

EasyPro Series

User manual

EasyPro-P1.8 / P2 / P2.5



ego[®]
DISPLAY

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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!
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 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 **EGO Display**.

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 A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense

1 PRODUCT OVERVIEW



The **EasyPro** series is an indoor high-definition fixed display specially developed for the commercial display market. It features all-in-one minimalist design and convenient installation. The size of the panel is 320x480mm, and the control card and power supply unit are integrated inside. The whole panel is pre-installed and shipped. It can be quickly spliced to complete 2K, 4K, and 8K large-screen splicing. It is especially suitable for application scenarios such as lobbies, lecture halls, and exhibitions.

Products are mainly used in: corporate lobbies, exhibition halls, meeting rooms, brand chain stores, shopping plazas, hotel banquet halls, banks, churches, theaters, high-end clubs, museums, transportation hubs, airports, stations and other applications.

1.1 Product Features

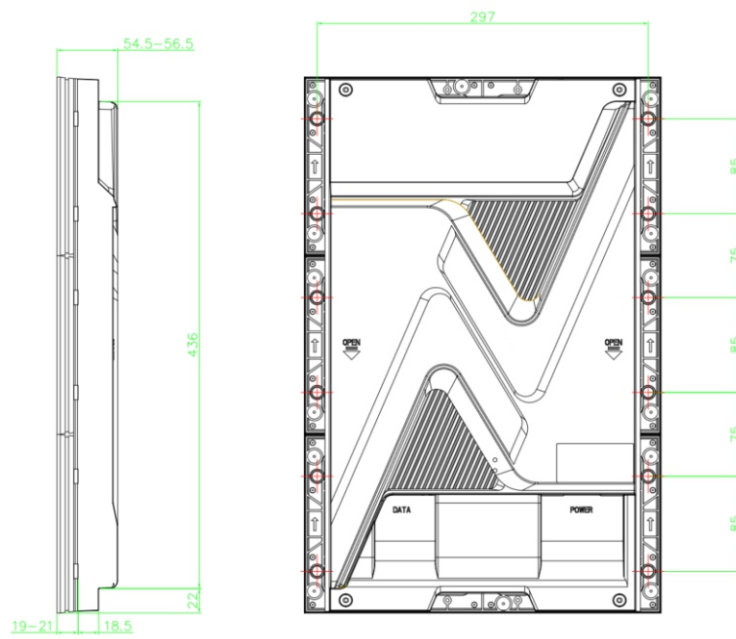
- | All-in-one : integrated design , pre-installed and delivered, no secondary assembly is required.
- | Quick installation : magnetic installation, which simplifies the traditional way of installation.
- | Neat wiring and easy maintenance : easy to operate the signal cable and power cable cascade
- | Low light and high gray, refresh rate up to 3840Hz
- | Module-level size adjustment: Both 320*480 and 320*320 size are available.
- | Efficient maintenance : full front service with vacuum tool

1.2 Product Specification

Parameter		1.8	2	2.5
physical parameter	LED type	SMD1515 black	SMD1515 black	SMD1515 black
	Pixel pitch (mm)	1.86	2	2.5
	Panel size (W×H×D)/(mm)	320×480×55	320×480×55	320×480×55
	Panel resolution	172x258	160x240	128×192
	Panel weight(kg)	2.3	2.4	2.1
	Module size (W×H)/(mm)	320×160	320×160	320×160
photoelectric parameter	Brightness (nit)	500	500	500
	Refresh rate (Hz)	3840	3840	3840
	Gray scale (bit)	14	14	14
	Contrast Ratio	3000:1	3000:1	3000:1
	Color temperature (K)	8300	8300	8300
	Viewing angle (H/V) (°)	160/140	160/140	160/140
	Driving type	1/43	1/40	1/32
	AC Operating Voltage (V)	100~240	100~240	100~240
	Power Consumption (Max./Avg.)(W/m ²)	320/107	325/108	330/110
Application Parameter	Storage Temperature (°C)	-40~ +60		
	Operating Temperature (°C)	-10~ +40		
	Storage Humidity (RH)	10 % ~85 %		
	Operating Humidity (RH)	10 % ~80 %		
	LED Lifetime (H)	100000		
	Maintenance	Front		
	Installation	Front		
	Certification	CCC/CE/FCC/ETL/ROHS/UKCA		

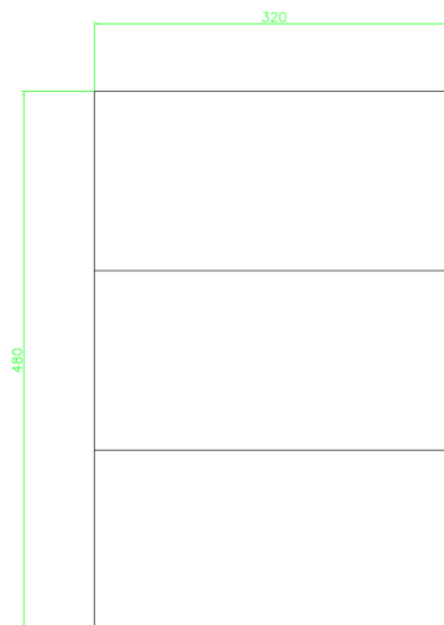
Note: Power consumption tolerance: ±15%, according to the actual situation.

1.3 Panel size



(side view and rear view unit: mm)

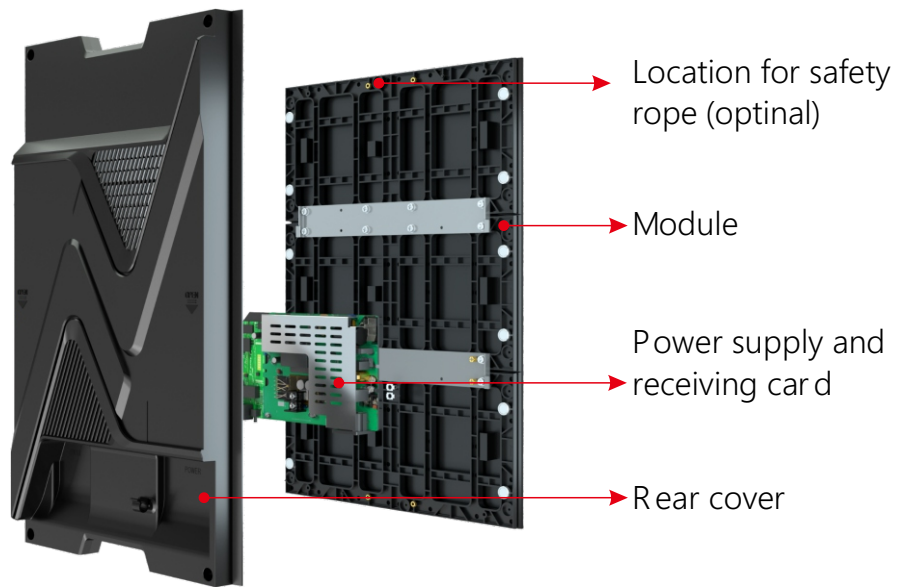
1.4 Module size



(front view, unit: mm)

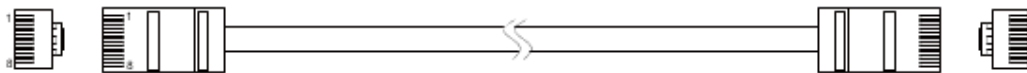
2 PRODUCT COMPONENTS

2.1 Panel

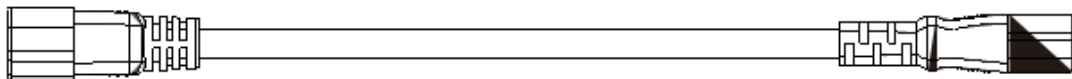


2.2 Accessories

Signal cable :



T-type power cable :



Power cable to LED wall : The length will be configured according to the client's requirements



3 Preparations before installation

3.1 Tools for installation

	Tool type	Function	Picture
TOOL LIST	Knife	Open the package	
	Vacuum front service tool	panel front service tool	
	Needle nose pliers	Adjust the flatness by	
	PH2 screwdriver	Maintenance and disassembly Module & power supply	
	PH2 screwdriver	& receiving card screws Maintenance and disassembly Module & power supply & receiving card screws	
	Laser level	Measuring installation position	
	Spirit level	Check the flatness of the cabinet installation	
	tape measure	Measure the distance	

3.2 On-site environment requirements

1. Narrow pixel pitch series products need to test the field temperature and humidity before installation, ensure that the temperature is within 35 °C, humidity within 70%RH can be installed;
2. For the environment temperature higher than (35°C, 70%RH), the screen under high temperature and humidity, will make the LED lamp bead there is a hidden danger of moisture, resulting in a large number of LED lamp bead damage screen body;

3.3 Precautions for product installation

3.3.1 Before installation

1. Determine the power distribution scheme:

Determine the specific power distribution scheme according to the actual display size and sequence, and determine the specifications and quantity of power cables for the distribution box and main power cables, and the number of power cables connected to the box. According to the total pixel points and arrangement order, determine the number of sending box, video processor specifications, the number of network cables.

2. Power distribution precautions

- (1) Wiring is neat, horizontal and vertical, non-cable routing must be laid groove or line tube;
 - (2) Signal cables and power cables are laid separately to avoid interference;
 - (3) Wiring considering the three-phase power balance, as far as possible each phase of the load display box number is equal;
 - (4) The cable head needs to press the wire terminal.
 - (5) Wire head coding, the overall distribution diagram should be consistent with the actual wiring, convenient follow-up troubleshooting;
 - (6) Under the premise of considering the safe load rate, the cable between the distribution box and the display box is arranged according to the actual box arrangement;
 - (7) Long distance wiring, considering the line loss voltage, to ensure that the display end voltage in the allowable range;
3. Construction of steel structure: according to the requirements of the drawings. Construction shall be combined with pipeline construction and supervised by the person in charge of installation.
 4. Tools: Prepare tools commonly used for installing the display, such as screwdrivers, wrenches, and multimeters.

3.3.2 During installation

1. Distribution box installation: distribution box installation must be firm and reliable. Reliable grounding protection.
2. Panel installation: Equipment handling. Adequate manpower must be provided to ensure safety. Handle with care to avoid damage to the appearance and function of the Panel. When installing the display screen, check whether the magnet feet are tightened. When connecting the power cable and network cable, check whether the power cable is in place and correct, whether the network cable is inserted in place, and whether the sequence of connecting the screen is correct.

3. Wiring sequence: Connect the Panel with the connecting box power cable first, and then connect the box with the 3 main power cable from the distribution box or socket to the bottom box.
4. Power connection: First confirm that the power supply end is in the "off" state, must use the electrical end to start the connection (set a switch or distribution box, etc.). After checking the connection of the power end, connect the power supply end. First connect the protection ground, then connect the neutral line, and finally connect the phase line. After the power supply is connected, check the power switch or the distribution voltage of the device, and then disconnect the power supply. The power source line must be differentiated according to the color of the ground line, neutral line and A, B, C isophase line.
5. box adjustment: check whether the display is smooth and clean. Finetune the gaps between modules and between boxes. During installation, the boxes must be locked with screws to ensure the right and left/up and down flatness between the boxes.
6. Power test: Before supplying power to the whole screen and providing control signals, please carefully check whether the power supply and signal line are correctly connected; Carefully check the L, N, and PE cables on the AC power input ports of each box to ensure that there is no short circuit among them (measure with a multimeter).
7. Power-on detection: fault judgment, check the appearance of power on detection whether there is a bad screen, text output is correct; If there is a fault, according to the phenomenon of the fault, to judge, troubleshoot.
8. Module protection: During the installation of the LED module, the edges and corners of the module should be well protected to avoid the collision resulting in the loss of lights. When installing the module, wear dust-free gloves to avoid perspiration or dust on the surface of the module.
9. Display protection: In the process of installation and construction, dust collector should be used to reduce the dust concentration. After construction, clean canvas must be used to cover the large screen lamp surface to avoid dust and corrosive gas invading the lamp beads.

4 PRODUCT INSTALLATION

4.1 Main power cable

Preparation before connection

Before connecting: Before supplying power to the entire screen, check whether the power cables are connected between boxes and whether the main power cables are correctly connected between the screen and the distribution box. Check the L, N, and PE cables on the AC power input port of each box and ensure that there is no short circuit among them (measured with a multimeter).

Power cable connection NOTE Select a proper power distribution box or socket based on the maximum power consumption. For details about the matching scheme, contact your electrician or PDC manufacturer. The input voltage of the box is 100-240V/AC, and the power cable between the distribution box and the box is 3X1.5mm². Please confirm the input voltage. The number of boxes carried by each power cable varies with different voltages and different product models. .

Our distribution box is divided into 15KW, 30KW, 60KW, 90KW, 120KW, 150KW, 180KW and so on.

According to the control mode, there are intelligent distribution box and ordinary distribution box.

According to the use type, it can be divided into solid assembly electrical box and leased distribution box.

Distribution box and main cable selection

Distribution box Specifications	15 KW	30KW	45KW	60KW
International copper core cable type/mm ²	4*4+1*2.5	4*10+1*6	4*16+1*10	4*25+1*16
Distribution box Specifications	90KW	120 KW	150 KW	180 KW
International copper core cable type/mm ²	4*50+1*35	4*70+1*35	4*95+1*50	4*120+1*70

Remarks:

The above table takes three-phase voltage 380V and single phase voltage 220V as an example.

Distribution box input terminal is three phase five-wire system, three-phase voltage 380V, output terminal is single-phase voltage 220V;

The meaning of 4*X+1*X in the table: 4 represents L+L+L+N wire, 1 represents PE wire, and X represents the size of the main cable.

If the single-phase voltage is 110V, the international copper core cable type must be double;

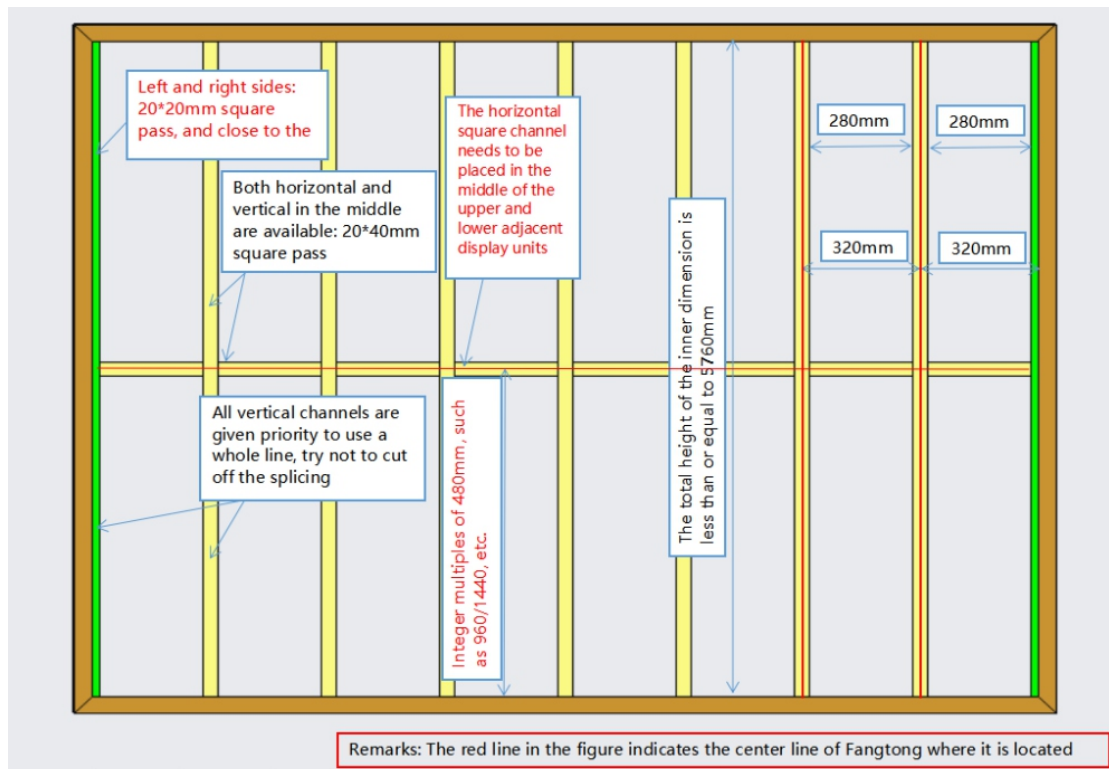


Product Model Number	Standard box size (mm)	Power consumption (maximum)	Power cable with load (220V)	Power cable with load (110V)
EasyPro-P1.8	320x480x55	320 W/ m ²	36	18
EasyPro-P2	320x480x55	325 W/ m ²	35	17
EasyPro-P2.5	320x480x55	330 W/ m ²	35	17





4.2 Installation instructions

Product installation type

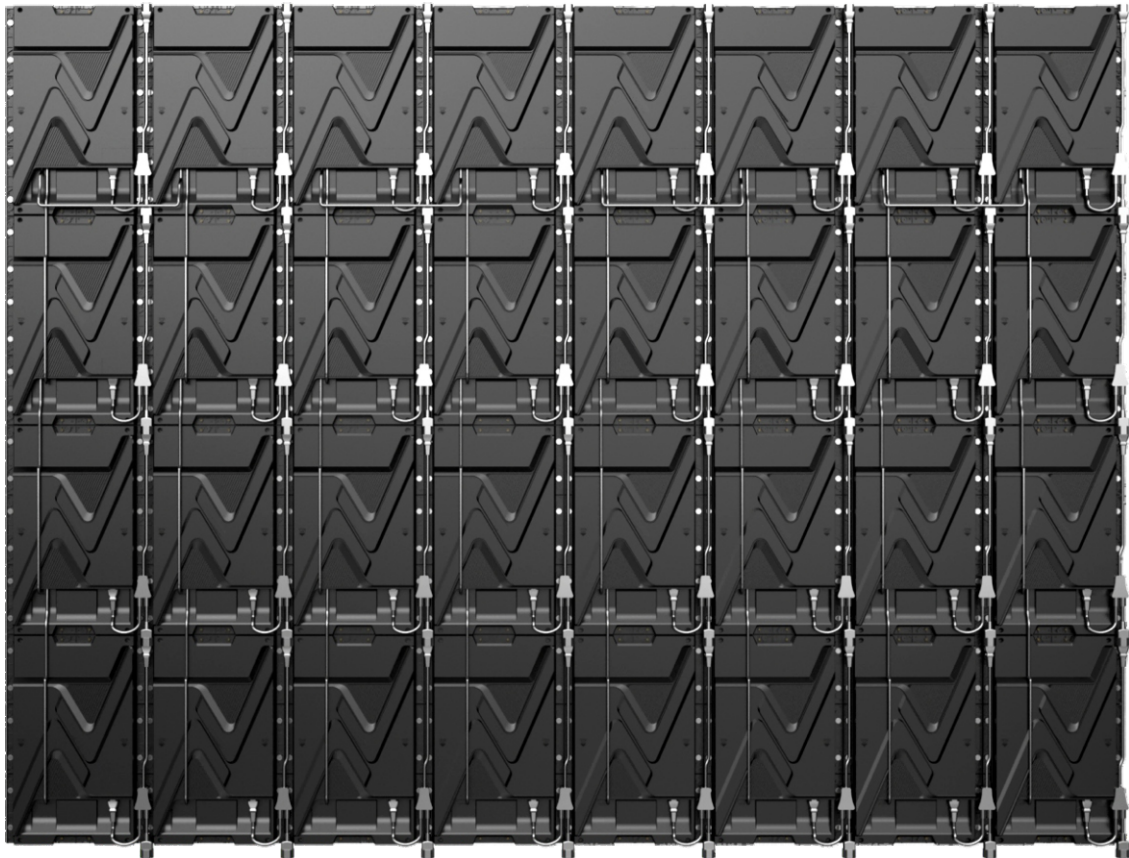
	Installation type	Remark
1	Steel structure magnetic installation	After wiring, install the cabinets on the steel structure by magnets



(third-party steel structure reference)

			
<p>Step ① - Wiring It is recommended to route the cables vertically, firstly plan the power-in/data-in position on the structure, and then attach the T type power cables along the square tube with zip ties. For cross-column cascading, turn the cable upside down.</p> <p>Note: a. Zip ties can prevent the wire from loosening out of gravity. b. The T-joint of the power cable for the first panel is between 10-15cm from the bottom approximately.</p>	<p>Step ② - Installation Install the panels after cable wiring, using laser level meter or leveling instrument to ensure the levelness.</p> <p>Note: a. Keep the power-in interface downward b. Please adjust the flatness & gap synchronously during installation.</p>	<p>Step ③ - Adjustment Adjust the degree of tightness of the panel magnets, meanwhile adjust the gap between panels during installation.</p> <p>Note: a. It is not recommended to do the adjustment after installation. b. Using pliers to adjust the degree of magnets tightness.</p>	<p>Step ④-Complete Follow the above steps to complete the screen installation</p> <p>Note: Using special vacuum front service tool for CP from Absen instead of other unverified tools.</p>

(Installation instruction)

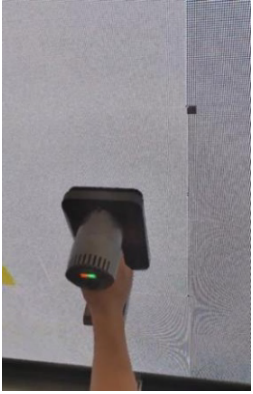




(Rear view after installation)



5. PRODUCT MAINTENANCE

5.1 Panel maintenance

EasyProseries containers can be quickly removed using a vacuum adsorption tool for 3-5 seconds. Attach the front maintenance tool to the surface of the container to be removed, press a switch, and pull out the maintenance tool for 3-5 seconds.

graphic			
Maintenance Procedure	<p>Locate the faulty enclosure and place the maintenance tool in the middle of the faulty module before vacuuming</p>	<p>Press the switch and continue for 3-5 seconds. Carefully remove the box with a little outward force perpendicular to the display surface, and remove the power cord and network cable of the box.</p>	<p>After replacement, gently install it on the screen body in the upward direction.</p>
Precautions	<p>The CP series maintenance tool can only use the maintenance tool</p> <p>The former maintenance tool should be placed in the middle area of a single box and cannot cross over to adjacent modules (if the specific location cannot be determined, you can enable Mapping to confirm the location).</p> <p>After removing the container from the screen, hold the container with your left hand to prevent the module from falling due to insufficient power supply of the maintenance tool or closed switch. In the process of disassembly and assembly, attention should be paid to careful operation to avoid bumping the module corners and damaging the lamp bead.</p>		

5.2 Module/receiving card/PSU maintenance

Module maintenance	Picture
<p>Use the maintenance tool to remove the box.</p> <p>Use the Phillips screwdriver of PH2 to remove the four screws from the rear cover of the container</p> <p>The module can be replaced directly after removing the aluminum plate and fixing screws on one side of the module using PH2.</p> <p>Note: The direction of the aluminum plate cannot be reversed</p>	
<p>receiving card</p> <p>Use the maintenance tool to remove the box.</p> <p>Use the Phillips screwdriver of PH2 to remove the four screws from the rear cover of the container.</p> <p>Remove the cable from the receiving card, and use the Phillips screwdriver of PH2 to remove the three screws to maintain the receiving card</p>	
<p>Power maintenance</p> <p>Use the maintenance tool to remove the box.</p> <p>Use the Phillips screwdriver of PH2 to remove the four screws from the rear cover of the container</p> <p>Use a PH2 to remove the screws fastening the 5V cable, and then use an M3 external hexagon Phillips screwdriver to remove the three M3 nuts fastening the power supply.</p> <p>Note: Do not knock the pin at the connection between the power supply and the receiving card</p>	