iCon series User Manual

Shenzhen Absen Optoelectronic Co. Ltd.

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Safety Information

> **WARNING!**
> Please read the **Safety Measures** listed in this section carefully before installing, switching on, operating and maintenance of this product.

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

WARNING! Safety Risk! Might cause equipment damage Or safety risk	WARNING! Please read the manual before operating	WARNING! Dangerous Voltage! Might cause equipment damage or electric shock	WARNING! Hot Surface! Do not touch	WARNING! Flammable!	WARNING! 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 professionals use only!
This product may result in serious injury or death due to fire hazard, electric shock or on dropping.

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 cord.
- 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 cords. Please select the appropriate power cord according to the required power and current capacity, and ensure the power cord is not damaged, aged or wet. If any overheating occurs, replace power cord 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 50 ℃.

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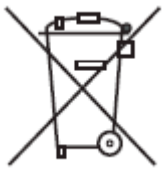
Product Disposal
- Any component that has a recycling bin label can be recycled.
- For more information on collecting, reusing and recycling, please contact the local or regional waste management unit.
- Please contact us directly for detailed environmental performance information.

WARNING: 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 Introduction

1. Product Introduction

The iCon series products is Absen's conference screen products for high-end conferencing solutions. Products are mainly used in conference rooms, education and other applications.

iCon's high-end conference screen solution will create a bright, open and efficient meeting environment to enhance the audience's attention and enhance the impact of the speech, and promote the efficiency of the meeting.

The iCon series has the following products: iCon C110, iCon C138, iCon C165 and iCon C220. In the future, according to market demand, other specifications will be introduced: iCon E110, iCon E138, iCon E165, iCon E192. The iCon C110, iCon E110, iCon C138, and iCon E138 products are mainly used in the use of 30-person conference rooms. The iCon C165 and iCon E165 products are mainly used in the 60-person conference room. The iCon C220 and iCon E192 products are mainly used in 100-person. The use scene of the conference room.

iCon
Meet a Brighter Future

Efficiency / Focus / Future

In meetings with conventional projectors usually we need to reduce ambient light to make the content seen by the meeting members; because ambient light causes the picture casted by projector to become washed out, barely visible and legible.

That's why we created iCon. It takes meeting experience to the next level by offering a bright, open and highly-productive meeting environment. iCon assists to enhance audience attention and improve the information delivery effectiveness and meeting efficiency.

2018 BUSINESS CONFERENCE
ANNUAL BUSINESS PLAN

Born Brilliant

Brightness is adjustable from 300nits to 600nits with 255 levels. Keep attractive during the whole presentation regardless of ambient light.

Rational Software Conference

RUISI CREATIVE ADVERTISING

RUISI CREATIVE ADVERTISING

RUISI CREATIVE ADVERTISING

Luminous flux: 500 Lux

iCon

Projectors

Stress-free Presentation

Achieve a stable and relaxed presentation in a bright and supportive environment without deviations. Say goodbye to projectors' common defects as signal interruption, shadows, shaking and misalignment.
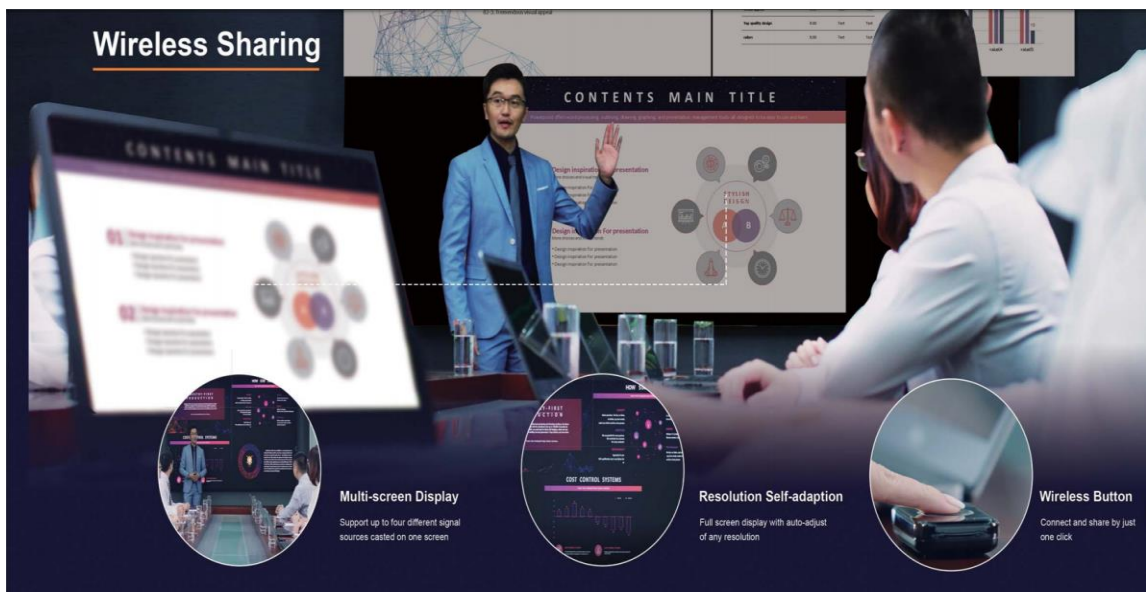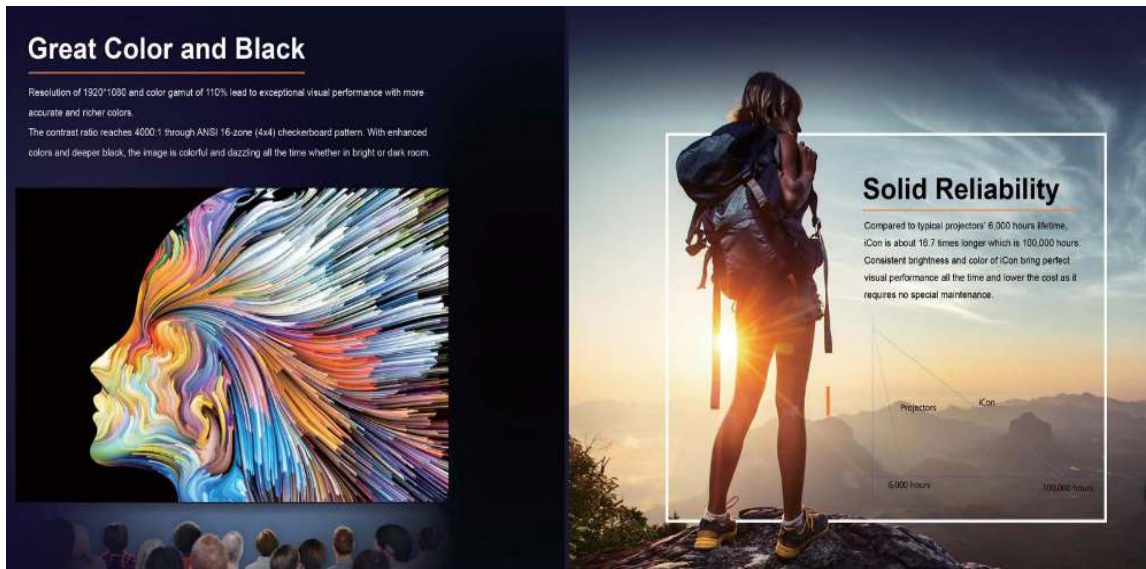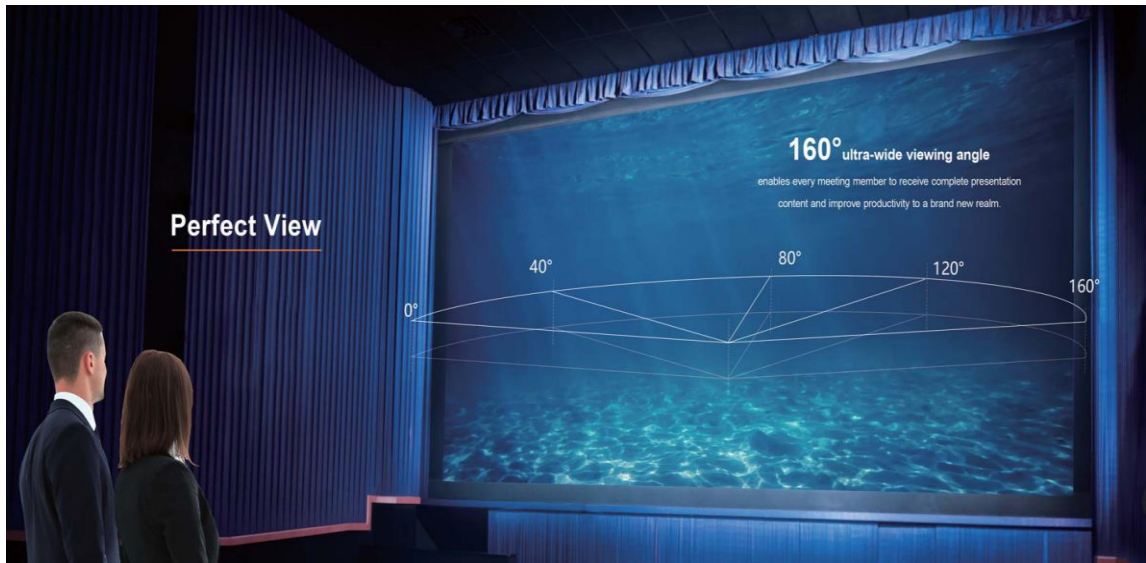
Internet

ENTER

click here for more information

With projectors

Shadows

Signal interruption

Perfect View

160° ultra-wide viewing angle

enables every meeting member to receive complete presentation content and improve productivity to a brand new realm.

0° 40° 80° 120° 160°

Great Color and Black

Resolution of 1920*1080 and color gamut of 110% lead to exceptional visual performance with more accurate and richer colors.
The contrast ratio reaches 4000:1 through ANSI 16-zone (4x4) checkerboard pattern. With enhanced colors and deeper black, the image is colorful and dazzling all the time whether in bright or dark room.

Solid Reliability

Compared to typical projectors' 6,000 hours lifetime, iCon is about 16.7 times longer which is 100,000 hours. Consistent brightness and color of iCon bring perfect visual performance all the time and lower the cost as it requires no special maintenance.

Projectors   iCon

6,000 hours   100,000 hours

Wireless Sharing

CONTENTS MAIN TITLE

Multi-screen Display
Support up to four different signal sources casted on one screen

Resolution Self-adaption
Full screen display with auto-adjust of any resolution

Wireless Button
Connect and share by just one click

iCon C110/ iCon E110 Product Specifications

Parameters		iCon C110	iCon E110
Physical Parameters	Pixels	SMD0808	SMD1010
	Pixel Pitch (mm)	1.27	1.58
	Cabinet Pixels	480×270	384*216
	Pixel Density (Pixels / m^2)	619414	396424
	Module size (L × W)/(mm)	305×343	
	Cabinet size (L × W × H)/(mm)	610×343×61	
	Cabinet Material	Die-cast Aluminum	
	Cabinet Weight (kg/Cabinet)	8.5	
Electronic Parameters	Color Processing Depth (Bit)	14	
	Grayscale	16384	
	Refresh Rate (Hz)	1920	1920
	Drive Mode	1/27	1/24
	Picture Frame Frequency (Hz)	50/60	
	Signal Transmission Distance (m)	UTP cable:＜100 m; Single-mode fiber:＜10 km	
Optical Parameters	Brightness (nit)	350	
	Horizontal Viewing Angle (°)	140	
	Vertical Viewing Angle (°)	140	
Electrical Parameters	AC Input Voltage (V)	200~240	
	AC Input Frequency (Hz)	50/60	
	Maximum AC Input Power (W/m^2)	360	
	Average AC Input Power (W/m^2)	120	
Environmental Parameters	Storage Temperature (˚C)	—40~+60	
	Working Temperature (˚C)	—10~+40	
	Storage Temperature (RH)	10%~90% Non-condensing	
	Working Humidity (RH)	10%~90% Non-condensing	
	Ingress Protection	IP40/IP21	
	Product Life (hrs)	100000	
Leasing Product Installation	Cabinet Installation Method	haring, stacking	
	Maximum number of hoisted cabinets	20	

iCon C138/ iCon E138 Product Specifications

Parameters		iCon C138	iCon E138
Physical Parameters	Pixels	SMD1010	
	Pixel Pitch (mm)	1.58	1.9
	Cabinet Pixels	384×216	320×180
	Pixel Density (Pixels / m^2)	396424	275295
	Module size (L × W)/(mm)	305×343	
	Cabinet size (L × W × H)/(mm)	610×343×61	610×343×61
	Cabinet Material	Die-cast Aluminum	
	Cabinet Weight (kg/Cabinet)	8.5	8.5
Electronic Parameters	Color Processing Depth (Bit)	14	
	Grayscale	16384	
	Refresh Rate (Hz)	1920	1920
	Drive Mode	1/24	1/20
	Picture Frame Frequency (Hz)	50/60	
	Signal Transmission Distance (m)	UTP cable:＜100 m; Single-mode fiber:＜10 km	
Optical Parameters	Brightness (nit)	350	
	Horizontal Viewing Angle (°)	140	
	Vertical Viewing Angle (°)	140	
Electrical Parameters	AC Input Voltage (V)	200~240	100~240
	AC Input Frequency (Hz)	50/60	
	Maximum AC Input Power (W/m^2)	360	
	Average AC Input Power (W/m^2)	120	
Environmental Parameters	Storage Temperature (°C)	—40~+60	
	Working Temperature (°C)	—10~+40	
	Storage Temperature (RH)	10%~90% Non-condensing	
	Working Humidity (RH)	10%~90% Non-condensing	
	Ingress Protection	IP40/IP21	
	Product Life (hrs)	100000	
Leasing Product Installation	Cabinet Installation Method	haring, stacking	
	Maximum number of hoisted cabinets	20	20

iCon C165/ iCon E165 Product Specifications

Parameters		iCon C165	iCon E165
Physical Parameters	Pixels	SMD1010	SMD2121
	Pixel Pitch (mm)	1.9	2.54
	Cabinet Pixels	320×180	240×135
	Pixel Density (Pixels / m^2)	275295	154853
	Module size (L × W)/(mm)	305×343	305×343
	Cabinet size (L × W × H)/(mm)	610×343×61	610×343×61
	Cabinet Material	Die-cast Aluminum	
	Cabinet Weight (kg/Cabinet)	8.5	8.5
Electronic Parameters	Color Processing Depth (Bit)	14	
	Grayscale	16384	
	Refresh Rate (Hz)	1920	1920
	Drive Mode	1/20	1/27
	Picture Frame Frequency (Hz)	50/60	
	Signal Transmission Distance (m)	UTP cable:＜100 m; Single-mode fiber:＜10 km	
Optical Parameters	Brightness (nit)	350	
	Horizontal Viewing Angle (°)	140	
	Vertical Viewing Angle (°)	140	
Electrical Parameters	AC Input Voltage (V)	100~240	
	AC Input Frequency (Hz)	50/60	
	Maximum AC Input Power (W/m^2)	360	
	Average AC Input Power (W/m^2)	120	
Environmental Parameters	Storage Temperature (˚C)	—40~+60	
	Working Temperature (˚C)	—10~+40	
	Storage Temperature (RH)	10%~90% Non-condensing	
	Working Humidity (RH)	10%~90% Non-condensing	
	Ingress Protection	IP40/IP21	
	Product Life (hrs)	100000	
Leasing Product Installation	Cabinet Installation Method	haring, stacking	
	Maximum number of hoisted cabinets	20	20

iCon E192/ iCon C220 Product Specifications

Parameters		iCon E192	iCon C220
Physical Parameters	Pixels	SMD2121	
	Pixel Pitch (mm)	2.54	
	Cabinet Pixels	240×135	240×135
	Pixel Density (Pixels / m^2)	154853	154853
	Module size (L × W)/(mm)	305×343	305×343
	Cabinet size (L × W × H)/(mm)	610×343×61	610×343×61
	Cabinet Material	Die-cast Aluminum	
	Cabinet Weight (kg/Cabinet)	8.5	8.5
Electronic Parameters	Color Processing Depth (Bit)	14	
	Grayscale	16384	
	Refresh Rate (Hz)	1920	1920
	Drive Mode	1/27	1/27
	Picture Frame Frequency (Hz)	50/60	
	Signal Transmission Distance (m)	UTP cable:＜100 m; Single-mode fiber:＜10 km	
Optical Parameters	Brightness (nit)	350	
	Horizontal Viewing Angle (°)	140	
	Vertical Viewing Angle (°)	140	
Electrical Parameters	AC Input Voltage (V)	100~240	
	AC Input Frequency (Hz)	50/60	
	Maximum AC Input Power (W/m^2)	360	
	Average AC Input Power (W/m^2)	120	
Environmental Parameters	Storage Temperature (˚C)	—40~+60	
	Working Temperature (˚C)	—10~+40	
	Storage Temperature (RH)	10%~90% Non-condensing	
	Working Humidity (RH)	10%~90% Non-condensing	
	Ingress Protection	IP40/IP21	
	Product Life (hrs)	100000	
Leasing Product Installation	Cabinet Installation Method	haring, stacking	
	Maximum number of hoisted cabinets	20	20

2. Cabinet dimension figure

3. Module dimension figure
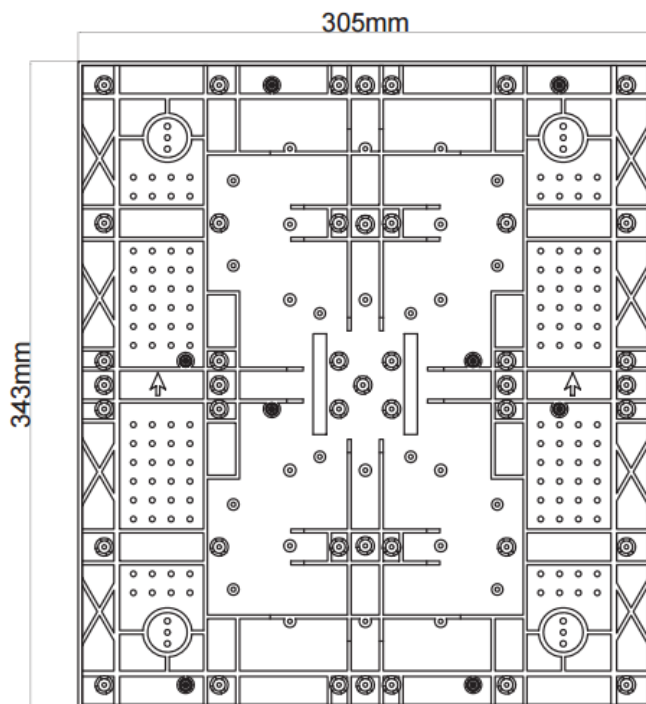
Product Components

2.1 Cabinet Introduction
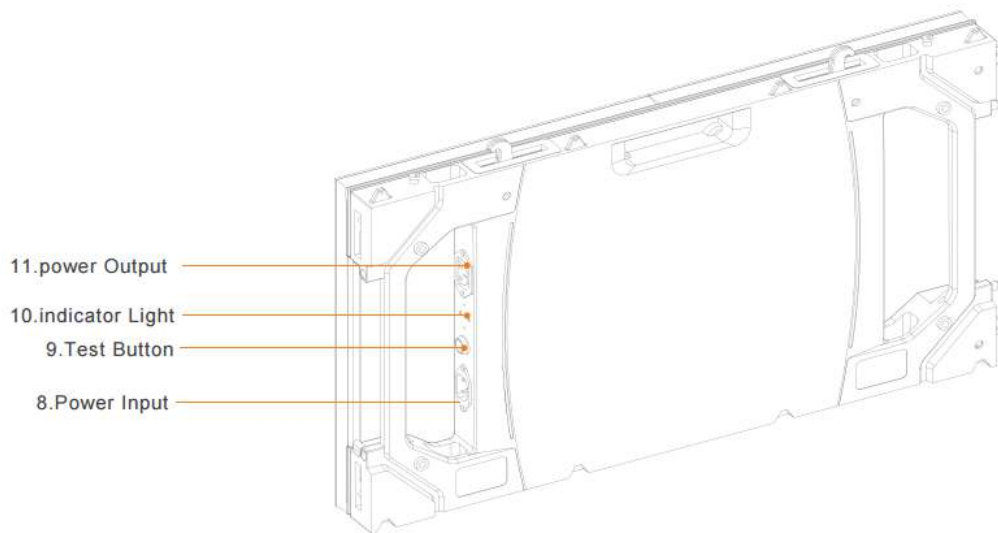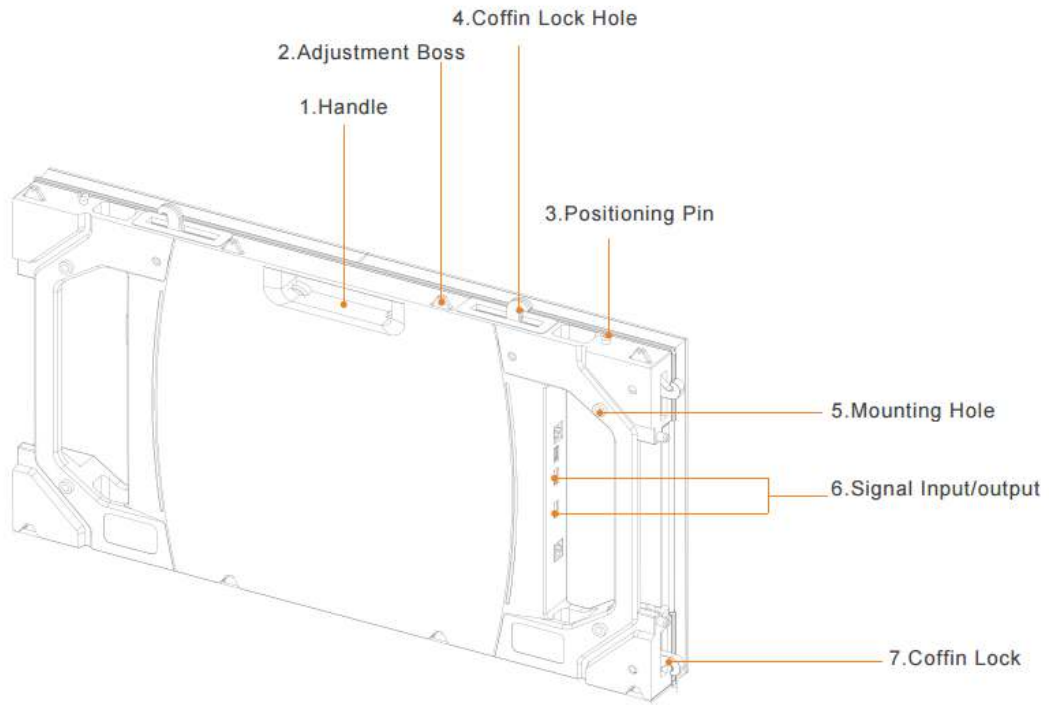
2.2 HDMI cable for vertical connections in between the cabinets（0.5m）

2.3 HDMI cable connections in between the cabinets(0.95m)

2.4 Power Cable 1 for vertical connections in between the cabinets: 0.26 m long;

Power Cable 2 for vertical connections in between the cabinets: 0.5 m long.

2.5 Main Power Cable, 10 m long，2.5mm^2

2.6 Main HDMI cable,5m long

Product Installation

The product is suitable for various forms of installation, including front installation & rear installation, rigging. Use allen wrench keys to lock the coffin locks either from the front or the back.

- iCon C138、E138 installation

C138, E138 screen body plus edge size: 3100x1769mm

Step 1: Fix the wall connector

The position is: the distance from the end face of the beam is 100mm; the distance between the upper and lower wall joints is 900mm. The distance between the lower frame and the wall joint is 305mm as shown in the figure below.
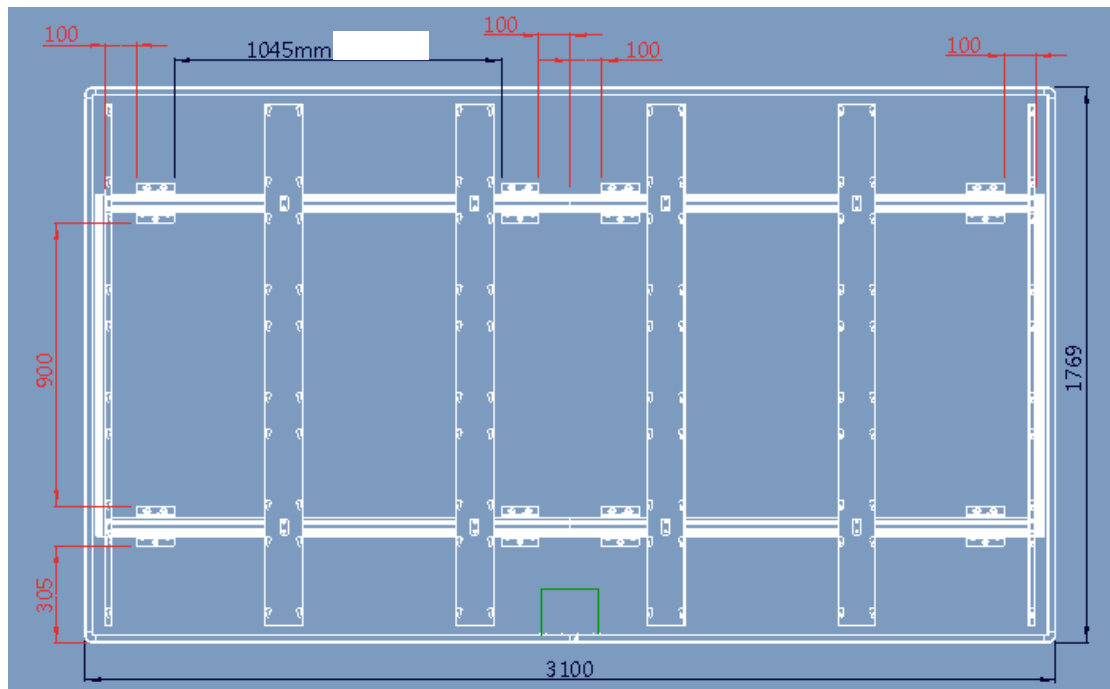
Step2:

According to the position of the wall joint, the hole is φ12mm deep and 55mm, the expansion bolt M8x80 is used, the wall joint piece is fixed, and the flange nut M8 is fixed.

Note: Pay attention to the position of the wall connector when drilling, and the direction of the two wall fixing holes is upward.
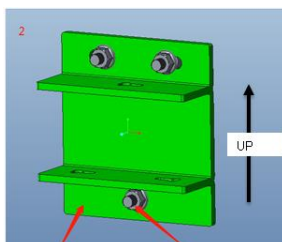
Step 3: the left and right beams are connected.

Install the upper and lower slot joints, a total of 3, use the 3mm hex wrench to screw in, the front side does not install the slot connector, because the front may need to put the T-nut to fix the hanging plate.
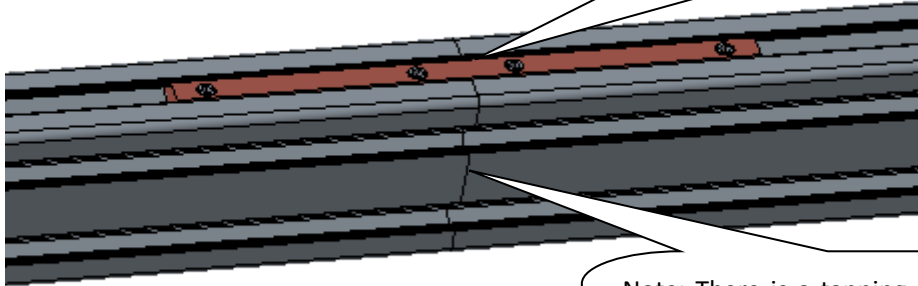
Note: There is a tapping on one end of the beam, and the tapping end cannot be placed in the middle. Placement in the middle will result in the vertical beam not being fixed.

Step 4: M8x30 bolts fix the vertical beam to the beam. Secure the beam to the wall connector and use a T-bolt M6x16 and a hex nut.
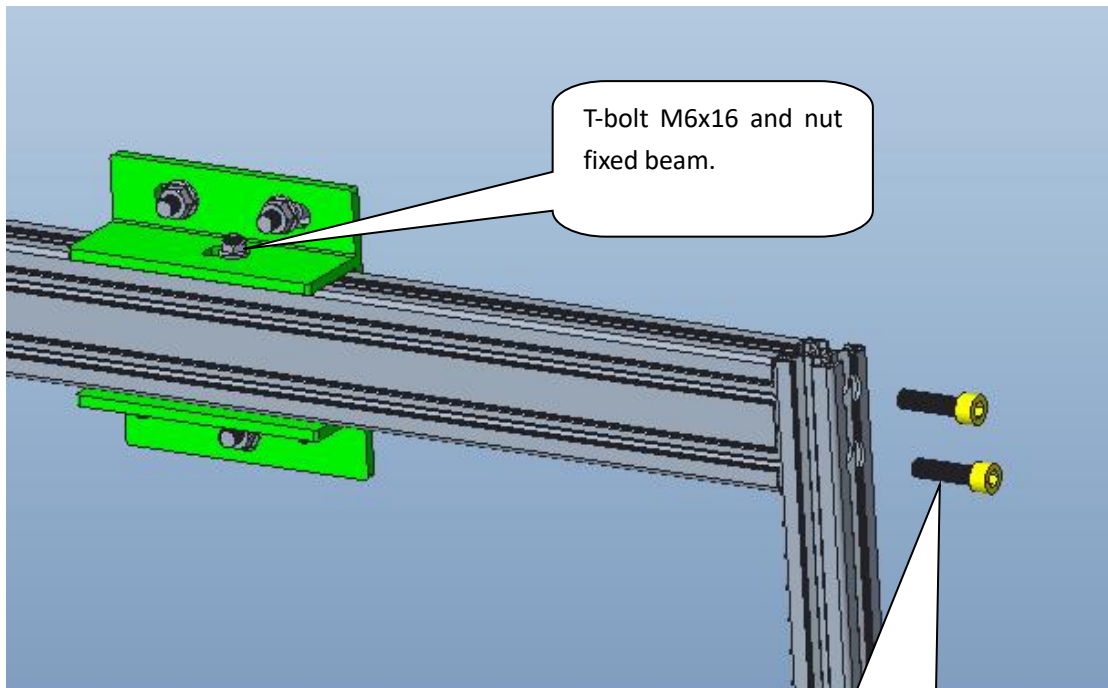
T-bolt M6x16 and nut fixed beam.

Cylindrical head hexagon bolts M8x30 fixed

Step 5: T-nuts and large flat head screws M6x10 are screwed into all the waist holes of the hanging plate, as shown below:

Large flat head screw M6x10

T-nut

Middle hanging board or side hanging board
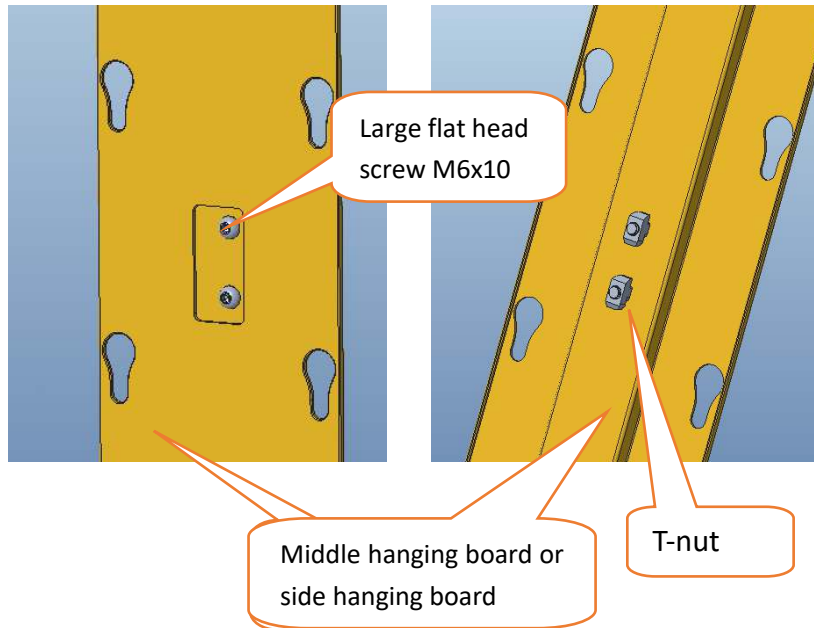
Note: First screw all T-nuts and screws into the middle and side hanging plate waist holes.

Step 6: Fix the first side hanging plate to the beam, and align the side of the hanging plate with the cross section of the beam.

900

Article 1 hanging board
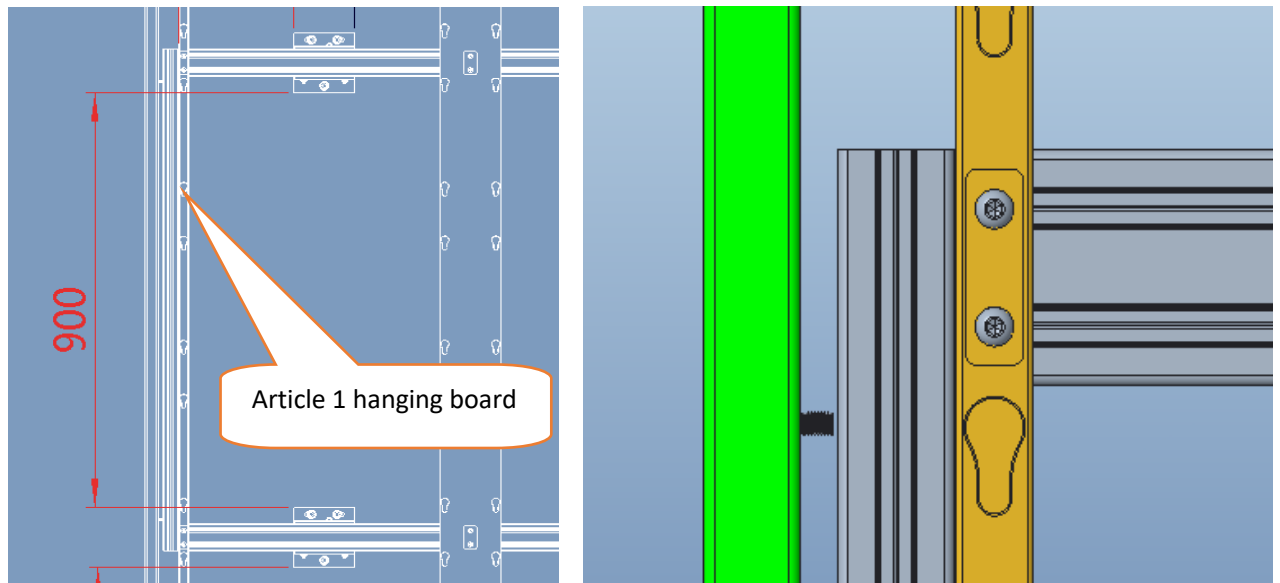
Note: Side hang board alignment.

Step 7: Install the side hanging plate and the middle hanging plate from left to right.
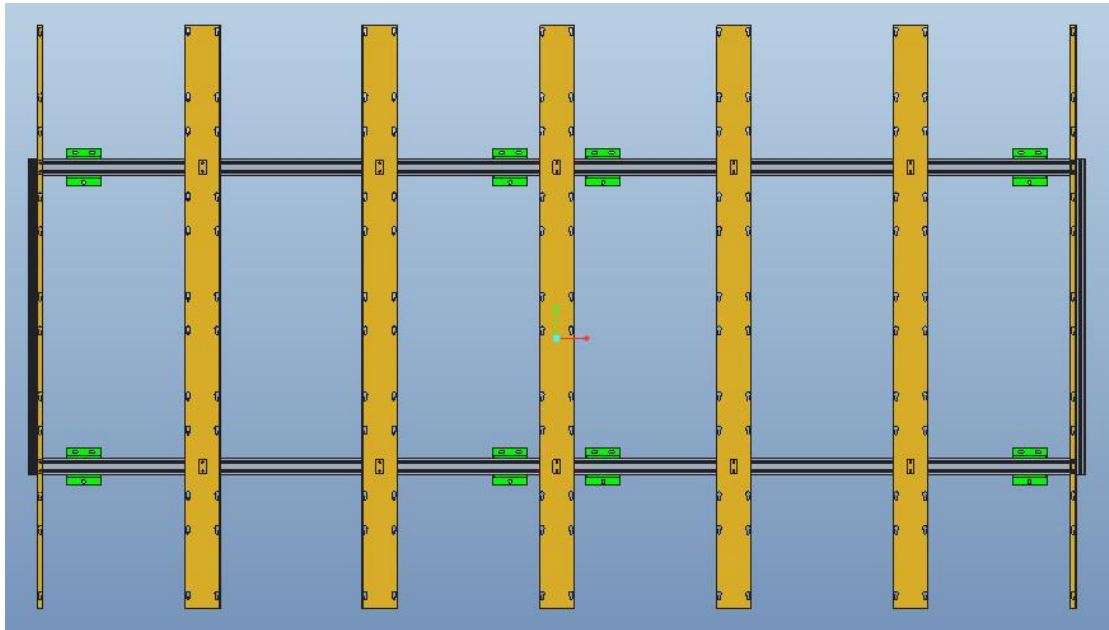
Step 8: Put in the box and lock it.
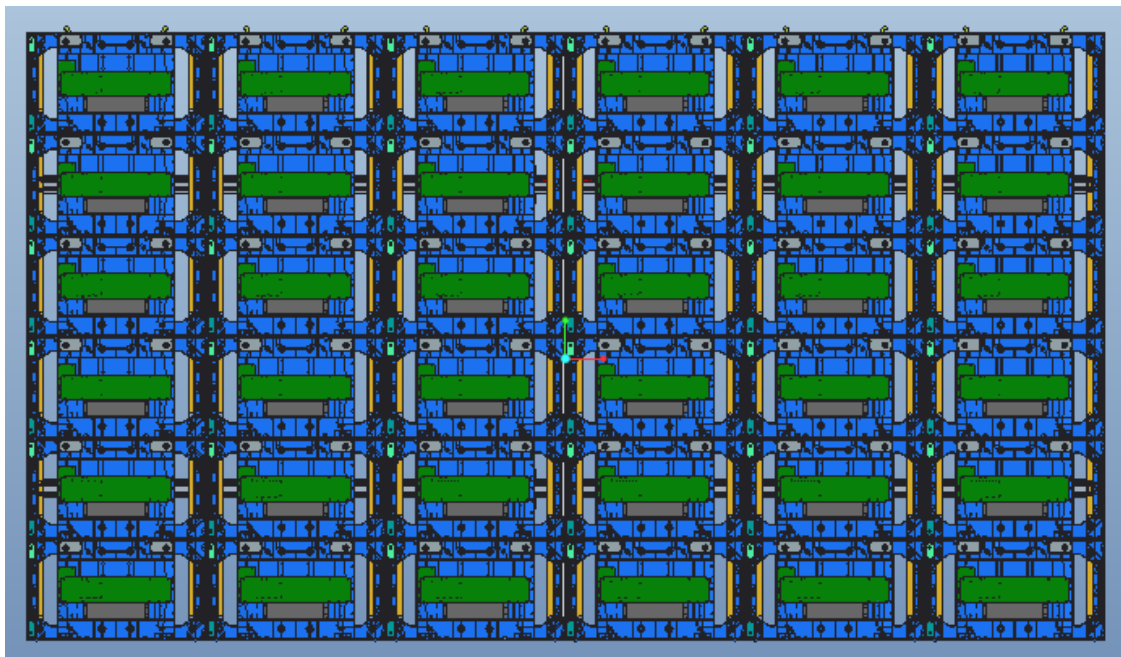
Step 9: Install the border and corner. Install from the bottom up, pay attention to the large frame screw M6x10 fixed frame to the box.
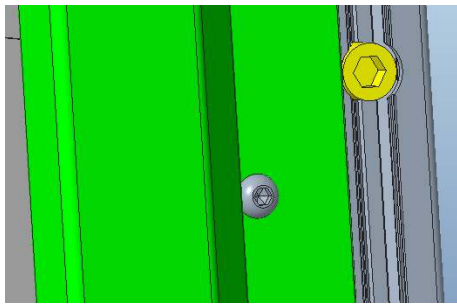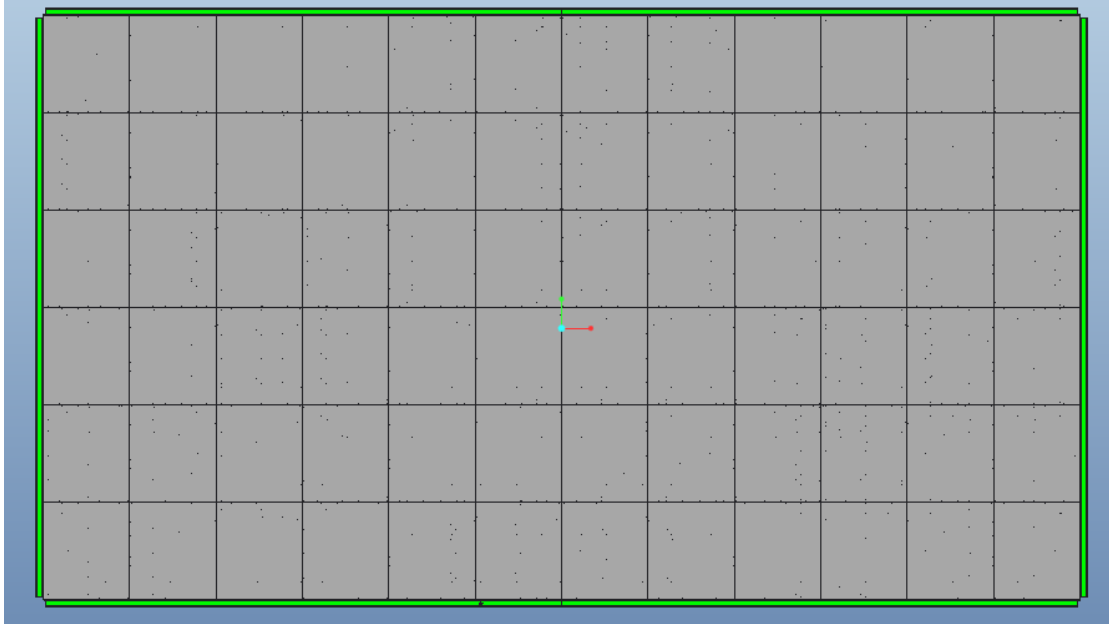
Step 10: Fixed distribution box, ship type switch, etc. The position is the bottom of the cabinet.
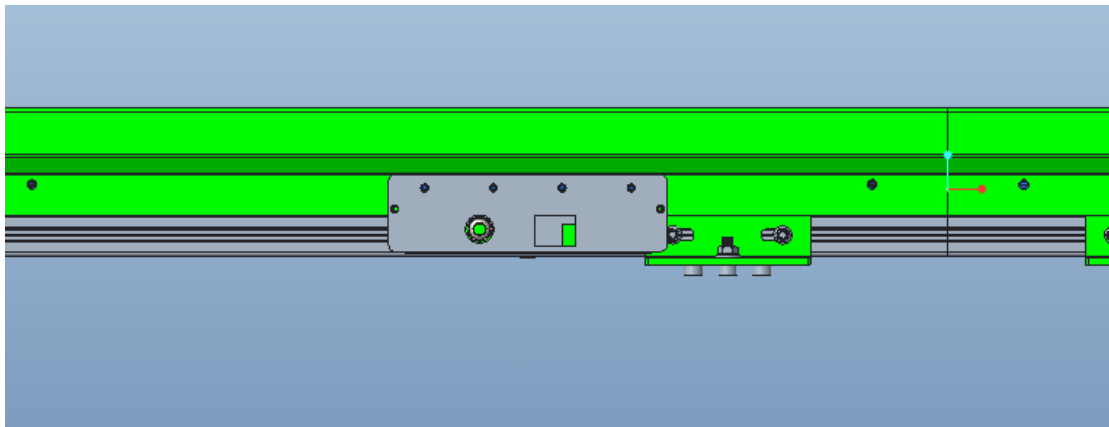
- iCon C165、E165 installation
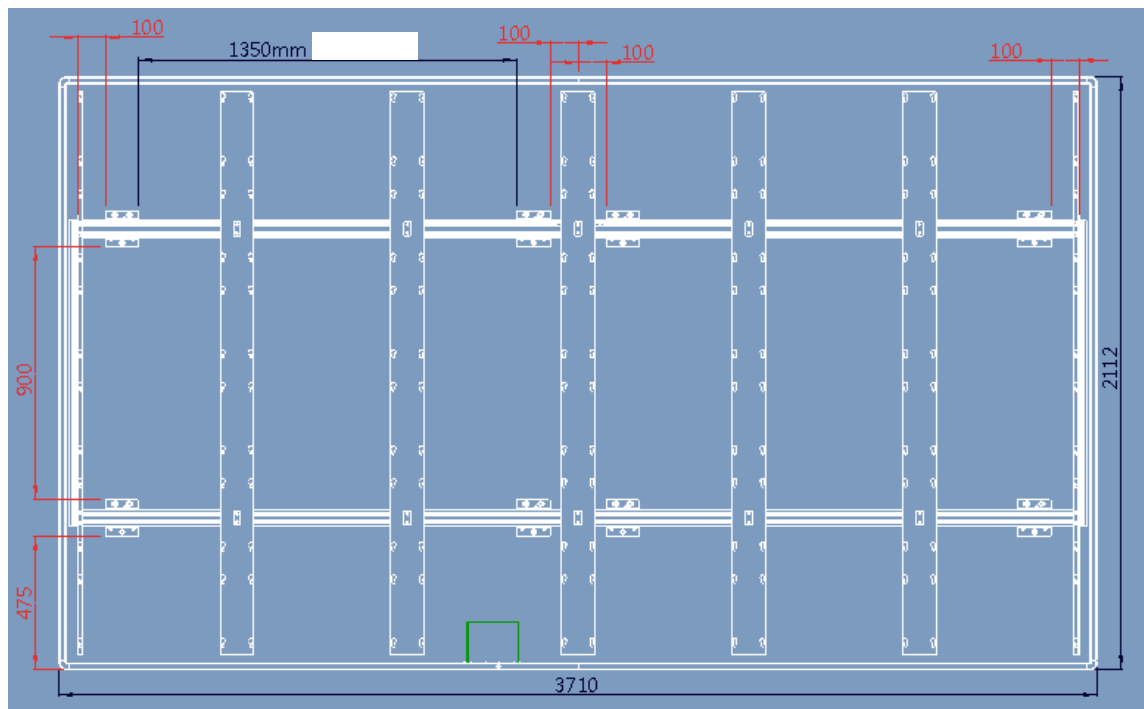
- iCon E192 installation
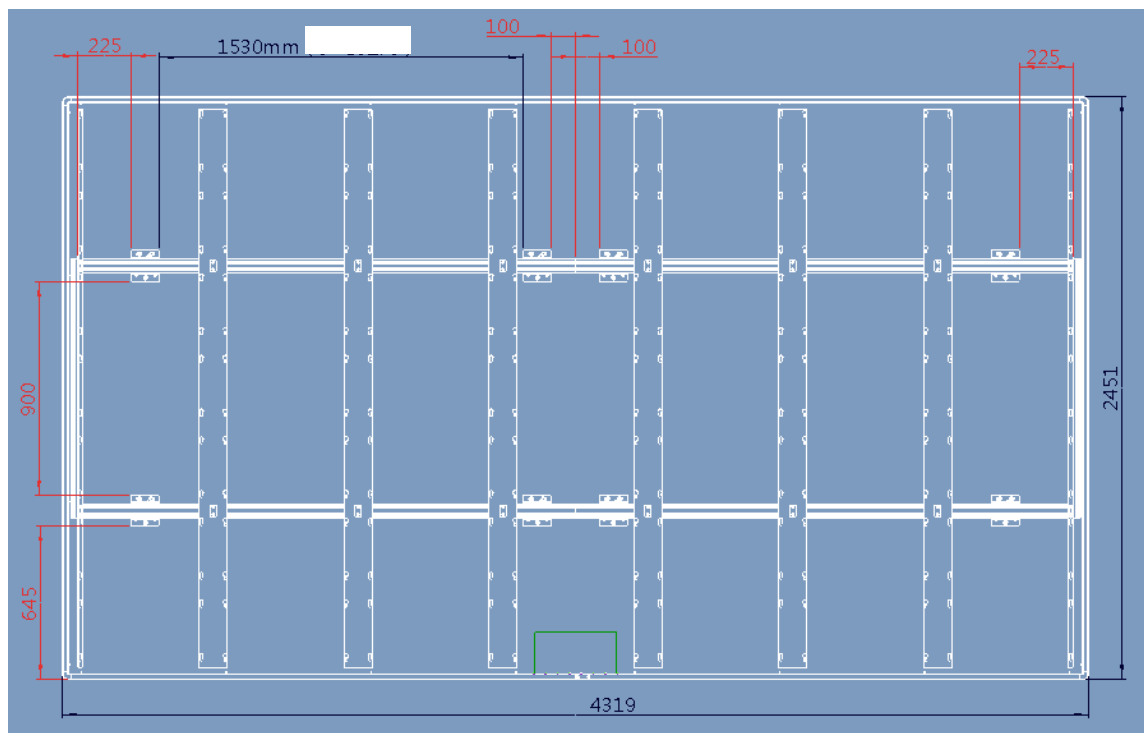
- iCon C220 installation
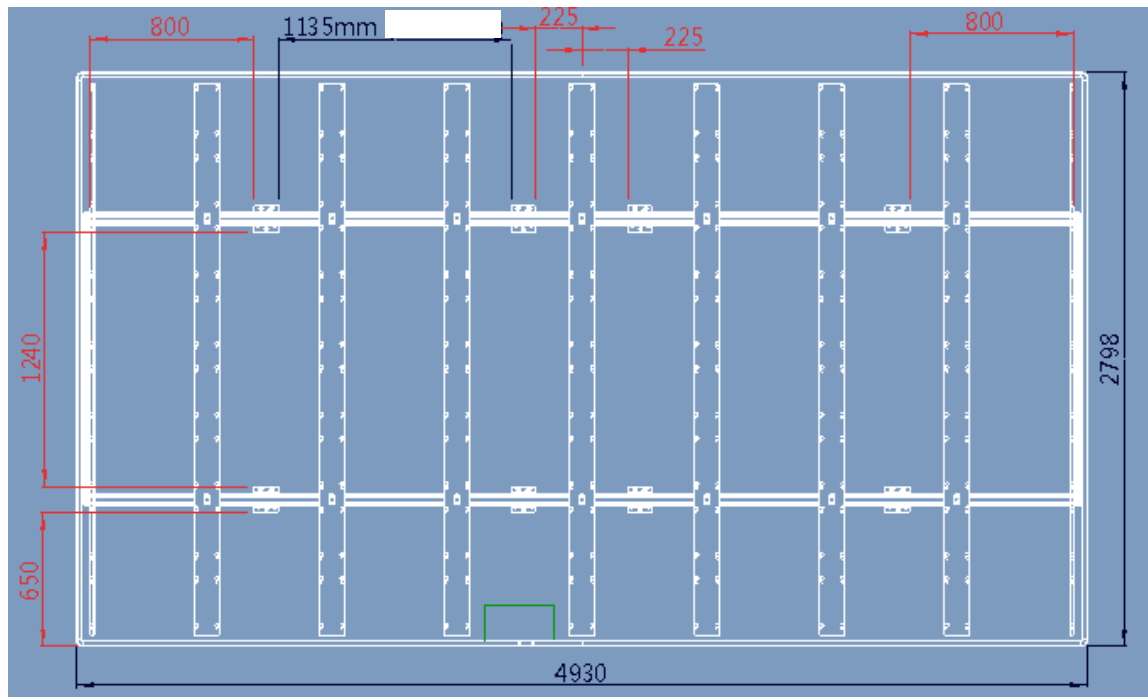
Haring installation：
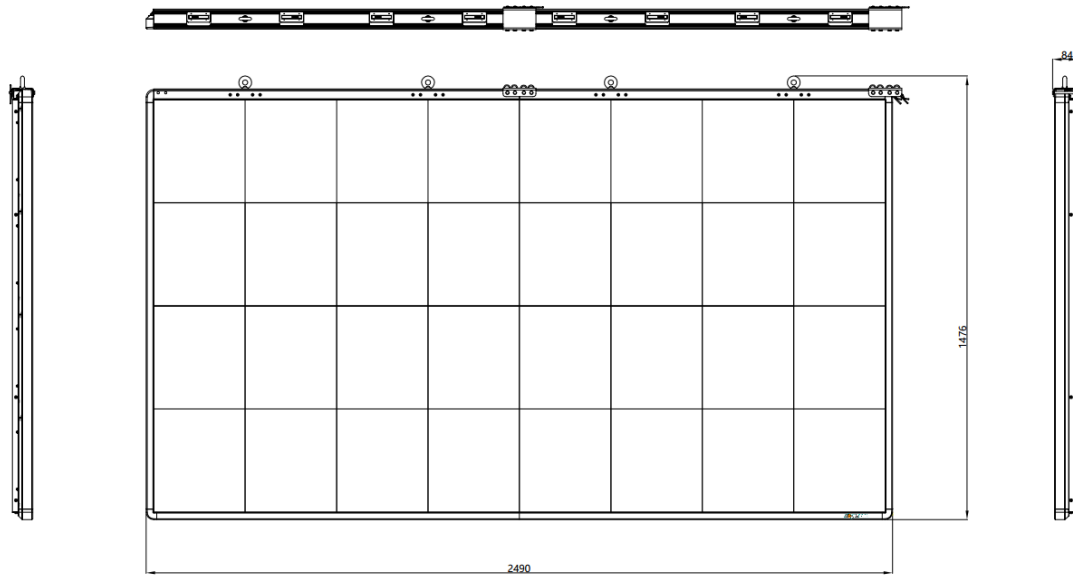
Using span sets or steel cables to attach the bumpers to the truss or the steel structure. Connect the

bumpers together using the metal connectors and make sure they are level.
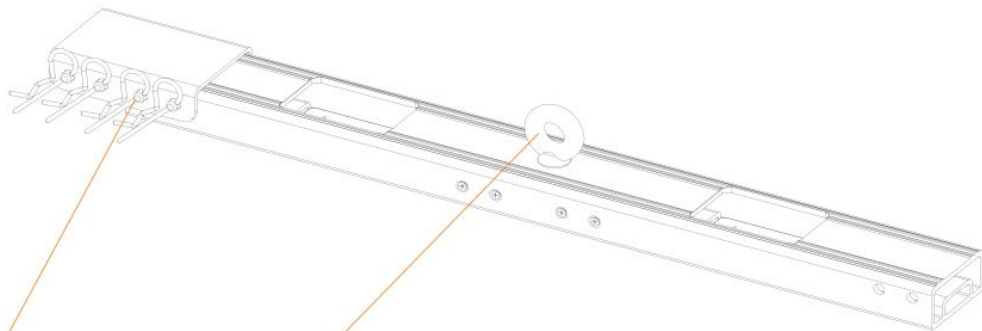
Connectors Between   Hanging Loop
Hanging Bar

Cabinet installation

Assemble the cabinets from top down, layer by layer, align the coffin locks with the corresponding

holes on the bumpers.
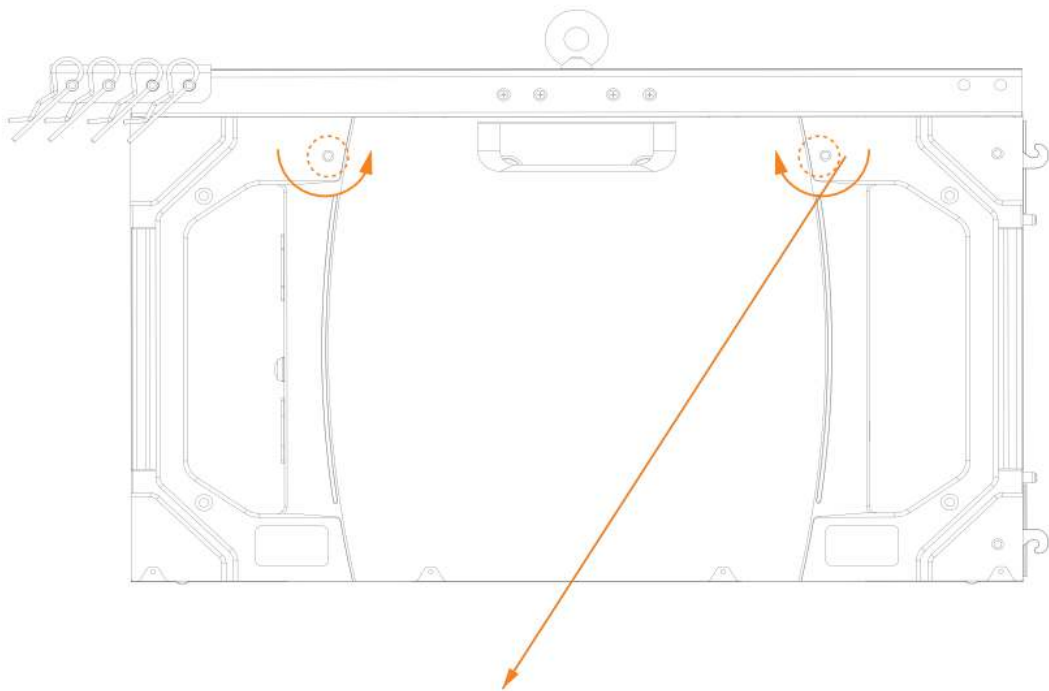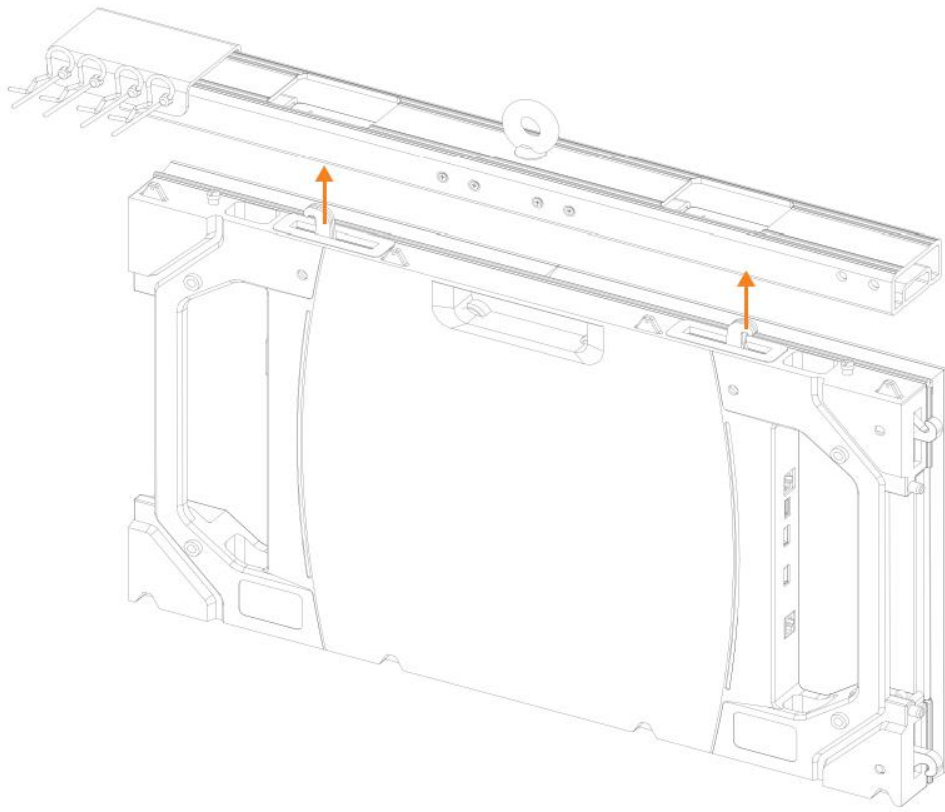
Wrench Hole for Side Lock

During installation, make sure all the coffin locks are tightened in the direction of arrow as shown in the illustration.
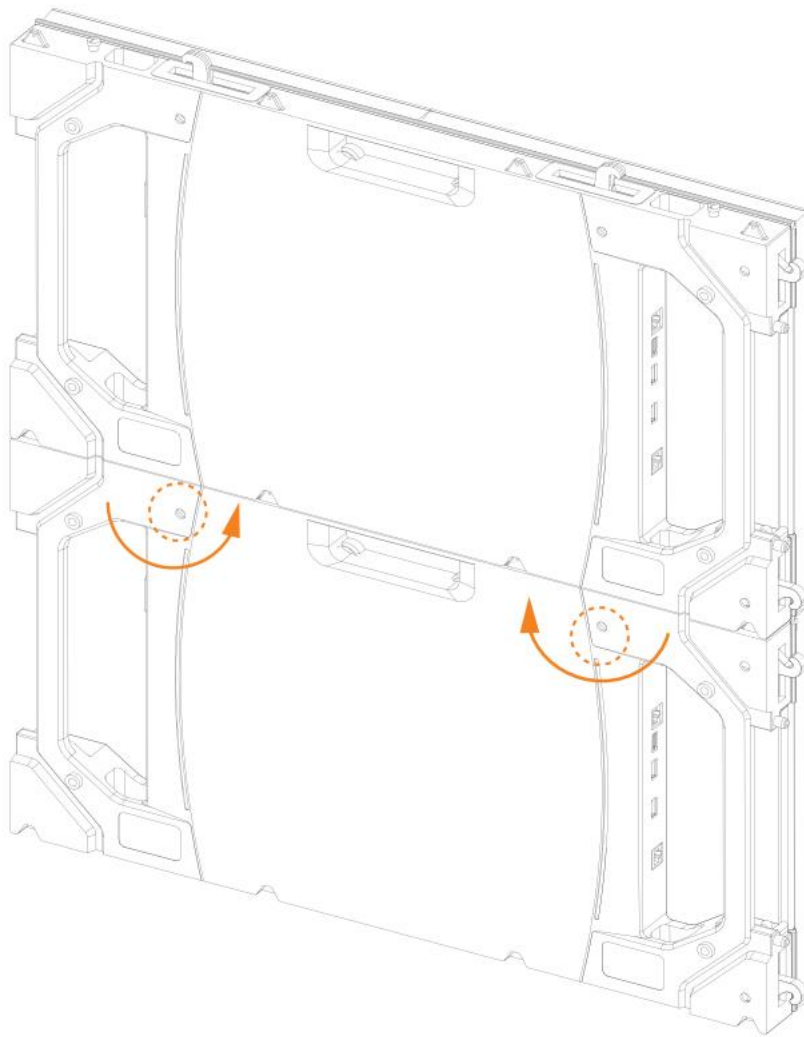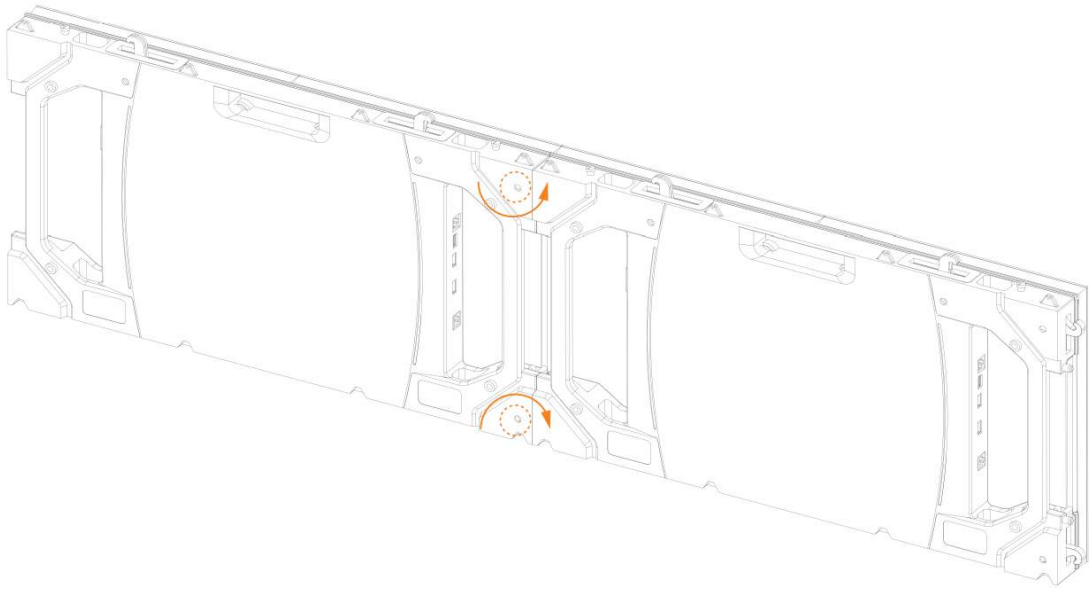
Basic Wiring Overview for Installation

Preparation before cabling Before supplying power and signal source to the screen, please check power and data cables connections carefully and make sure they are wired correctly. Use a multimeter to test the L, N and PE lines in AC power input port and make sure the tree lines are not short-circuited.

Power cable connection description

RJ45
USB
HDMI IN
HDMI OUT

Power Out
Indicator Light
Test Bottom
Power In

Power Cabling

Power Input 100V-240V

Long Power Cable

Power Cable
(Used to connect panels)
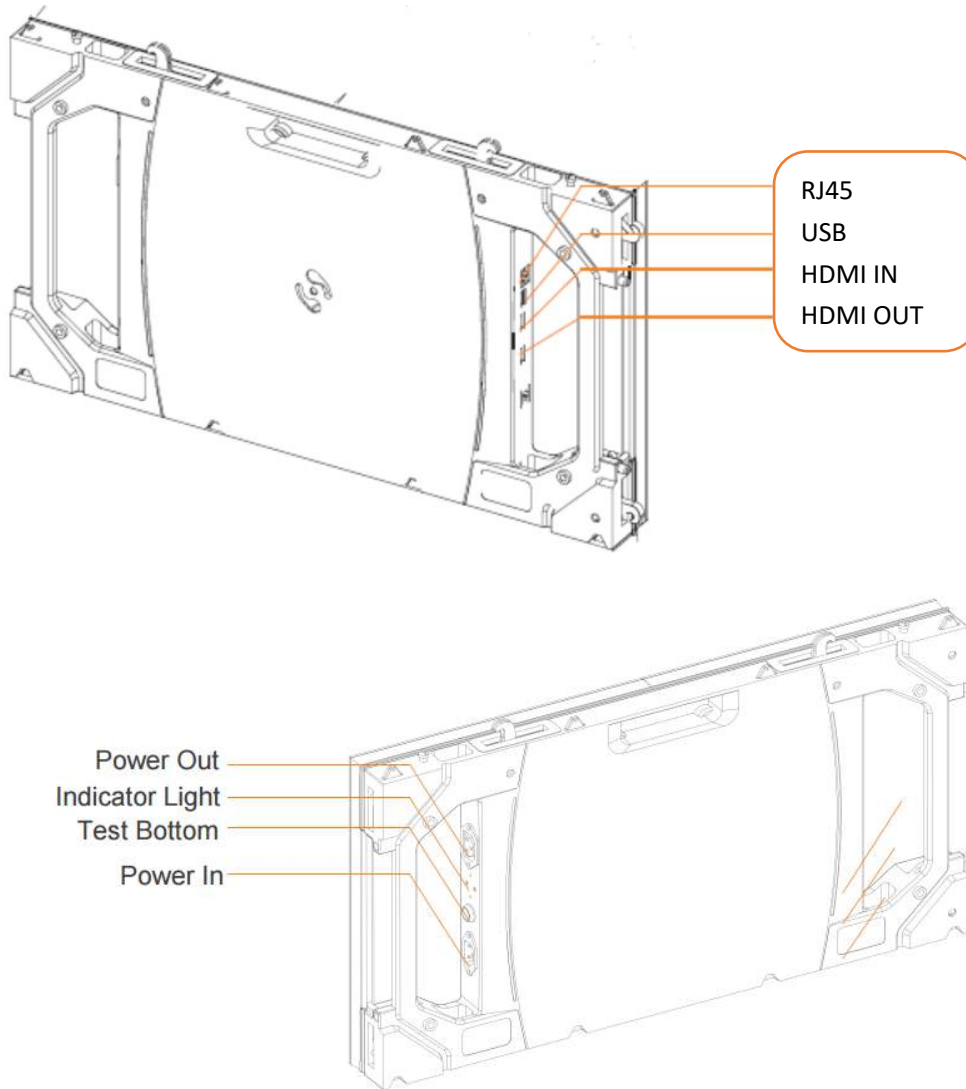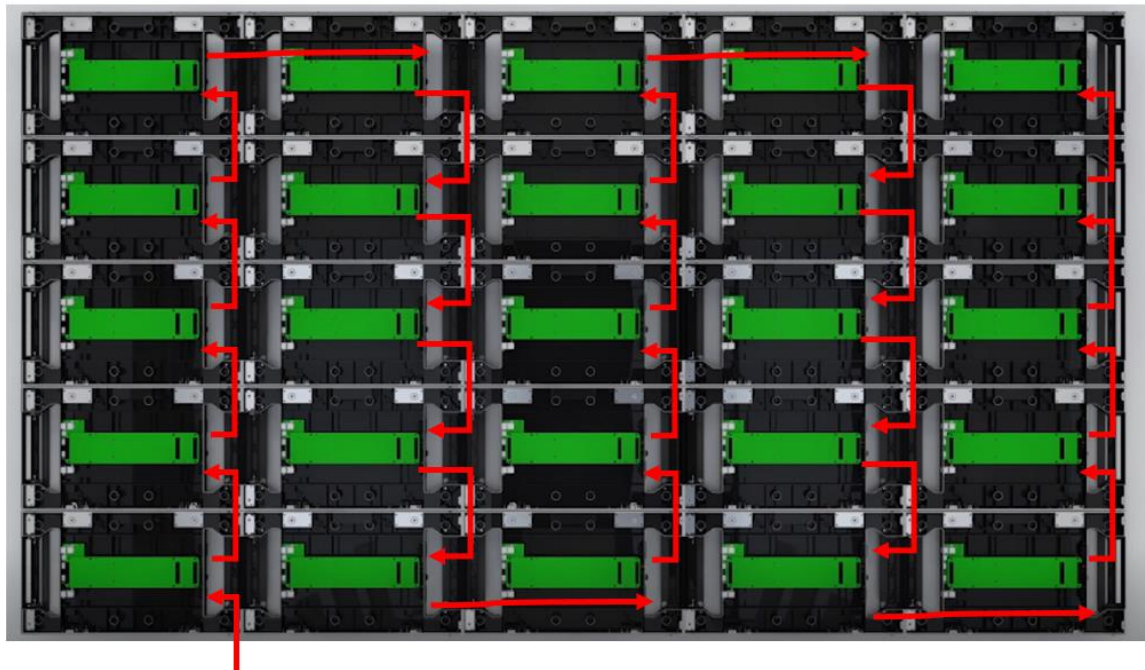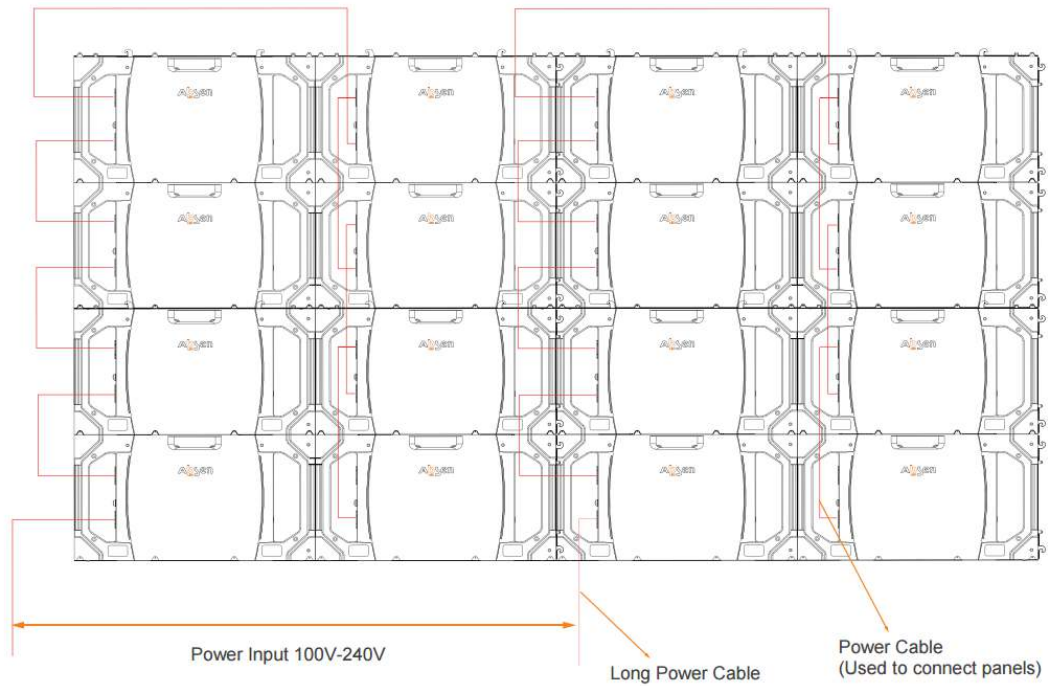
AC IN

A single 3*2.5mm screen power cable can carry up to 32 cabinets, ie iCon C110/ iCon E110/ iCon C138/ iCon E138 screen comes standard with 1 3*2.5mm screen power cord, iCon C165/ iCon E165/iCon E192/ iCon C220 screen comes standard with 2 3*2.5mm joint power cables.

HDMI Cabling
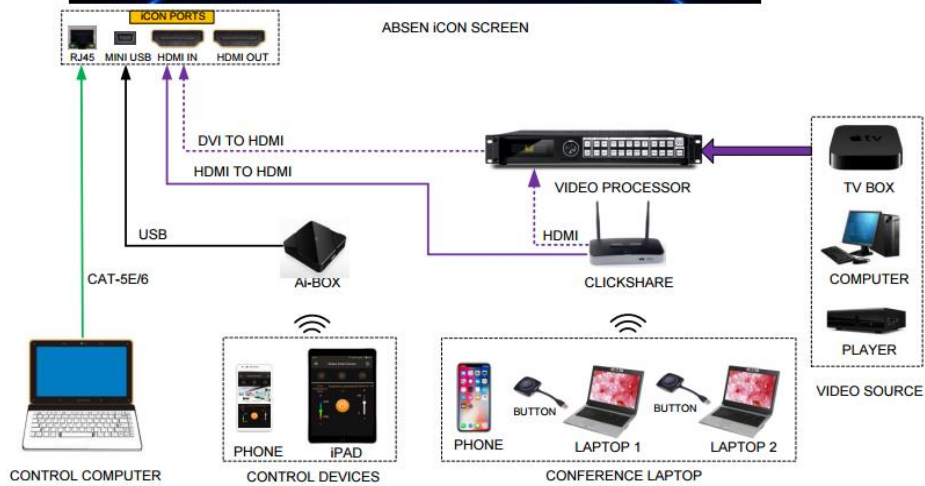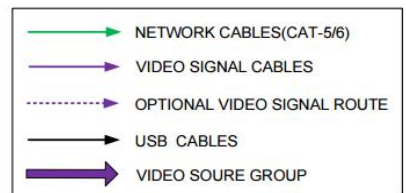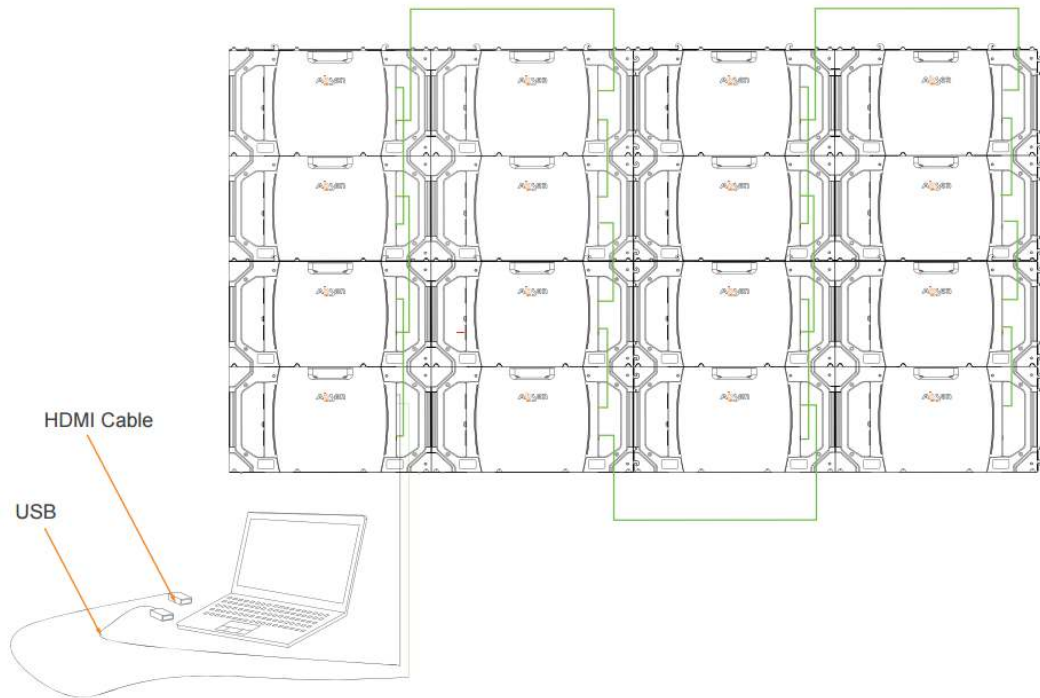
Notes:

The signal line adopts HDMI cable, and the "S" type is connected up and down. Please calculate the resolution

according to each box pixel. Each HDMI cable can control up to 1920*1080 pixels.

Maintenance

Preparation Tools

Screwdriver, multi-meter, module front service tool, etc.
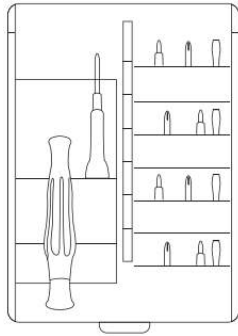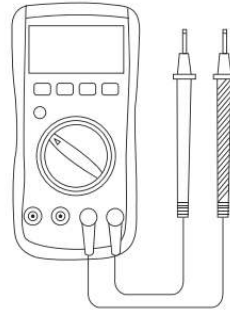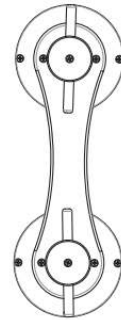
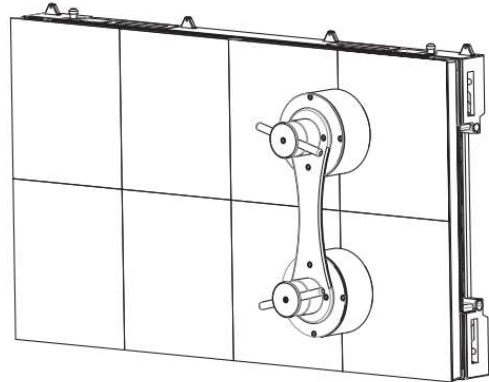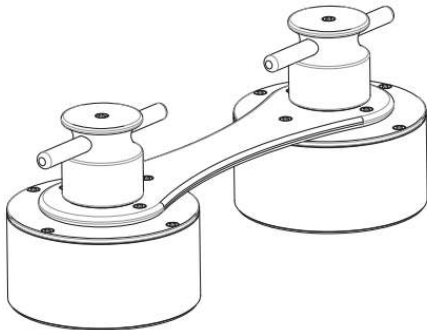Screwdriver   Multi-meter   Module Front Service Tool

Module Front Service

Step 1: Rotate two rotation handles on module front service tool clockwise all the way.
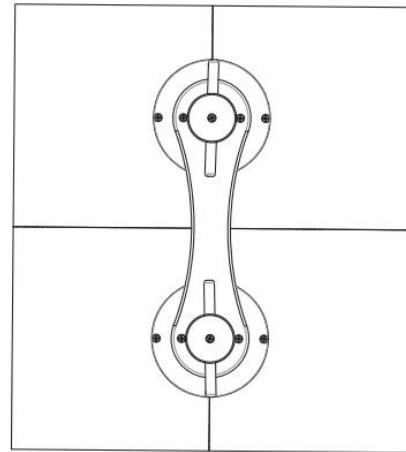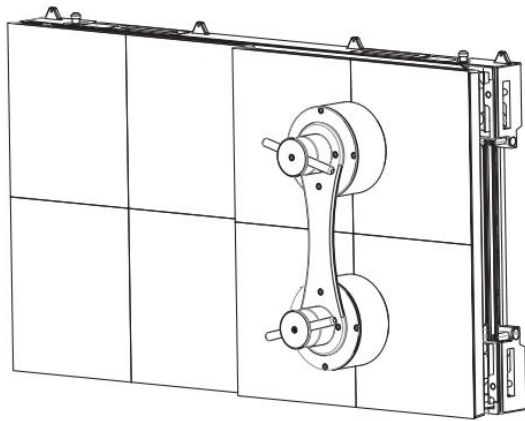
Step 2: Place the front service tool onto the module tightly and rotate the two rotation handles

counterclockwise all the way.

Step 3: Hold the two handles on the tool and firmly pull the module out of its frame

Step 4: Take modules off and place them in a safe area, and then turn the two rotation handles

clockwise all the way.

Test for Short Circuit

After finishing cabling the cabinets, use a multi-meter to test the AC input (L/N/PE) and DC output (VCC/GND) to determine whether there is a short circuit. If a short circuit has been found, please examine the circuit carefully. Power up the cabinets only after making sure all the circuits are working properly

Shenzhen Absen Optoelectronic Co., Ltd.

18-20F Building 3A, Cloud Park, Bantian, Longgang District, Shenzhen 518129, P.R.China

T: +86-755-89747399

E: absen@absen.com

W: www.absen.com