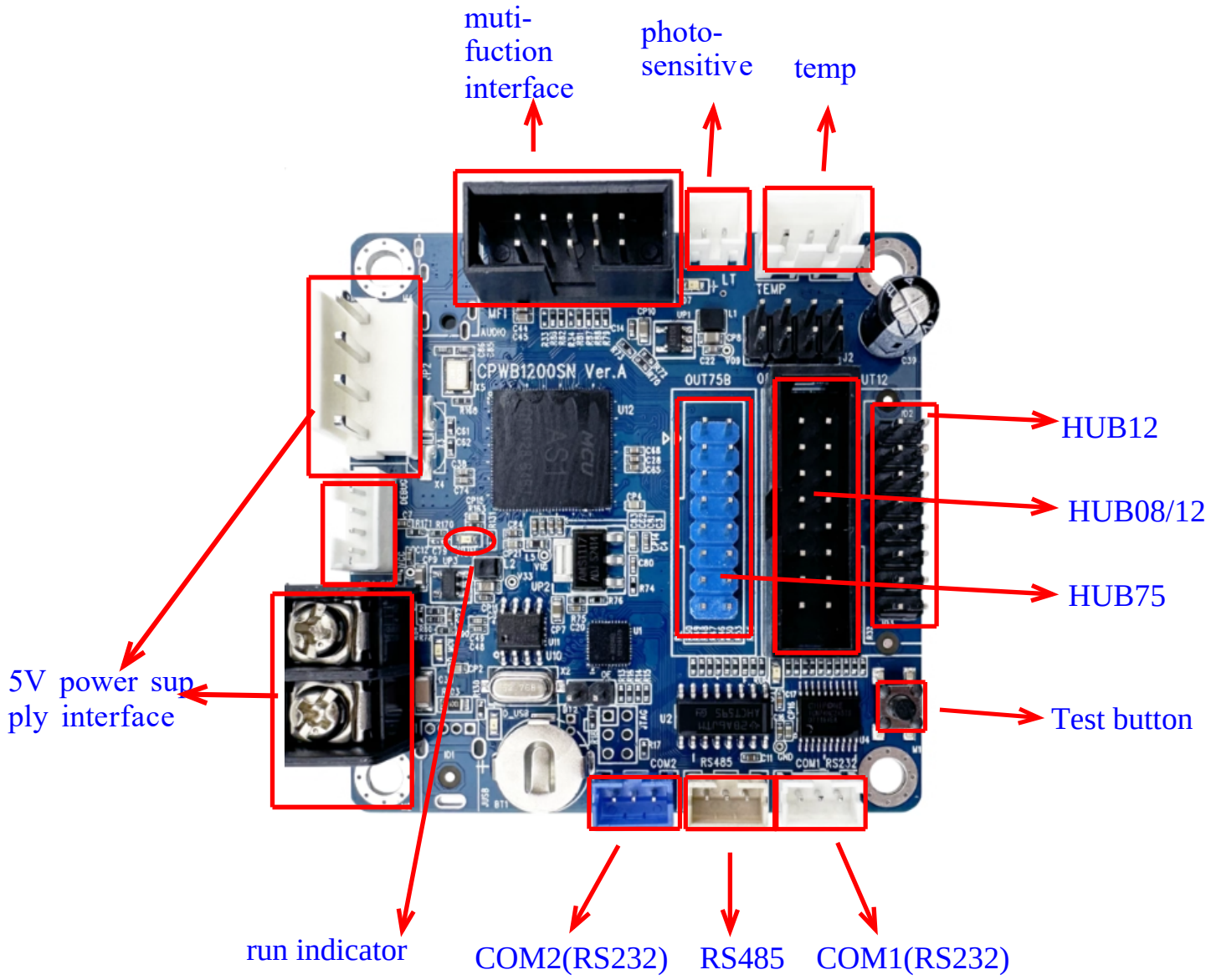
C-Power1200 Card Hard-ware Manual

Catalogue

I. Control Card Image



II. Control Card Interface

1、 Power 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 board automatically protects against reverse power input.

- Soft Start: No Impact on the Power Plane of the Single Board During Power-On

- Overvoltage protection: The board automatically cuts off the power supply when the input voltage exceeds 6V.

- 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-resetting fuse automatically cuts off power to protect the circuit. Once the short circuit is resolved and normal operation resumes, the control card automatically returns to normal functioning.

2、 Display Interface

[OUT1~OUT3]:1 standard HUB75, with 2 HUB12 or HUB08 interfaces pre-installed by default, configurable via software

3、 Functional Extension Interface

Standard 10-pin expansion function interface

Pin definition diagram:

signal name	pin number	pin number	signal name
analog input pin	1	2	+5V OUTPUT
muti-function-digital-pin1	3	4	+5V OUTPUT
muti-function-digital-pin2	5	6	GND
muti-function-digital-pin3	7	8	GND
screen-power-control	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	Screen power switch control	Directly drive the external circuit to control the power on/off of the screen. This function requires an external relay, with D5 indicating the screen's on/off status.
2、4	+5V power output pin	Power the external attachment
6、8、10	GND	Ground pin connected to external accessory

4、 Communication Interface

1） gorge line

Serial port cable description

	Control card signal name	Interface pin	
1	TX1	1	2
2	RX1	2	3
3	GND	3	5

Table 1 Connection Selected in RS232 Mode

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

Table 2 Connection With RS485 Mode Selected

III. Parameter Settings

C-Power control cards support most indoor and outdoor LED displays available on the market. Since each display has distinct application scenarios, LED driver chip selection, PCB design, and wiring differ, requiring parameter settings on the control card to match the specific LED display. Additionally, different communication methods demand tailored configurations.

1、 Parameter Settings and Steps

Click the "Tools" menu in the LedCenterM software, then select " LedTool Setup Tool" to open the setup interface.

2、 Detailed Parameter Description

A、 Communicational Parameter

Serial communication parameters: Serial port number, baud rate.

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

Note: These parameters must match the software settings.

B、 Basic Parameters of the Display Screen

Crosstalk: In scanning mode, to prevent signal crosstalk during line switching that may cause faint serial images on the screen, the screen can be turned off during the process. This action is called "crosstalk elimination".

- Different chips have different requirements for shadow elimination. Some LD signals show better shadow elimination at the front end, while others perform better at the back end.

- Cancelling the image will reduce the screen brightness and take up display time.

- 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, the Signal Lines Run From

Positive is on the right side of the screen, and negative is on the left side. If this parameter is set incorrectly, it will display

Left and Right Mirror Images Are Opposite.

OE signal polarity: The enable signal polarity of the screen panel, which is related to circuit design. This parameter is set

When set correctly, the highest brightness level (31) displays the brightest, and the lowest level (0) displays the darkest or a black screen. If the offset is incorrect, the brightness control will work in reverse.

Row sequence adjustment: During PCB design, scanned panels may not follow the standard 1-31 row sequence for wiring convenience. This parameter compensates for unit module alignment.

Row Sequential Displacement.

Adapter type: Add an adapter to the board to meet different needs. There are 3 settings: No adapter, Full-color adapter, Single-color adapter.

C、 Scanning Parameters

Grayscale options: This setting allows more diverse color display. The display supports 4096,1024, and 256 grayscale 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.

Scan mode: Determined by the number of split-screen rows displayed on the screen. The scan mode cannot exceed the unit module size. For example, a screen with a unit module size of 16 rows may scan in modes such as 1/16,1/8, 1/4, 1/2, or static. A screen with a module size

of 8 rows may scan in modes such as 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 by height with width being configurable for cascading. For example, a 1/16 scan screen module with 16 rows of signal lines has a unit module size of 16 rows. In practical LED modules, if the input/output interface has only one signal line group, the unit module size equals the module height. If the LED module's input interface has two or more signal line groups, the unit module size must be divided by the number of signal line groups. For instance, an LED screen module with 16 rows of pixels and six input signal lines (R1/G1/B1/R2/G2/B2), including two R/G/B signal lines, has an unit module size of 8 rows.

D、 Other Settings

Gamma Correction: When displaying grayscale images, different program sources and display panels require varying gamma values for each color to achieve optimal visual effects and enhance image clarity.

Automatic screen switching and brightness control: You can configure the display's automatic functions through the LedCenterM software's 'Settings'> 'Screen On/Off'> 'Brightness Adjustment'.

IV. Dimension Diagram