



INSTRUCTION MANUAL

Thanks for purchasing our product. Please read this manual carefully before use the product and strictly follow it.

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SECURITY CONSIDERATIONS

Danger

- There is high voltage inside, and non professional maintenance personnel are not allowed to open the back cover to avoid danger.

Warning

- It is strictly prohibited for the equipment to be exposed to water splashes
To prevent fire, the equipment is prohibited from being near sources of ignition
- The equipment should be unplugged immediately and contact your dealer if it makes
- strange noises, emits smoke or has a strange odor

Notice

- Please read this manual carefully before use, and keep it properly for future use;
- Please unplug the power supply if there is lightning or long-term unused condition;
- This equipment should be operated and commissioned by professionals;
- Users must accept the guidance of professionals;
- The ventilation hole of the equipment should not be plugged into any object, so as to avoid damage to the equipment or electric shock;
- Do not place the equipment in the heat sink or other high-temperature places for use; The equipment shall not be exposed to water splashes
- Do not cover ventilation holes with items such as newspapers, tablecloths, and curtains to impede ventilation;
- Sockets should be placed near the equipment for easy access;
-  on the equipment means "Safe use only at altitudes below 2000m";
- This product is an embedded equipment that needs to be pre installed in a prepared recess, such as in a wall or similar installation position.
-

Precautions and Suggestions

- When wiring the equipment, please turn off the power and only operate it after ensuring that there are no wiring problems;
- Equipment damage caused by human factors is not covered by our warranty service, so we will charge for repair services in this case;
- In order to ensure that the equipment can work normally for a long time and extend its service life, it is recommended to turn off the power of the equipment when it is not in use, or to shut down and restart it after about a week of use. After restarting the equipment, the Android system will automatically optimize it to make the equipment smoother.

- ICARELIFE touch control panels are mainly used in hospital operating rooms, isolation wards, clean corridors, and auxiliary rooms.

PRODUCT FEATURES

- World time, anesthesia countdown, operation timing;
- Temperature and humidity display and setting of air conditioner units, start-stop of units, operation under duty, negative pressure, disinfection control;
- Display and setting of pressure difference, display of system operating status, display of system failure, and low, medium and high efficiency alarm;
- Start-stop of Light 1, light 2, shadowless lamp, film viewer, anesthesia exhaust;
- Light adjustment function according to the color value;
- Bluetooth, WIFI network function.
- User rights management, system parameter setting.
- 1-Click Smart Start function;
- Multi-language, multi-time zone settings
- The communication interface of the upper computer and the communication interface of the automatic control system are reserved to realize the digital communication function.
- Fantastic visualization, with three interface color options available (basic, light green, beige), different color schemes can be selected according to the operating room function, making it more harmonious.
-  The function block containing this icon can unfold the sub-interface.
-  The function block containing this icon can be dragged and moved according to user habit.

FUNCTION INTRODUCTION

The main operation page is shown below

Restore default layout function, and enter sleep page function

Speaker



Microphone, power supply, and USB interface

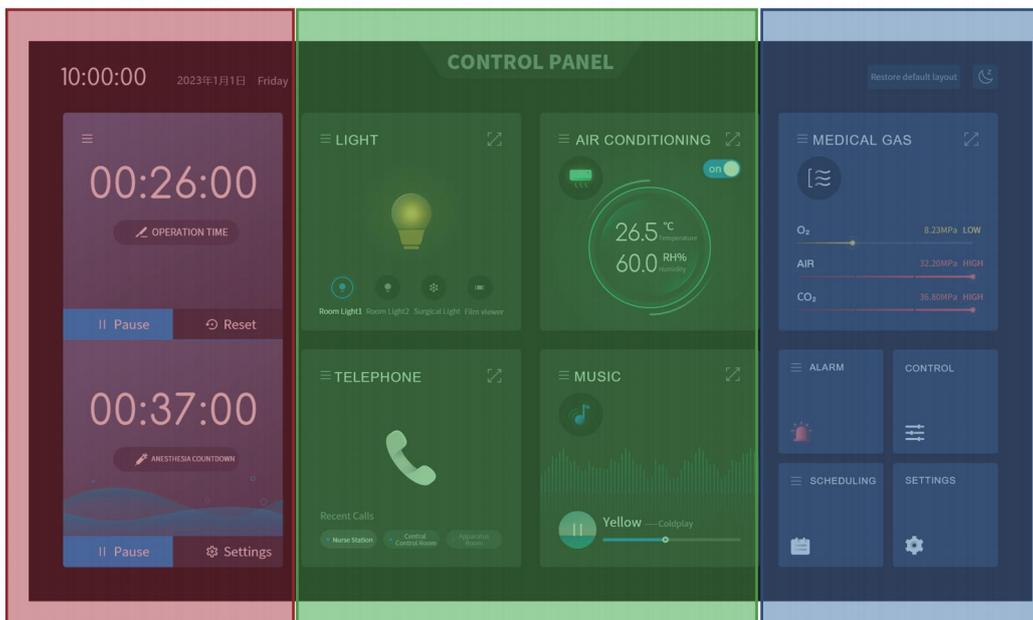
This user interface covers functions such as operation timing, anesthesia countdown, air conditioner system, telephone/background music, alarm, scheduling system, light adjustment, control, 1-Click-Call, fire alarm, IT power alarm, system settings, etc.

The main operation page is shown below

• The timing area

• Procedure for use

• Read-only information and system information



5.1 Time Screen Module

5.1.1 Operation Timing

- Click the start button of the operation timing to enter the timing;
- Operation timing function: Click the start button of the operation timing on the main screen to start timing the current operation.

Timing format: XX (0, 99 hours): XX (0, 59 minutes): XX (0, 59 seconds)

The screen is as follows:



Tip: The operation timing cannot be set to a specific time. Simply click "Start" to start the timing, and click "Pause" again to pause the timing.

5.1.2 Anesthesia Countdown

Anesthesia countdown format: XX (0, 99 hours): XX (0, 59 minutes): XX (0, 59 seconds)

The screen is as follows:



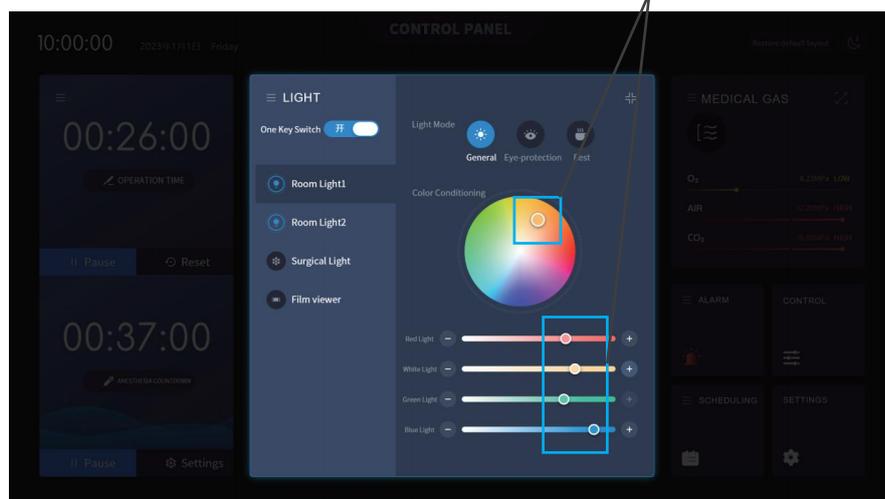
Click the "Anesthesia Countdown Settings" button to pop up the following screen, from left to right is "hour, minute, second". Slide the time up and down, the system has two modes of "countdown and timing". Directly click "Start" to be timing, click "Start" to count down after setting the time.

5.2 Light Module

Tip: Before entering the light sub-interface, you need to click on "System Settings" - "Advanced Settings" - "Enable Light Adjustment" to open the sub-interface.

Users can click on the corresponding light in the main operation interface to operate it. You can also enter the light sub-interface and click "1-Click-Switch" to operate all lights. Three light modes and color adjustment functions can be set in the sub-interface.

Optionally, you can drag the circle in the RGB color palette or the circle in the corresponding color value to change the light color.



- Normal mode: preset to red light: 100%, green light: 100%, blue light: 100%, white light: 100%
- Eye protection mode: preset to red light: 50%, green light: 100%, blue light: 50%, white light: 100%
- Rest mode: preset to red light: 50%, green light: 80%, blue light: 0%, white light: 45%

Users can also set the specific color values of the three modes by themselves.

5.3 Air Conditioner Module

The expansion view is shown below:

System diagram unfolds here



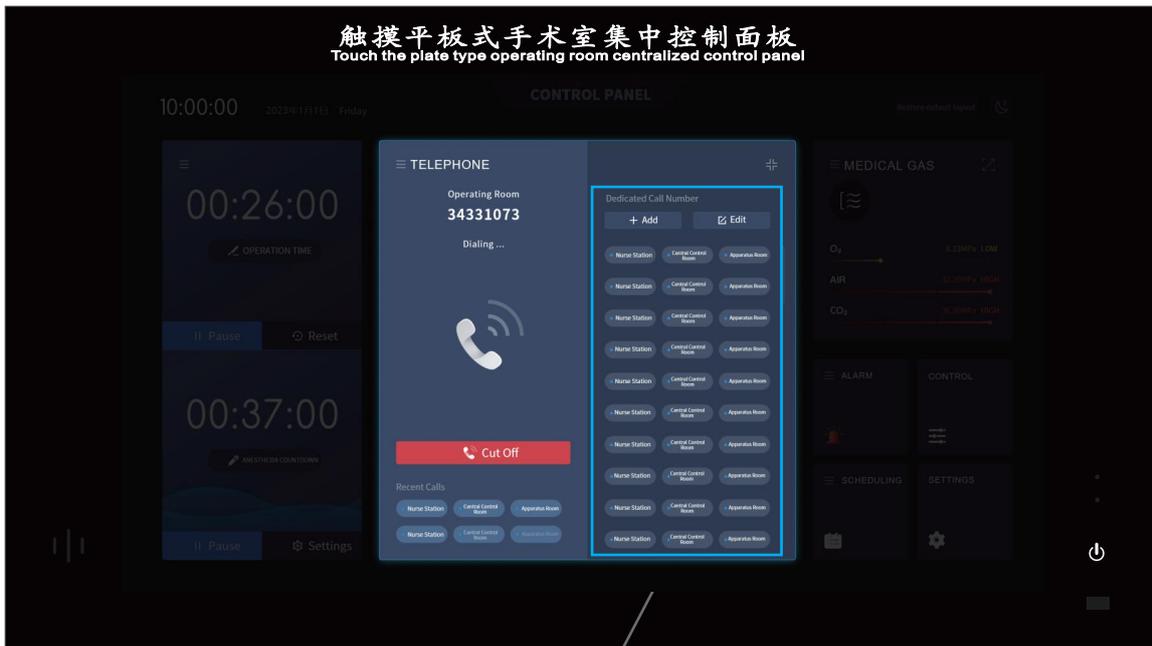
-  You can drag this icon to adjust the parameter values of the corresponding function
-  You can click this icon to adjust the parameter values of the corresponding function

5.4 Telephone Module



If there is an incoming call, the screen will appear as above.

5.4.1 Voice Call



Preset commonly used department contact information in advance, making it convenient to dial out with just one click when in use

5.4.2 Video Call



Switchable to voice call mode

5.5 Music Module

There are three types of sound sources for background music: "Local, Remote, and Bluetooth".

Local: It is the built-in audio source of the equipment, you can copy the music file to local via USB

Remote: It means to play the music from the nurse's station

Bluetooth: It means the Bluetooth connection with the mobile phone



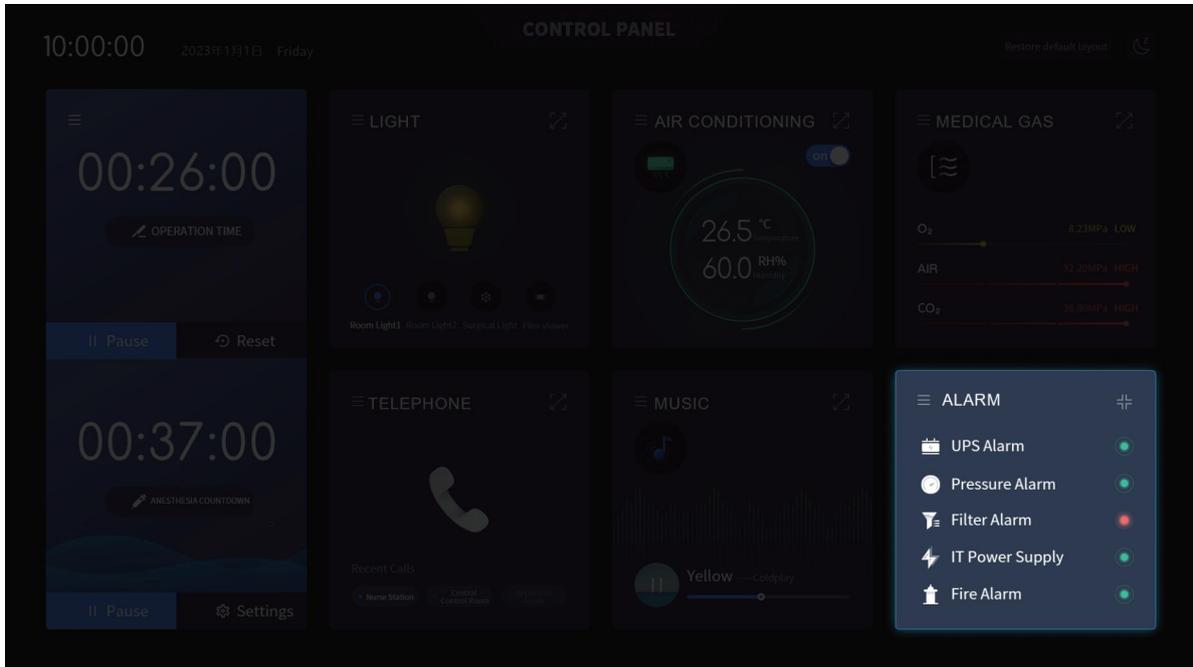
Users can adjust the music position by dragging the progress bar.

-  On Repeat: Repeat the currently selected song.
-  Order: Play the songs in the order they were downloaded
-  Shuffle: Randomly play the existing songs according to the playlist.

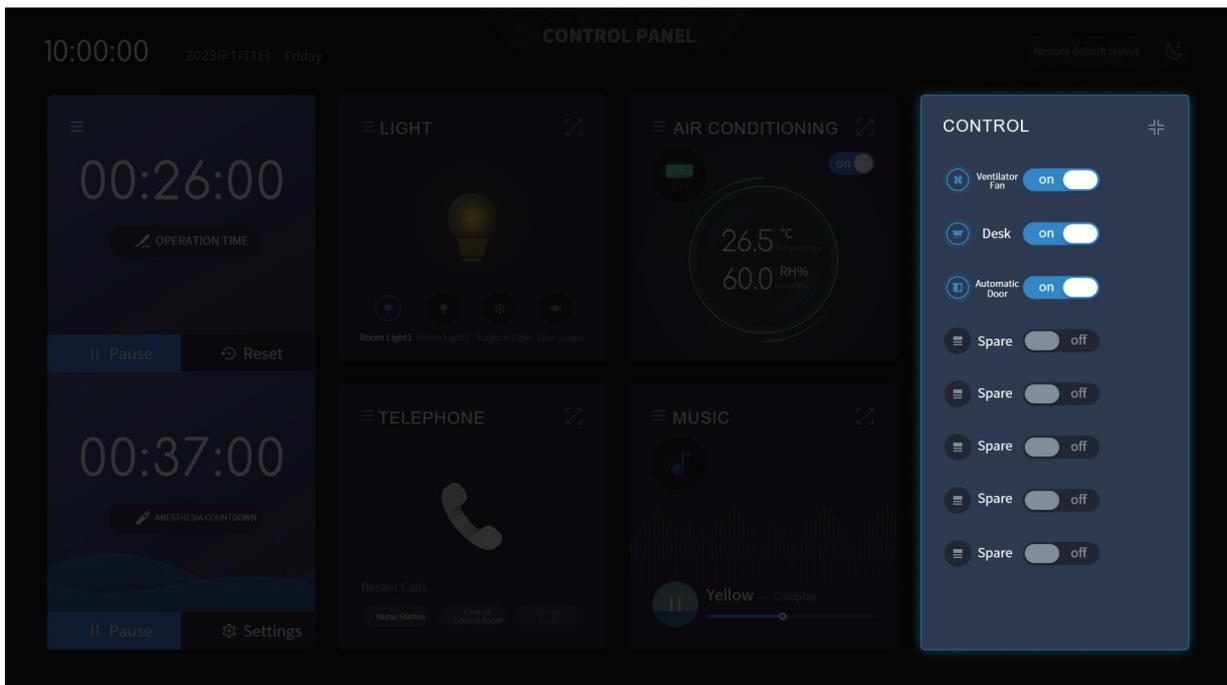
5.6 Medical Gas Module



5.7 Alarm Module



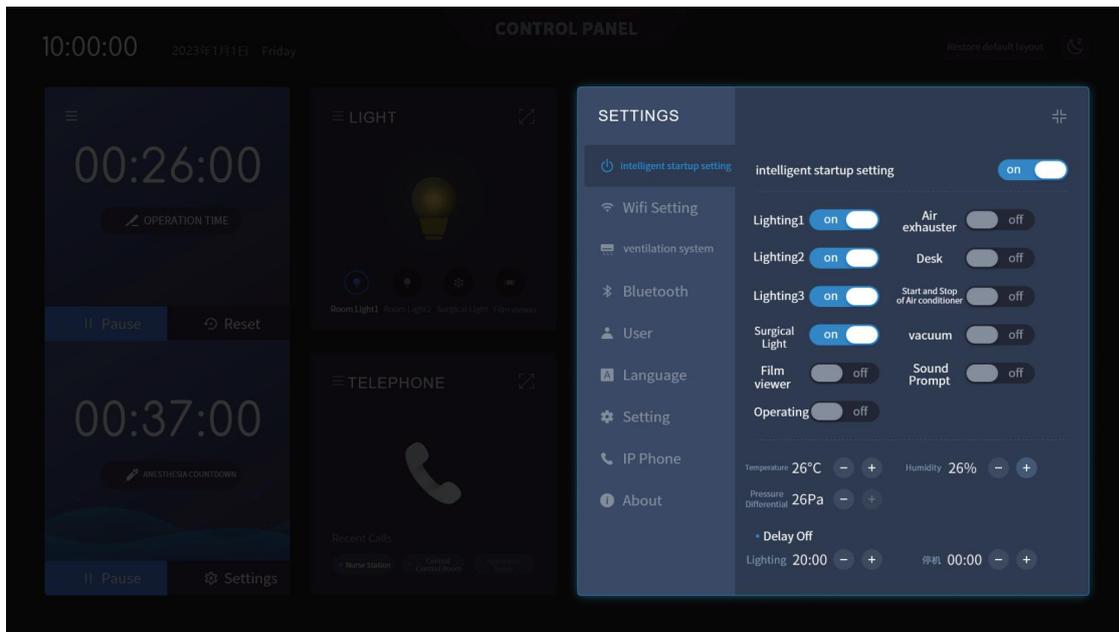
5.8 Control Module



5.9 Setting Module

5.9.1 Setting Module-Smart Start

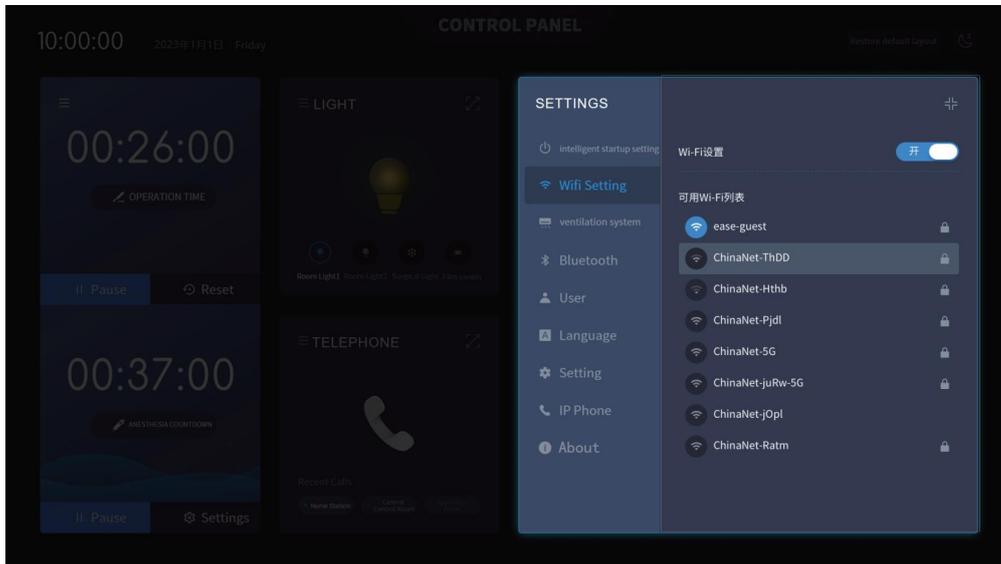
The desired functions can be preset, and it is convenient and quick to start with one key when using.



After opening the 1-Click-Start button, the "Smart Start Icon" appears on the homepage.

5.9.2 Setting Module-WiFi

WiFi connection can be set.



5.9.3 Setting Module-Air Conditioner System

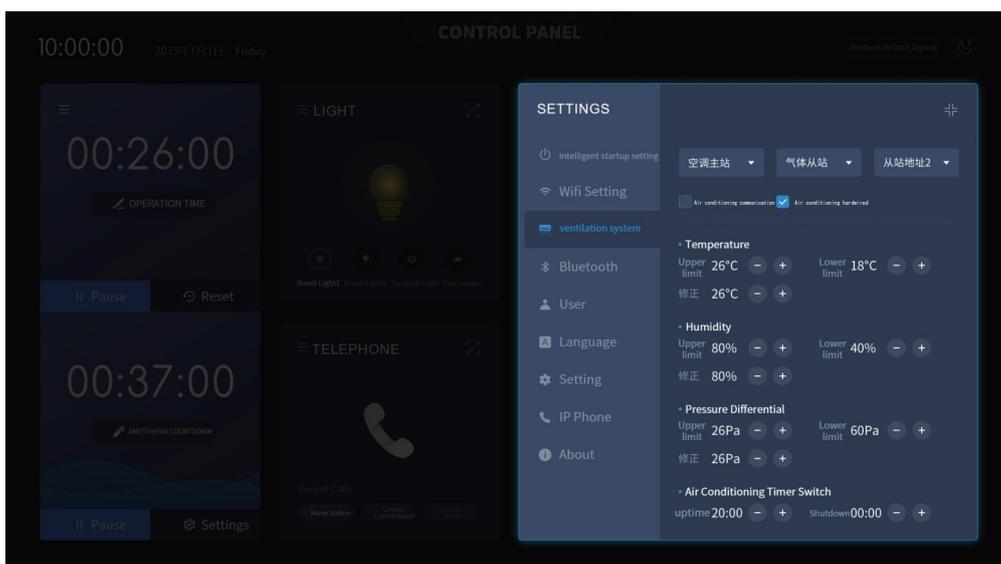
The air conditioner master/slave function can be set.

(The master can issue query commands on the modbus.

Slaves cannot issue query commands on the modbus and can only respond.)

(Information can be highly integrated through signal exchanges and communication between different equipment.)

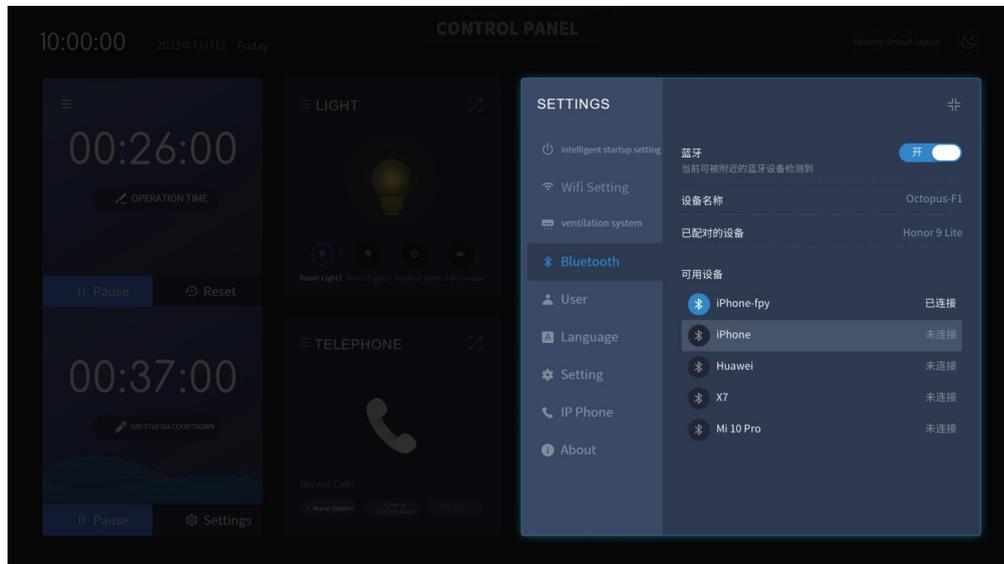
Specific parameters such as temperature, humidity and differential pressure can be set.



Tip: You need to log in to your account before entering this setting to perform this operation.

5.9.4 Setting Module-Bluetooth

It can be connected with Bluetooth of mobile phones and other equipment, and can be used for Bluetooth music playback of music module.

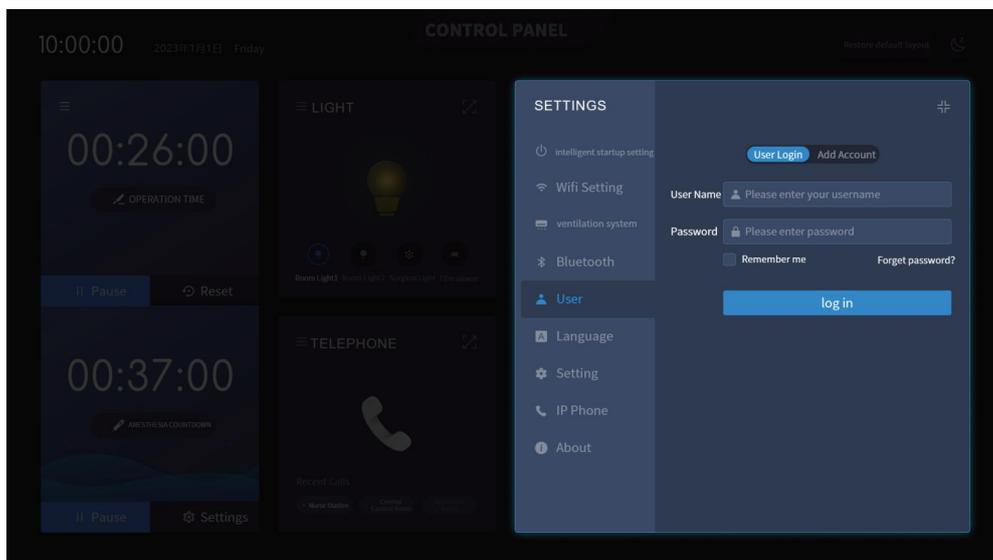


5.9.5 Setting Module-User Management

After completing the user login, you can use the other functions in the Setting.

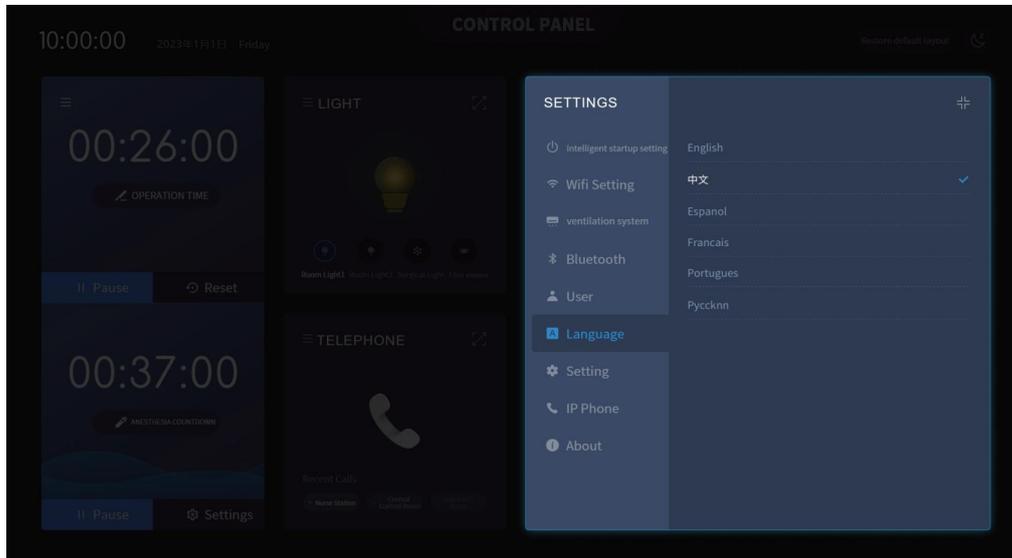
Account: admin Password: 1111

After logging in, click on "Air Conditioner" to set the master and slave parameters of the air conditioner.



5.9.6 Setting Module-Language

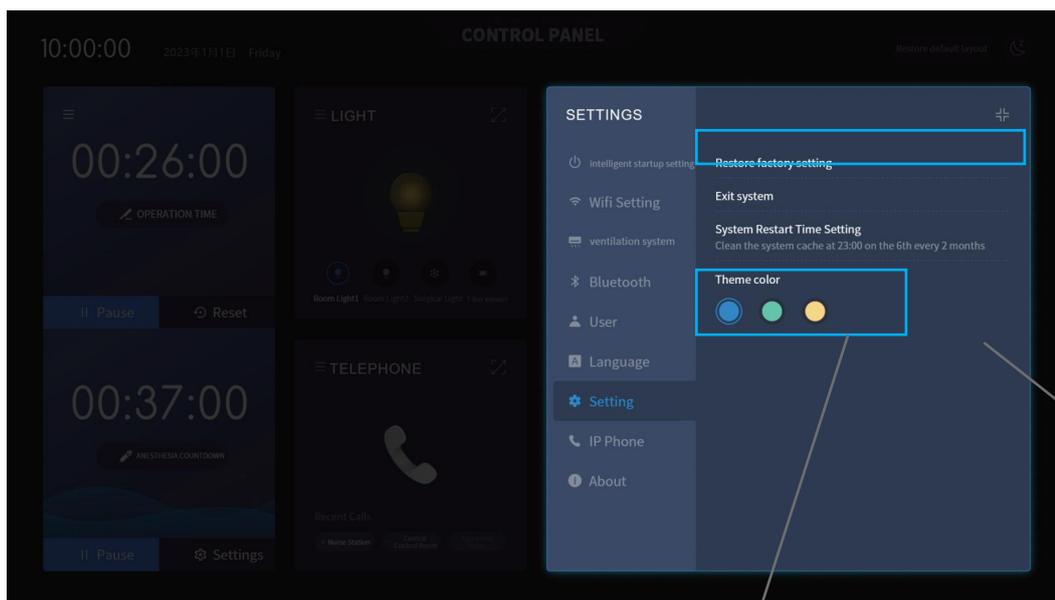
Multiple language such as English, Chinese, Spanish, French, Portuguese, Russian, etc. can be set up to meet the product needs of various European, American, and Asia Pacific countries. (Default to Chinese mode)



5.9.7 Setting Module-Advanced Setting

This function can change the theme color of the interface and is suitable for various types of operating rooms.

(Basic color scheme, light green color scheme, beige color scheme)

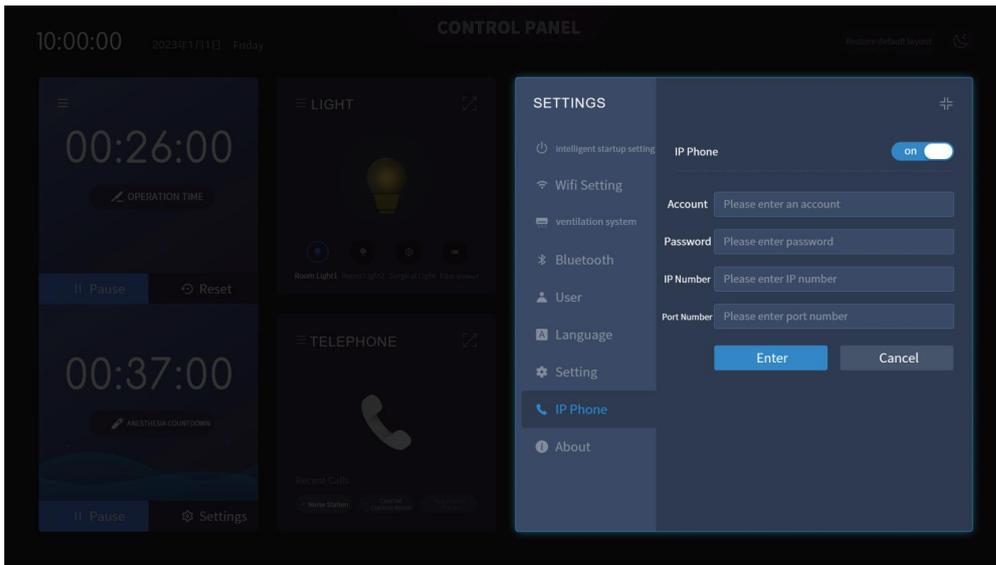


Only after opening can you enter the debugging interface of the light module.

Click on the corresponding color to change the theme tone.

5.9.8 Setting Module-IP Telephone

Upgrading from analog to IP telephone, which transmits information digitally, offers all the advantages of digital transmission, such as no transmission loss, low distortion, and high voice quality. It is also easy to add many additional features.



5.9.9 Setting Module-About the System

View specific information such as equipment serial number, system version, application version, terms of use, etc.

TECHNICAL PARAMETERS

- The structure of the main control chassis: ARM build-in mainboard, CPU, hard board, memory, and graphics card are integrated.
If there is a power outage, it does not affect the normal operation of the equipment after subsequent startup, and there is no need to shut down and then power off.
- LG, Samsung, BOE, Chimei and other LED display brands, with sizes of 42, 32, 27 inches or customer specified, TFT resolution of 1920 * 1080 or larger, brightness of 300cd/m², contrast ratio of 50000:1, response speed of 2ms
- Highly sensitive capacitive touch screen: resolution of 4096 * 4096
Transparent and glossy materials >83%
Service life of knocking : > 2 million times (single point click)
Glass type: chemically strengthened glass
Vandal-resistant glass surface hardness 3H

CONTROL BOX CONNECTION INTERFACE

- DO output: maximum output quantity of 9 contacts, type: relay output
- AO analog output: voltage type 0-10V output (two channels)
- AI analog input: Voltage type 0 to 10V input (two channels)
- DI switching input: low level: 0V to 3V, high level: 5 to 12V input
- Contact type: dry contact, (up to 5 points)

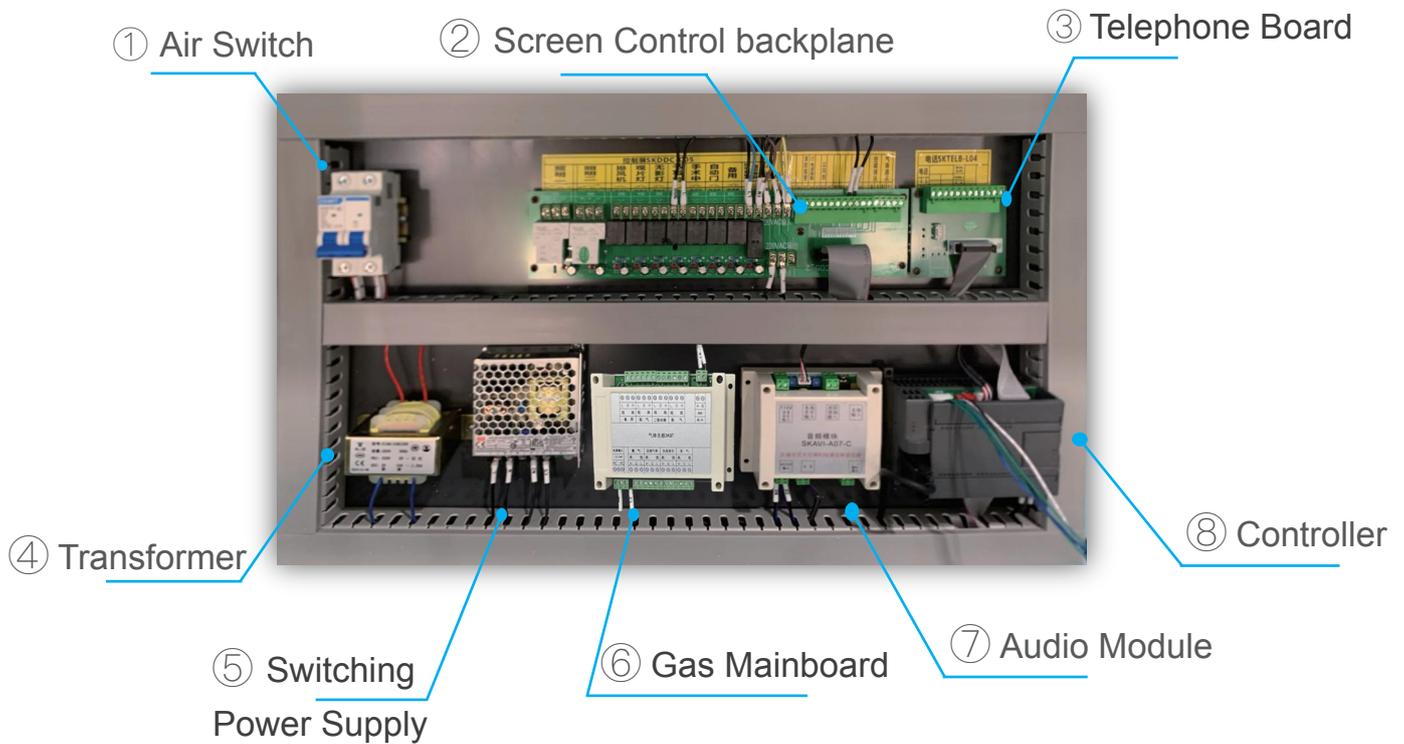
COMMUNICATION INTERFACE

- Two RS485 communication interfaces

OTHER INTERFACES

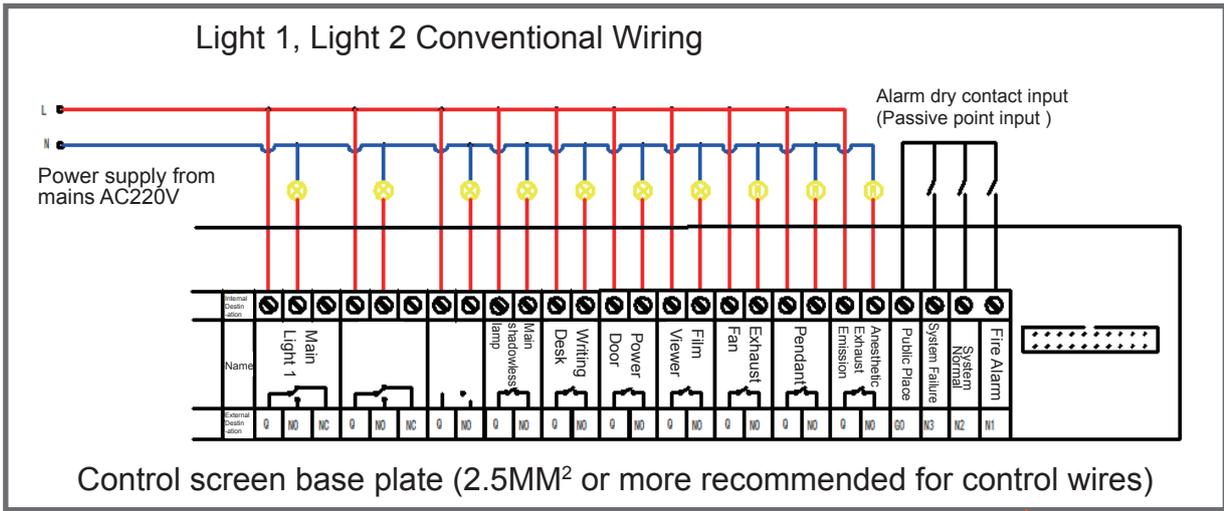
- One telephone interface;
- Background music audio input;
- Fire input with a voltage of 24V;
- One audio output terminal with a power of 10W;

SCHEMATIC DIAGRAM OF TOUCH SCREEN WIRING

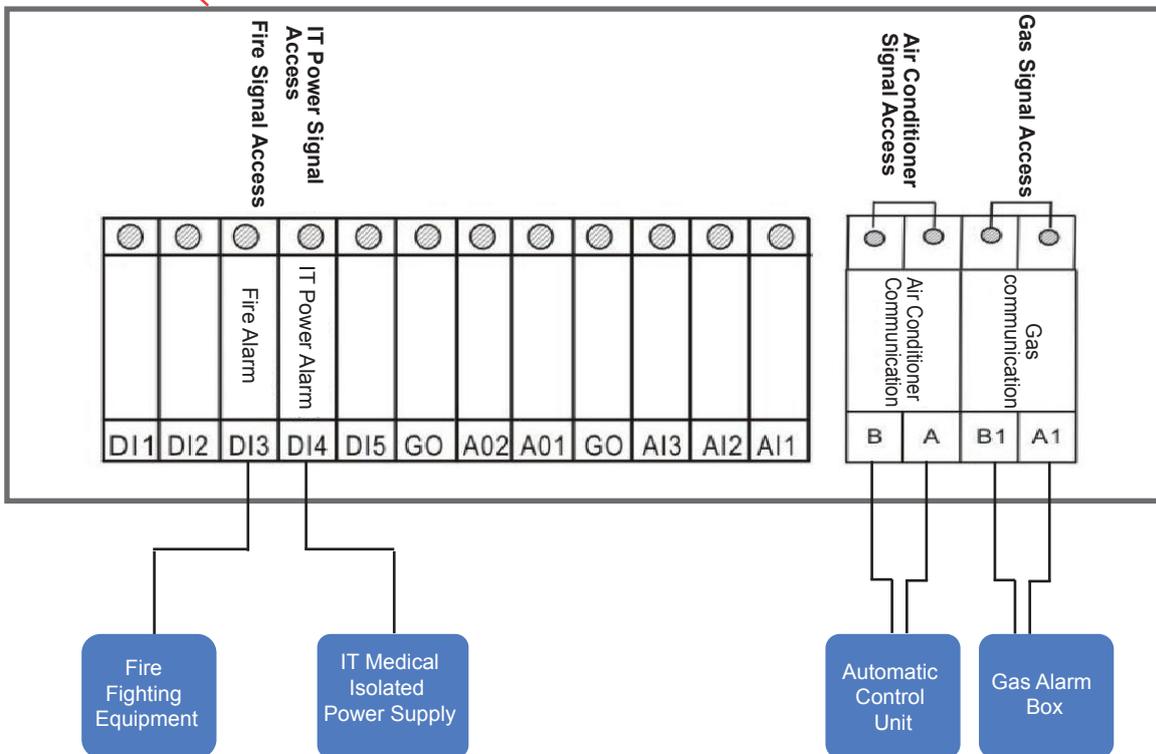
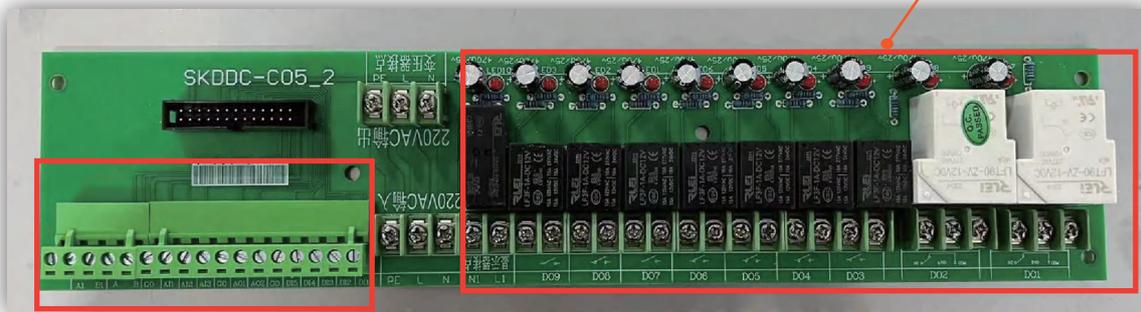


No.	Name	Function
①	Air Switch	Main switch for power supply
②	Screen Control backplane	9 relay inputs+3 AI input signals+2 AO input signals+5 DI signal inputs +2 RS485 terminals
③	Telephone Board	Analog telephone line 2P access, and call bus 2P access
④	Transformer	Touch Screen Control Module Centralized Power Module 24V/50W
⑤	Switching Power Supply	/
⑥	Gas Mainboard	Medical gas collection alarm signal input module
⑦	Audio Module	Processing module of the touch screen music playback
⑧	Controller	Module units for touch screen centralized control

10.1 Wiring Diagram of Control Screen Base Plate



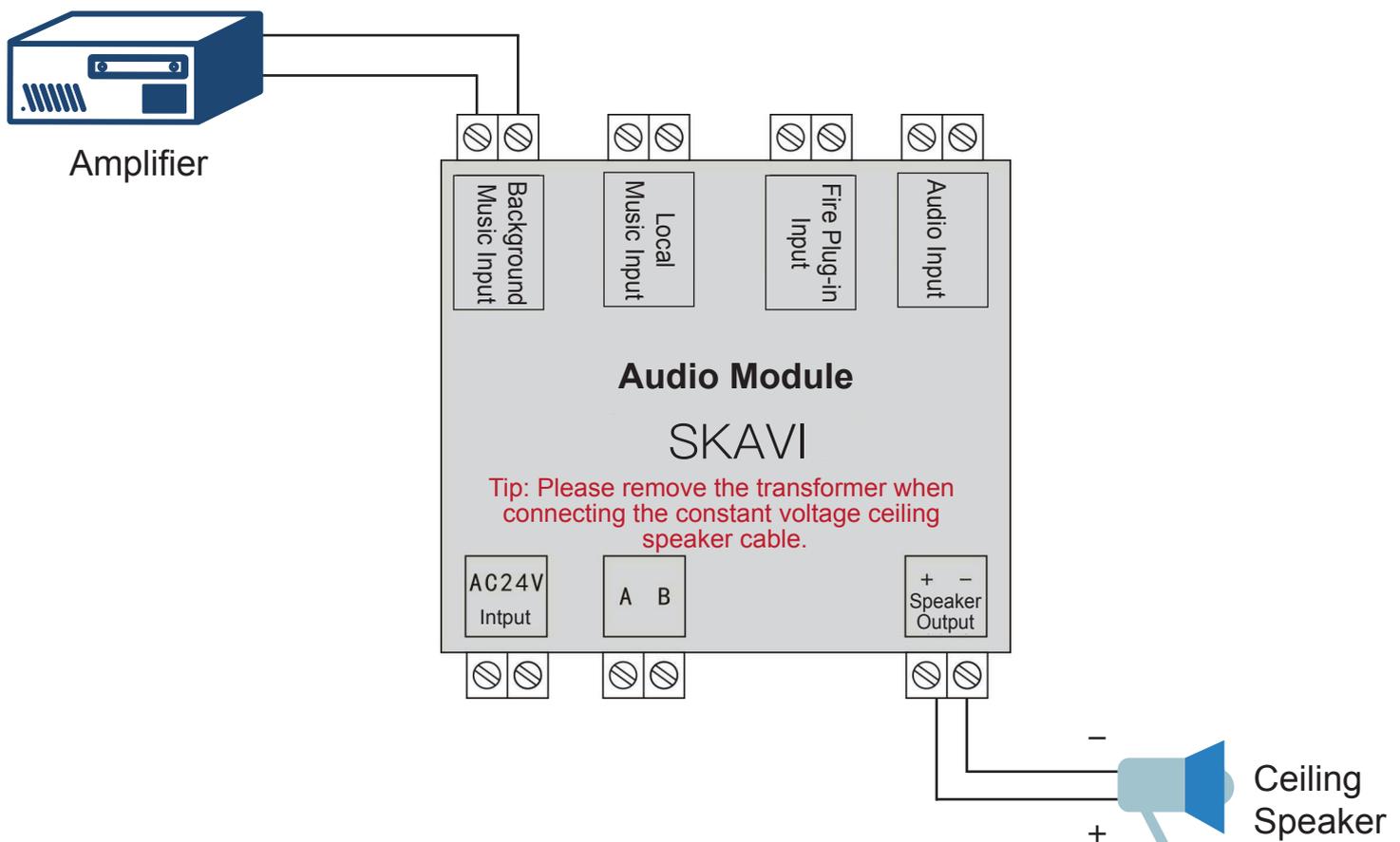
In Kind



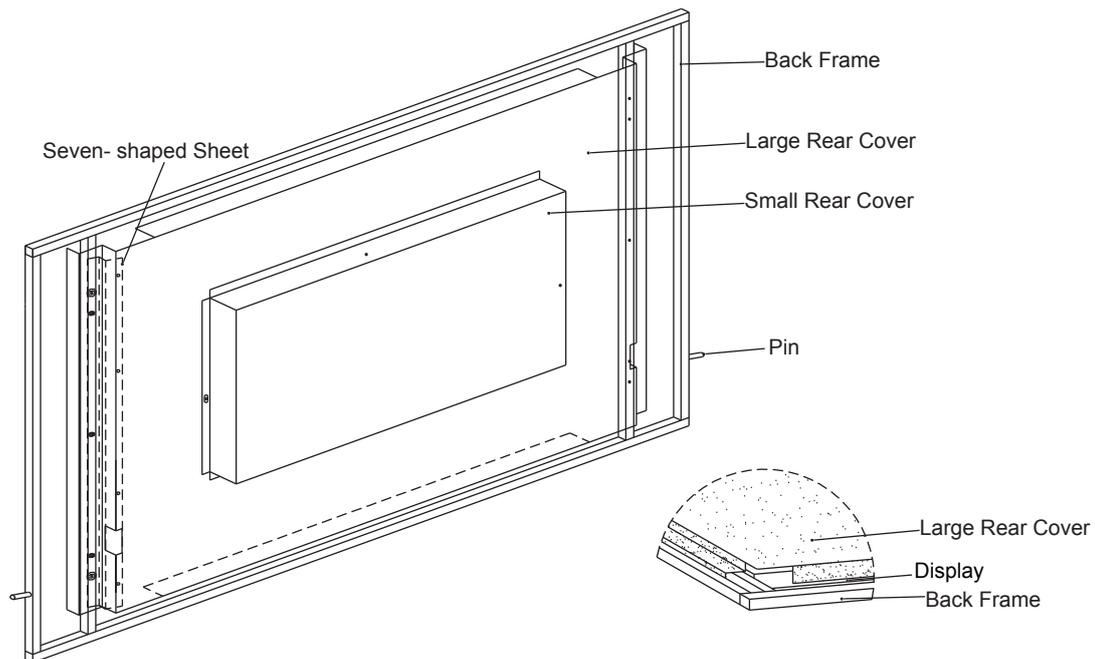
(For example, there are 11 operating rooms, one of which needs to have a gas motherboard, while the other 10 rooms only need to connect A and B from the gas motherboard to the gas communication terminals in the communication terminals of the other operating rooms. Air conditioner communication only needs to be connected to air conditioner boards A and B for communication. Also the fire alarm signal input and the IT power supply alarm signal input.

10.4 Wiring Diagram and Functions of Audio Module

- The remote music signal input of the external nurse station constant voltage amplifier is connected to the background music terminal.
- The local music input is the audio signal input terminal on the equipment mainboard. (Our company always takes care of it before leaving the factory)
- External fire plug-in input 24V
- The audio input port is the audio input port of an industrial control computer, which is connected to the audio input terminal by an external 3.5 audio cable. The industrial control computer can play music.
- The AB signal terminal is already connected to the mainboard's AB signal terminal.
- Connect ceiling speaker output signal externally. Note that the ceiling speaker does not need to be connected to a transformer, and the output line needs to skip the transformer to produce music sound.



(The structure diagram of the simplified back frame is as follows)



- Back frame: composed of square tube sheet metal parts with a size of 10 * 10 (mm), which serves for the frame fixing of the overall structure;;
- Seven- shaped sheet: composed of sheet metal parts of 1.2 (mm) thickness galvanized sheet, which serves to fix the display to the back frame structure;
- Cabin cover (large rear cover) : composed of 1.0 (mm) thickness of the iron plate, which serves to support the PCB electronic board supporting the LCD screen;
- Cabin cover (small rear cover) : composed of 1.0 (mm) thickness of the iron plate, which serves to plug and unplug serial ports, built-in power supply, mainboard and other lines;
- Pin: composed of $\varnothing 6$ pin and pin bush, which serves for fixing the connection and fixing between the LCD panel and the box;

Tip: If necessary, disassemble the structure for replacement under the guidance of professionals.

Abnormal	Possible Causes	Troubleshooting Methods
The indicator of the switch button flashes red and blue alternately	Equipment in emergency mode	Tap the button to cancel the emergency mode
Buzzer sounds when lighting is turned off	Prompt of lighting delay off	<ul style="list-style-type: none"> ① The situation is normal, usually indicating 10 seconds; ② The lighting delay off time can be manually set to 0 to turn off the f function, or it can be set to a delay off time of 1-99 seconds.
A small red icon displayed in the upper right corner of the page	Equipment communication disconnected	Check whether the communication line is normal
The temperature and humidity of the air conditioner are displayed as 0 (no unit information is displayed)	No communication with air conditioner unit	<ul style="list-style-type: none"> ① Check the communication cable connection ② Check the communication parameter settings ③ Check the communication agreement

