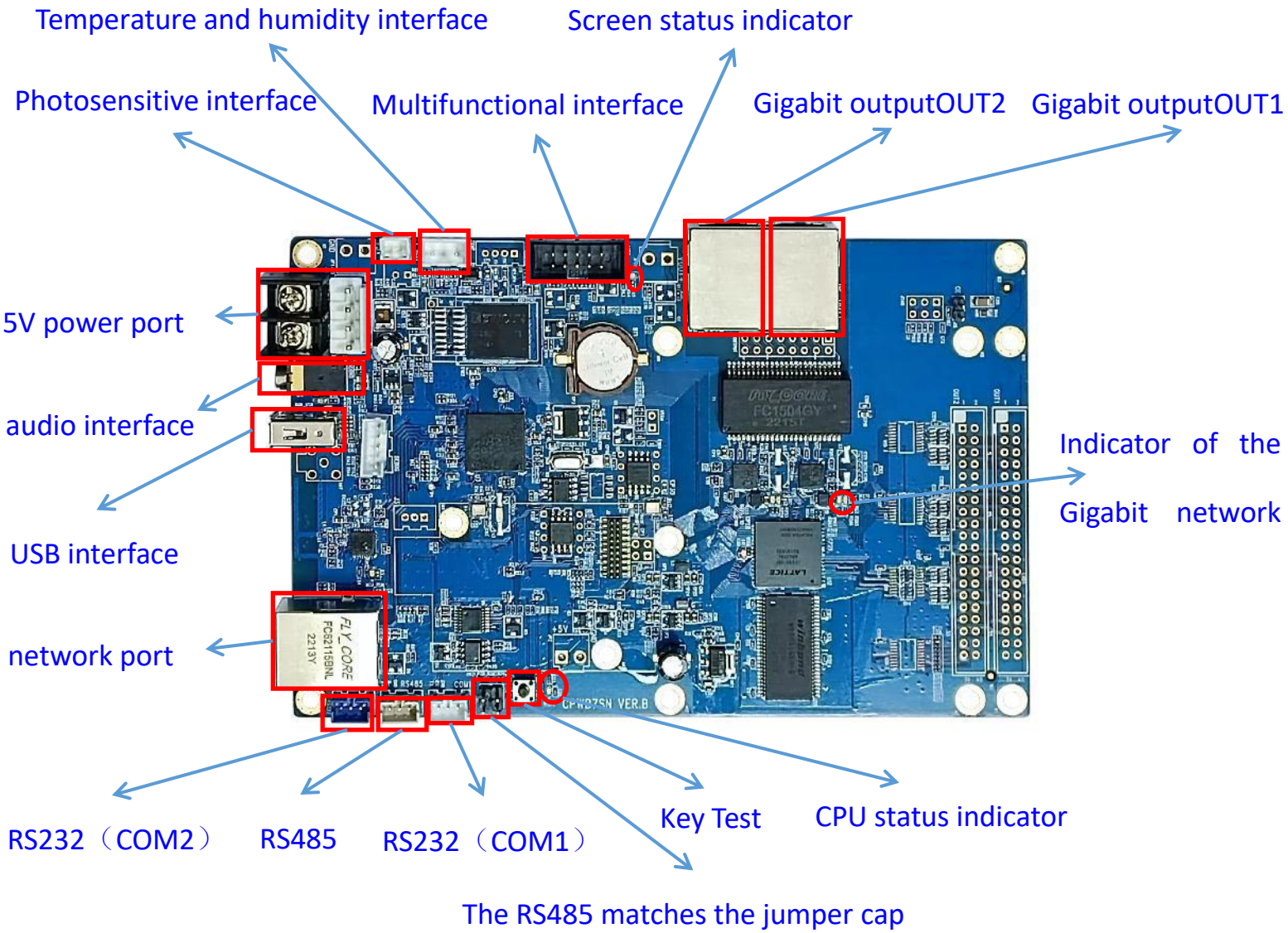
C-Power new 7 Series card hardware manual

catalogue

1、 Controller Card Images



2、 Controller Card Interfaces and Indicators

① Power Interface

- +5V DC power supply ports

  Operating Current: 300~600mA

  Operating Environment: Complies with GB/T 2423.25 and GB/T 2423.26 standards

- Reverse Power Protection: Automatically protects the board when power is connected in reverse
- Soft Start: Prevents impact on the power plane of the board when powered on
- Overvoltage Protection: Automatically shuts down power input if the input voltage exceeds 6V
- Undervoltage Protection: Automatically shuts down power input if the input voltage is below 3.5V
- Short Circuit Auto-recovery: Automatically cuts off power through a self-recovering fuse if the 5V output is shorted, and resumes normal operation once the short is resolved

② Output Interface

【OUT1、OUT2】：Connection scan card

③ Function Expansion Interface

Standard 10PIN Expansion Function Interface

Pin Definitions：

Signal Name	Pin Number	Pin Number	Signal Name
Analog Signal Input	1	2	+5V Power Output
Multifunction Digital 1	3	4	+5V Power Output
Multifunction Digital 2	5	6	GND
Multifunction Digital 3	7	8	GND
Reserved	9	10	GND

Pin Functions：

Pin Number	Signal Name	Function Description
1	Analog Signal Input	External analog signal input monitoring, default for light sensor input
3	Multifunction Digital 1	Input or output, default for remote control input
5	Multifunction Digital 2	Input or output, reserved
7	Multifunction Digital 3	Input or output
9	Reserved	
2、4	+5V Power Output	Provides power to external accessories
6、8、10	GND	Ground connection for external accessories

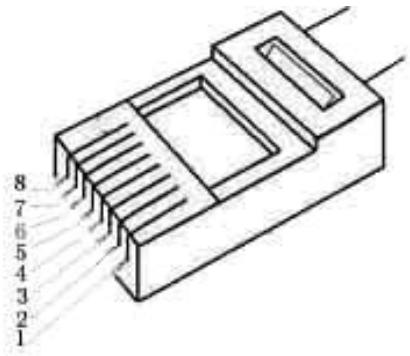
④ Communication Interface

1）Network Interface

The controller card supports network communication with one standard TCP/IP network port. It can be directly connected to a computer network port or connected through a switch, LAN, or public network (Internet)

【Network Cable Connection】： Use a standard network cable (compliant with EIA/TIA568A/B international standards) to connect to a

computer, or connect through a network switch or router to LAN or the public network



Wire Sequence	Wire Color
1	Orange-White
2	Orange
3	Green-White
4	Blue
5	Blue-White
6	Green
7	Brown-White
8	Brown

Figure 1: 568B Network Cable Wiring Sequence

2）USB Drive

The controller card supports program updates via USB drive with one standard USB interface

3）Serial Port

【Serial Port Connection Cable Description】

	Controller Card Signal Name	Interface Pin	Computer COM Port Pin (DB9 Interface)
1	TX1	1	2
2	RX1	2	3
3	GND	3	5

Table 1 RS232 Connection

	Controller Card Signal Name	Interface Pin	485 Converter Interface
1	A	1	485+
2	B	2	485-
3	GND	3	GND

Table 2 RS485 Connection

3、 Parameter Settings

C-Power control card supports most indoor and outdoor LED displays available on the market. Different application scenarios influence the choice of LED driver chips and PCB design and layout, requiring parameter settings to match various LED displays. Different communication methods also require different settings

① Methods and Steps for Setting Parameters

Open the LedCenterM software menu and select "Tools" > "LedTool Setting Tool" to bring up the setting interface

② Detailed Description of Parameters

a、Communication Parameters

Serial Port Communication Parameters: Serial port number, baud rate

Network Communication Parameters: IP address, identification code, port number

Note: These parameters must match the software settings

b、 Basic Display Parameters

Blanking: To avoid signal serial interference during row scanning, the display is turned off during row switching, known as "blanking." Different chips have different requirements for blanking actions

- Different chips have different requirements for shadow elimination, some LD signal front-end image elimination effect is good, some LD signal back-end image elimination effect is good
- shadow elimination will occupy the normal display time of the screen and reduce the brightness of the screen
- Static screen body because there is no serial phenomenon, no need to eliminate the shadow

Column Adjustment: Direction of the entire display signal line. The signal line enters from the right side of the screen when viewed from the front is positive, from the left side is negative. Incorrect settings result in mirrored images

OE Signal Polarity: Polarity of the screen enable signal, related to circuit design. Correct settings ensure the highest brightness level (31) displays the brightest, the lowest brightness level (0) displays the darkest or black screen. Incorrect settings result in reversed brightness control

Row Order Adjustment: To facilitate wiring, the row order on the PCB may not be in a normal 1-31 sequence. This parameter compensates for row order displacement

Adapter Board Type: Adding an adapter board on top of the existing

board to meet different needs. There are three settings: no adapter board, full-color adapter board, single/double-color adapter board

c、Scanning Parameters

Gray Level Options: Allows for more varied color displays. Display gray levels include 64k, 4096, 1024, and 256 levels

Refresh Mode: Includes three refresh modes: default refresh, standard refresh, and high refresh. High refresh is the highest refresh rate, standard refresh is the lowest

Scanning Mode: Determined by the number of rows multiplexed during display. The scanning mode cannot exceed the size of the unit module. For example, a unit module with 16 rows may use 1/16, 1/8, 1/4, 1/2 scan modes, or static; a unit module with 8 rows may use 1/8, 1/4, 1/2 but not 1/16 scan mode

Unit Module Size: This "module" refers to the area controlled by a set of signal lines, generally only counting height, width can be cascaded. For example, a 1/16 scan screen with a signal line controlling 16 rows height has a unit module size of 16 rows. If the actual LED module has only one set of signal lines for input and output, the "unit module size" equals the LED module height; if the LED module input has two or more sets of signal lines, the "unit module size" must be divided accordingly

Interface Board Type: Selected based on the type of interface board

(clip-on or HUB board). Typically, standard interface boards are HUB75 type

d、Other Settings

Gamma Settings: For gray-scale image display, different gamma corrections are needed for different program sources and display screens to achieve better visual effects and clearer images

Automatic Screen Switching and Brightness Control: Set automatic tasks for the display. Customers can also set "On/Off Screen" and "Brightness Adjustment" in the LedCenterM software

4、 Dimension Diagrams