POLE INSTALLATION MANUAL

ONLY LED

SMARTER-BRIGHTER-GREENER

www.onlyled.com

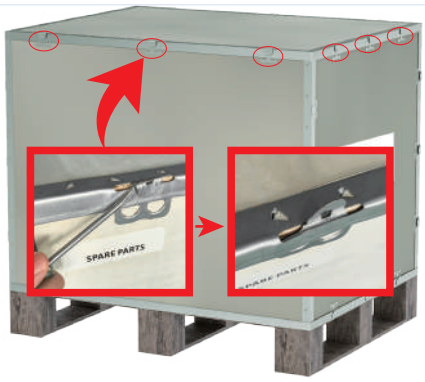
DIRECTORY

Product introduction

Dear customer, thank you for using the LED electronic display screen tailored for you by Shenzhen Only Optoelectronic Technology Co., Ltd. LED electronic display screen is a large-scale display system integrating microelectronics technology, computer technology, and information processing. It has become a leader among many display media with its advantages of bright colors, wide dynamic range, high brightness, long life, stable and reliable operation, etc., and is widely used in commercial advertising, sports venues, information dissemination, news release, securities trading, etc. It is one of the most advanced display media in the world. Through continuous technological improvement and updating by our professional R&D team, our company adopts the internationally advanced LED display screen dedicated chip system and the internationally leading LED display screen full color control system, achieving advanced functions such as constant current noise reduction, common cathode technology to reduce energy consumption, high gray scale, high brightness, full digitalization to ensure true color of display screen, automatic brightness adjustment, network cloud cluster control, etc.

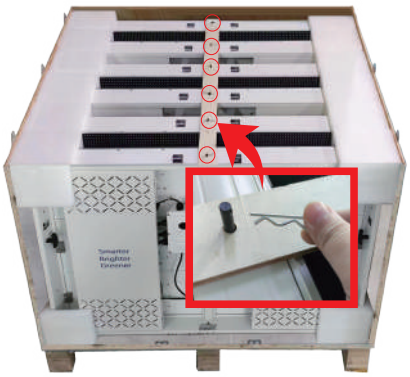
The picture of wooden box packaging of goods

opening the wooden box

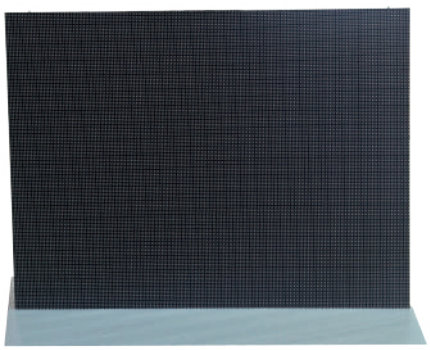


There are many fasteners on the edges of the wooden box. First, straighten all the fasteners on the top.

Then pry open the lid.



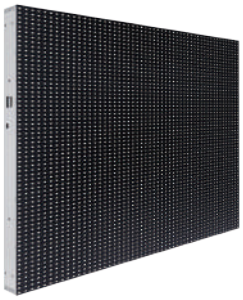
Remove one side of the wooden box, pull out the pins one by one, and take out the LED cabinet body.



Be cautious when handling and do not place the LED board facing downwards.

Locate the parts list on the top of the accessory box and check if the LED cabinets and accessories are complete.

LED display body



LED cabinet (UP–L6)

LED display unit

OLB–K brain box

Analyze, store, and play program content.

Power Distribution box

Outout power

Connection cable

0+3 wires male power input cable

use it to power on led cabinets when there is no power distribution box.

- **Black** — Hot
- **White** — Neutral (120–volt service) or hot (240–volt service)
- **Green** — Ground

0+3 wires female power input cable

use it to power on led cabinets when there is no power distribution box.

- **Black** — Hot
- **White** — Neutral (120–volt service) or hot (240–volt service)
- **Green** — Ground

0+3 wires Double male power cable

Connect the female end of the UP–L cabinet to the female end of the power cord for power output between the cabinets.

0+3 wires Double female power cable

Connect the male end of the UP–L cabinet to the male end of the power cord for power output between the cabinets.

0+3 wires Double male power cable

Connect the female end of the UP–L cabinet to the male end of the power cord for power output between the cabinets.

9+0 wires Double male signal cable

Connect the female end of the UP–L cabinet to the female end of the signal for signal output between the cabinets.

9+0 wires Double female signal cable

Connect the male end of the UP–L cabinet to the male end of the signal for signal output between the cabinets.

9+0 wires male and female signal cable

Connect the male end of the UP–L cabinet to the female end of the signal for signal output between the cabinets.

9+0 male signal cable with aviation plug

Used to connect the female end of the control box and the female end of the cabinet for signal transmission between the control box and the cabinet.

9+0 wires female signal cable with aviation plug

Used to connect the male end of the control box and the male end of the cabinet for signal transmission between the control box and the cabinet.

network cable with aviation plug

Used to connect the control box and PC for signal transmission.

Other accessories

End cap (male, female)

Used to seal off the unconnected male and female ends of the box to prevent water intrusion.

M8 x 50 screw + M8 nut

Used to fasten the cabinet to other cabinet.

Waterproof network connector

Used for extending network cables where waterproofing is required at joints to prevent water from entering into network cable connections.

M8–40 self–tapping screw

Fixed Cabinet connecting plate.

connecting plate

Fix connection plate between cabinets.

Toolsrequired for installation

Electric screwdriver + S6 hex socket electric driver bit

Tools for disassembling and assembling the fixed installation cabinets.

Hex Socket L–shaped Handle (L allen key)

Tools for disassembling and assembling the fixed installation cabinets.

No. 14 open–end wrench

Tools for disassembling and assembling the fixed installation cabinets.

Hex Socket T–shaped Handle (T allen key)

Tools for disassembling and assembling the LED module.

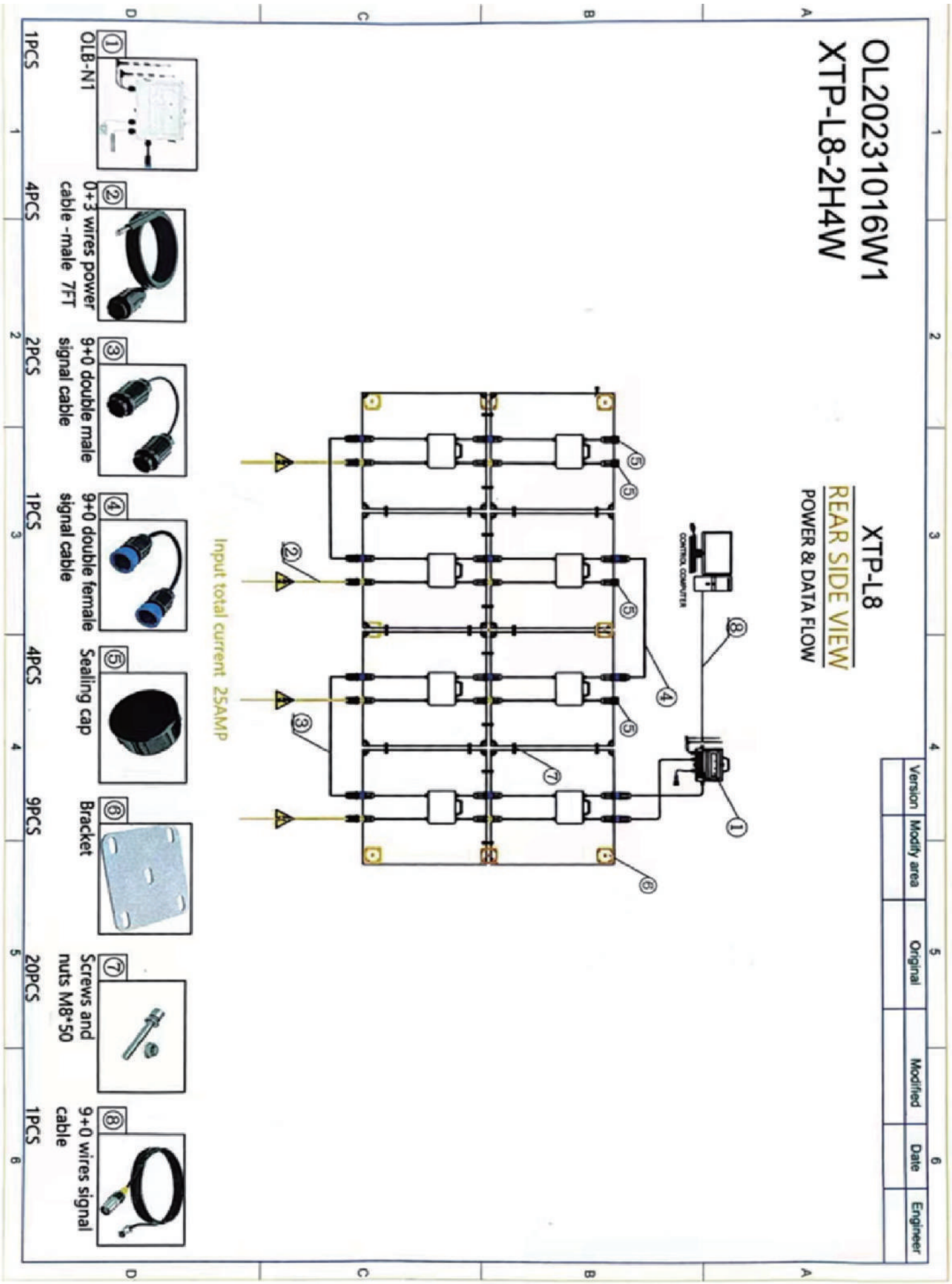
Packing list

PACKING SLIP

ORDER NUMBER: OL20231016W1

No:	物料名字/Part Name	QUANTITY/数量
1	XTP-Series LED cabinet	16
2	LED module	6
3	NOVASTAR OLB-N1controller Box	2
4	hexagon socket head cap screw M8*50	117
5	T-shaped wrench 3.0	2
6	installation bracket	18
7	Power supply	2
8	Receiving card (NOVASTAR)	2
9	HUB CARD	2
10	wire rod	6
11	3wires*male power cable 2 meter length	8
12	3wires*female power cable 2 meter length	2
13	the network cable 3M has a RJ45 COnnector on the other end of the aviation plug	2
14	0+9core single -female 5M network cable with a navigation plug on the otherend	2
15	0+9 core double male head 1.2M	4
16	0+9 core double female head 1.5M	2
17	end-cap	10
18	sleeve socket5.5MM	1

Connection diagram



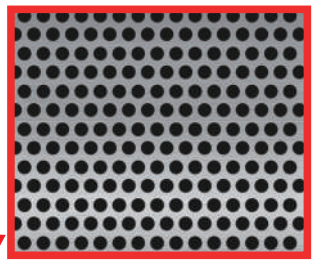
LED display acceptance checklist

LED display acceptance inspection checklist

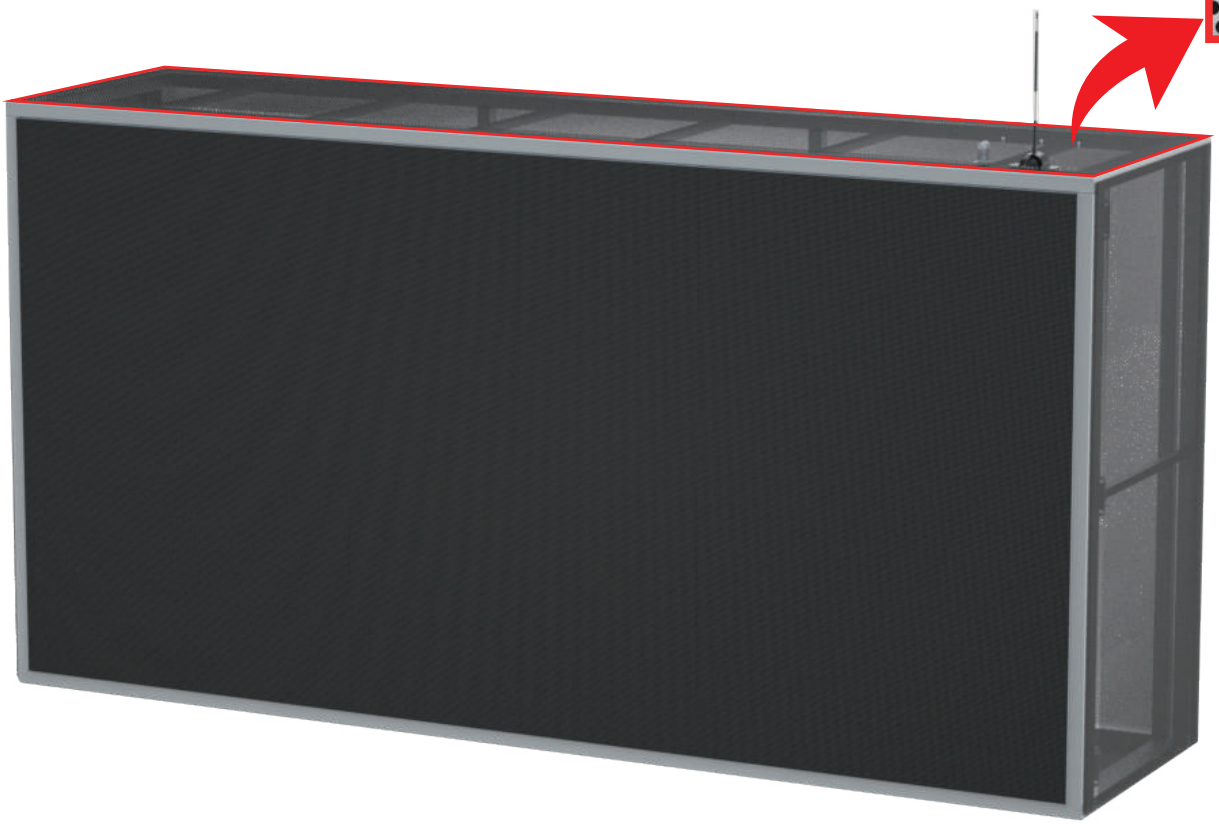
Installation Inspection			
No.	Inspection Item	Inspection Item	acceptance inspection (✓)
1	Exterior Inspection	-Ensure that the LED display cabinet or modules are free of damage.Surface evenness should be within ±1mm.	( )
2	Structural Stability Check	- Installation structure must be resistant to wind and seismic forces, meeting relevant requirements. Screw torque should be within the range of 15~20Nm.	( )
3	Heat Dissipation Equipment Check	- Adhere to company requirements for heat dissipation equipment setup to prevent damage due to overheating.	( )
4	Exterior Cleanliness	- Ensure that the display screen's exterior is clean and free of debris (e.g., glue, foam, oil stains).	( )
Electrical Connection Inspection			
5	Connection Method Check	- Follow the system connection diagram provided by the company for signal and power line connections. Ensure the correct installation orientation of the Brain box.	( )
6	Grounding Check	- Test whether the display screen's grounding is properly connected.	( )
7	Power Supply Check	- The power supply voltage and current must meet the requirements of the LED display.	( )
8	Waterproofing Check	- Ensure correct installation of waterproof seals at cable connection points. All connectors for power and signal lines must be correctly tightened to prevent water ingress.	( )
9	Brain Box Check	- The control box must be installed with the indicated orientation facing upward, not horizontally or inverted. Ensure correct installation of control box antennas and sensors (if applicable).	( )
10	End Connector Check	- End connectors must be sealed with waterproof sealing caps to ensure stable signal and power transmission.	( )
Display Functionality Inspection			
11	Program Playback Check	- Ensure that the displayed programs are clear, complete, and free of color discrepancies, flickering, etc. The program size should match the actual requirements.	( )
12	Mosaic Check	- Observe for mosaic patterns, i.e., constant lit or dark small squares on the LED display, and prevent module dead pixels. Avoid mosaic phenomena.	( )
13	Brightness Adjustment Function Check	- If brightness adjustment is available, test whether the brightness sensor is correctly installed and functioning effectively. Ensure that the brightness sensor is unobstructed.	( )
14	Communication Functionality Check	Test program transmission functionality according to the communication method used, ensuring complete program transmission.	( )

Cooling requirements

The display screen should not be sealed around it and can naturally dissipate heat. If edge–wrapping is required, please use perforated–sheet metal.



perforated sheet metal



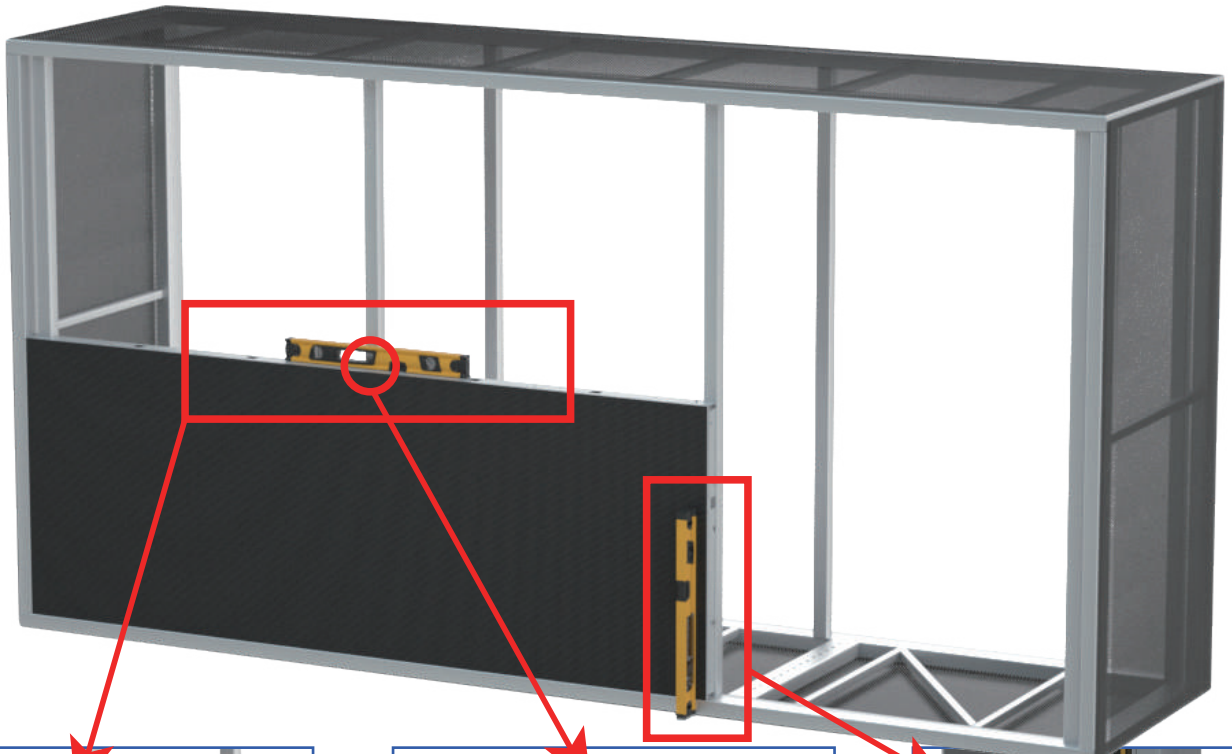
Installation steps: (Example UP–L6–3W*2H–DF)

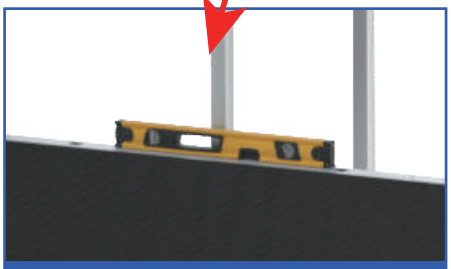
1. Prepare the steel structure for lifting on the ground first.

The width of maintenance channel shall not be less than 80cm.

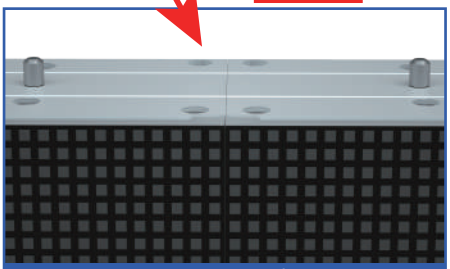
During and after the welding process, the verticality and level–ness of the structure should be continuously monitored.

2.Install the LED cabinet row by row from bottom to top, according to the sequence number on the diagram.





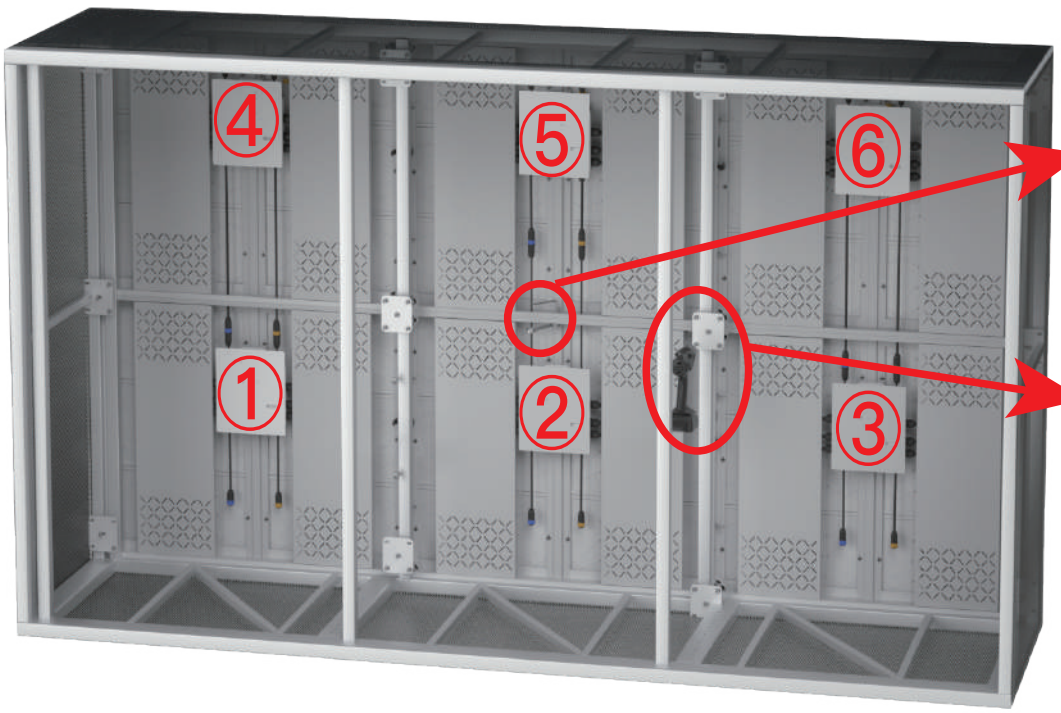
During installation, it is necessary to ensure that the cabinet is level and has consistent verticality.



During installation, the levelness of the box should be less than 1MM.

The cabinets installation needs to be flush with the structural surface.

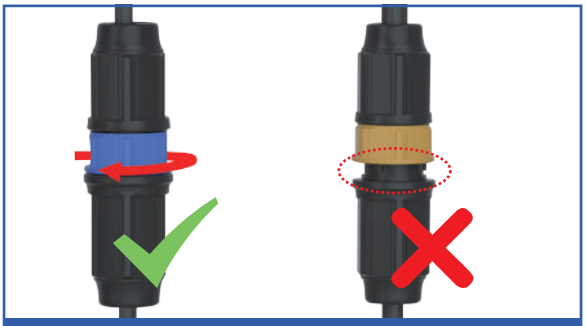
3.Please install the cabinets according to the sequence number ①②③④⑤⑥ shown in the diagram.



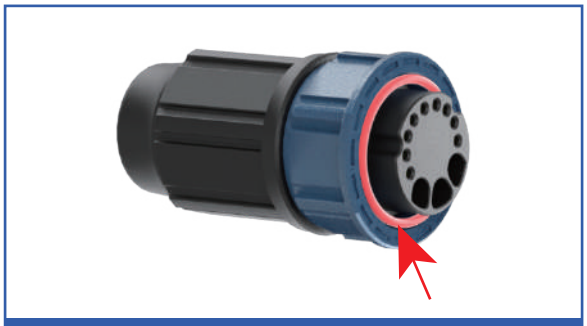
Use an Allen wrench and a open-end wrench to tighten the hex screws that fix the cabinets to the structural surface.

Use a hand drill (with a maximum torque of 21) to tighten the screws that connect the connecting plate to the cabinets.

4.After completing the installation of the box, open the sheet metal back cover of the cabinet and connect the corresponding wires.



Connect the wire materials of the cabinet according to the connection diagram shown in the accessory list. (Note that the connections must be securely tightened during installation.)



When connecting the wire materials, it is important to note that the waterproof rubber ring inside the female end connector must not fall off. If it falls off, it needs to be reinstalled.

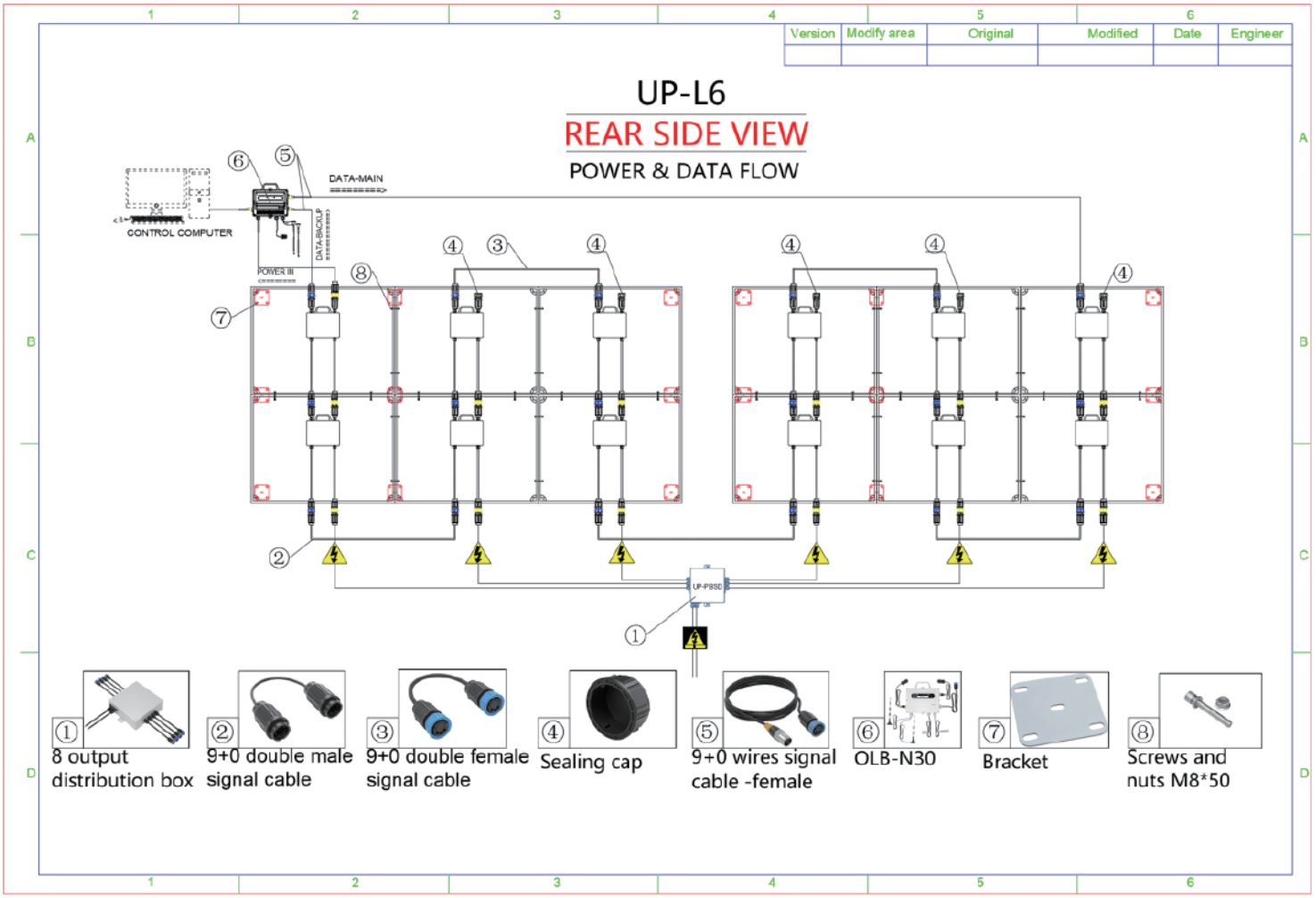
The cable needs to pass through the cable-hole in the cabinet.

Seal the un-used cable connectors with end caps according to the connection diagram.

5.Follow the same steps as steps 1, 2, 3, and 4 to install the display on the other side.

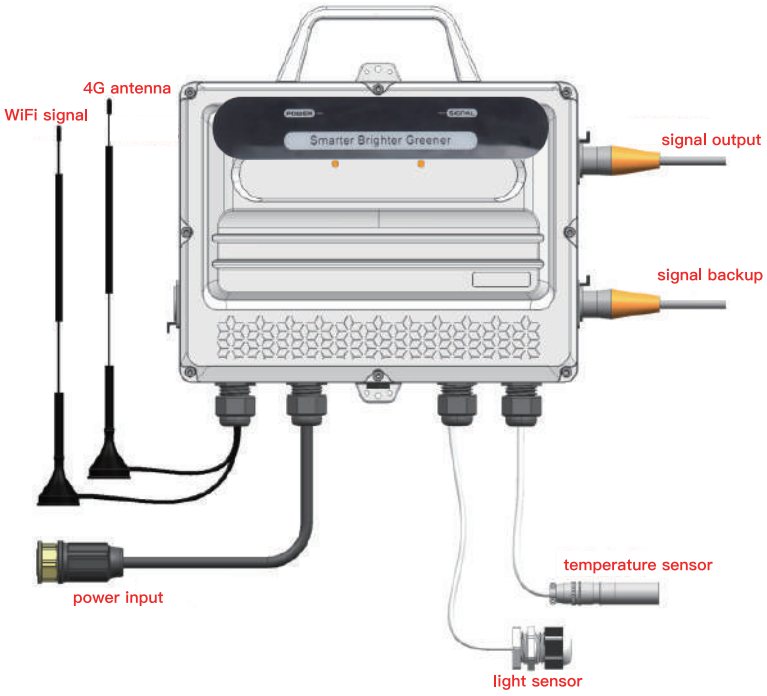
6.Carefully read the connection diagram and prepare the corresponding accessories.

connection diagram



7. Brain box installation

Introduction to interfaces related to the Brain Box



8.UP-L Brain Box installation ways

Install the connecting plate to the back of the control box and secure it with two M3.9 dove-tail screws.

Installation completion diagram.

1).When installing the antenna, choose an open and unobstructed location to ensure that the antenna can receive signals.
2).When installing the brightness sensor, choose an unobstructed location, and make sure that the sensor is installed facing south (in the northern hemisphere).

When installing the temperature sensor, it should be placed in a cool and shady area, away from heat sources.

9, Installation of power distribution box: Here, it is necessary to add the power calculation method between the power distribution box and the LED display body, and use power designation restrictions for the opening of the power distribution box.

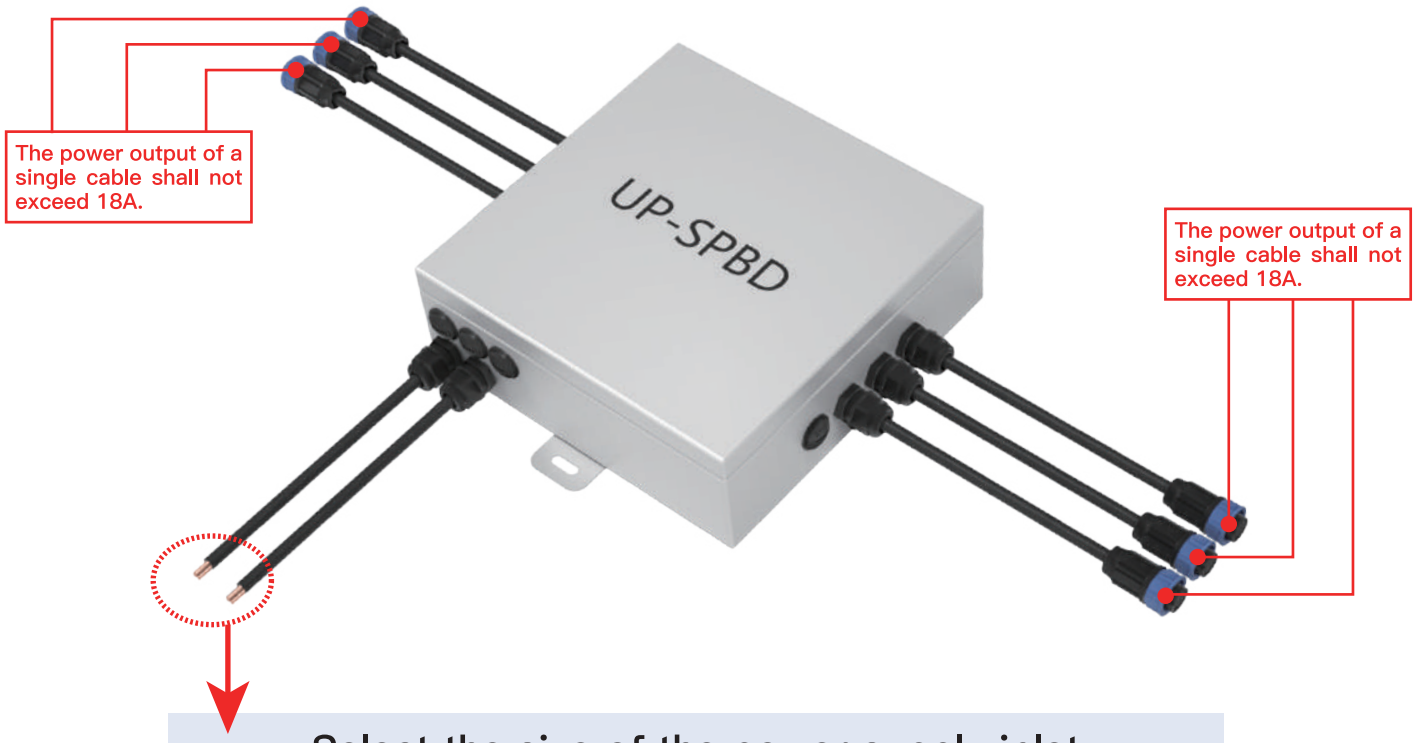
1).Total screen power = maximum power of a single cabinet × number of cabinets in length × number of cabinets in height × number of sides (example: total screen power 9720W = PH9.525 (dot pitch) 540W (maximum power of a single box) x3 (width) x3 (height) x2 (double-sided))

2). Total screen current = total screen power / power supply voltage of the display (110V, 220V) (example: total screen current 88.4A = 9720W (total screen power) /110V (power supply voltage of the display (110V, 220V)))

3).Power supply current for a single circuit = total power of all boxes connected to this circuit / power supply voltage of the display (110V, 220V) (example: power supply current for a single circuit 30A = (9720W/3) 3240W (total power of all boxes connected to this circuit) /110V (power supply voltage of the display (110V, 220V)))

4).Input cable (mm^2) = pre-loaded current of the cable (A) / 8 (A/mm^2) (example: input cable (mm^2) 3.75mm^2= 30A pre-loaded current of the cable (A) / 8 (A/mm^2)

Introduction to the distribution box and precautions.



Select the size of the power supply inlet according to the screen power!

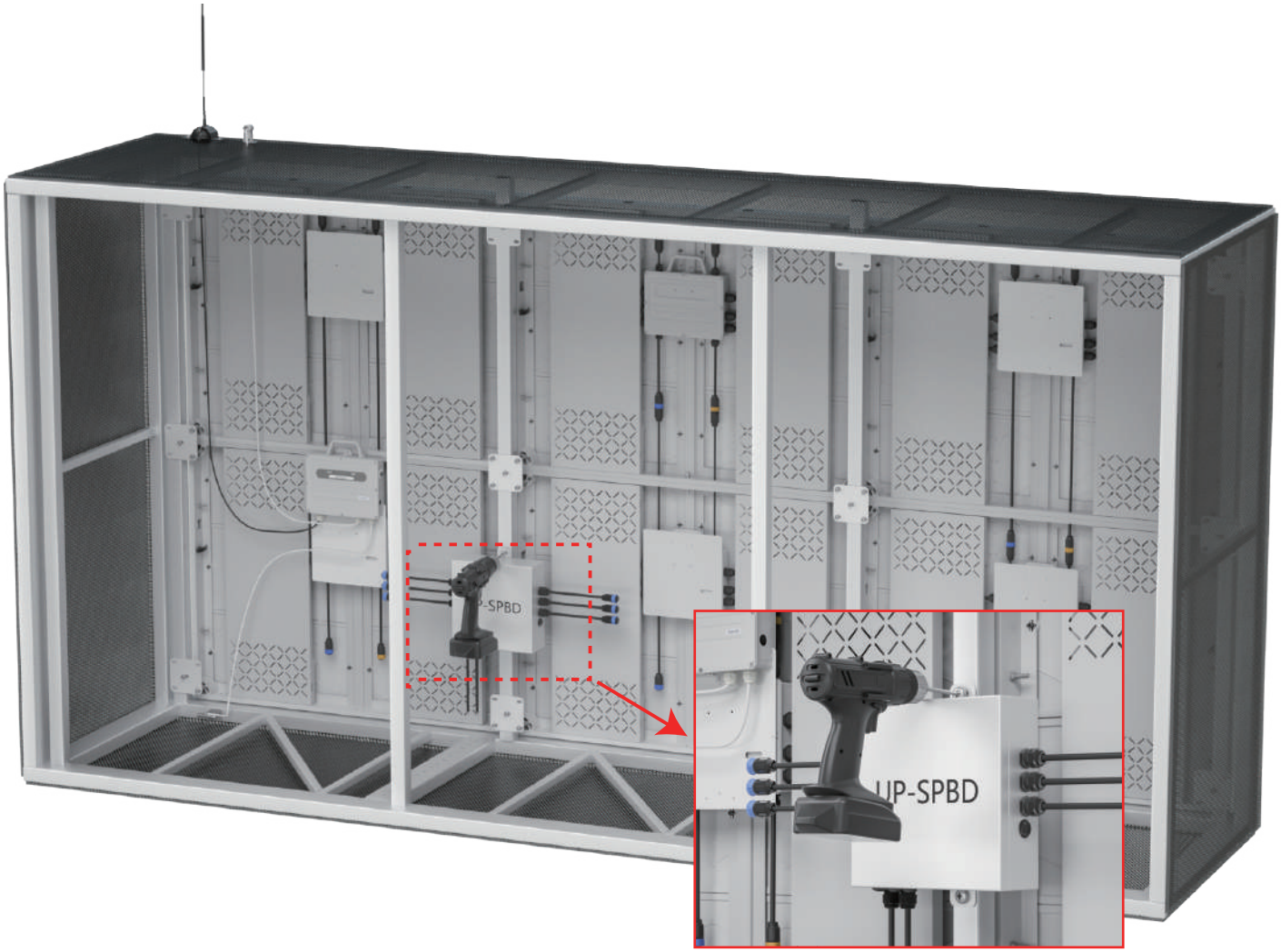
Green: Earth wire

Black: hot wire

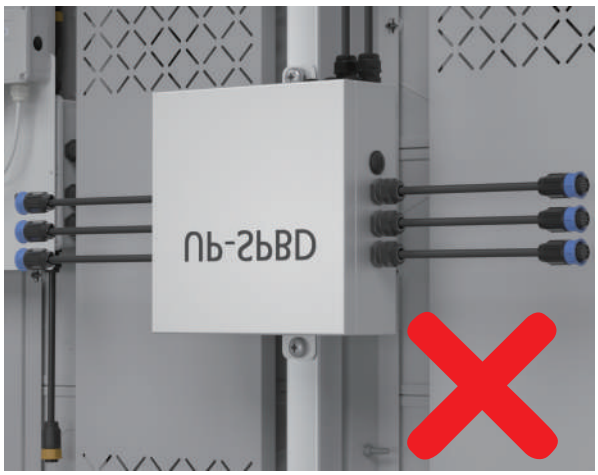
White: Neutral wire

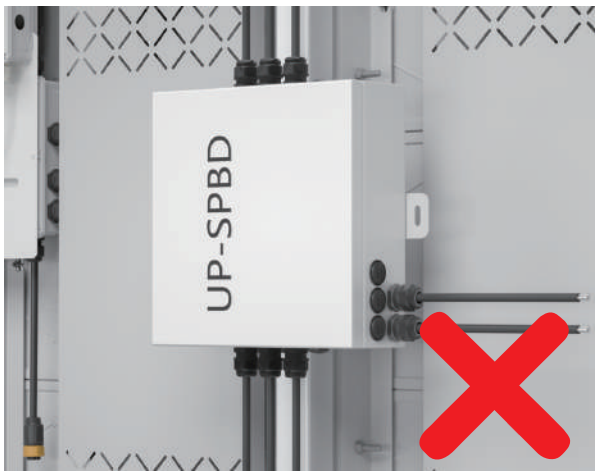
When installing or operating the electrical distribution box, it is necessary to disconnect the power.

Power distribution box installation



Do not install horizontally or upside down.

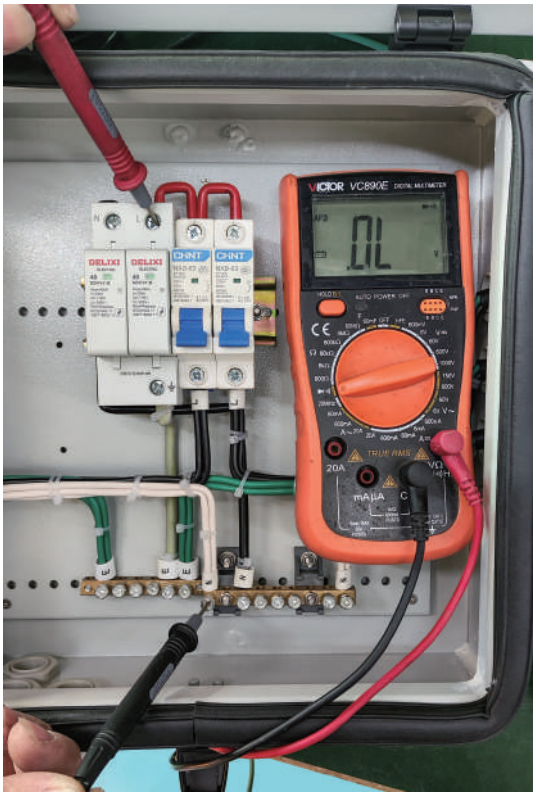




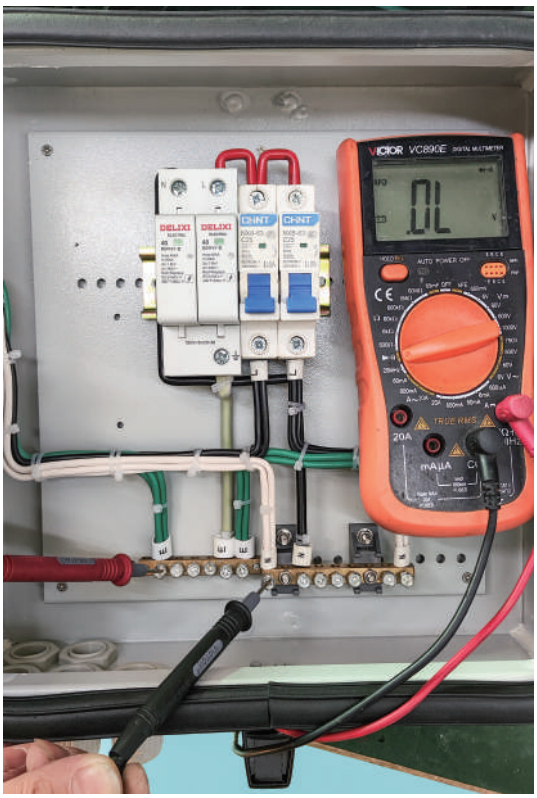
10.Connect and install other accessories (strictly follow the connection diagram for installation)

11.Check and verify if all connections match the connection diagram, and check if all connection wires are securely connected.

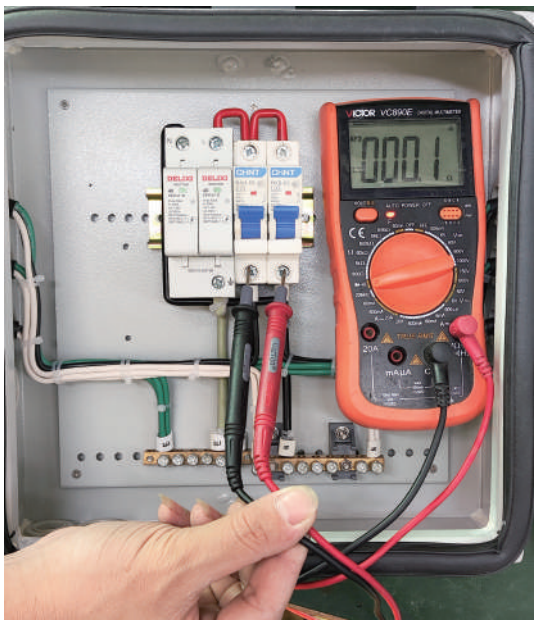
12.Connect temporary external power supply, test if there is a short circuit between the live wire, neutral wire, and ground wire in the power distribution box. If there is a short circuit, investigate and resolve the issue promptly. Test the display screen by turning on the power to ensure that all functions work normally, including smooth signal transmis–sion, normal temperature and brightness sensor operation, and normal display without any defects. Ensure smooth transmission and playback of programs.



LN line test

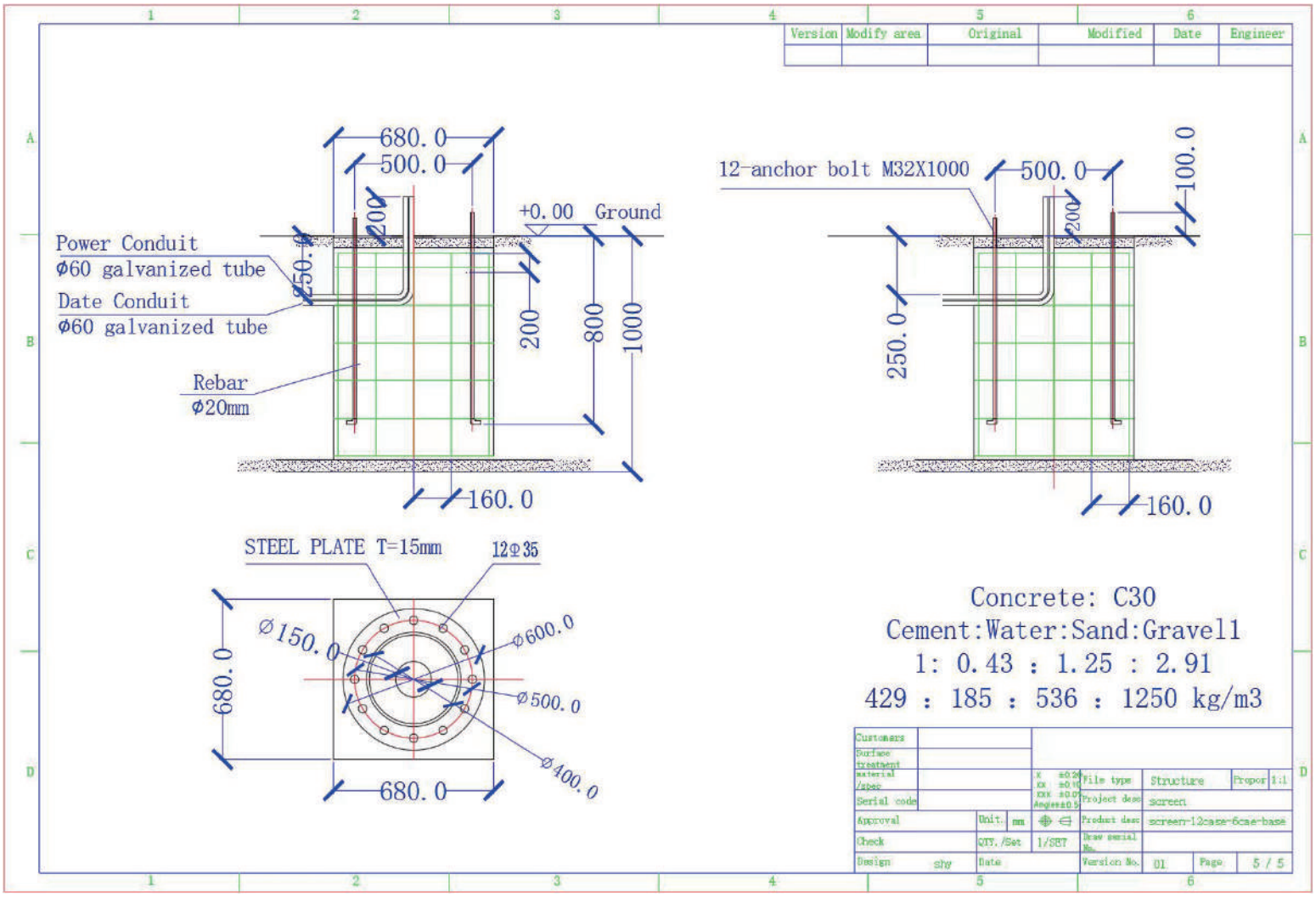


NG line test

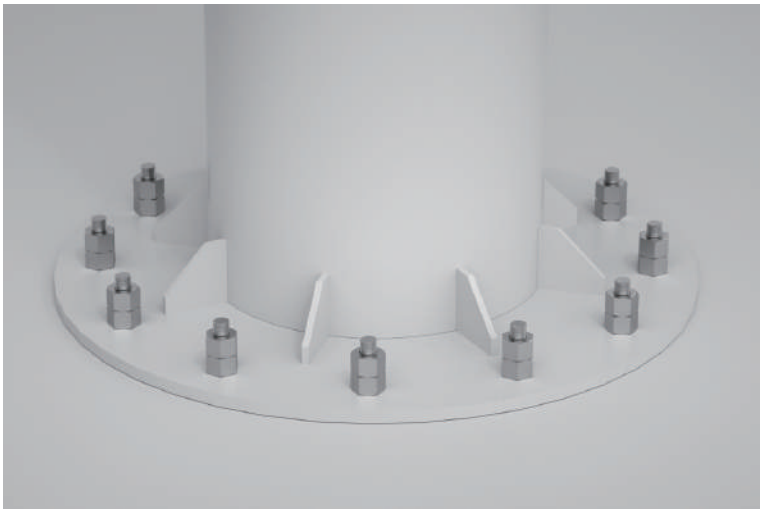


LG line test

13.Ensure that the display screen works normally without any defects. Disconnect the external power supply, close all the box back covers. Hinge the entire assembly onto the column for installation and fixation. Once fixed, connect the external power supply to the power distribution box through the waterproof PG connector according to the design requirements, and lock the waterproof PG connector. Cover the power distribution box after connecting the wires to prevent water ingress.



Connection diagram of column and ground



Connection diagram of column and ground

Horizontal display on column diagram

14.Install and complete the installation, power on for comprehensive debugging and testing of its functions, and put it into normal use.

ONLY LED

Shenzhen Only Optoelectronic Technology Co., Ltd.
Add：18th Bldg Hongfa industrial park Tangtou ave. Shiyan st.
Bao'an district Shenzhen city, Guangdong, China
Tel：+86-136-8251-1977 (Whatsapp & Wechat)
Fax：+86-755-27651161
Email：info@onlyled.com
Web：www.onlyled.com

CE FC RoHS

Scan QR code to get details