



# P1.86 Indoor Full-color LED Display

(320×160)



# Catalogue

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# Chapter 1 Product Introduction

- **High refresh、 High gray scale**

The refresh rate can reach more than 3840Hz, the gray scale is 12~14 bit, the display picture is fine and true, the brightness is stable and uniform, there is no flicker and graininess.

- **Driving solutions**

Exploits precise current regulation technology, with both channel-to-channel error and chip-to-chip error less than  $\pm 2.0\%$ .

Enhancement: Non-uniformity at low gray scale, Color shift, low gray mosaics.

Elimination high contrast coupling an color-cast between modules.

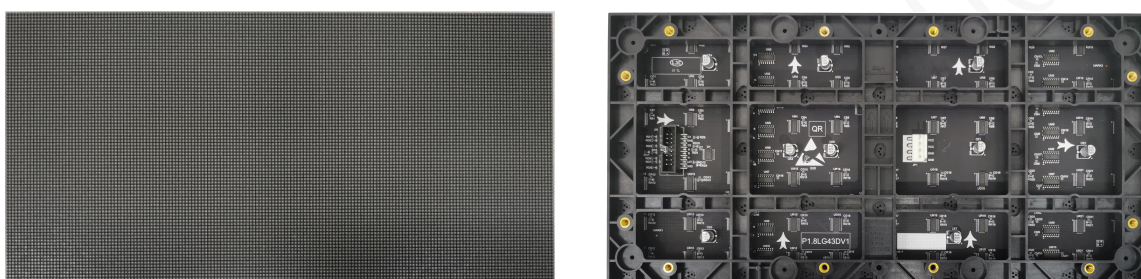
- **High viewing angle and high contrast**

It is to adopt red, green and blue SMD1515 LED chips, nice conformity, contrast ratio can be up to 3000:1, visual angle can be up to above  $140^\circ$  , high reliability, long lifespan.

## Chapter 2 Appearance Structure

### 2.1 Appearance Picture

Picture 2-1 Appearance Picture



### 2.2 Technical Parameter

Table 2-2 Technical Parameter

Item	Parameter	Ordinary Standard Configuration
Module Parameter	Product Mode	IFS-CIA1.8S-C
	Pixel Composition	SMD1515 3-in-1 LED
	Pixel Pitch (mm)	1.86
	Module Resolution (W×H)	172×86=14792
	Module Size (mm)	320×160×14.7
	Module Weight (kg)	0.41
	Module Input Voltage (V)	4.5±0.1 (Support 5V)
	The Max Current for Module (A)	≤5
	The Max Power Consumption for Module (W)	≤25 (DC 5V)
Cabinet Parameter	Module Qty/Cabinet (W×H)	2×3
	Cabinet Resolution (W×H)	416×312
	Cabinet Size (mm)	640×480×70
	Cabinet Area (m²)	0.3072
	Cabinet Weight (kg)	3.0
	Cabinet Pixel Density(dots/m²)	288907
	Cabinet Evenness (mm)	≤0.2
	Maintenance Method	Rear (Front customized)

Item	Parameter	Ordinary Standard Configuration
	Cabinet Material	Die-casting Aluminum
Optical Parameter	Single point brightness correction	Yes
	Single Dot Color Amended	Yes
	White Balance Brightness (nits)	≥500
	Color Temperature (K)	2000—9300 (adjustable)
	Visual Angle (Horizontal/Vertical)	160° / 140°
	Brightness / Colorful Evenness	≥99%
	Contrast Ratio	3000:1
Electric Parameter	The Max Power Consumption of Cabinet (W)	180
	The Average Power Consumption of Cabinet (W)	60
	The Input Voltage	AC90~132V/ AC190~264V
Performance Parameter	Frequency (Hz)	50&60
	Driving Method	Constant Current, 1/43 Scanning
	Greyscale	16384
	Refresh Ratio (Hz)	3840Hz
	Color Processor	12~14bit
	Lifespan (hrs)	100,000H
	Work/Humidity temperature(℃ /RH)	-20℃ - 40℃ / 10%-65%RH (no condensation)
	Storage Temperature/Humidity (℃/RH)	-10℃ - 30℃ / 10%-60%RH (no condensation)
*We would not provide additional notification if the product information has any update, our company do not take any obligation because of this.		

## 2.3 Packing List

Table 2-3 Packing List

Packing List	Qty	Unit
LED Display	1	set
User Manual	1	pcs
Approved Certificate	1	pcs
Warranty Card	1	pcs
Construction Notification	1	pcs





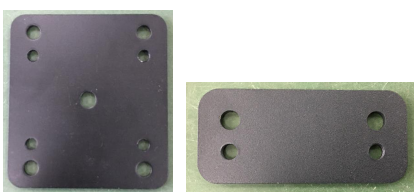
## 2.4 Power Supply Configuration Project


Table 2-4 Power Supply Configuration solution

Power Supply	Configuration Project
40A Power Supply	Can load 6pcs modules
60A Power Supply	Can load 10pcs modules

## 2.5 Accessories

Table2-5 Accessories List

Accessories	Name	Picture
Module magnetic suction accessories	Magnetic column (General specification: M4-1317)	
	Power cable (General specifications: 1.5 square for main line and 0.5 square for branch line)	
	Flat cable (conventional 16p 550mm between modules)	
Cabinet assembly accessories	Magnetic sheet with stud (General specification: M4-12*8)	
	Connecting piece for fixed the cabinet	

Accessories	Name	Picture
	Cabinet fixing bolts (according to different cabinets and installation methods, common specifications include M8 * 60 and M8 * 20)	

## Chapter 3 Interface Definition

Picture3-1 Interface Picture (HUB75)

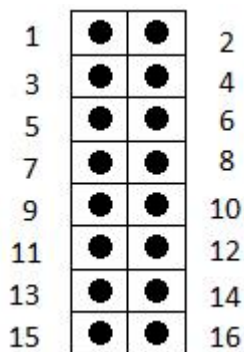


Table 3-2 Interface Definition

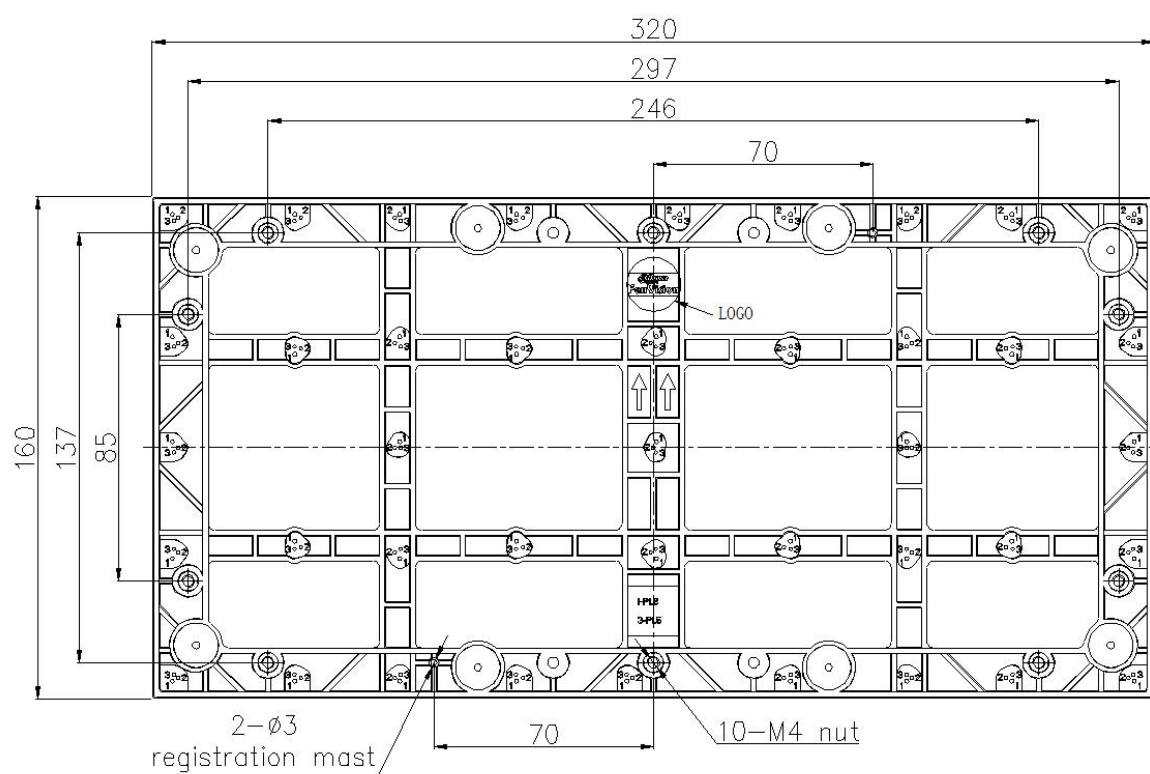
Pin	Signal	Function	Pin	Signal	Function
1	R1	Red Data Signal	2	G1	Green Data Signal
3	B1	Blue Data Signal	4	GND	Power Ground
5	R2	Red Data Signal	6	G2	Green Data Signal
7	B2	Blue Data Signal	8	GND	Power Ground
9	A	Row Decoding Signal	10	B	Row Decoding Signal
11	C	Row Decoding Signal	12	NC	No Signal
13	CLK	Clock Signal	14	LAT	Latch Signal
15	OE	Enable Signal	16	GND	Power Ground



## Chapter 4 Installation

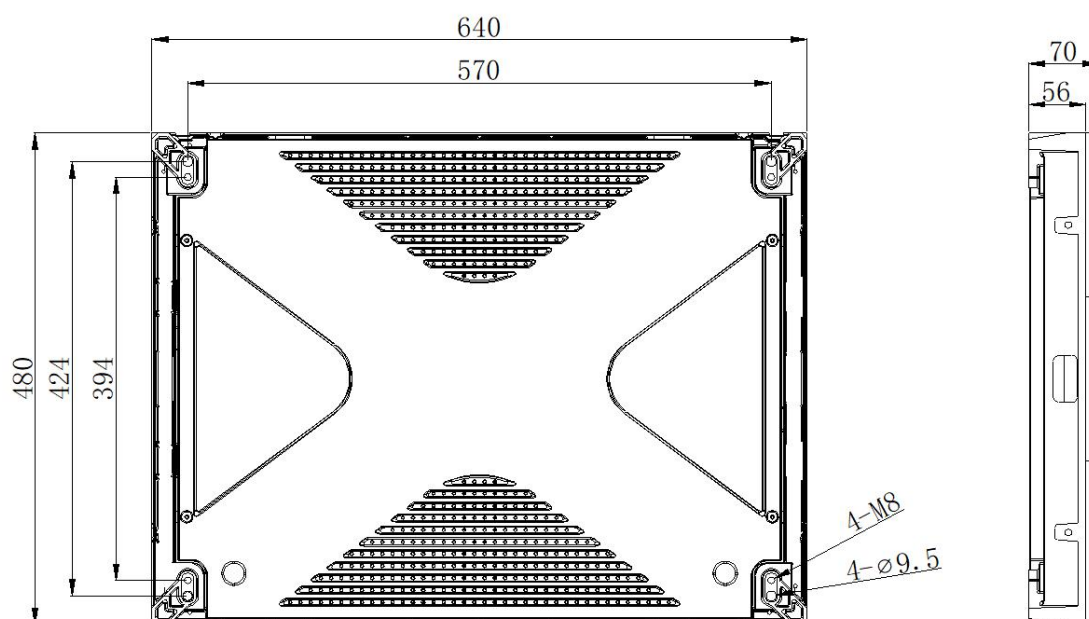
### 4.1 Kit Installation

Picture 4-1 Hole Installation Diagram for Kit



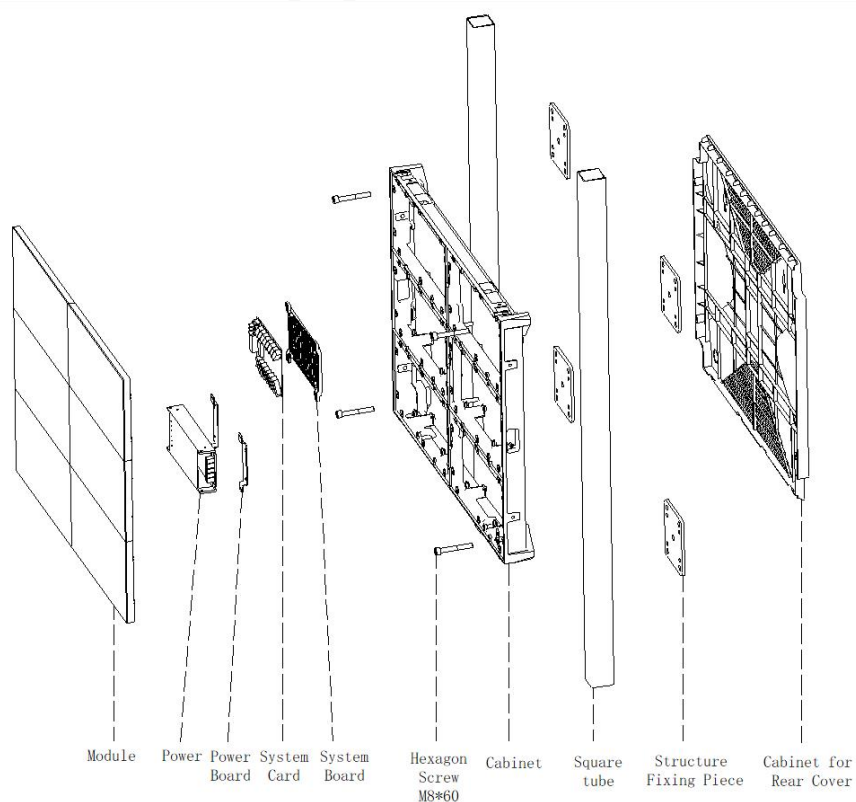
## 4.2 Cabinet Installation

Table 4-2-1 Diagram for Cabinet installation

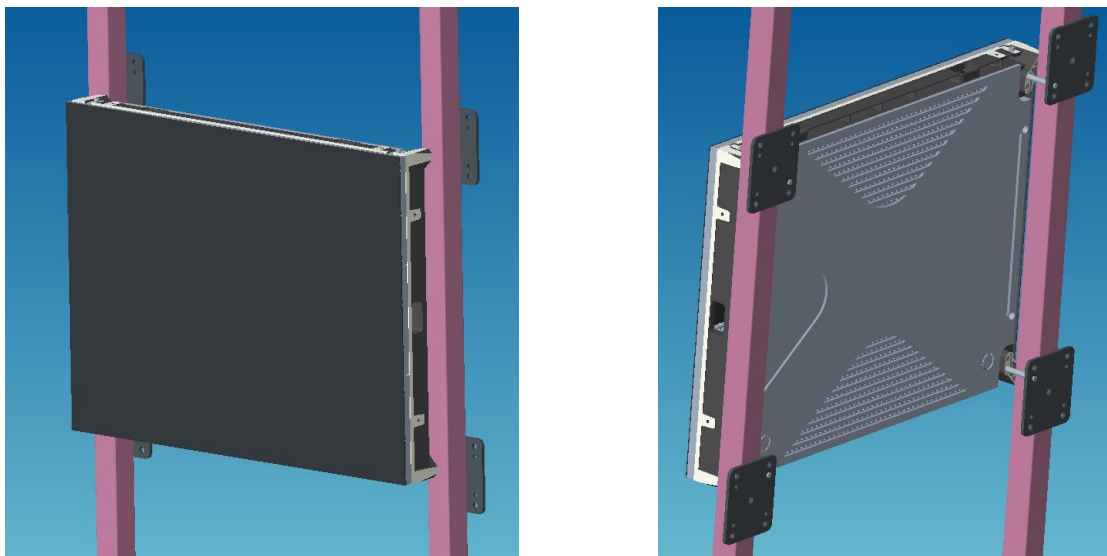


### 4.2.2 Cabinet Front Installation

Picture 4-2-2 Explosion diagram of Cabinet Front Installation

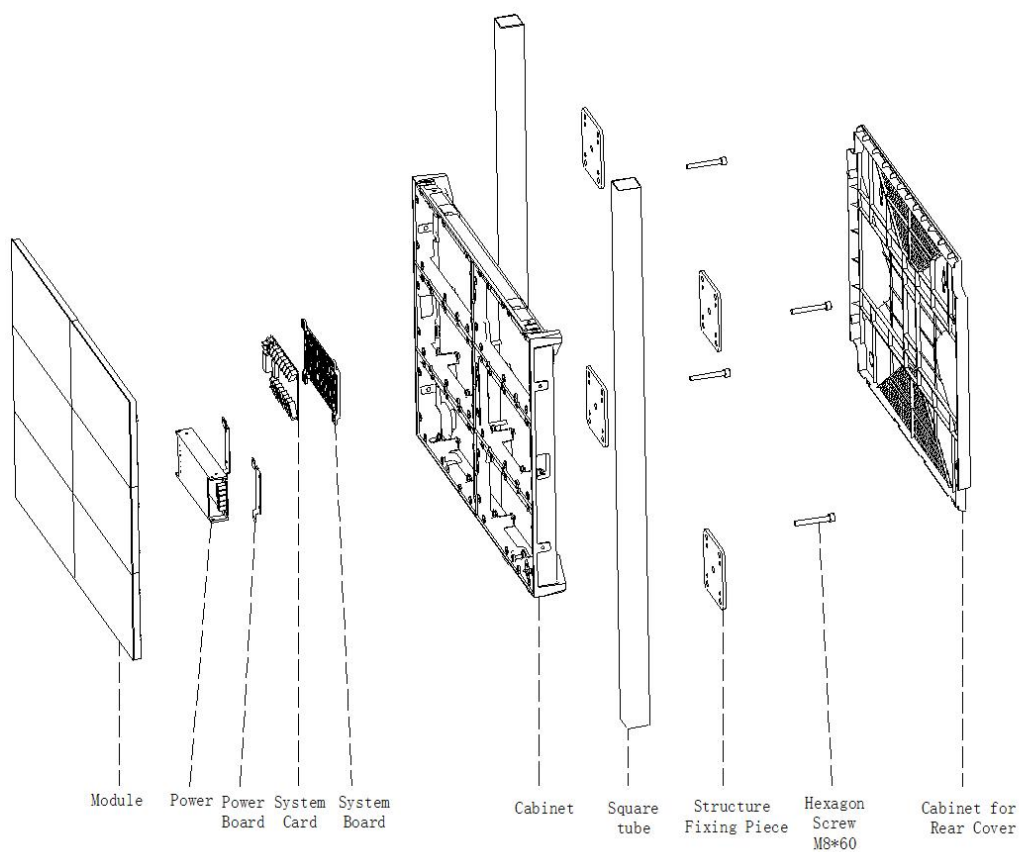


Picture 4-2-3 Completion Cabinet Front Installation

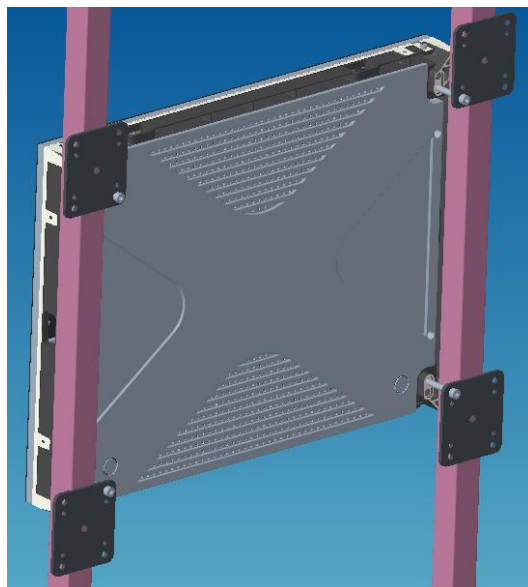
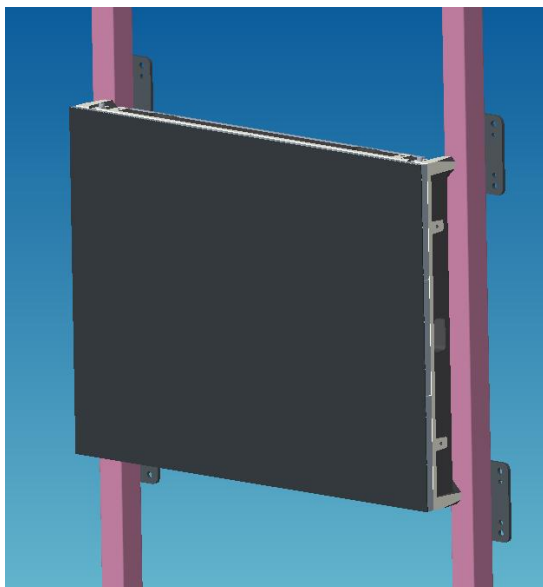


## 4.2.3 Cabinet Rear Installation

Picture 4-2-4 Explosion diagram of Cabinet Rear Installation



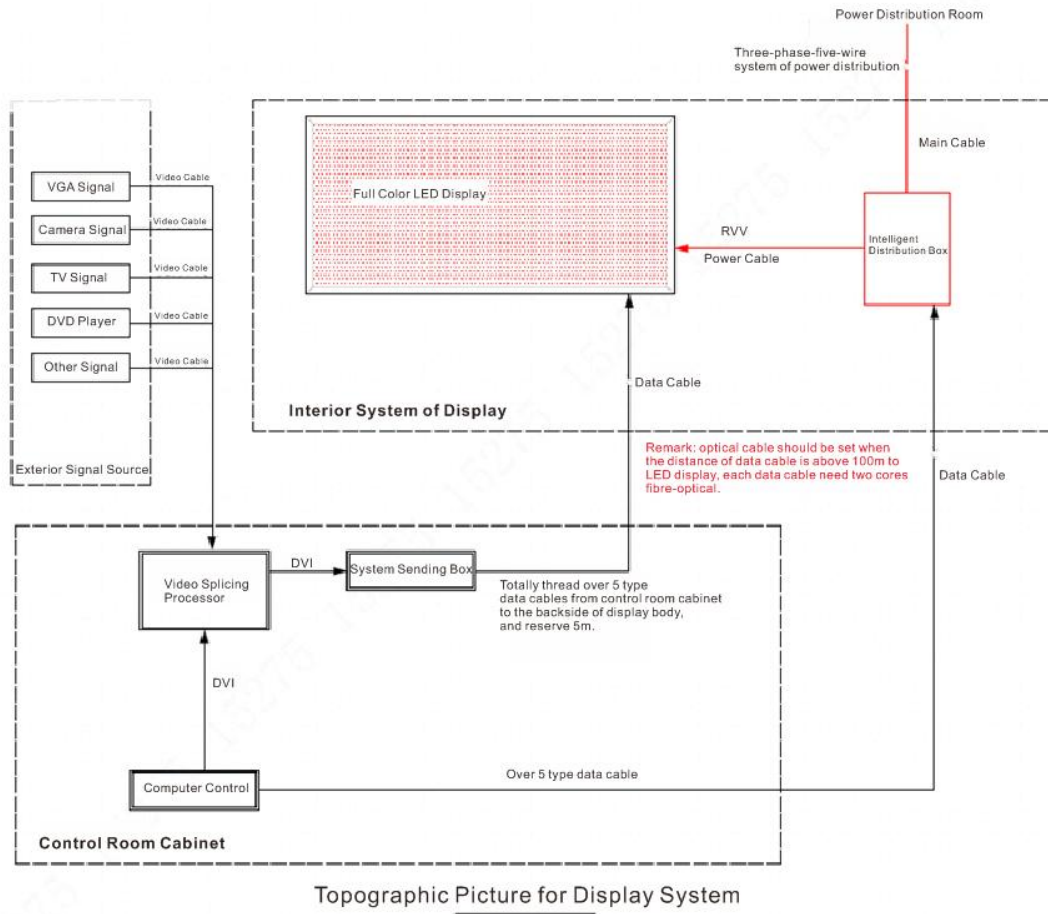
Picture 4-2-5 Completion Cabinet Rear Installation



## 4.3 Display Installation

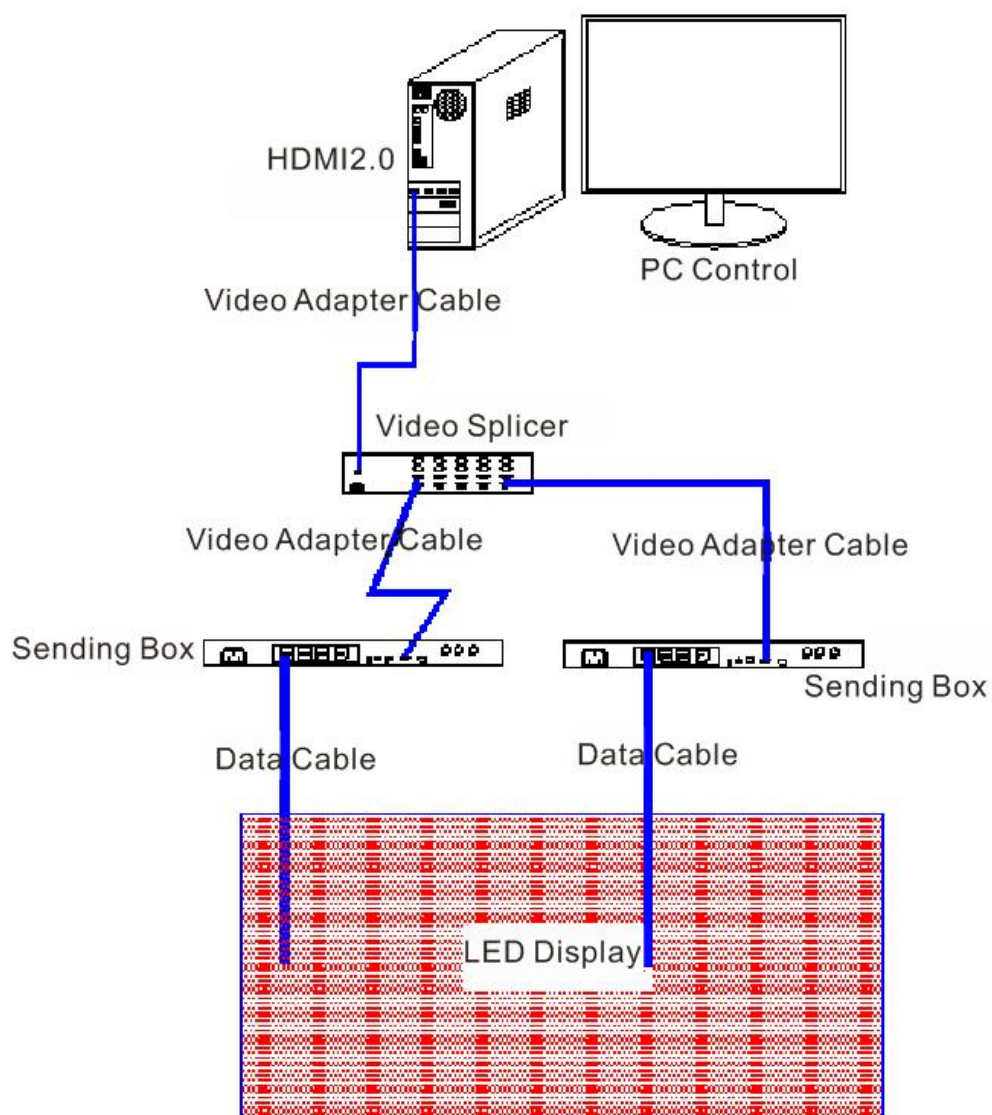
### 4.3.1 Diagram for Cable Connection

Picture 4-3-1 Diagram for Connection

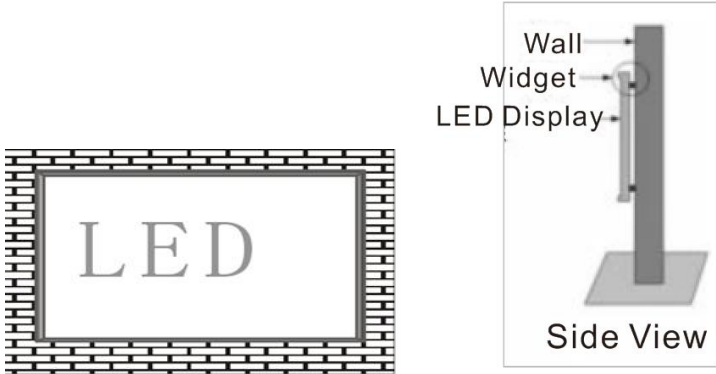
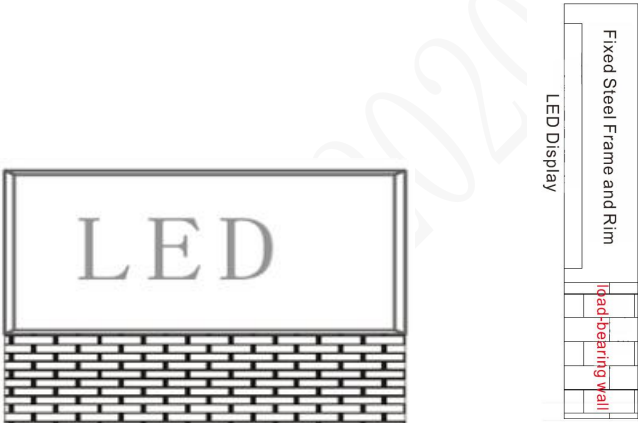


## 4.3.2 Networking Introduction

Picture 4-3-2 Topographic Picture for networking



### 4.3.3 Installation Method

Installation Type	Picture
Wall Mounted Installation	 <p>The diagram illustrates the wall mounting process. On the left, a top-down view shows a rectangular LED display with the text 'LED' inside, surrounded by a brick-patterned border. On the right, a side-view inset shows the LED display mounted vertically on a wall. Labels indicate the 'Wall', 'Widget' (the mounting bracket), and 'LED Display'. The side view is labeled 'Side View' at the bottom.</p>
Floor Mounted Installation	 <p>The diagram illustrates the floor mounting process. On the left, a top-down view shows a rectangular LED display with the text 'LED' inside, surrounded by a brick-patterned border. On the right, a side-view inset shows the LED display mounted vertically on a floor. Labels indicate the 'Fixed Steel Frame and Rim' at the top, the 'LED Display' in the middle, and the 'Load-bearing wall' at the bottom. The side view is labeled 'Side View' at the bottom.</p>

## Chapter 5 User Manual

Table 5-1 Notification

Item	Notification
Temperature	Keep the work temperature within $-20^{\circ}\text{C}\sim 40^{\circ}\text{C}$
	Keep the storage temperature within $-10^{\circ}\text{C}\sim 30^{\circ}\text{C}$
Humidity	Keep the work humidity within $10\%\text{RH}\sim 65\%\text{RH}$
	Keep the storage humidity within $10\%\text{RH}\sim 60\%\text{RH}$
Waterproof	Cabinet: IP30; Module: IP30
Dust-proof	Cabinet: IP30; Module: IP30
Anti-Electromagnetic radiation	LED display shouldn't put under the environment where has strong interference by electromagnetic radiation, which would be easy to picture display abnormal.
Electrostatic Prevention	It should be ground connected well for power supply, cabinet, mental cover of display body, the resistance of ground connection $< 10\ \Omega$ , to avoid making any damage to electric components.

Table 5-2 User Manual

Item	User Manual
Electrostatic Protection	The installer need wear electrostatic ring and electric gloves, each equipment should take ground connection well when installing.
Connection Type	There are positive and negative electrode silk printed on module, don't allow to reverse connect, and prohibit to connect with AC 220V.
Operate Type	Prohibit to assemble module, cabinet and whole of display under power on, operation should be under power off completely, to protect personal safety; Prohibit anyone to touch when the LED display is working, in case the static electricity which is generated by body to break through LED and other components.
Dismantle and Transportation	Don't allow to throw, push, compress module, to prevent module falling down, to avoid breaking kit, damage LED chips, etc.
Environmental Inspection	It should match temperature and humidity meter for LED display at installation site, to monitor its surrounding environment, so that it can find out if LED display being affected with damp, moisture, etc.
The Usage of LED display	The environmental humidity should be $10\%\text{RH}\sim 65\%\text{RH}$ , it is suggested to turn on LED display one time each day, normal to use above 4 hours each time, to remove its damp.
	When the environmental humidity is above $65\%\text{RH}$ , it should make dehumidification to environment, and it is suggested to work LED display above 8h each day.
	When LED display has not turned on for a long time, it should preheat LED display to remove moisture before use, to avoid damage LED because of damp, the specific method: 20% brightness to work for 2h, 40% brightness to work for 2h, 60% brightness to work for 2h, 80% brightness to work for 2h, 100% brightness to work for 2h, by this to gradually increase its brightness.



## Chapter 6 Acceptance Request and Method

Table 6-1 Acceptance Request and Method for LED display

Item	Acceptance Request and Method
Brightness of LED Display	Switch LED display to work as full brightness, use light-gun to measure the brightness of LED display within 10 minutes. When measuring its brightness, the light-gun need be vertical to LED display, to adjust the distance of light-gun and LED display, ensure the view window, black area, cover above 16 pixels, adjust focal length, to ensure LED chip being able to clearly view in eyepiece, then measure and record brightness data.
Visual Angle	The one should stand on the angle of $140^{\circ}$ , bottom angle $65^{\circ}$ to LED display when making measurement, it is requested that LED display should not have obvious the problem of dark block.

