



Indoor 320 LED Module

Quick Start Guide

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Applicable Models

This manual is applicable to indoor 320 LED modules.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

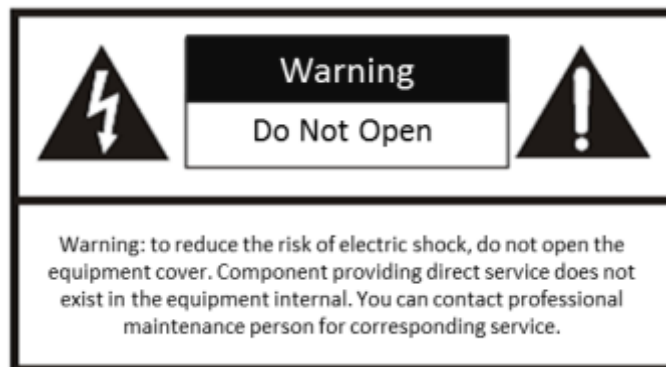
Symbol	Description
 Note	Provides additional information to emphasize or supplement important points of the main text.
 Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

Danger

- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region.
- **CAUTION:** If the fuse of the device can be replaced, replace it only with the same model to reduce the risk of fire or electric shock.
- Do not touch the bare components (such as the metal contacts of the inlets) and wait for at least 5 minutes, since electricity may still exist after the device is powered off.
- For the permanently connected device without a disconnect equipment, a readily accessible disconnect equipment shall be incorporated into the electrical installation of the connected building.
- For the permanently connected device without an overcurrent protection equipment, an overcurrent protection equipment shall be incorporated into the electrical installation of the connected building. The specifications of the overcurrent protection equipment shall not exceed that of the building.
- For the permanently connected device without an all-pole mains switch, an all-pole mains switch shall be incorporated into the electrical installation of the connected building.
- For the device with the sign  indicating hazardous live, the external wiring connected to the terminals requires installation by an instructed person.
- Never place the device in an unstable location. The device may fall, causing serious personal injury or death.

- If the device supports wall mounting or ceiling mounting, the mounting surface shall be able to withstand the additional force of three times the weight of the device but not less than 50 N. The device and its associated mounting means shall remain secure during the installation. After the installation, the device, including any associated mounting plate, shall not be damaged. Refer to technical specifications for details.
- ALWAYS use cabinets or stands or mounting methods recommended by the manufacturer of the device.
- ALWAYS use furniture that can safely support the device.
- ALWAYS ensure the device is not overhanging the edge of the supporting furniture.
- ALWAYS route cords and cables connected to your television so they cannot be tripped over, pulled or grabbed.
- NEVER place a device in an unstable location.
- NEVER place the device on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the device to a suitable support.
- NEVER place the device on cloth or other materials that may be located between the device and supporting furniture.
- NEVER place items that might tempt children to climb, such as toys and remote controls, on the top of the device or furniture on which the device is placed.



 Caution

- If the ingress protection level is lower than IPx4, the device shall not be exposed to water dripping or splashing, and no objects filled with liquids, such as vases, shall be placed on the device. Refer to datasheet for details.
- Provide a surge suppressor at the inlet opening of the device under special conditions such as the mountain top, iron tower, and forest.
- If the device is powered by terminals connected to the power cord, ensure correct voltage and wiring of the terminals for connection to mains supply.
- No naked flame sources, such as lighted candles, should be placed on the device.
- For the device with ventilation openings, the ventilation openings should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, and curtains. The openings shall never be blocked by placing the device on a bed, sofa, rug, or other similar surface.

- This device is suitable for mounting on concrete or other non-combustible surface only to avoid fire hazard.

- For the device with sticker  or , pay attention to the following cautions:
- CAUTION: Hot parts! Do not touch. Burned fingers when handling the parts. Wait one-half hour after switching off before handling the parts.
- The power supply unit for the equipment must be placed in a restricted area to prevent unauthorized access.
- If the device installation is needed,
 1. Install the device according to the instructions in Quick Start Guide.
 2. To prevent injury, this device must be securely attached to the installation surface in accordance with the installation instructions. Refer to Quick Start Guide for details.
- Keep vertical when moving or using the device.
- CAUTION: If the bracket is designed for a specific device model of our company, use the bracket with the corresponding device only. Use with other devices may result in instability and cause injury.
- CAUTION: If the device needs to be installed with a specific bracket of our company, use the corresponding bracket only. Use others (such as carts, stands, and carriers) may result in instability and cause injury. Refer to the device datasheet for bracket model details.
- The interface varies with the models. Please refer to the product datasheet for details.
- If the device is not released with a power adapter, and you need to wire the bare cables of the device:
 - The device external wiring connected to the hazardous live terminals requires installation by an instructed person.
 - Make sure that the power has been disconnected before you wire, install, or disassemble the device.
 - The power supply or device must be connected to an earthed mains socket-outlet.
 - High voltage for the power supply. Do not disassemble it.
 - If smoke, odor, or noise arises from the power supply or device, immediately turn off the power, unplug the power cable, and contact the service center.
 - If the device needs to be wired by yourself, select the corresponding wire to supply power according to the electric parameters labeled on the device. Strip off wire with a standard wire stripper at corresponding position. To avoid serious consequences, the length of stripped wire shall be appropriate, and conductors shall not be exposed.
- A circuit breaker shall be provided for the device externally. For a single device, an AC 220 V/230 V/240 V, 6 A circuit breaker is recommended. When multiple devices are stacked, select a circuit breaker of appropriate rating based on the total rated current, but this shall not exceed the rating of the circuit breaker provided for the building.

TABLE OF CONTENTS

Chapter 1 Introduction	1
Chapter 2 Environmental Requirements	2
Chapter 3 Module Installation	3
3.1 Preparations.....	3
3.2 Precautions	3
3.3 Install the Module	4
3.3.1 Module Appearance	4
3.3.2 Attach the Module to the Bracket	5
3.3.3 Attach the Module to the Cabinet	6
Chapter 4 Maintenance	8

Chapter 1 Introduction

Hikvision Full-Color Indoor 320 Module (hereinafter referred to as the module) is a fundamental LED display unit capable of displaying red, green, and blue primary colors and mixing the three colors to present full-color images. These modules can be freely combined and assembled to form large-scale LED display screens. The Indoor 320 Module is shipped with complimentary accessories such as a corresponding quantity of receiving cards. These components are designed to work together to better achieve high refresh rates, high contrast, high clarity, and high grayscale display effects. This product is widely used in various indoor display scenarios.

Chapter 2 Environmental Requirements

- Working temperature: -10 °C to 40 °C. Optimal ambient temperature: 22 °C ± 5 °C. The temperature of the surface of module should not exceed 60 °C. The temperature difference between the front and back of the LED screen should not exceed 5 °C.
- Working humidity: 10% RH to 80% RH (non-condensing). Optimal relative humidity: 30% RH to 60% RH (non-condensing). If ambient temperature or humidity exceeds specified limits, promptly dehumidify and cool the display. Ensure sufficient space behind the display for ventilation and heat dissipation. Avoid directing the vents of the air conditioner towards the display.
- Dust prevention: The display should not be exposed to dusty environments and should not be installed during interior decoration works.
- Electromagnetic interference: Do not install the display in environments with electromagnetic or radio frequency interference exceeding a field strength of 5V/m.
- Light exposure: Avoid installing the screen in a location exposed to prolonged direct sunlight.
- Waterproofing requirements: Indoor displays have low waterproof ratings and should be kept away from water sources, such as pools, plants, aquariums, or misting devices. Installation in outdoor or semi-outdoor environments is strictly prohibited.
- Protection against corrosive gases: Do not install the display in environments containing corrosive gases, e.g., salt, acid.
- Grounding requirements: All metal components of the display, switching power supply casings, and cabinets must be properly grounded, with grounding resistance $\leq 10 \Omega$ and neutral-to- earth voltage $\leq 2 \text{ V}$.
- Lightning protection: The building housing the display must be equipped with lightning rods or lightning protection facilities with effective grounding. The power distribution cabinet must include surge protectors. Do not operate the display during severe weather conditions, particularly thunderstorms, and disconnect it from the power source.
- During installation and operation, keep the display away from utility pipes such as gas supply, water, power, and communication pipelines. Air vents from cooling, air conditioner, heating, or humidification equipment must not be directed towards the display.
- When used in special environments such as in high humidity, high temperature, chemical substances, corrosive gases, dusty conditions, coastal areas, intense ultraviolet radiation, or strong electromagnetic fields, the display must undergo company assessment and approval before use.

Chapter 3 Module Installation



This manual applies to LED modules with various pixel pitches. The following figures use one model as an example; please refer to the actual product model for specific details.

3.1 Preparations

- **Pre-unpacking inspection:** Verify that the packaging is undamaged, the model and part number on the package match your purchase, and batch numbers of all modules are consistent within the same display.
- **Post-unpacking inspection:** Confirm that the modules are undamaged. Pay special attention to the appearance and physical condition (e.g., no missing LED lamp beads or screws, and the module is flat without warping). Check that all accessory cables are complete, and spare parts like lamp beads and ICs are fully provided.
- **Pre-installation inspection:** Ensure all necessary materials, such as magnetic screws and power supplies, are complete and available. Confirm that the installation conditions are met on-site, including no dust and cutting operations, and ambient humidity complies with standards.
- If any abnormalities are found, please record unboxing videos and take photos as evidence, and contact your distributor or sales representative promptly.

3.2 Precautions

- The display must be installed only after the interior decoration is fully completed to avoid contamination or damage during the construction.
- **Batch control:** Modules from different batches must not be installed on the same screen.
- **Magnetic force requirement:** For magnetic installation, the magnetic force of a single magnet screw must exceed 1kg. The use of Hikvision model 1417 magnetic screw is recommended.
- **Torque control:** The recommended torque range for M4 screws is 6.0 Kgf·cm to 8.0 Kgf·cm.
- **Bottom case maintenance:** When assembling or disassembling the bottom case for on-site repair, electric screwdrivers are allowed for removing screws. However, screws must be installed manually, as the use of electric screwdrivers can easily cause thread stripping.
- **Edge-trimming requirements:** As modules expand under heat, edge trim must not be installed flush against modules. Maintain a minimum 5mm clearance between the edge trim and the modules (for installations up to 30 columns; if the scale increases, the clearance should be proportionally expanded.).
- **Electrostatic discharge protection:** Installation personnel must wear anti-static gloves. All tools must be properly grounded during assembly.

- The use of Hikvision cables is recommended. Third-party low-quality cables are prohibited, including network cables, ribbon cables, and power cables.
- Modules must not be directly connected to a 220 V mains supply. Positive and negative power connections must not be reversed. All power and signal cables must be fully inserted and secured by tightening the terminal screws to prevent loosening or poor wire contact.
- Use receiving cards supplied with the modules to load the official cloud debugging program with one-click.
- Power supplies must load the modules according to the product specifications, with the load capability not exceeding 80% of the rated capacity of power supply. It is recommended to use power supplies from Hikvision cooperative brands. The use of low-quality or uncertified power supplies is strictly prohibited.
- Maintain a clean environment during installation. Protect the display from contamination after installation. Any secondary operations like welding on the installed LED display are strictly prohibited.
- Fire safety requirements: All auxiliary components for the display must be made of flame-retardant materials.
- No live work: Assembly of the modules and connection of the power cables or signal cables must not be performed when the power is on.
- Do not drop, push, squeeze, or press the modules. Handle them with care to avoid damage. During installation, prevent sweat or other liquids from dripping onto the display.
- When installing the modules, avoid knocking them to prevent the drop of the lamp beads.
- High voltage and low voltage isolation: Route power cables and network cables separately whenever possible. It is not recommended to place them in the same cable trunking.

3.3 Install the Module

3.3.1 Module Appearance

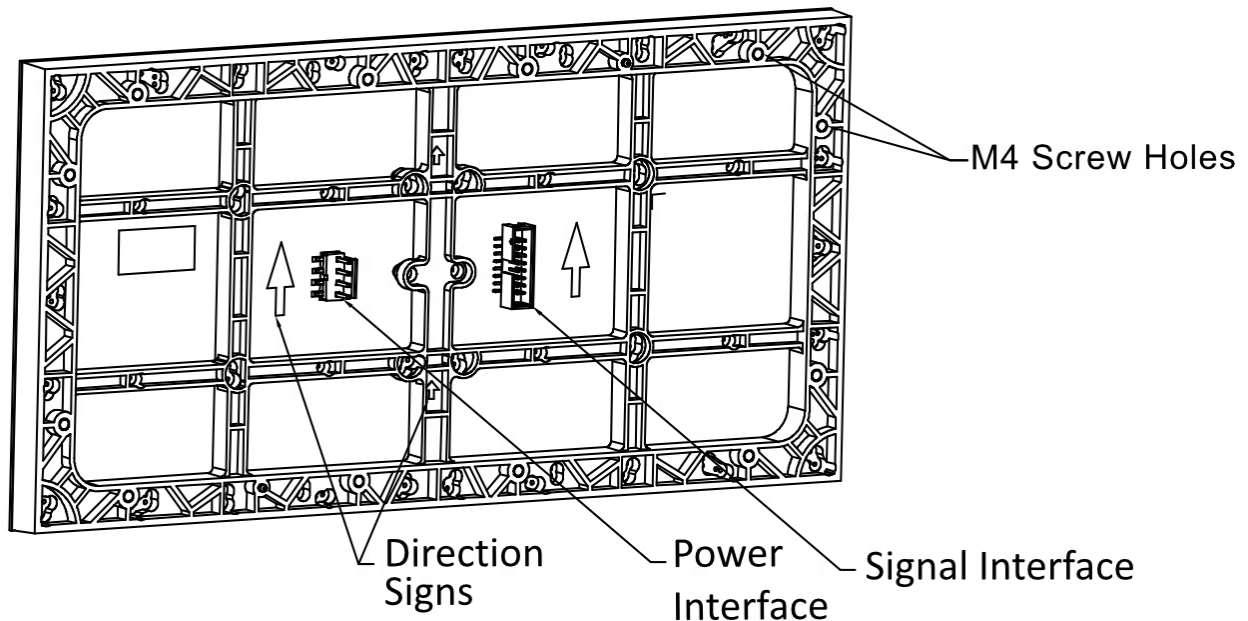


Figure 3-1 Rear View of Module

3.3.2 Attach the Module to the Bracket

Step 1 Insert the long magnetic screws into the four M4 screw holes on the back of the module.

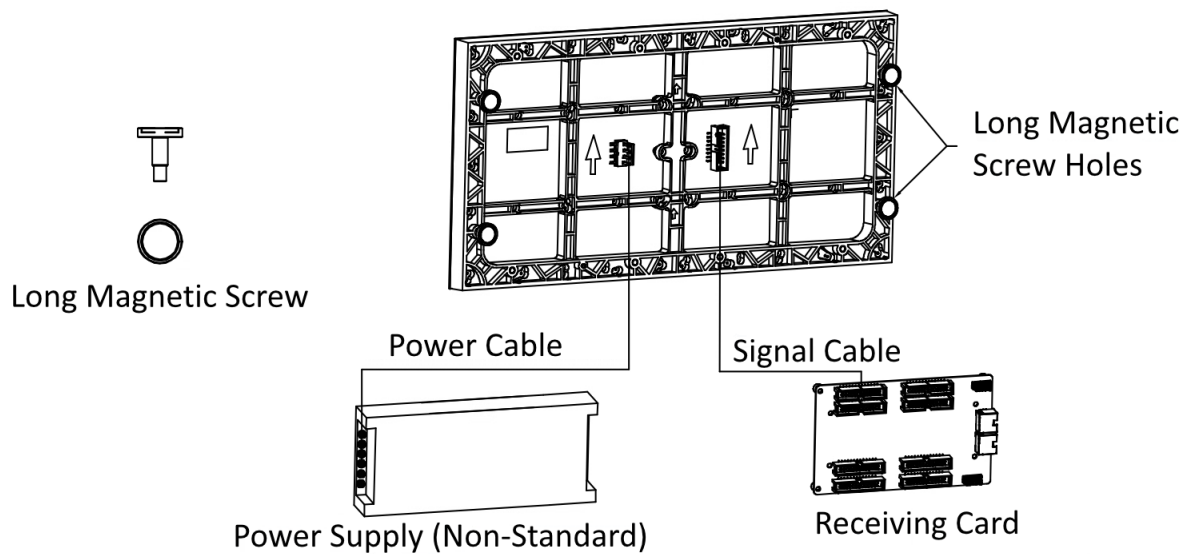


Figure 3-2 Install Long Magnetic Screws

 Note

- Install power supplies and receiving cards according to the on-site conditions. Generally, they can be secured with self-tapping screws to the sides of the square tubes of the bracket.
- It is recommended not to tighten the magnetic screws during initial installation, as you may need to adjust their height to level the screen due to unevenness of the bracket.
- Keep the insulating protective casing in place when installing the receiving cards.

Step 2 Connect the corresponding power cables and signal cables according to the on-site load conditions.

Step 3 Attach the modules to the square tubes of the bracket: Install one row and one column firstly for a reference, and then install the remaining rows and columns from bottom to top and from middle to both sides of the bracket.

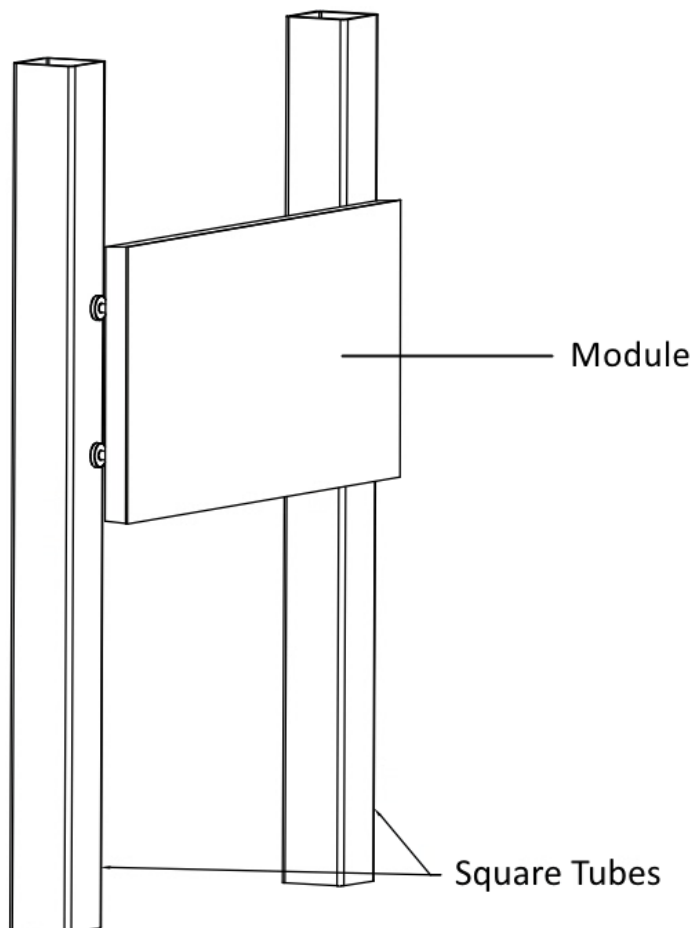


Figure 3-3 Attach the Module to Square Tubes of the Bracket

3.3.3 Attach the Module to the Cabinet

After being installed short magnetic screws, the module can be attached to the cabinet of corresponding size for use as a lamp board.

Step 1 Install the short magnetic screws with the specification of 1008 on the module.

Step 2 Connect the appropriate power and signal cables.

Step 3 Align the magnetic screws of the module with the magnetic feet on the cabinet.

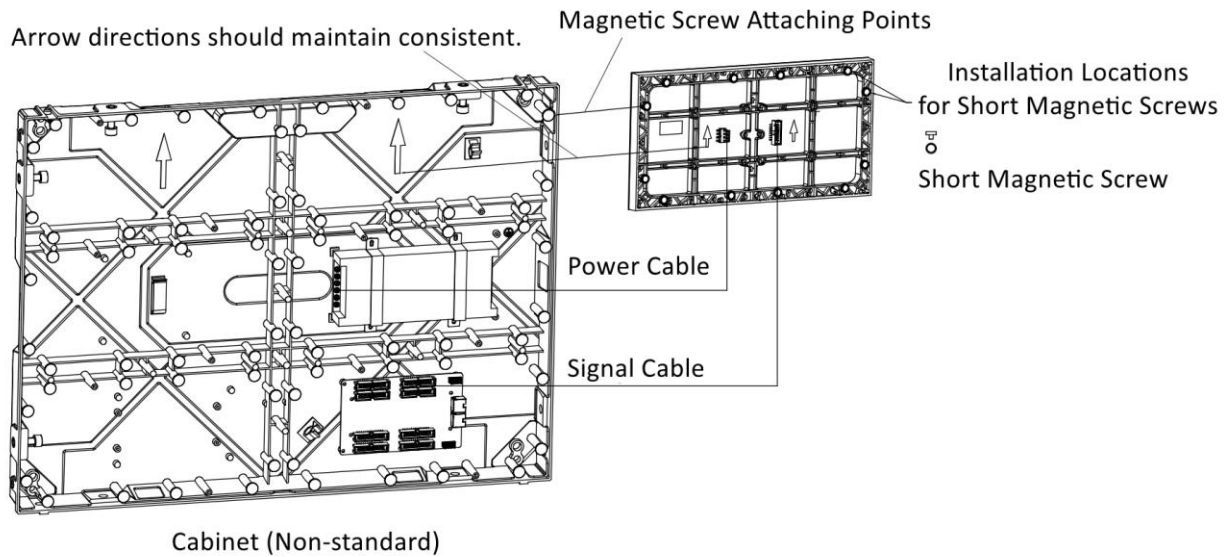


Figure 3-4 Install the Module

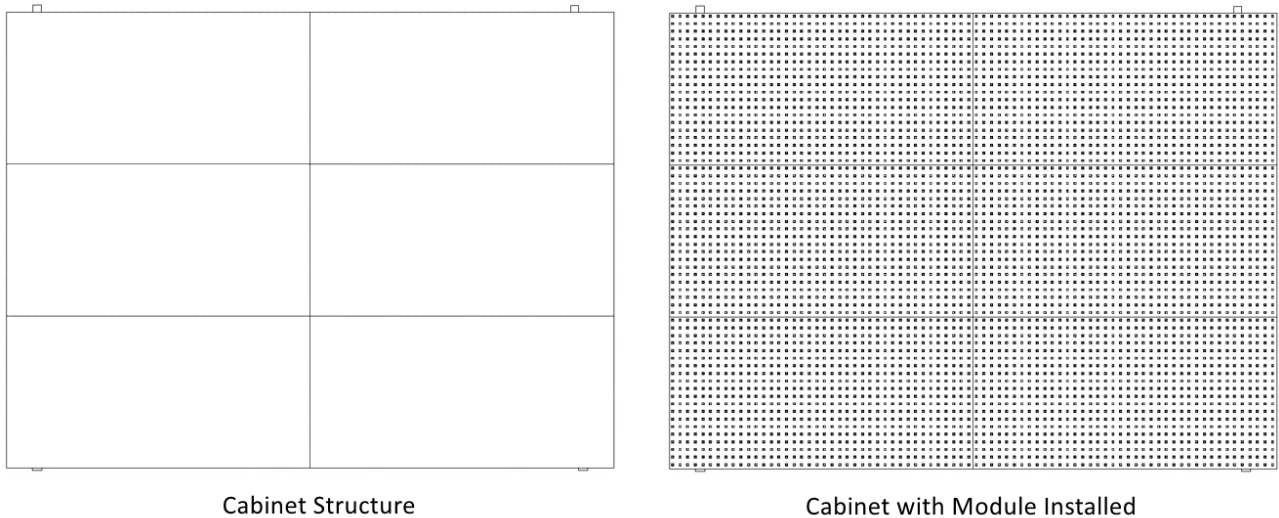


Figure 3-5 Modules Installed

Chapter 4 Maintenance

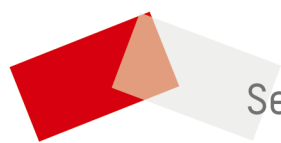
- **Power On/Off Requirements**
 - Power on: Start the control devices (e.g., computer) first, then power on the display.
 - Power off: Power off the display first, then shut down the control devices. The interval between consecutive power cycles must exceed 5 minutes.
- **Maintenance Requirements**

Only qualified personnel are permitted to touch the LED display or perform installation and maintenance tasks.
- **Dust Cleaning**

Use an air gun or an anti-static soft brush for cleaning. Do not clean the LED modules with any unknown liquids or damp cloths.
- **Usage Recommendations**
 - It is recommended to operate the display for at least 2 hours daily. If the display remains unused for an extended period, preheat and dehumidify the entire device by gradually increasing the brightness for 8 hours before use.
 - Avoid displaying static images, text, or fixed backgrounds for a long time, instead, play scrolling content or text.
- **Inspection Requirements**

Perform a comprehensive maintenance and inspection at least once annually.

 - Clean accumulated dust or stains on the screen surface.
 - Check the secure connection of internal power cables.
 - Replace aged or damaged power cables and ribbon cables promptly.
 - Ensure cooling and dehumidifying equipment functions properly, otherwise, replace and repair these devices promptly.



See Far, Go Further