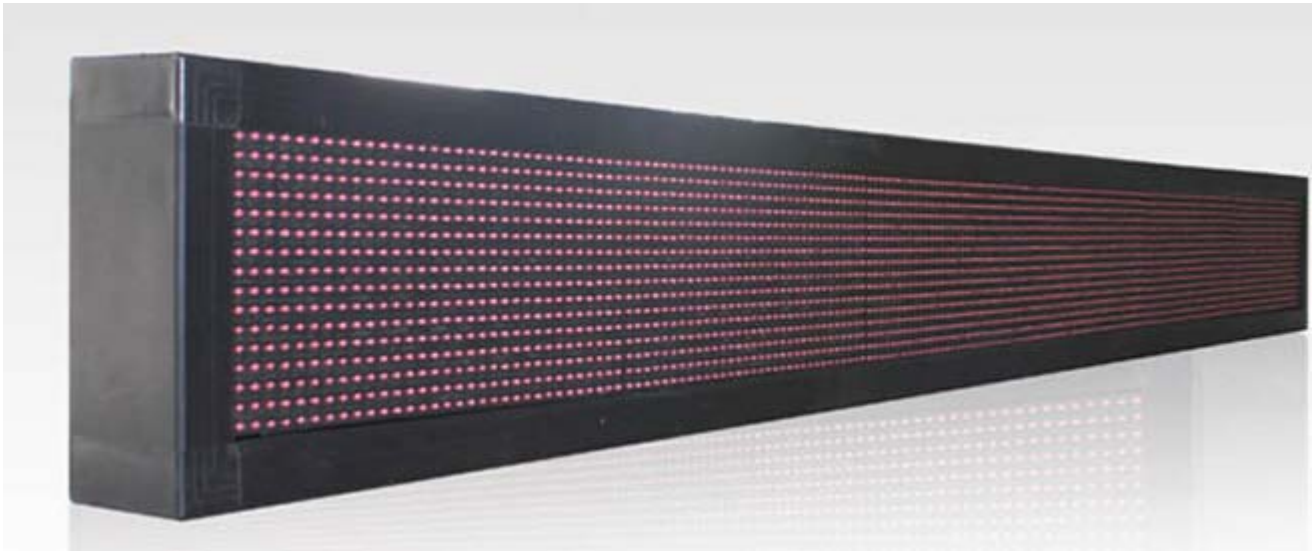# LED Sign Installation Instructions

1. LED description:

An LED display is a flat panel display, which uses an array of light-emitting diodes as a video display. An LED panel is a small display, or a component of a larger display. They are typically used outdoors in store signs and billboards, and in recent years have also become commonly used in destination signs on public transport vehicles or even as part of transparent glass area. LED panels are sometimes used as form of lighting, for the purpose of general illumination, task lighting, or even stage lighting rather than display.

2. Advantages:

1) Efficiency: LED's emit more light per watt than incandescent light bulbs. The efficiency of LED lighting fixtures is not affected by shape and size, unlike fluorescent light bulbs or tubes.

2) Color: LED can emit light of an intended color without using any color filters as traditional lighting methods need. This is more efficient and can lower initial costs.

3) Size: LED can be very small and are easily attached to printed circuit boards.

4) On/Off time: LED light up very quickly. A typical red indicator LED will achieve full brightness in under a microsecond. LED used in communications devices, it can have even faster response times.

5) Cycling: LED are ideal for uses subject to frequent on-off cycling, unlike fluorescent lamps that fail faster when cycled often, or HID lamps that require a long time before restarting.

6) Dimming: LED can very easily be dimmed either by pulse-width modulation or lowering the forward current. This pulse-width modulation is why LED lights viewed on camera, particularly headlights on cars, appear to be flashing or flickering. This is a type of Stroboscopic effect.

7) Cool light: In contrast to most light sources, LED radiate very little heat in the form of IR that can cause damage to sensitive objects or fabrics. Wasted energy is dispersed as heat through the base of the LED.

8) Slow failure: LED mostly fail by dimming over time, rather than the abrupt failure of incandescent bulbs.

9) Lifetime: LED can have a relatively long useful life. One report estimates 35,000 to 50,000 hours of useful life, though time to complete failure may be longer. Fluorescent tubes typically are rated at about 10,000 to 15,000 hours, depending partly on the conditions of use, and incandescent light bulbs at 1,000 to 2,000 hours. Several DOE demonstrations have shown that reduced maintenance costs from this extended lifetime, rather than energy savings, is the primary factor in determining the payback period for an LED product.

10) Shock resistance: LED, being solid-state components, are difficult to damage with external shock, unlike fluorescent and incandescent bulbs, which are fragile.

11) Focus: The solid package of the LED can be designed to focus its light. Incandescent and fluorescent sources often require an external reflector to collect light and direct it in a usable manner.

3. Functions:

- Take customers' attention
- Decorate the outlook of shop
- It makes the shop brighter
- Change the news by rolling
- Take notice

4. Technical Parameters

LED display board operating mode: 1/4 scanning
LED module: P10, red, 32cm x 16 cm (12.59"x6.29")
LED controller panel: USB interface and COM port
LED Hub panel: Four 12interface for outdoor LED sign, two 08interface for indoor LED sign
Frame: 4.5cm (width) x 9.0cm (height) / 1.77" (width) x 3.54" (height)
Flat cable: Width 2cm (0.78") , Length 28cm (11"), we also have 150cm (59") length cable
Connecting wire: 27.8cm (10.9") length
Back holder: 5cm (1.96") width
Cover board: 0.035cm (0.014") thickness
Frame connector: 4.5cm (width) x 9.0cm (height) / 1.77" (width) x 3.54" (height)
Supply power: 110v, 40A

5. Install Step:

|	
1. You should measure the size of display board, then cut the right size frame and back holder 2. Install the frame to be rectangle and fix it by four screws on each side (four sides in all)	

3. Inset the module and array them in order to the arrow image on the module. Make sure there is no gap among modules.
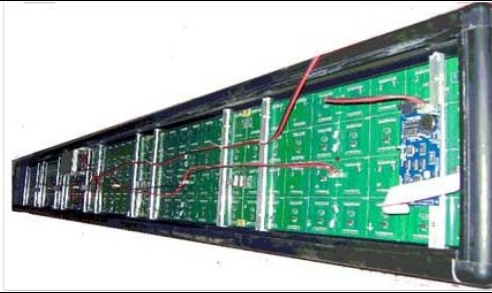
4. Set the back holder between two modules and both ends. Make sure the plat cable connecting is available. And fix it

5. Move the frame and fix magnet on modules. Reset the frame. Make the magnets to be sucked in the back holder.

Make magnets to be sucked in the back holder

Magnet
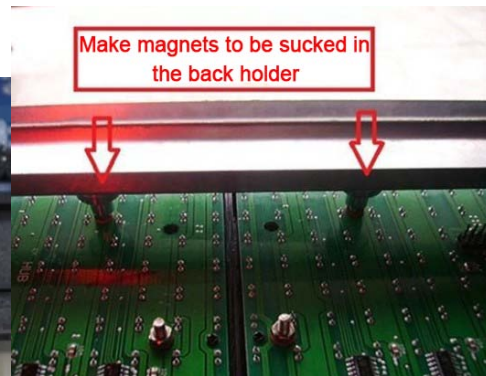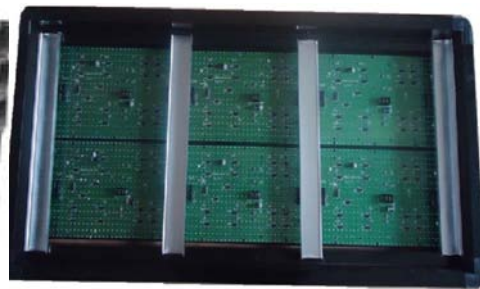
6. Connect modules by wires and plat cable.
NOTE:

① The red wire connect V+(anode), the black wire connect COM(cathode).

② Plat cable has an red line on one side, you should aim it to the mark "OE" on module and controller.
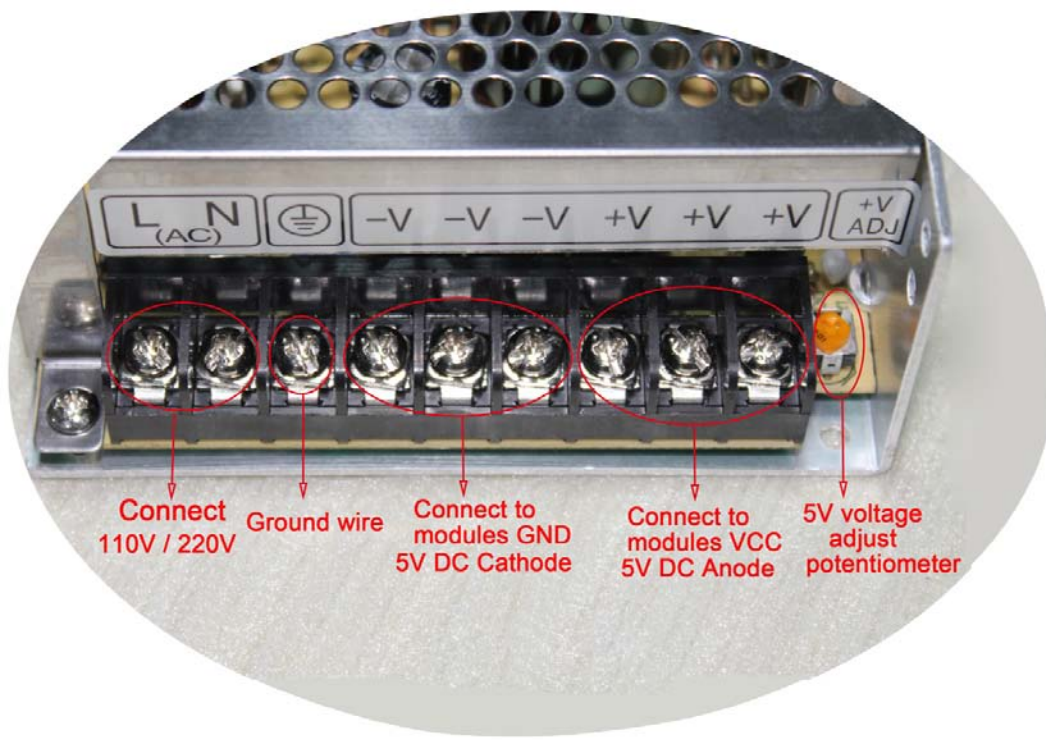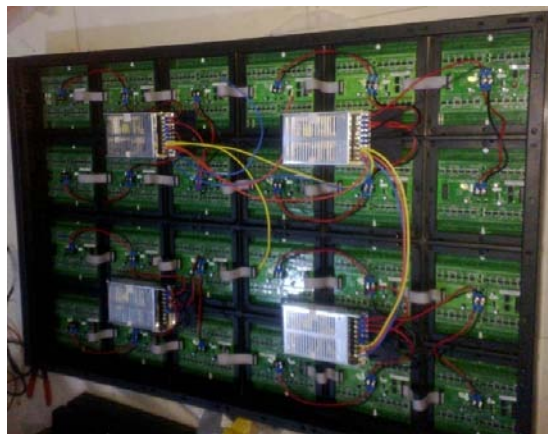
③ Connect plat cable to the pin-plug of LED controller panel. But the pin-plug is limited for one controller panel if you need more pin-plug you should set a hub panel.
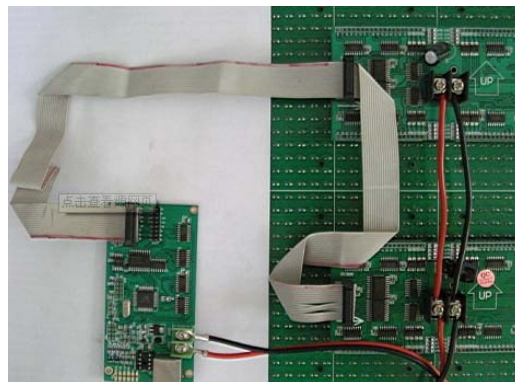
7. Connect wires to power supply. Make sure all the wires joint connecting correct and tight.

8. Fix the controller panel on the left ends of the frame. Fix power supply on the side of frame.

Connect 110V / 220V

Ground wire

Connect to modules GND 5V DC Cathode

Connect to modules VCC 5V DC Anode

5V voltage adjust potentiometer

9. Connect controller panel to your computer by COM serial port line or USB. And set the software of controller
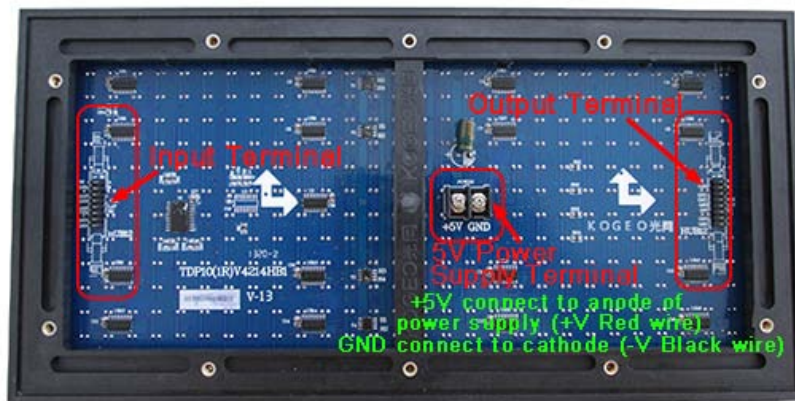
10. Turn on power and take a test

11. All is well down, you should drill a hole beside the controller (left ends of frame) for passing serial and power line.
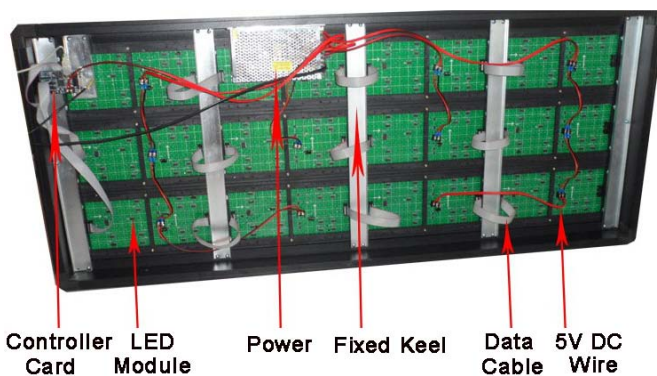
12. Fix the covering. If you need to set the display board outside, you should add waterproof glue to three sides (except of downside) of frame and to the gap between cover board and frame.
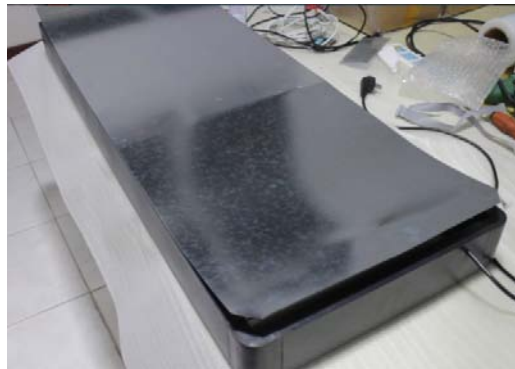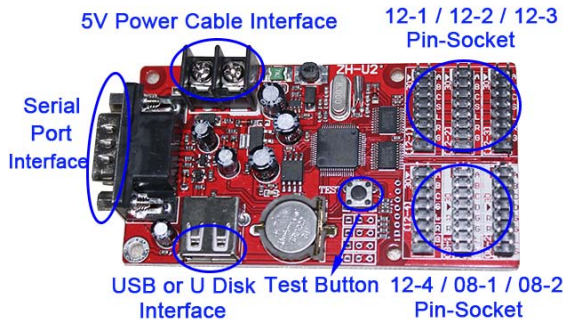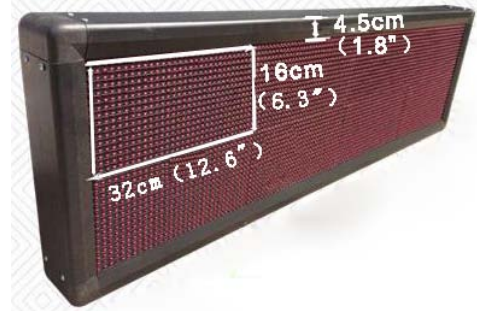

6. Wiring Diagram：

Module Backforce

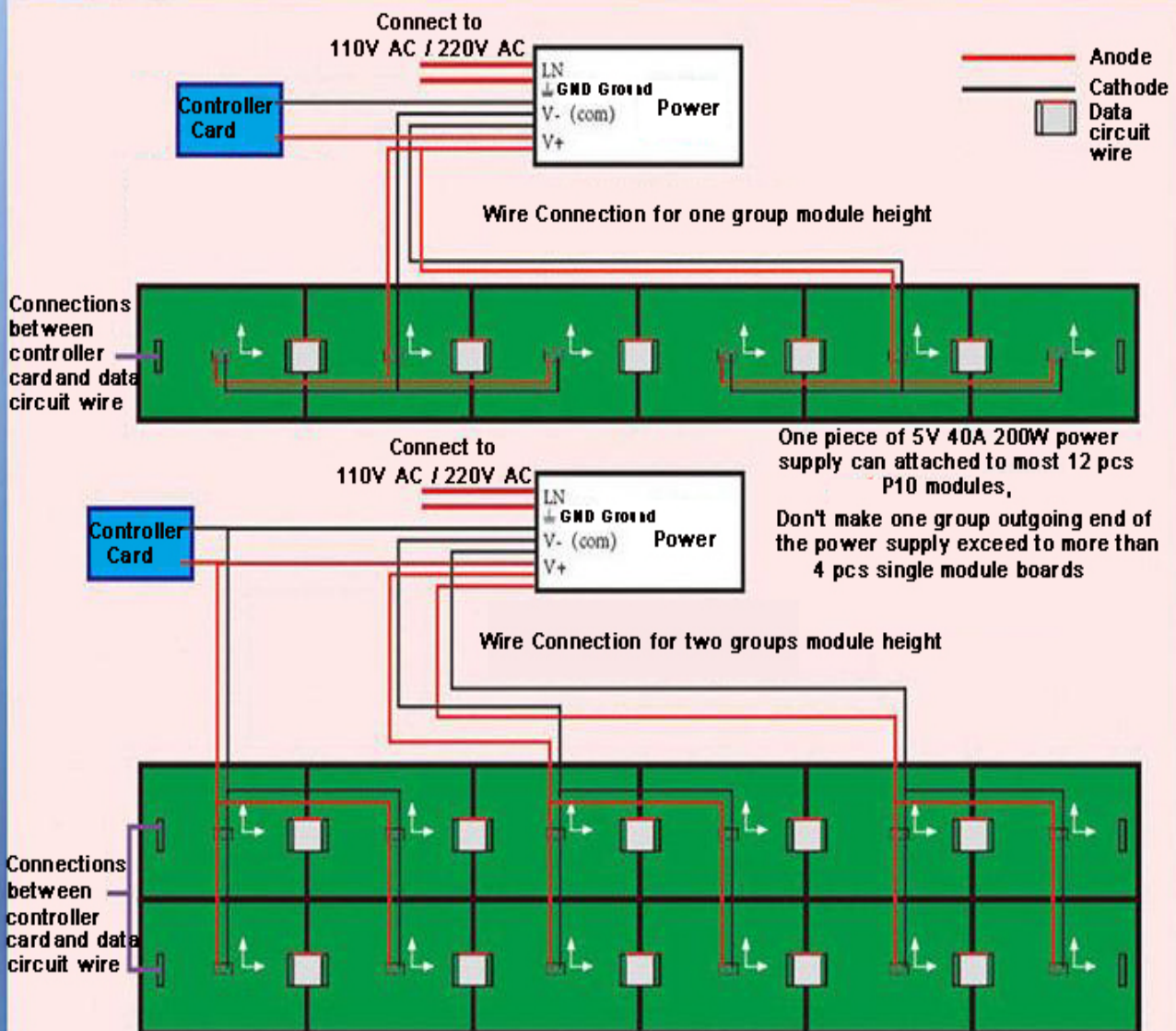Controller Card   LED Module   Power   Fixed Keel   Data Cable   5V DC Wire

LED Board Backforce

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WWW.ASC365.COM

5V Power Cable Interface

12-1 / 12-2 / 12-3
Pin-Socket

Serial
Port
Interface

USB or U Disk
Interface

Test Button

12-4 / 08-1 / 08-2
Pin-Socket

Controller Panel

4.5cm (1.8")
16cm (6.3")
32cm (12.6")

Module Sizes

Connect to
110V AC / 220V AC

LN
GND Ground
V- (com)   Power
V+

Controller
Card

Anode
Cathode
Data circuit wire

Wire Connection for one group module height

Connections between controller card and data circuit wire

One piece of 5V 40A 200W power supply can attached to most 12 pcs P10 modules,

Don't make one group outgoing end of the power supply exceed to more than 4 pcs single module boards

Connect to
110V AC / 220V AC

LN
GND Ground
V- (com)   Power
V+

Controller
Card

Wire Connection for two groups module height

Connections between controller card and data circuit wire

Wiring Diagram