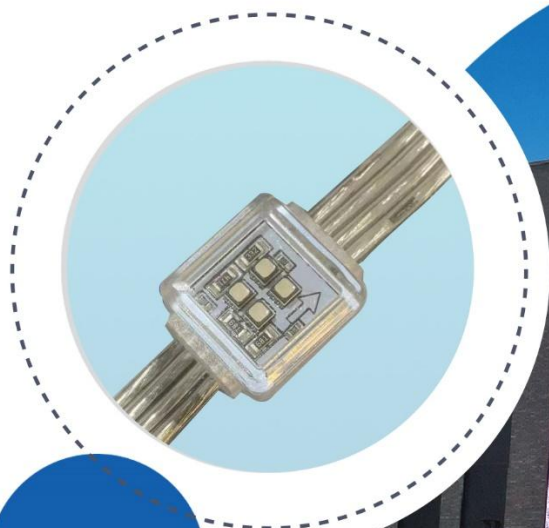




SHLED
升宏光电



LED网格屏
LED GRID SCREEN



APPLICATION INSTRUCTIONS 产品应用说明书

LED Mesh Screen

E18

Intelligent landscape lighting overall
solution service provider

Content

I. Product introduction	
1.1 Product introduction	3
1.2 Product Features	3
1.3 Application scenario	4
II. Product specifications	
2.1 Product specifications	4
2.2 Light distribution curve	5
2.3 Appearance dimensions	5
III. Installation accessories	6
3.1. Installation accessories selection list	6
3.2 Installation accessories list	6
IV. Installation method	6
V. Connection diagram	
5.1 Online and offline wiring diagram	8
5.2 Breakpoint resume transmission wiring diagram & component list	9
5.3 Network cable connection method	10
VI. Packing size	10
VII. Storage and maintenance	
7.1 Product storage	11
7.2 Product Maintenance	11
VIII. Lamp debugging and fault diagnosis	
8.1 Lamp debugging	11
8.2 Troubleshooting	12
IX. Precautions	12
X. Product warranty	
10.1 Warranty period	14
10.2 Maintenance scope	14
10.3 Restrictions	14
XI. Case application	15

▼ Product introduction:

E18 is a mesh display with high transparency, light weight, high protection, and high grayscale characteristics. It supports breakpoint resume control protocol, has high laying flexibility, and does not block the original shape and color of the building.

Features:

- ※ High grayscale: 16bit grayscale, smooth display and rich colors;
- ※ Control: Breakpoint resume control, high fault tolerance rate;
- ※ Multiple mechanisms: supports network synchronization and card asynchronous linkage mechanism;
- ※ Pixel pitch: P40, P50, P80, P100;
- ※ Lampshade: transparent mask, 120-degree light;
- ※ Easy to install: compact, standardized, easy to install and maintain;
- ※ Standardization: Standard male and female plug-in fool-proof wiring, standardized components, waterproof and fool-proof, easy to operate and maintain;
- ※ High protection: Protection grade IP67, not only the back-type glue filling process is used, but also the ultrasonic welding process is used in the manufacturing process;
- ※ High reliability: anti-UV, anti-flame retardant V0, working life of 30,000 hours;
- ※ High transparency: compact structure, high transparency, and does not block the effect of the building itself after installation;
- ※ Plasticity: Flexible structure, can be installed on irregular building surfaces;
- ※ Can be cut: According to the architectural shape requirements, the applicable grid screen length can be cut;
- ※ Light weight: Greatly reduces the load-bearing requirements of the building, and a simple steel structure can meet the requirements.



Application scenarios:

- Irregular media facade;
- Glass curtain wall media facade;
- Landscape lighting projects, etc.;

▼ Product Specifications:

Model	E18		
COB NO.	1 COB	1 COB	
Specification	E18A-RGB (2 lamp beads)	E18A-RGB (4 lamp beads)	E18A-RGB (6 lamp beads)
Rated power(W)	0.5	1	1.4
Rated working voltage	DC12V	DC24V	DC24V
Control mode	breakpoint resume	breakpoint resume	breakpoint resume
Gray scale	65536	65536	65536
Pixel segment	1	1	1
LED Qty	3535RGB*2	2727RGB*4	2727RGB*6
LED Brand	Made in China	Made in China	Made in China
Luminous intensity (cd)	3.2	6.4	9.53
Luminous Flux (lm)	8.6	17.3	25.9
LED Efficacy (lm/W)	17.3	17.3	18.5
CT(K)	\	\	\
CRI	\	\	\
Chromaticity Tolerances(SDCM)	\	\	\
LED Beam	110	110	110
Lead wire specification	2*0.75mm2+2*0.3mm2	2*0.75mm2+2*0.3mm2	2*0.75mm2+2*0.3mm2
Electrical rating	class III	class III	class III
IP Rating	IP67	IP67	IP67
Flammability Rating	94-V0	94-V0	94-V0
PCS/ m2	1024/625/400/156 /100	1024/625/400/156 /100	1024/625/400/156 /100
Type of cover	transparent	transparent	transparent
Cover	PC	PC	PC
Shell color	Black/Gray	Black/Gray	Black/Gray
Body	PC	PC	PC
Lamp size (mm)	23.6*20*11.8	23.6*20*11.8	23.6*20*11.8
Net Weight (g)	8		

Oper Temp(°C)	-20 to 60
Storage Temp(°C)	-40 to 75
Operation life (Hr)	≥30000
Installation method	Steel wire installation

Illustrate:

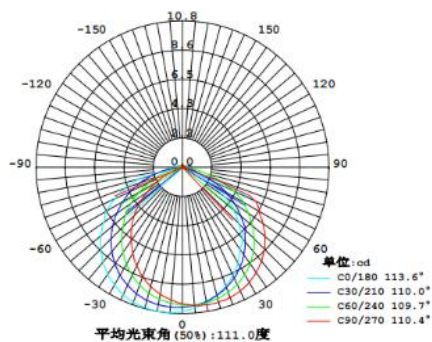
1. The electrical parameter error range is $\pm 10\%$.

2. Light intensity meter (unit: nit)

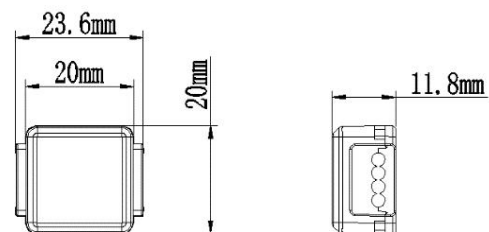
Pixel pitch	P40	P50	P80	P100
PCS/Sqm	625	400	156	100
Transmittance	57.1%	68.6%	83.1%	87.1%
E18(2 lamp beads)	2000	1280	499	320
E18(4 lamp beads)	4000	2560	998	640
E18(6 lamp beads)	5956	3812	1487	953

Transmittance description: Transparency when installing transparent card strips

Light distribution curve:



Appearance dimension:



Illustrate:

Matching 1: black shell + transparent lens + black glue + A6W black cable + M16F

black 150mm connector / M16F black 300mm connector

Matching 2: gray shell + transparent lens + white glue + A7O gray cable + M16F gray

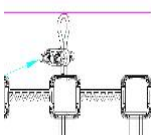
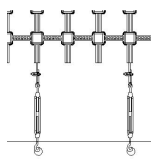
150mm connector / M16F gray 300mm connector

Matching 3: gray shell + transparent lens + white glue + B1W transparent cable +

M16F gray 150mm connector / M16F gray 300mm connector

▼ Installation accessories:

Installation accessories selection list:

Pic.	Name	COB NO.	Specification	Installations	Quantity	Description
	Wire rope lock		M3 U lock		Number of steel wires*2	Used to lock the wire rope
	Wire rope tensioner		M4 0.032kg/pcs		Number of locks/2	Used to tighten wire ropes

Installation accessories list:

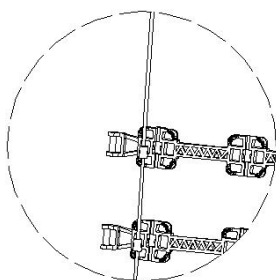
Installation Method	Installation Accessories
Installation method I:(wire rope installation)	M3 U lock, M4 Wire rope tensioner

Note: The grid screen comes with clips and wire ropes

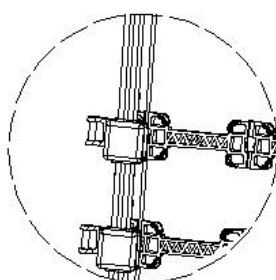
▼ Installation method:

Installation method I: (wire rope installation):

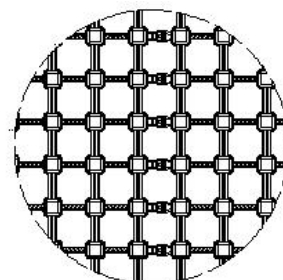
- Step 1:** Fix the wire rope on the clip (completed at the factory);
- Step 2:** Buckle the light into the corresponding position of the clip (completed at the factory);
- Step 3:** Connect the card strips to each other;
- Step 4:** Use U-shaped lock buckle to fix the wire rope on the top of the grid screen;
- Step 5:** Use U-shaped locks and tighteners to fix and straighten the wire rope at the bottom of the grid screen.



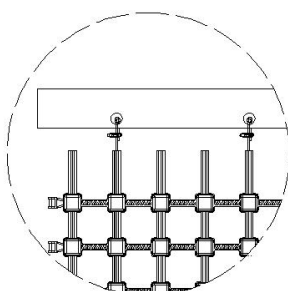
Step 1



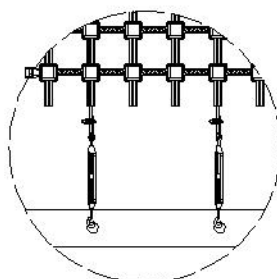
Step 2



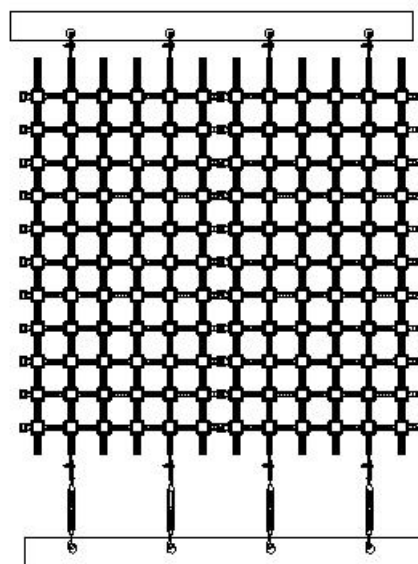
Step 3



Step 4



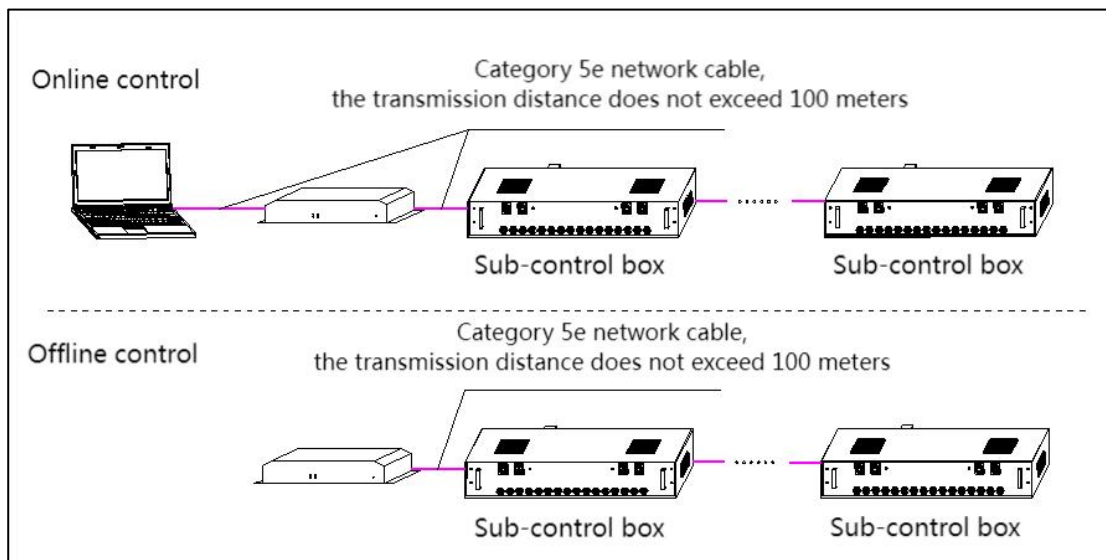
Step 5



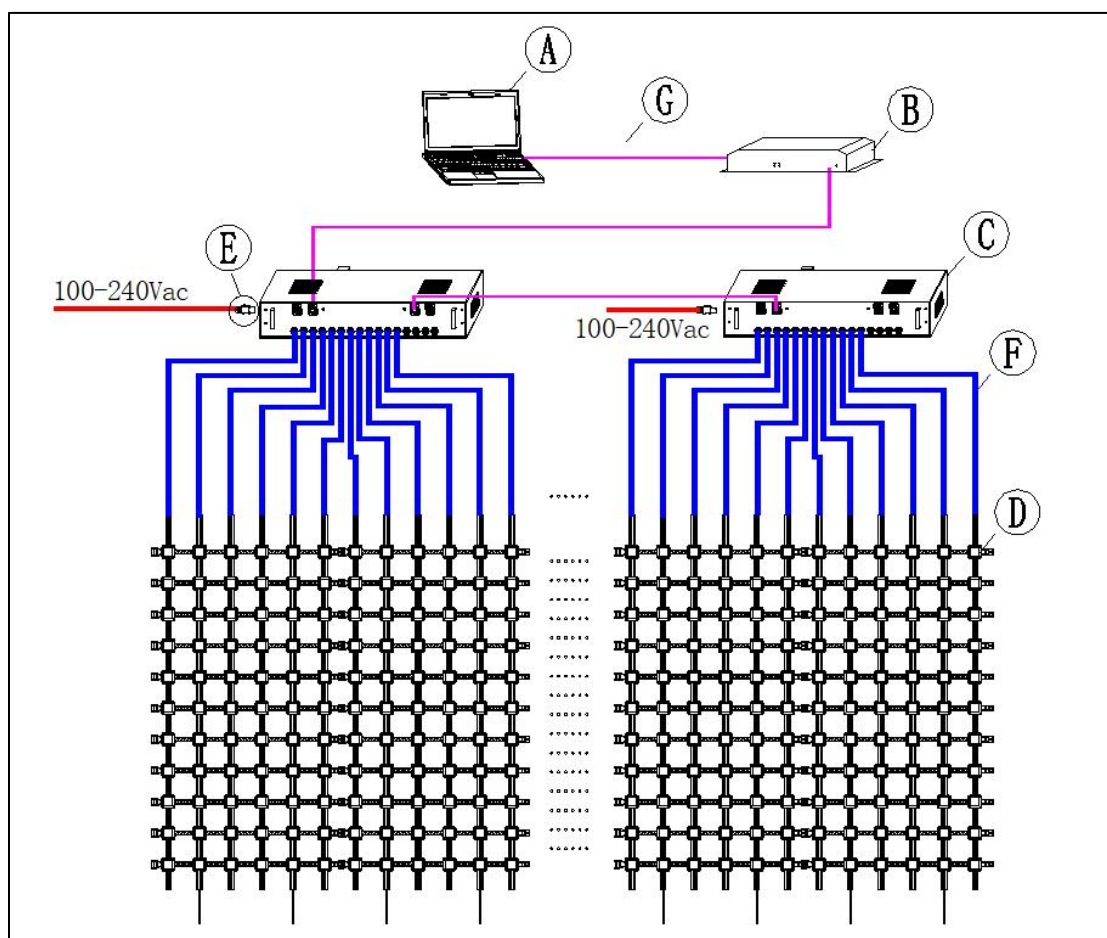
Completed installation picture

▼ Wiring diagram:

Online and offline wiring diagram:

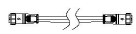


Breakpoint resume wiring diagram:



Online wiring diagram

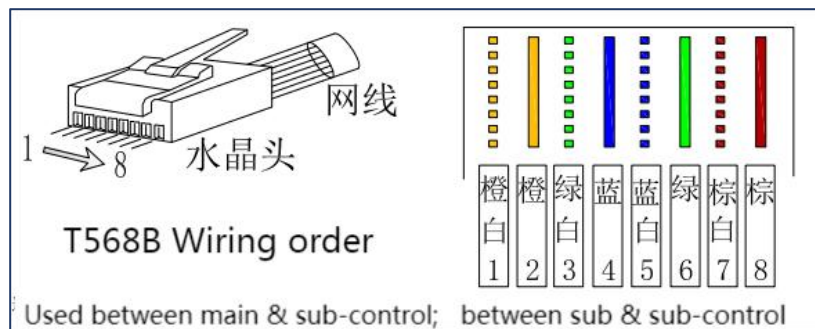
Component list:

N o.	Name	Pic.	COB NO.	Specification	Description
A	Computer			Configuration: CPU: I5 or above, 2G independent graphics, 256G solid state drive, 8G internal	Used for online playback, it can realize screencast playback, or pre-save playback programs, etc.
B	Main Controller			Input: 100-240V Load: 1.3 million images Support multi-screen simultaneous playback Support synchronous and asynchronous dual modes Support dual WIFI mode Customer storage space: 4GB	
C	Sub-control Box			Input: 100-240Vac Power: 1400W Output: 12Vdc Port: 16 Pixel: 512*384 pixels	12V product use
				Input 100-240Vac Power: 1400W Output: 24Vdc Port: 16 Pixel: 512*384 pixels	24V product use
F	Male and female extension cable (M16F connector)			L=1m Black 2*0.75mm ² +2*0.3mm ²	Used to connect the sub-control box and the headlight
				L=3m Black 2*0.75mm ² +2*0.3mm ²	
				L=5m Black 2*0.75mm ² +2*0.3mm ²	
				L=10m Black 2*0.75mm ² +2*0.3mm ²	
E	Navigation plug			Rated current: 20A, IP65	Used for cascading sub-control boxes for cable access
G	Net cable			1m CAT 5e	568B connection, resistance value <10Ω/100m or <35Ω/300m. Used to connect sub-control, main control, computer, sub-control ports to lamps, the network cable must be shielded.
				3m CAT 5e	
				5m CAT 5e	
				10m CAT 5e	

Wiring instructions:

- A. Category 5e network cable: The longest distance between the computer and the main control, the main control and the sub-control box, and the sub-control box and the sub-control box shall not exceed 100m, otherwise optical fiber transmission is required;
- B. Super Category 5 network cable: When resuming transmission from a breakpoint, the connection line between the sub-control box and the headlight shall not exceed 15m, and the distance between the lamps shall not exceed 5m. Otherwise, a signal amplification transmitter and a signal receiver are required;
- C. Power cord: The power cord is provided on site, and our company provides the aviation plug matching the sub-control box for use.

Network cable connection method:



▼ Packing size:

Cabinet size (L*W*H)	1050*400*400mm
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▼ Storage and maintenance:

Product Storage:

The storage time of the product after arriving at the project site should not exceed 3 months (over 3 months, an aging test is required to ensure that the quality and performance of the product still meet the standards before installation). The storage humidity should be controlled below 70%. During storage, The product should be placed in a dry, ventilated place to avoid moisture or excessive humidity. If it is not stored according to the above specifications, please follow the dehumidification operation instructions.

Product Maintenance:

After the lamp is installed, conduct a proper lighting test to ensure that the lamp is operating normally. Turn on the light for no less than 2 hours a day or no less than 3 times a week to ensure that potential problems are discovered and solved, and repair or replacement work is carried out in a timely manner, which can effectively guarantee The whole project works properly and has good lighting effects. Please make sure to comply with the above requirements to prevent quality problems caused by moisture absorption of lamp beads, and perform regular inspection and maintenance to ensure product performance and lifespan. If it is not maintained according to the above specifications, please follow the dehumidification operation guidelines.

▼ Debugging and troubleshooting:

Lamp debugging:

- a. After the installation is completed, you can check the circuit first. If there is no problem, perform a power-on test to check the power supply;
- b. Contact our after-sales technical personnel for effect debugging;
- c. For port troubleshooting, call our after-sales technicians to obtain the troubleshooting test program, copy the program to the SD card, then insert it into the main control for playback, and observe the playback effect to determine the status of each port;
- d. Effect debugging, if there is no problem with the port, you can contact our mobile phone

technician to ask for effect program playback;

- e. If you have any questions, please contact our after-sales technical personnel.

Troubleshooting:

- a. If the entire module is turned off, check where the power supply and signal cables are well connected, and check whether the signal interface of the first data distributor is normal;
- b. If the display part is disconnected, please replace the power cable and signal cable between the normal screen and the abnormal screen;
- c. If the LED light is abnormal, replace the LED to a position close to the normal LED, then the screen can work normally. If the replaced LED light bar is available, detect the entire abnormal light bar.

▼ Precautions:

- 1. Please check whether the lamps and accessories are complete before installation;
- 2. Please follow the voltage requirements in the manual and do not use lamps exceeding the rated voltage $\pm 10\%$;
- 3. Do not install lamps in weak and non-load-bearing locations, such as ceilings on gypsum boards, plastic boards, thin metal sheets, etc.;
- 4. The lamps cannot be installed in unstable places, and it is prohibited to use power cords, network cables, and nylon ties to fix the products;
- 5. Do not install the lamp above high-temperature objects (do not install it above stoves, gas and exhaust pipes, etc. to prevent damage);
- 6. During installation and application, please do not pull the lamp vigorously to prevent the wire of the lamp from being pulled, causing hidden dangers to the lamp;
- 7. Follow the wiring instructions to avoid wiring errors, tearing, falling off and other construction problems;
- 8. When installing lamps, please waterproof the connection between the power cord and the

- signal cable. The unconnected signal connector needs to be waterproofed, and the waterproof tape must exceed the cable sheath by more than 5cm;
9. The waterproof connector follows the principle of male in and female out to avoid cable turns at the waterproof connector;
 10. If the lamp is polarized or has a light shield, it is necessary to communicate in advance to confirm the installation direction of the lamp before installation;
 11. It is prohibited for power cords and signal lines to share the same wire trough or conduit, and the strong and weak wire troughs must be separated by more than 35cm;
 12. When installing the controller and power supply outdoors, a special equipment rainproof box is required. The box should be installed vertically on the wall, more than 50cm from the ground, to avoid damage to the equipment by water on the ground;
 13. Main control, sub-control, switches and other equipment need to be powered by a separate circuit;
 14. For light strings connected to the same signal port, lamps connected to one power supply and lamps connected to another power supply, the positive poles need to be separated;
 15. Please turn off the power before installing or dismantling the lamps. When inspecting and repairing the lamps, please entrust electrical professionals to operate them (construction by non-professionals is prone to danger);
 16. The lamp is not recommended to be used in a humid environment. If used in a humid environment, it needs to be lit for more than 15 minutes a day;
 17. The external soft wire or cable of the lamp cannot be replaced. If the wire is damaged, the lamp should be scrapped;
 18. If the lamp does not light up or is damaged, please find professional technicians for repair or contact our after-sales engineer.

▼ Product warranty:

Warranty period:

This product has a **2-year warranty**. During the warranty period, any natural damage caused by normal use will be repaired free of charge by our company.

However, if any of the following conditions occurs, it will not be covered by the warranty:

- a. Damage caused by unauthorized repairs without the permission of the company;
- b. Any addition or modification;
- c. Incorrect operation or use;
- d. The environmental conditions are abnormal and exceed the specification requirements, resulting in damage;
- e. Deliberate man-made damage;
- f. Damage caused by force majeure natural disasters.

Maintenance scope:

If the lamp operates abnormally due to errors in material and manufacturing technology during the warranty period, our company will repair or replace it free of charge; the repair service will include various labor services and any necessary adjustments or replacement parts.

Restrictions:

If when you return the product, it cannot be packaged in the same way as the factory product and is damaged during transportation, the warranty will also be void.

Our company will not be responsible for any of the following:

- a. Damage caused by fire, earthquake, riot, war, terrorist attack, third party's behavior and other matters;
- b. Damage caused by the customer's intention or negligence, misuse, use under other abnormal conditions, etc.;
- c. Consequential damages arising from the function or use of this product [interruption of business, loss of business interests (including loss of use of instruments, costs incurred in

- replacing any equipment, devices or services, or claims from your customers);
- d. Damage caused by usage other than the contents of this manual;
 - e. Under any circumstances, such as operation, cleaning or maintenance, please be sure to abide by the safety rules stipulated above; if any violation causes safety concerns beyond the original design and manufacturing, our company will not be responsible.

▼Case application:

