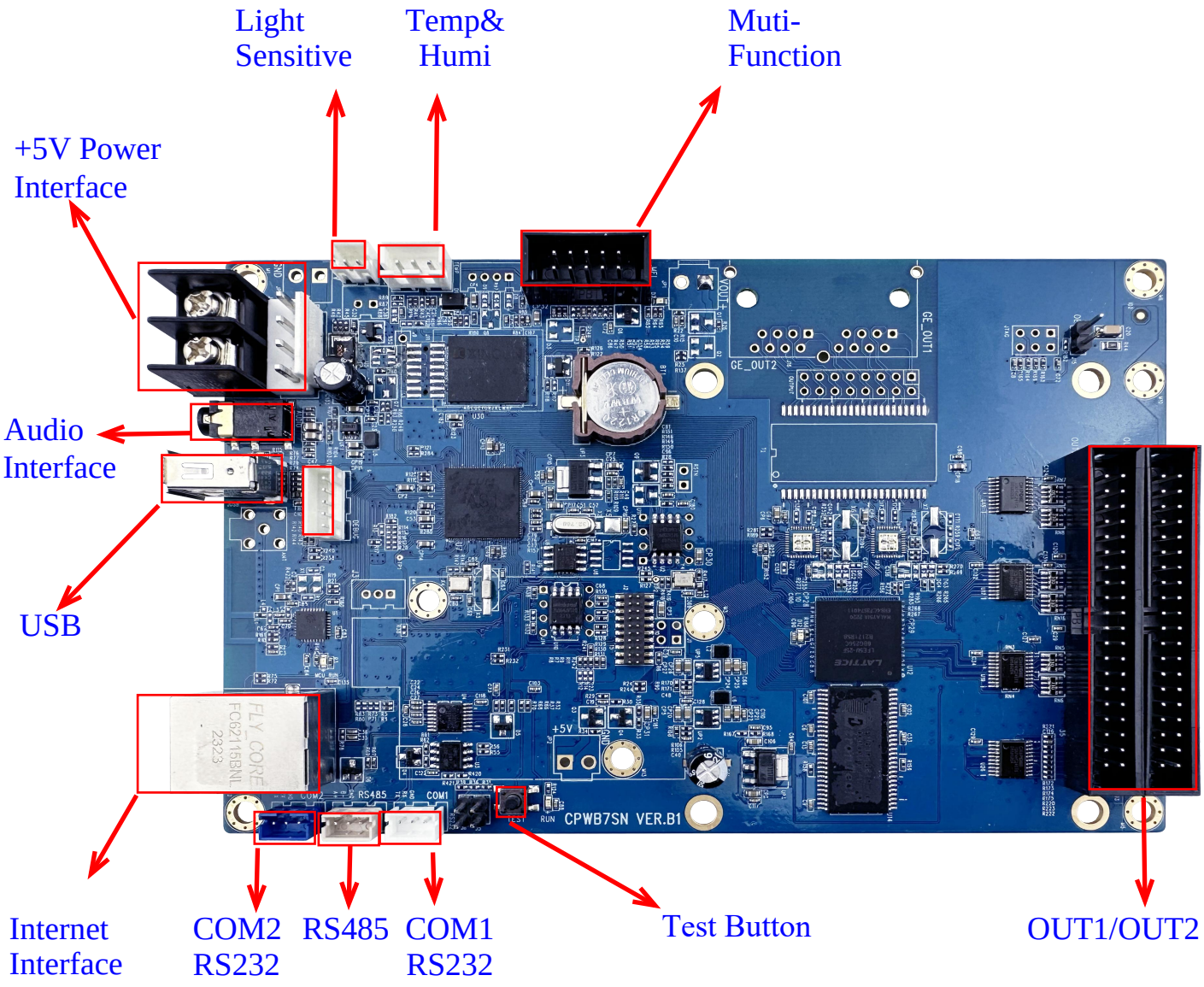
C-Power6 System Card
Hardware Manual

Catalogue

I. Control Card Image



II. Control Card Interface and Indicator Light

1、 Power Interface

Single board power supply input interface.

- +5V DC power supply interface

  Operating current: 300～600mA

  Working environment: in accordance with GB/T 2423.25 and GB/T 2423.26

- Power supply anti-reverse connection: The single board automatically protects against reverse power input.
- Soft start: The power plane of the board will not be impacted when power is supplied.
- Overvoltage protection: When the input voltage exceeds 6V, the board automatically cuts off the power supply.
- Undervoltage protection: The board automatically cuts off the power supply when the input voltage drops below 3.5V.
- Short-circuit self-recovery: When a 5V short circuit occurs at the control card's output interface, the self-recovery fuse automatically cuts off power to protect the card. Once the short circuit is resolved and normal operation resumes, the control card automatically returns to normal function.

2、 Output Interface

[OUT1, OUT2]: Connect to the scan card

3、 Functional Extension Interface

Standard 10-pin expansion function interface

Pin definition diagram:

Signal name	Pin number	Pin number	Signal name
Analog signal input pin	1	2	+5V power output pin
Multifunctional Digital Signal Pin 1	3	4	+5V power output pin
Multifunctional Digital Signal Pin 2	5	6	GND
Multifunctional digital signal pin 3	7	8	GND
Screen power	9	10	GND

function declaration：

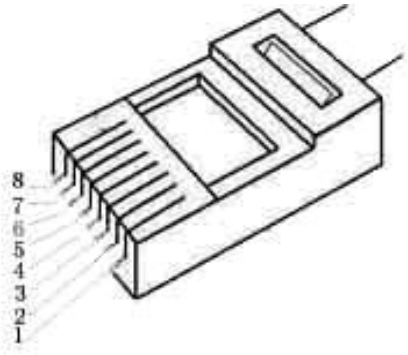
Pin number	Signal name	Function declaration
1	Analog signal input pin	Supports external analog signal inputs for monitoring, with standard optical sensor input pins
3	Multifunctional Digital Interface 1	Input or output foot, standard remote control input
5	Multifunctional Digital Interface 2	Input or output foot, reserved
7	Multifunctional Digital Interface 3	Input or output foot
9	Obligate	
2、4	+5V power output pin	Power the external attachment
6 、 8 、 10	GND	Ground pin connected to external accessory

4、 Communication Interface

1）Internet Access

The control card supports network communication with one standard TCP/IP port, which can be directly connected to a computer's network port or linked via a switch, LAN, or public network (Internet).

[Network cable connection]: Connect to a computer using a standard network cable (compliant with international standard EIA/TIA568A/B), or connect to a LAN or public network via a network switch or router.



Sequence	Line Color
1	Orange White
2	Citrus sinensis
3	Green and White
4	Lan
5	Blue and white
6	Hispid arthr-axon
7	Brown and white
8	Palm

Figure 1: Wiring Sequence of 568B Ethernet Cable

2) U Tray

The remote control supports updating programs via USB flash drives and comes with a USB port as standard.

3) Gorge Line

Serial port cable description

	Control card signal name	Interface pin	COM port pin (DB9 interface)
1	TX1	1	2
2	RX1	2	3
3	GND	3	5

Table 1 Connection Mode With RS232

	Control card signal name	Interface pin	485 converter interface
1	A	1	485+
2	B	2	485-
3	GND	3	GND

Table 2 Connection Mode With RS485

III. Parameter Settings

The C-Power control card supports most indoor and outdoor LED lighting solutions currently available on the market.

Display panels require customized LED driver chips, PCB designs, and wiring configurations for each application scenario. These parameters must be precisely matched through control card settings. Furthermore, different communication protocols demand specific configuration adjustments.

1、 Parameter Settings and Steps

Click 'Tools'> 'LedTool Setup Tool' in the LedCenterM software menu bar to access the setup interface.

2、 Detailed Parameter Description

A、 Communicational Parameter

Serial communication parameters: Serial port number, baud rate.

Network communication parameters: IP address, identifier, and port number.

Note: These parameters must match the software settings.

B、 Basic Parameters of the Display Screen

Cathode Ray Tube (CRT) Image Stabilization: In scanning mode, to prevent signal interference during line switching that may cause faint serial images on the screen, the screen can be turned off during the process. This operation is called "image stabilization".

- Different chips have different requirements for shadow elimination. Some chips have good shadow elimination effect in front of LD signal, while others have good shadow elimination effect in back of LD signal.
- Cancelling will reduce screen brightness and delay normal display.

- The static screen does not need to eliminate the shadow because there is no serial phenomenon.

Column adjustment: The direction of signal lines across the entire display. From the front of the screen, signal lines entering from the right side are positive, and those entering from the left side are negative. If this parameter is set incorrectly, it will display

The left and right images are opposite.

OE signal polarity: The polarity of the screen enable signal, which depends on the circuit design. When this parameter is correctly set, the highest brightness level (31) displays the brightest, and the lowest level (0) displays the darkest or a black screen. If the setting is incorrect, the brightness control will be reversed.

Row sequence adjustment: During PCB design, the scanned screen may not follow the standard 1-31 row sequence for wiring convenience. This parameter compensates for row sequence displacement in unit modules.

Adapter type: An adapter is added to the base plate to accommodate different requirements. There are three configurations: no adapter, full-color adapter, and single/double-color adapter.

C、 Scanning Parameters

Gray scale options: This setting allows more diverse color display. The display supports 64k,4096,1024, and 256 gray levels.

Refresh modes: There are three refresh modes: default refresh, standard refresh, and high refresh. High refresh has the highest refresh rate, while standard refresh has the lowest.

Scanning mode: Determined by the number of lines in time-division multiplexing displayed on the screen. The scanning mode cannot exceed the unit module size. For example, a screen with a unit module size of 16 lines may adopt scanning modes such as 1/16,1/8, 1/4, 1/2, or static. A screen with an 8-line module size may use scanning modes like 1/8, 1/4, or 1/2, but not 1/16.

Unit module size: This term refers to a signal line-controlled area,

typically measured only in height with width being configurable for cascading. For example, a 1/16-inch LED panel with 16 rows of signal lines would have a unit module size of 16 rows. In practical LED modules, if the input/output interface has only one signal line, the "unit module size" equals the module height. If the LED

When a module's input interface contains two or more signal line groups, the unit module size should be divided by the number of signal line groups. For example, an LED panel module with 16 rows of pixels and six input signal lines (R1/G1/B1/R2/G2/B2) would have two R/G/B signal groups, resulting in an unit module size of 8 rows.

D、 Other Settings

Gamma setting: When displaying grayscale images, different program sources and display panels require different gamma values for each color to achieve better visual effects and clearer images.

Auto screen off and brightness control: Set automatic display tasks. Customers can also

In the Settings menu of the LedCenterM software, you can configure the On/Off Screen and Brightness Adjustment options.

IV. Dimension Diagram