Outdoor Common Cathode Energy-saving Series LED Display

Product Series: Outdoor Energy-saving Series

Department: Technology Department

Version : A0

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Catalog

I. Product Introduction

(1) Common shade energy saving

Common negative, an energy-saving power supply technology for LED display, can effectively solve the problem of high temperature and power consumption of the common positive circuit screen body. The average temperature of the screen body of common negative circuit is 14.6℃ lower than the traditional common positive circuit, and the power consumption is reduced by more than 20%.

(2) Four-level energy-saving technology

Level I dynamic energy saving: when the signal is not displayed, the part of the drive circuit of the constant flow tube chip is turned off;

Level II black screen energy saving: when the display screen is completely black, the static consumption current of the chip drops from 6mA to 0.6mA;

Level III full-screen energy saving: when the low level is maintained for 300ms, the static consumption current of the chip drops from 6mA to 0.5mA;

Level IV shunt power supply step-down energy saving: the current first passes through the lamp bead, and then to the negative electrode of the IC, so that the forward voltage drop becomes smaller, and the conduction internal resistance also becomes smaller.

(3) True color, high-definition visual display

Refresh rate up to 3840Hz, grayscale 16bit, the screen display is

realistic and delicate, not harsh, no grainy. Red, green, blue SMD LED beads, good consistency, viewing angle can reach more than 140 °.

(4) Structural optimization and flexible installation

Support floor, hanging, wall mounting and other installation methods. Modular design of module, case and power box, front and rear maintenance, hard connection, structureless installation, saving structural cost.

(5) Drive solutions

With column up and column down fading function, high refresh rate, first row darkening improvement, low gray off-color, pockmark improvement, etc.

(6) Stable and high protection

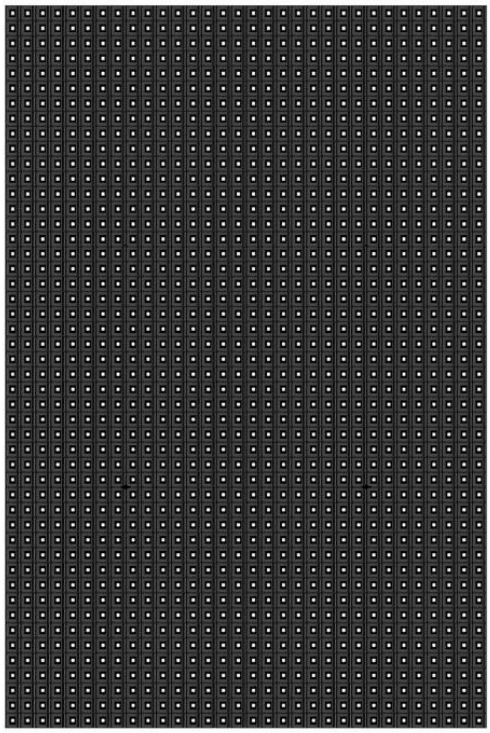
Outdoor application products, IP66 protection grade, integrated all-aluminum design, corrosion resistance, high melting point, flame retardant and fire resistant, moisture resistant and salt spray resistant, etc., working temperature -40℃-80℃, can operate normally in the seaside environment for a long time, with excellent environmental adaptability and outdoor all-weather work.

(7) Stable and reliable performance

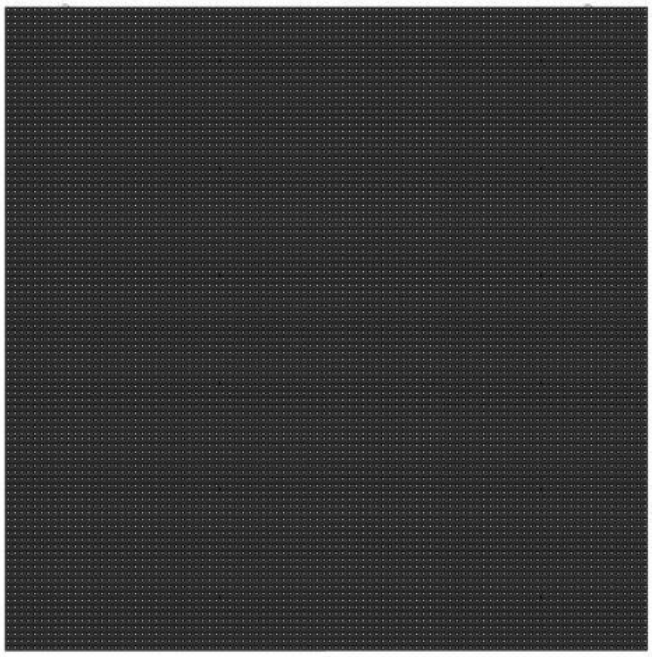
Ultra-low temperature rise, low power consumption, low attenuation, plus the aluminum module itself has good thermal conductivity, so that the whole screen has better heat dissipation, no need to install air conditioning, high reliability and long service life.

II. Structure Appearance

External View-module(480*320*15mm)



Exterior View-profile Aluminum Case (960*960*90mm)



III. Product Detailed Parameters

Model Number	AF4.4	AF5.7	AF6.6	AF10
Parameter Name	P4.4	P5.7	P6.6	P10
Pixel Structure (SMD)	1921	2727	2727	3535
Pixel Pitch	4.4mm	5.7mm	6.67mm	10mm
Module Resolution (W×H)	108*72	84*56	72*48	48*32
Module Size (mm)	480*320*15	480*320*15	480*320*17	480*320*17
Module Weight (Kg)	2	2	2	2
Cabinet Module Composition	2*3	2*3	2*3	2*3
Cabinet Size (mm)	960*960*90		960*960*92	
Cabinet Resolution (W×H)	216*216	168*168	144*144	96*96
Cabinet Area (m^2)	0.92			
Case Weight (Kg)	24.5			
Cabinet Material	Die-cast Aluminum (module), Profile Aluminum (cabinet)			
Pixel Density (dots/m^2)	50625	30625	22500	10000
IP Rating	IP66			
Single-point Chromaticity /Brightness Correction	With			
White Balance Brightness (cd/m^2)	5000	5500	7500	7500

Color Temperature (K)	6500-9000			
Viewing Angle (Horizontal/Vertical)	140°/120°			
Contrast Ratio	8000:01:00	17000:1	17000:1	18000:1
Maximum Power Consumption (W/m^2)	500	500	500	500
Average Power Consumption (W/m^2)	168	168	168	168
Maintenance Method	Front/Rear Maintenance			
Frame Rate	50&60Hz			
Scanning Mode (Constant Current Drive)	1/9s	1/7s	1/6s	1/2s
Gray Scale	Arbitrary within 65536 levels of gray(16bit)			
Refresh Frequency (Hz)	3840			
Color Processing Bits	16bit			
Lifespan (h)	50,000			
Operating Temperature /Humidity Range	-10℃-50℃/10%RH-98%RH(No Condensation)			
Storage Temperature /Humidity Range	-20℃-60℃/10%RH-98%RH(No Condensation)			

IV. Packing List

Packing Parts	Quantity	Unit
Display	1	Set
Instruction Manual	1	Portion
Certificate of Conformity	1	Portion
Warranty Card	1	Portion
Construction Notes	1	Portion

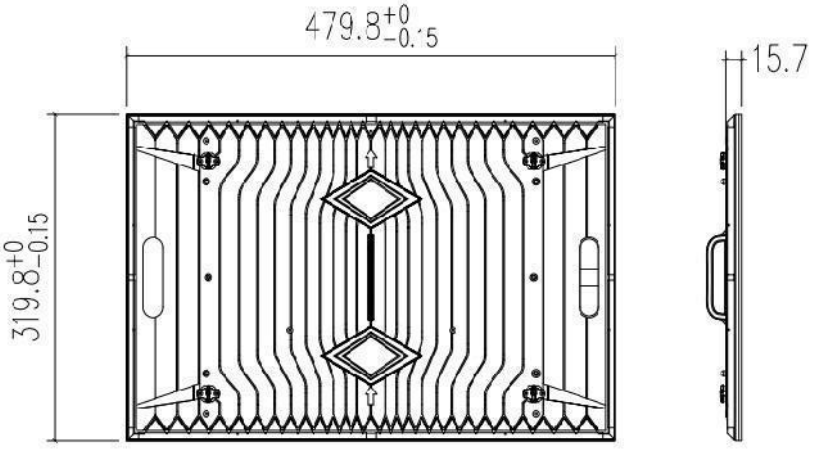
V. Accessories

Accessory Category	Name	Pictures
Assembling Accessories	Power cord, signal cord, U-shaped sub cord	
	Box connection cable line, network cable	
	Sleeve, screw connection piece	

VI. Installation

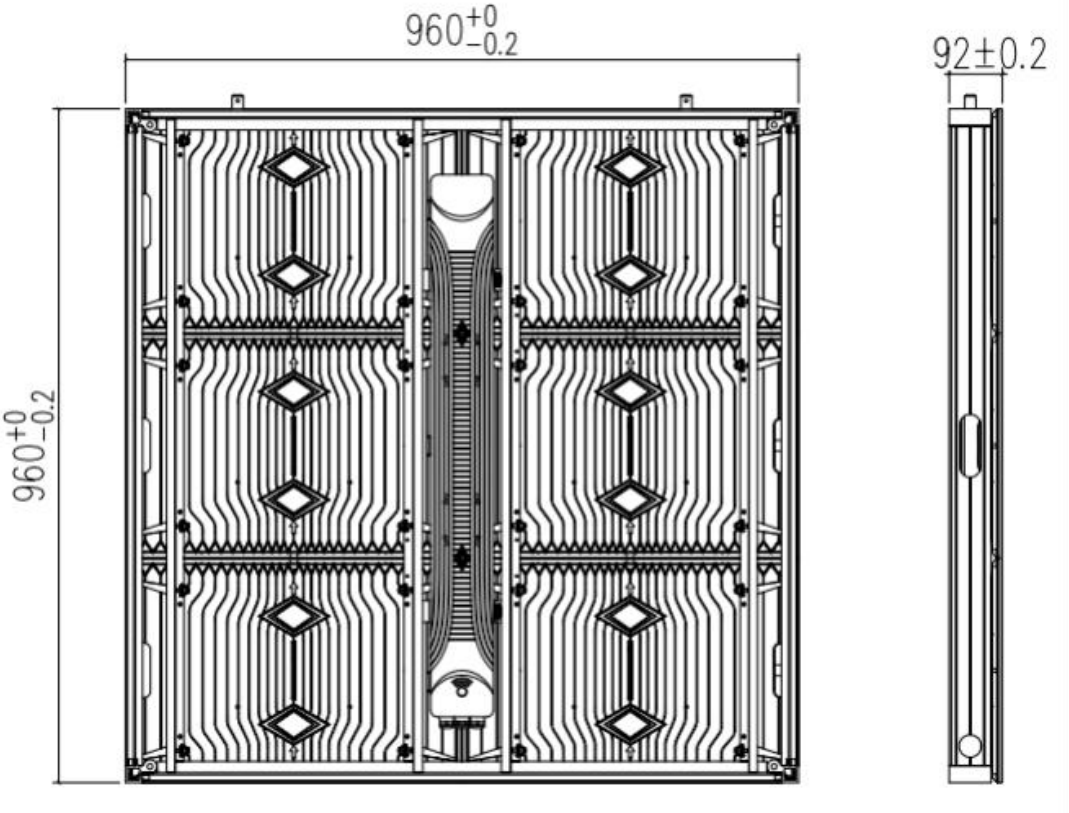
6.1. Kit Installation

Kit Mounting Hole Diagram



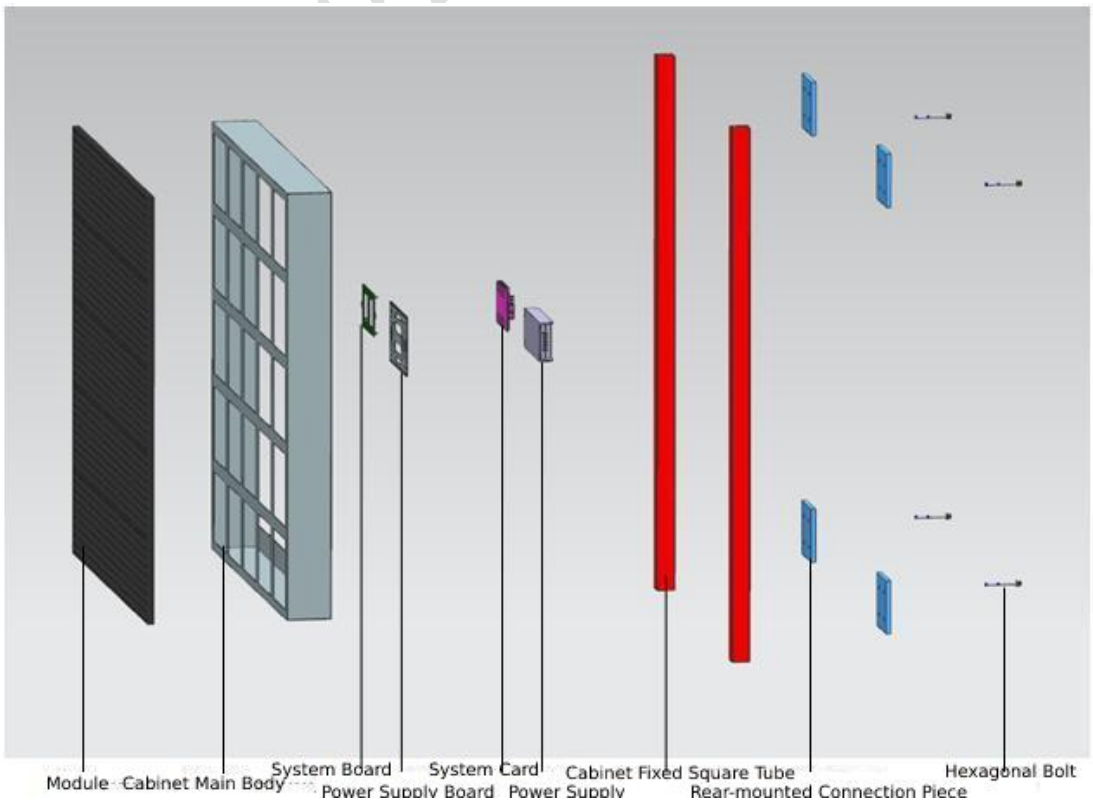
6.2. Cabinet Installation

Cabinet Installation Diagram

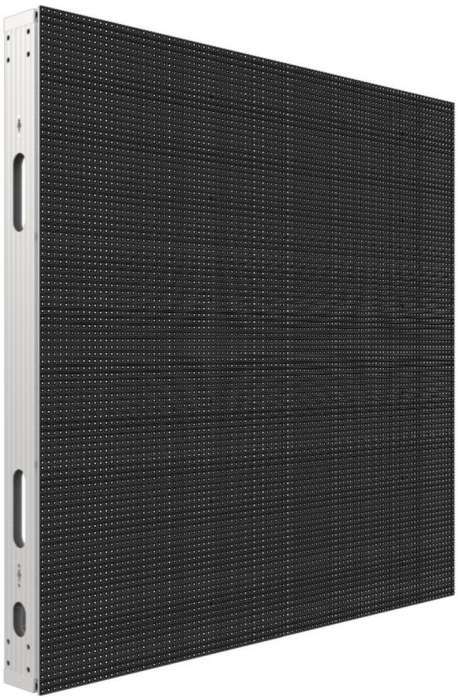


6.3. Box Installation

Exploded View of Box Installation



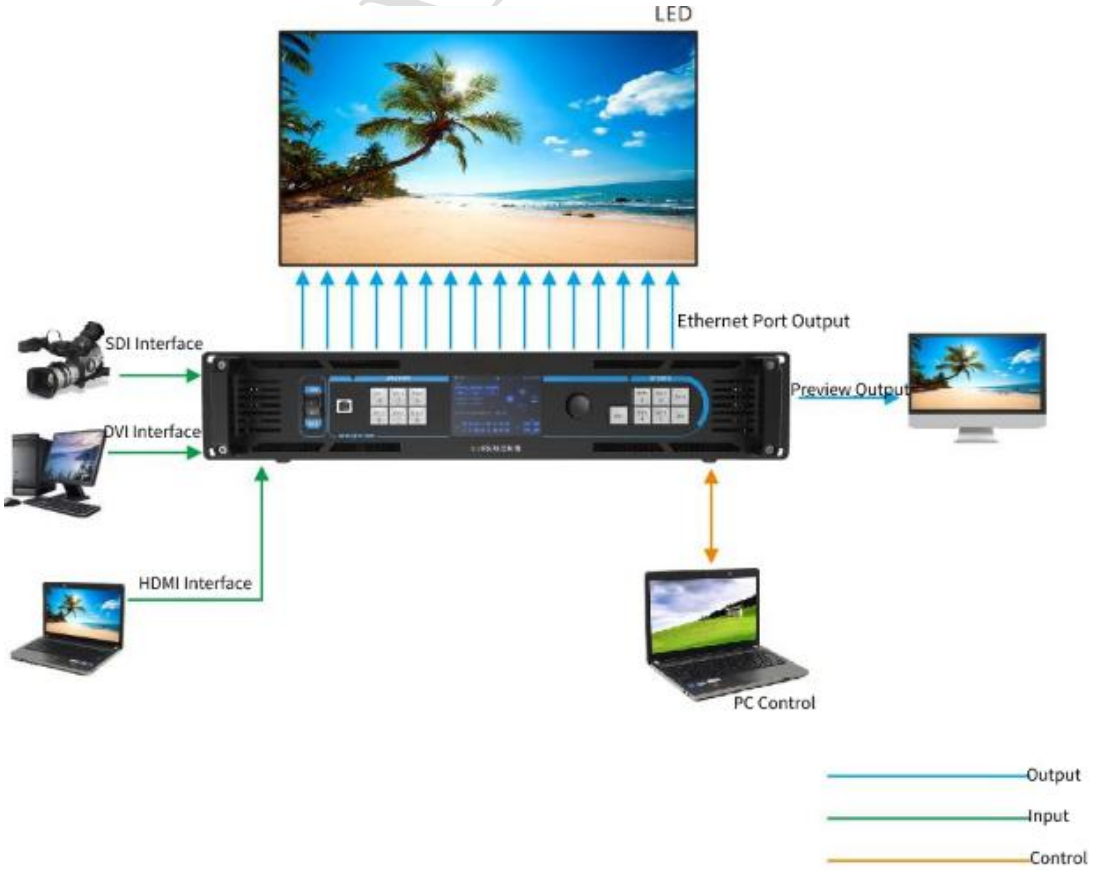
Box Installation Completion Diagram



VII. Display Installation

7.1. Connection Schematic

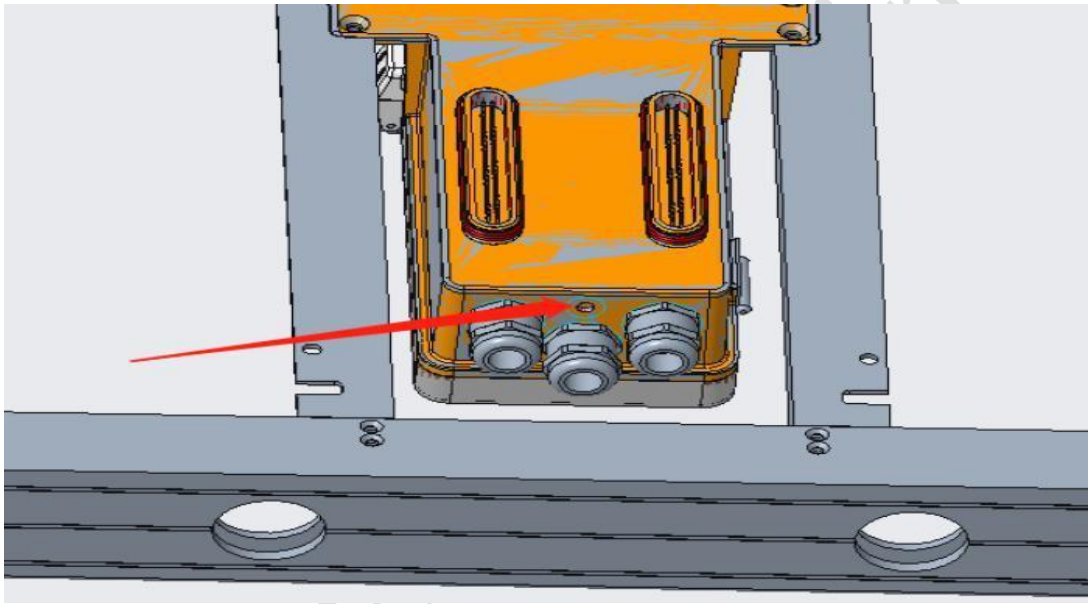
Display Connection Diagram



VIII. Product Features Description

8.1. New Ventilation Valve

Outdoor common shade energy-saving series LED display, in the bottom of the power box added a new ventilation valve, can adjust the internal air pressure, recoil temperature rise, balance the internal environment.



8.2. Structural Hard-wired, Wireless Throughout

The product structure is hard-wired, wireless throughout, and has a neat and beautiful appearance.

8.3. Profile Cabinet, Light Weight, Safe and Reliable, Not Easy to Deformation

Outdoor common shade energy-saving series LED display adopts profile box, a single box only weighs 24.5KG, the module is die-casting aluminum module, flame retardant and fireproof, not easy to deformation under high temperature conditions.

IX. Usage Instructions

9.1. Precaution

Projects	Cautions
Temperature Range	Working temperature control at -10℃～50℃
	Storage temperature control at -20℃～60℃
Humidity Range	Working humidity control at 10%RH～98%RH
	Storage humidity control at 10%RH～98%RH
Waterproof	High protection level for outdoor products, IP66
Dustproof	High protection level for outdoor products, IP66
Anti-electromagnetic Radiation	The display should not be placed in an environment with high electromagnetic radiation interference, which may cause abnormal screen display.
Anti-static	Power supply, box, screen body metal shell needs to be well grounded, grounding resistance <10Ω, to avoid damage to electronic devices caused by static electricity

9.2. Instructions for Use

Projects	Instructions for use
Static Protection	Installers need to wear static rings and static gloves, and the tools need to be strictly grounded during the assembly process.
Connection Method	The module has positive and negative silkscreen markings, which cannot be reversed, and it is strictly forbidden to access 220V AC power.
Operation Method	It is strictly forbidden to assemble the module, case, the whole screen under the condition of power on, need to operate in the case of complete power failure to protect personal safety; display in the light prohibit personnel to touch, so as to avoid electrostatic breakdown of LED and components generated by human friction.
Disassembly and Transportation	Do not drop, push, squeeze or press the module, prevent the module from falling and bumping, so as not to break the kit, damage the lamp beads and other problems.
Environmental Inspection	The display site needs to be configured with a temperature and humidity meter to monitor the environment around the screen, in order to find out in time whether the display has moisture, moisture and other problems.
Use of Display Screens	Ambient humidity in the range of 10%RH ~ 65%RH, it is recommended to open the screen once a day, each time the normal use of more than 4 hours to remove the moisture of the display.
	When the environmental humidity is above 65%RH, the environment needs to be dehumidified, and it is recommended to use normally for more than 8 hours a day and close the doors and windows to prevent the display from being caused by moisture.
	When the display has not been used for a long time, the display needs to be preheated and dehumidified before use to avoid moisture caused by bad lamps, the specific way: 20% brightness light 2 hours, 40% brightness light 2 hours, 60% brightness light 2 hours, 80% brightness light 2 hours, 100% brightness light 2 hours, so that the brightness incremental aging.

X. Applications

Suitable for all kinds of building facade advertising, airport station advertising, government cultural advertising, highway upright advertising, etc.