V3 | 610x343x44.5 | 240x135          | $20 \leq$ panels              |   |





---




## 5.4 The test of setting up an electric circuit

After the cabinet connection is completed, please use a multimeter to measure whether there is short circuit at the AC input (L/N/PE) and DC output (VCC/GND) of the power supply. If a short circuit is found, please check the circuit carefully. After ensuring the cable is normal, switch on the power to electrify the cabinets to work.

Note: Please refer to the software user manual for software operation.




## 6 Product Maintenance

### 6.1 Preparation Tools

|                                  | Tool type                 | function   | picture   |
|----------------------------------|---------------------------|--|---|
| <b>maintenance<br/>Tool List</b> | Module front service tool | Installation and removal LED module  |    |
|                                  | PH2 screwdriver           | Removing/installing screws for adapter board, receiving card, and power supply |    |
|                                  | Multimeter                | Measuring power cable and distribution cabinet                                 |  |




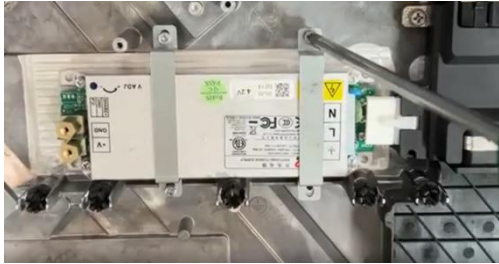
### 6.2 Module maintenance

The A27 V3 series module can be quickly removed using a vacuum adsorption tool in 3-5 seconds, Attach the front maintenance tool to the faulty module surface to be removed, press the switch once, hold for 3-5 seconds, and then forcefully pull the air suction tool outward to remove the module.

|                         |  |  |   |
|-------------------------|--|--|---|
| <p>Illustration</p>     |   |  <p>模组维护<br/>Module maintenance</p>                        |  |
| <p>Maintenance step</p> | <p>❶ Confirm the location of the faulty module and place the vacuum front maintenance tool on the middle area of the faulty module</p>   | <p>❷ Press the switch once and hold for 3-5 seconds. Grasp the handle and forcefully pull the suction tool outward to remove the module.</p> | <p>❸ Gently install the spare module onto the screen in an upward direction.</p>    |
| <p>Note</p>             | <p>1. The front maintenance tools should be placed in the middle area of a single module and cannot cross adjacent modules;<br/>2. After adsorbing and removing the module from the screen, use your left hand to hold the module to prevent the front maintenance tool from running low or the switch from closing, which may cause the module to fall off.</p> |  |   |

## 6.3 Adapter board/receiving card/power supply maintenance

Use the premaintenance tool to remove the module from the faulty panel, and then use a screwdriver to remove the screws that secure the adapter board for replacement.

|  |  |
|--|--|
| <p>adapter board maintenance</p>   | <p>illustration</p>  |
| <p>❶ Use vacuum pre-maintenance tools to remove all modules from the faulty panel</p>  |    |
| <p>❷ Using a PH2 Phillips screwdriver, remove the screws securing the adapter plate and replace the faulty adapter plate</p>   |   |
| <p>receiving card maintenance</p>  | <p>illustration</p>  |
| <p>Using a PH2 Phillips screwdriver, remove the screws that secure the adapter board, place the receiving card on the back of the adapter board, and replace the faulty receiving card</p> |  |
| <p>Power supply maintenance</p>  | <p>illustration</p>  |
| <p>Using a PH2 Phillips screwdriver, removing the fixed power screw can directly replace the faulty power supply</p>   |  |

---

## 6.4 Product maintenance precautions

### 6.4.1 Precautions for switch on /off LED screen

- (1) Turn on the screen: first turn on the control computer to make it run normally, and then turn on the LED display.
- (2) Turn off the screen: first turn off the power of the LED screen, turn off the control software, and then turn off the computer correctly; (first turn off the computer without turning off the display screen, it will cause the screen to appear bright spots, burn the lamp, and have serious consequences)
- (3) The interval between switching screens should be greater than 5 minutes;
- (4) Avoid turning on the screen in the state of full white screen, because it is the maximum power state at this time, and its impact current to the entire power distribution system is the largest.

### 6.4.2 Precautions for power supply

- (1) The LED module is powered by DC +5V (working voltage: 4.2~5.2V), AC power is prohibited; the positive and negative poles of the power supply terminals are strictly prohibited to be reversed (note: once reversed, the product will be burnt out and even cause serious fire);
- (2) Power supply voltage of LED display: 220V±10% Frequency: 50HZ±5%;
- (3) Safe and reliable earth contact, reliable isolation between the earth wire and the neutral wire, and keep the power supply away from high-power spares;
- (4) If abnormalities such as short circuit, tripping, wire burning, smoke, etc. are found, the power-on test should not be repeated, and the problem should be found in time;
- (5) Keep the power supply stable, and do grounding protection to avoid lightning strikes, do not use it under harsh natural conditions, especially strong lightning weather;
- (6) The large screen power supply must be supplied step by step, because the maximum power state of the entire screen will have an impact on the entire power distribution system;
- (7) The LED display screen is not allowed to play the full white screen with the highest brightness for more than half an hour, so as not to cause excessive current, power cord heating, LED light damage, and affect the life of the display screen. It is recommended to play dynamic videos;
- (8) During the use of LED display products, the power supply should not be turned on and off continuously, and there should be at least 1 minute

- 
- between the two operations;
- (9) Non-professionals are forbidden to touch the internal wiring of the large screen of the LED display to avoid electric shock or damage to the wiring.

### 6.4.3 Notes on cleaning

- (1) Regular cleaning and maintenance: The indoor fine pitch LED display screen will be used for a long time, and more dust will accumulate on the screen. This needs to be cleaned regularly and in time to prevent it from affecting the viewing effect;
- (2) To clean the surface of the module, please use a soft brush and wipe gently. It is forbidden to use any liquid substance to clean the surface of the LED module, otherwise the LED may be damaged;
- (3) Wipe correctly: the surface of the large LED display screen cannot be wiped with alcohol or directly with a damp cloth. It is recommended to use brushes and vacuum cleaners to remove dust.

### 6.4.4 Moisture-proof and storage requirements

- (1) Storage temperature requirements: ambient temperature  $-20^{\circ}\text{C}\leq t\leq 50^{\circ}\text{C}$ . After the package is opened, the LED products must be stored in an environment with a temperature of  $<30^{\circ}\text{C}$  and a humidity of  $<70\%\text{RH}$ ;
- (2) According to the environmental conditions of the display screen and the control part, avoid insect bites, and put anti-rodent drugs if necessary;
- (3) The LED display should not be turned off for a long time. In a high-humidity environment, if the display is not used for more than 3 days, the pre-heating method should be used each time the display is turned on: 30%-50% brightness is preheated 4 -8 hours, then adjust to normal brightness (80%-100%) to light up the screen, so as to remove moisture so that there is no abnormality during use; if the screen has not been used for more than 7 days, every time the screen is turned on Need to adopt the pre-heating method: 30%-50% of the brightness is preheated for more than 12 hours, and then adjusted to normal brightness (80%-100%) to light up the screen, so as to remove the moisture, so that there is no abnormal.
- (4) The large LED screen needs to be checked regularly to see if it is working properly. If the circuit is damaged, it should be repaired or replaced in time. The main control computer and other related equipment should be placed in an air-conditioned and dusty room to ensure the computer's ventilation and heat dissipation and stable operation. Non-professionals are forbidden to touch the internal wiring of the screen to avoid electric shock or damage to the wiring. If there is a problem, you should ask a professional for

inspection and repair.

## 6.5 Troubleshooting

| No. | Common faults                        | Solution   |
|-----|--------------------------------------|--|
| 1   | Some modules are not lighting on     | 1. Check whether the power plug of the corresponding module is tightly inserted;               |
|     |                                      | 2. Check whether the power cable of the corresponding module is burnt out;                     |
|     |                                      | 3. Check whether the switch power supply of the corresponding module has no output;            |
|     |                                      | 4. Check whether the flat cable of the corresponding module is malfunctioning;                 |
|     |                                      | 5. Replace the flat cable of the corresponding module;   |
|     |                                      | 6. Replace the module;   |
|     |                                      | 7. Replace the receiving card;   |
|     |                                      | 8. Send rcfg file;   |
| 2   | The whole screen is not lighting on  | 1. Check whether the screen power is on;   |
|     |                                      | 2. Check whether the DVI cable or HDMI cable is loose;   |
|     |                                      | 3. Check whether the main data cable is inserted tightly;                                      |
|     |                                      | 4. Check whether the sending card is powered on and whether the running indicator is flashing; |
|     |                                      | 5. Replace the sending card;   |
|     |                                      | 6. Connecting the computer to an LCD display, check whether there is output on video card;     |
|     |                                      | 7. Update the video card driver;   |
|     |                                      | 8. Replace the computer;   |
| 3   | Screen show scrambled image          | 1. Check whether the power plug of the receiving card is tightly inserted;                     |
|     |                                      | 2. Check whether the power cable of the receiving card is burnt out;                           |
|     |                                      | 3. Check whether the power supply has no output;   |
|     |                                      | 4. Check the data cable of the receiving card;   |
|     |                                      | 5. Replace the data cable;   |
|     |                                      | 6. Send the rcfg file;   |
|     |                                      | 7. Upgrade the firmware version of the receiving card;   |
|     |                                      | 8. Replace the receiving card;   |
| 4   | Chromatic aberration between modules | 1. Check whether the module power plug is plugged tightly;                                     |
|     |                                      | 2. Replace the flat cable;   |
|     |                                      | 3. Replace the power supply;   |
|     |                                      | 4. Replace the module;   |

|   |   |  |
|---|---|--|
|   |   | 5. Replace the receiving card;   |
| 5 | All LED panels display the same content | 1. Set the screen connection on software;<br>2. Check whether the data port is wrong.  |
| 6 | No control system detected              | 1. Check the USB cable;<br>2. Check whether the computer USB port is malfunctioning;<br>3. Update the USB driver;<br>4. Replace the USB cable;<br>5. Replace the sending card;   |
| 7 | No multi-function card detected         | 1. Check whether the distribution cabinet is in the automatic state;<br>2. Check whether the multi-function card is powered;<br>3. Replace the power supply of the multi-function card;<br>4. Check whether the main data cable is inserted into the wrong data port;<br>5. Check whether the sending card data port is malfunctioning;<br>6. Re-add the multi-function card;<br>7. Replace the multi-function card;<br>8. Replace the sending card; |
| 8 | No full screen display                  | 1. Check whether the setting of the playback window is normal;<br>2. Check the output resolution of the video processor;<br>3. Check the output window of the video processor;   |

**Check for Power Supply Short Circuit**

After completing the cabinet wiring, please use a multimeter to check if there is any short circuit at the AC input power supply (L / N / PE) and DC output terminal (VCC / GND). If there is a short circuit, please carefully investigate the wiring. Make sure all wiring are normal, and only then connect power to operate the unit.



All rights reserved by Shenzhen Absen Optoelectronic Co., Ltd.

Shenzhen Absen Optoelectronic Co., Ltd. reserves the rights to modify contents without any further notice.