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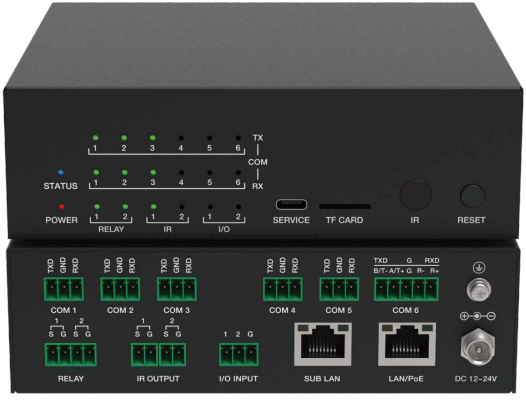
CF-CTL801-EA

Integrated Control System Host



User Manual

VER 1.1

Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Table of Contents

1. Introduction

This product is a networked integrated control system host designed for professional scenarios. As the system control core, it can provide unified access, centralized management, and linkage control for multiple types of devices. It supports programmable configuration and programmable human-machine interface, facilitating rapid deployment, flexible expansion, and secondary integration. The product is equipped with 6 bidirectional serial ports, 2 IR outputs, 2 relay ports, 2 digital I/O inputs, and dual Gigabit Ethernet ports, meeting the needs of large-scale systems for multi device control and stable communication. It is suitable for emergency command, conference, and building automation scenarios.

2. Features

- ☆ ARM Cortex-A55 architecture, 1.8Ghz main frequency, 4GB RAM, 32GB ROM
- ☆ 6× two-way serial ports to connect and control matrixes, projectors or other A/V devices
- ☆ 2× IR outputs to connect and control DVD, TV sets, or other IR devices
- ☆ 2× Relay ports to control lights, doors or curtains
- ☆ 2× Digital inputs, supporting sensor/dry contact signal access and status acquisition
- ☆ Dual Gigabit Ethernet ports, compliant with industry standard network communication protocols (TCP/IP, UDP, HTTP, WebSocket)
- ☆ IR learning function, supporting collecting external remote control IR signals and generating code values
- ☆ Built-in high-performance Web server, supporting password access control and online firmware upgrade
- ☆ Built-in RTC real-time clock, supporting power-off operation to ensure time continuity
- ☆ Dual power supply mode: Supports DC/PoE power supply, making installation and deployment more flexible
- ☆ Port status LED: Convenient for on-site debugging, operation monitoring, and fault location
- ☆ TF card expansion (reserved), supporting subsequent storage/function expansion
- ☆ Factory reset: One-click to restore default settings, facilitating maintenance and batch deployment

3. Package Contents

① 1× Integrated Control System Host
② 2× 2pin-3.5mm Phoenix Connector
③ 6× 3pin-3.5mm Phoenix Connector
④ 1× 4pin-3.5mm Phoenix Connector
⑤ 1× 5pin-3.5mm Phoenix Connector
⑥ 2× 5V IR Blaster Cable
⑦ 2× Mounting Ear
⑧ 4× Machine Screw
⑨ 2× Hook & Loop
⑩ 1× User Manual

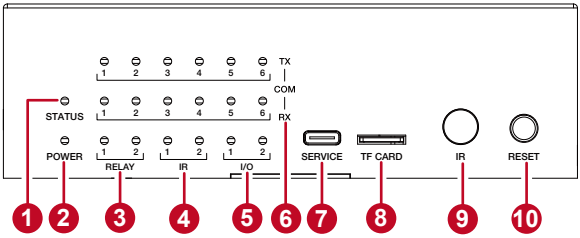
4. Specifications

Technical	
CPU	ARM Cortex-A55 1.8GHz
Operation System	Android 11
RAM	4GB DDR4 RAM
Flash Memory	32GB EMMC Flash
LED	1× POWER LED 1× STATUS LED 6× COM TX LED 6× COM RX LED 2× IR OUTPUT LED 2× RELAY LED 2× I/O INPUT LED

Connection	
COM 1/2/3/4/5	5× 3pin Phoenix connector, for two-way RS-232 serial data communication
COM 6	1× 5pin Phoenix connector, for two-way RS-232/422/485 serial data communication
IR OUTPUT	2× 2pin Phoenix connector, for IR control signal output
RELAY	2× 2pin Phoenix connector, isolated low-voltage relays
I/O INPUT	1× 3-pin Phoenix connector, for digital signal inputting
LAN	2× 10M/100M/1000M Ethernet RJ45 interface
SERVICE	1× USB-C port, reserved system debugging port
TF CARD	1× TF card port, reserved storage expansion port
RESET	1× Reset button, for restoring factory default settings
IR	1× IR learning window
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimension	145mm (W) × 135mm (D) × 44mm (H)
Weight	710g
Installation	Flat installation
Power Supply	24V / 1A
Power Consumption	6.5W
Operation Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Operation Humidity	20% ~ 80% (relative humidity, non-condensing)
Storage Humidity	10% ~ 90% (relative humidity, non-condensing)

5. Operation Controls and Functions

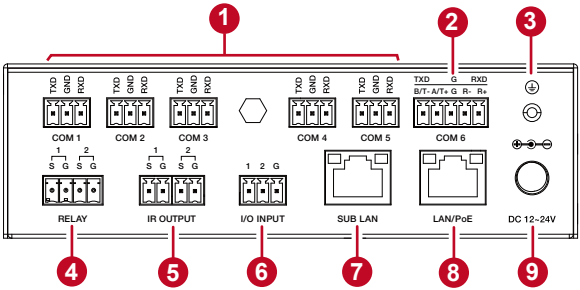
5.1 Front Panel



No.	Name	Function Description
1	STATUS LED (Blue)	When the device functions normally after booting, the status LED is on.
2	POWER LED (Red)	When the device is powered on, the power LED is on.
3	RELAY 1/2 LED (Yellow green)	When the RELAY 1/2 port is closed, the corresponding RELAY 1/2 LED is on; When the RELAY 1/2 port is disconnected, the corresponding RELAY 1/2 LED is off.
4	IR 1/2 LED (Yellow green)	When the IR OUTPUT 1/2 port is transmitting data, the corresponding IR 1/2 LED is flashing; If not, the LED is off.
5	I/O 1/2 LED (Yellow green)	When the I/O INPUT 1/2 port gets signal level fluctuation, the corresponding I/O 1/2 LED is flashing; If not, the LED is off.
6	TX-COM-RX LED (Yellow green)	When the TX/RX COM 1/2/3/4/5/6 port is transmitting/ receiving data, the corresponding TX/RX LED is on; If not, the LED is off.
7	SERVICE port	USB-C port, reserved port for system debugging.
8	TF CARD port	TF card port, reserved port for storage expansion.
9	IR Learning Window	IR learning receiving window, supporting collecting IR commands from the remote control of the target device and generating corresponding IR code values.

No.	Name	Function Description
10	RESET button	**Reboot:** After the device is powered on and running, press and hold this button for 1-5 seconds before releasing it. The device will reboot and will not load user projects. **Reset:** After the device boots up, press and hold this button for more than 5 seconds before releasing it, and the device will be restored to its factory configuration: clear user parameters; LAN is restored to 192.168.0.101/255.255.0.0, SUB LAN is restored to 169.254.0.101/255.255.0.0; Reset the login password for the management webpage to “admin”; Restore the time setting to automatic retrieval. Factory reset will not delete user projects.

5.2 Rear Panel



No.	Name	Function Description
1	COM 1/2/3/4/5	5 sets of programmable two-way single-mode serial ports (3pin Phoenix connector), compliant with RS-232 communication protocol, and capable of configuring 8 baud rates in the range of 2400-115200bps. PIN definition: PIN1=TXD, PIN2=GND, PIN3=RXD.

No.	Name	Function Description
2	COM 6	1 set of programmable two-way multi-mode serial ports (5pin Phoenix connector), compliant with RS-232 / RS-422 / RS-485 communication protocols, and capable of configuring 8 baud rates in the range of 2400-115200bps. **RS-232 mode:** PIN1=TXD, PIN3=GND, PIN5=RXD **RS-422 mode:** PIN1=TX -, PIN2=TX+, PIN3=GND, PIN4=RX-, PIN5=RX+ **RS-485 mode:** PIN1=B, PIN2=A, PIN3=GND
3	Ground Terminal	Used for connecting the ground or the earthing conductor of the rack.
4	RELAY	2 sets of low-voltage isolated relay ports (2pin Phoenix connector) are used to control the on/off of external circuits (without outputting voltage), with a maximum load capacity of 2A 30VDC/1A 125VAC for each set. PIN definition: PIN1=signal input, PIN2=signal output (closed conduction)
5	IR OUTPUT	2 sets of IR control signal output ports (2pin Phoenix connector), with a carrier range of 20K-60KHz for IR output. PIN definition: PIN1=signal output, PIN2=GND
6	I/O INPUT	1-channel GPIO dry contact input port (3pin Phoenix connector), with a voltage range of 0-24V, for collecting digital level signals, capable of low level signal sensing.
7	SUB LAN	Standard 10M/100M/1000M Ethernet RJ45 port (supporting automatic rate negotiation), used for subnet communication. By default, the DHCP function of the control host is disabled, and the IP setting is as follows: IP address: 169.254.0.101, subnet mask: 255.255.0.0.
8	LAN/PoE	Standard 10M/100M/1000M Ethernet RJ45 port (supporting automatic rate negotiation), supporting PoE power supply; Used for device networking, project uploading/downloading, network communication, and debugging. By default, the DHCP function of the control host is disabled, and the IP setting is as follows: IP address: 192.168.0.101, subnet mask: 255.255.0.0
9	DC 12-24V	The power supply port, supporting 12-24V wide voltage input.

6. Application Example