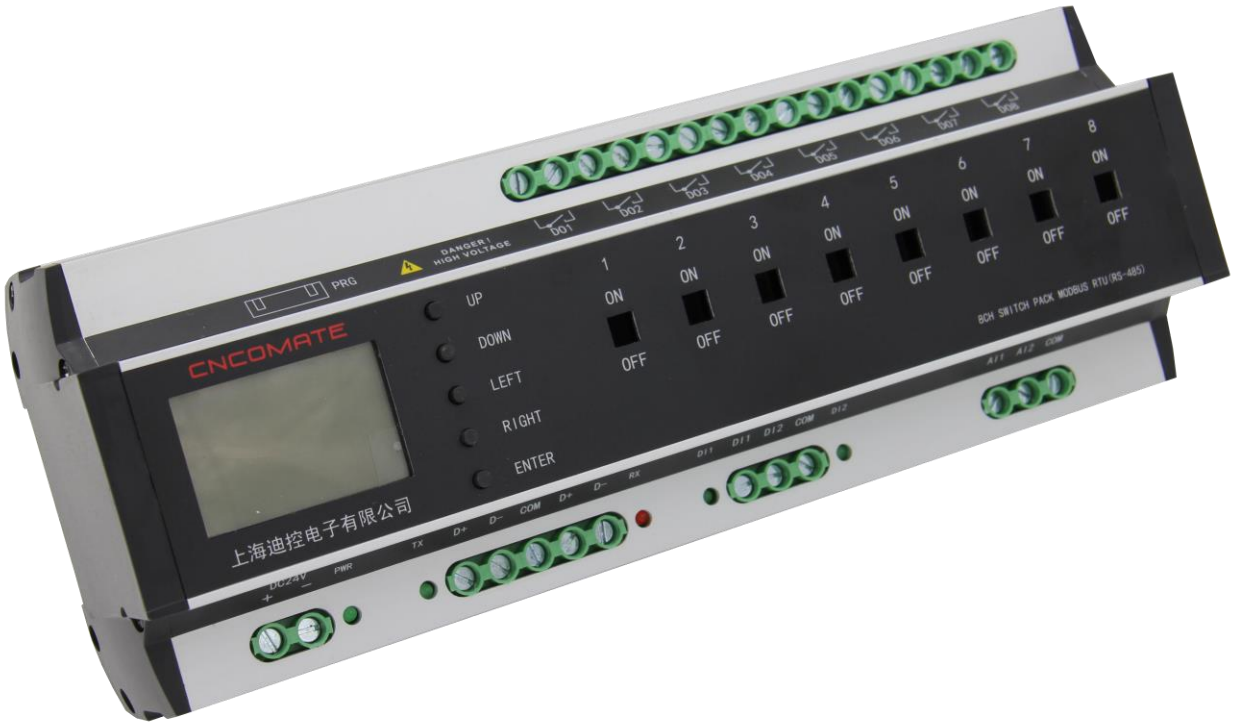
DK2000-CSX xx xx M series

Magnetic hold switch light controller

【Product manual】

(Note: This manual takes **DK2000-CSI0820M** as an example for function introduction.)



Shanghai Dikong Electronics Co., Ltd

URL: www.cncomate.com

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Chapter I Instructions for Use

Note

Equipment installed in a poor heat dissipation environment is dangerous!

The temperature rise of the equipment is too high, which affects the normal operation of the equipment.

When installing the equipment, consider the ambient temperature and ventilation and heat dissipation conditions of the equipment.

(See Chapter II. 2-2 sections, ambient temperature: -25 — 60°C)

Note

Equipment loop output overload operation danger!

Overcurrent and overvoltage operation of the equipment will cause damage to the equipment.

The system should be designed with load voltage, current and load nature in mind.

(Refer to Chapter 2. 2-2 Loop Maximum Output Current).

Note

Abnormal power supply of equipment is dangerous!

The device control power supply is unstable and the system will not work properly.

Consider the use of a reliable DC power supply when installing the equipment.

(Refer to Chapter II, Section 2-4 Wiring Instructions).

Note

The power adapter must use a DC output 24V power supply with overload and overvoltage protection; Its rated current is 1.5A;

The specific parameters are as follows:

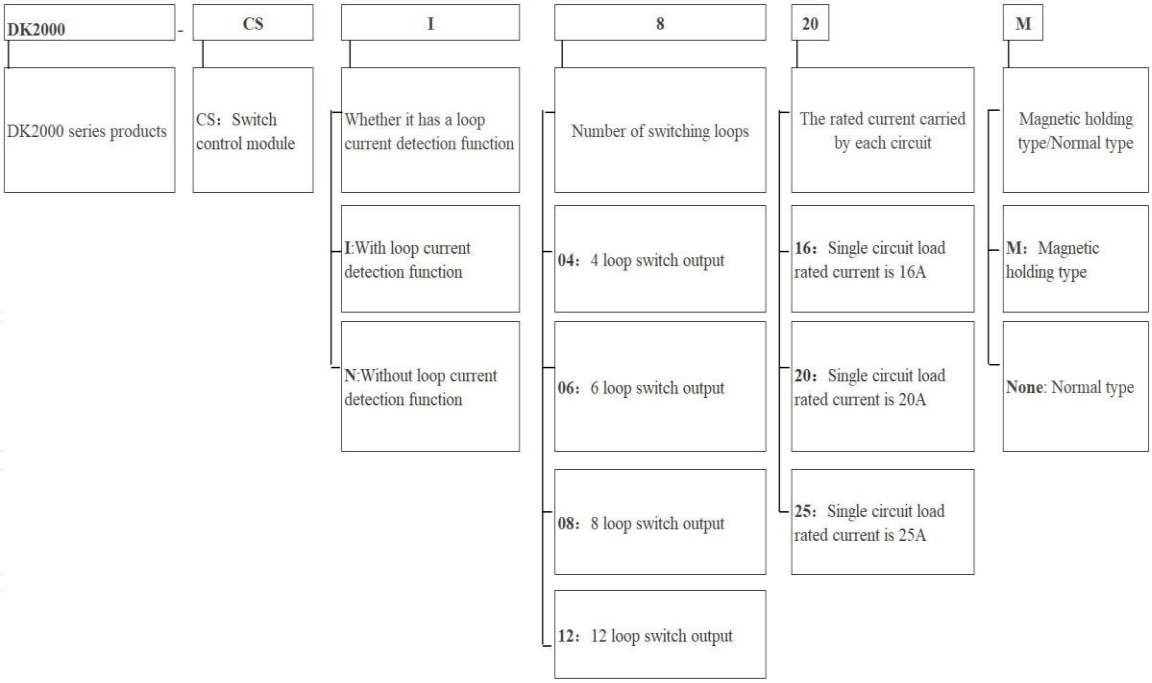
Output	DC voltage	DC24V
	Rated current	1.5A
Input	Voltage range	85~264VAC or 120~370VDC
	Frequency range	47~63Hz
Protection	Overload	
	Overvoltage	28~32V
Environment	Operating temperature	-20~+60℃
	Operating humidity	20~90% RH

It is recommended to use the matching model power supply (DR-30-24) of Shanghai Dikong Electronics Co., Ltd.

Chapter 2 Product Introduction

2-1 DK2000-CSX xx xx x series switch controller products

Smart switch control module model (nameplate) definition



DK2000-CS x xx xx M series product basic parameter comparison table

Model	Power supply	Switch loop	Rated current(A)	Weight approx(g)	Means of communication	Current sensing	Dimension (mm)	Installation method	Operating environment Temperature(°C)	Use ambient humidity
DK2000-CSN0416M	DC24v	4	16	600	RS485	-	162*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN0616M	DC24v	6	16	770	RS485	-	198*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN0816M	DC24v	8	16	930	RS485	-	238*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN1216M	DC24v	12	16	1170	RS485	-	288*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN0420M	DC24v	4	20	600	RS485	-	162*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN0620M	DC24v	6	20	770	RS485	-	198*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN0820M	DC24v	8	20	930	RS485	-	238*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN1220M	DC24v	12	20	1170	RS485	-	288*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN0425M	DC24v	4	25	600	RS485	-	162*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN0625M	DC24v	6	25	770	RS485	-	198*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN0825M	DC24v	8	25	930	RS485	-	238*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSN1225M	DC24v	12	25	1170	RS485	-	288*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSI0416M	DC24v	4	16	800	RS485	Y	198*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSI0816M	DC24v	8	16	1250	RS485	Y	288*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSI0420M	DC24v	4	20	800	RS485	Y	198*90*63	guide rail	-25 to 60	10 to 85%RH
DK2000-CSI0820M	DC24v	8	20	1250	RS485	Y	288*90*63	guide rail	-25 to 60	10 to 85%RH

2-2 Product function overview

DK2000-CS****M product is a self-contained LCD Chinese display interface, free of programming, menu-based setting, and can be used independently of the intelligent lighting control module, which adopts 50A magnetic holding relay, its own low power consumption, small heat, can also maintain the original output state after power failure. Each relay comes with a mechanical handle, even if the module fails unexpectedly, it can also realize the manual forced switch of the lighting circuit through the mechanical handle, which is a switching control module designed for LED lights, outdoor high-power lamps, and motor loads that can withstand instantaneous surge currents up to 500A. It effectively solves the common problem in the market that the light cannot be turned off due to the sticky relay contacts. It can provide safe and reliable intelligent control for lighting systems in important public places such as hospitals, stations, airports, stadiums, hotels, and large shopping malls.

It can be networked through RS485 MODBUS RTU, TCP/IP and other national standards open communication protocols to realize remote centralized management of computers and mobile APP.

It can also be combined with Shanghai Dikong cloud platform, and through the 4G signal transceiver module (DTU) to realize the wireless communication management of each intelligent lighting control module, which is very suitable for outdoor lighting systems, old building lighting system transformation, home intelligent control and so on.

The main functional features are as follows:

1. **It adopts aluminum alloy housing**. Improve heat dissipation and protection performance.
2. **Each controller has its own LCD display and** Chinese menu-based operation interface, allowing users to realize the trinity of operation and use mode of "remote operation on computer or mobile phone" - "use area can be operated on the panel" - "special or emergency operation on the controller".
3. **The** controller body **has light control, human body sensing control, timing, astronomical clock, fire linkage strong start, scene editing, manual operation and other functions**. Because each module can be controlled independently, there is no need to worry about the entire project not being usable due to line or system failure. (Note: light control, human body sensor control requires additional corresponding sensors).
4. **Each controller comes with 2 digital input ports, namely 2DI**, which can be connected to fire force start signal or human body detection signal; **In addition, it comes with 2 analog signal input ports, namely 2AI**, which can receive illuminance sensor signals or temperature signals to achieve data acquisition and automatic control.
5. **The controller selects high-power magnetic holding relays of 50A and above, and the ability to resist instantaneous inrush current is 500A and above**. Because the current of capacitive or inductive loads such as LED lamps is very large at the start-up moment, long-term use is easy to cause the relay contacts to stick and the load cannot be disconnected.
6. **The controller has a mechanical toggle switch** that allows the lighting circuit to be opened or closed by the mechanical handle even if the controller fails and cannot be used, and in the event of a power failure
7. **Loop current detection function: When the actual current value of a circuit is** lower than the normal current value, it indicates that there is a lamp failure in the circuit, and the alarm window is opened to remind personnel to repair (only with current detection module).
8. **It has a zero-crossing disconnection function: to ensure that when the circuit is disconnected with a load, the** load is disconnected when the current value is close to 0A, which plays a good role in protecting the relay contacts and avoiding contact sintering (bad) as much as possible. Increased service life of the relay,

resulting in a longer service life of the controller (with current sensing modules only).

9. **Password protection function:** effectively avoid abnormal operation settings (instructions required when ordering).
10. **Loop current limit function: When the actual current of** a loop exceeds the set value, the relay is automatically cut off to protect the line safety (only with current detection module).
11. **Cumulative relay action number function:** refer to the number of relay actions, combined with background software, can know the use time of the lamp, can be reasonably exchanged, prolong the service life of the lamp; In addition, the energy consumption can be calculated based on the power of the lamp.

2-3 Product specifications and technical parameters

Power used/power consumption:	DC 24V / 3W
Environment / Use:	-25 to 60°C; 10 to 85% RH
Storage environment:	-25 to 80 °C; Less than 90% RH
Man-machine interface:	12864 LCD screen 'menu/confirmation', 'up', 'down', 'left' 'right' button
Microprocessor:	ARM series single-chip microcomputer Both transmit and execute data to the higher-level controller There is an independent monitoring application software, which can easily upload different application software according to different control requirements It has self-diagnosis capabilities, real-time monitoring of controllers and.loops, and uploading to the host computer to achieve centralized control Equipped with a battery-free program memory device (EEPROM) to store all operating programs to prevent data loss in the event of a power failure. All have been expanded FLASH，Easy system upgrades. Watchdog device Automatic return.
Relay output:	High power on-off capability magnetic holding relay.
Communication method:	1xRS-485 1/2 duplex / Modbus RTU Protocol
Communication rate:	9600~76.8K bps (factory / recommended 9600 bps).
Maximum Communication Distance:	4000 ft (1.2 km) In order to ensure the reliability of communication,it is recommended that the communication distance be less than 600 meters
Communication signal input:	RS485 Modbus RTU
Communication address setting range:	Up to 16, that is, a panel can be connected to a maximum of 16 controllers
Output specifications:	Each circuit can output up to 16A/20A/25A three specifications
Communication signal connector:	5PIN terminals

Appearance size: **The size of the module without current detection function is as follows:**

1)4路16A/20A/25A: 162(W)*90(H)*63(D)

2)6路16A/20A/25A: 198(W)*90(H)*63(D)

3)8路16A/20A/25A: 238(W)*90(H)*63(D)

4)12路16A/20A/25A：288(W)*90(H)*63(D)

The dimensions of the current sensing function module are as follows:

1)4路16A/20A/25A: 198(W)*90(H)*63(D)

2)8路16A/20A/25A: 288(W)*90(H)*63(D)

Mounting: Standard DIN35 electrical rail

Weight: See the comparison table of basic parameters in the figure above for details

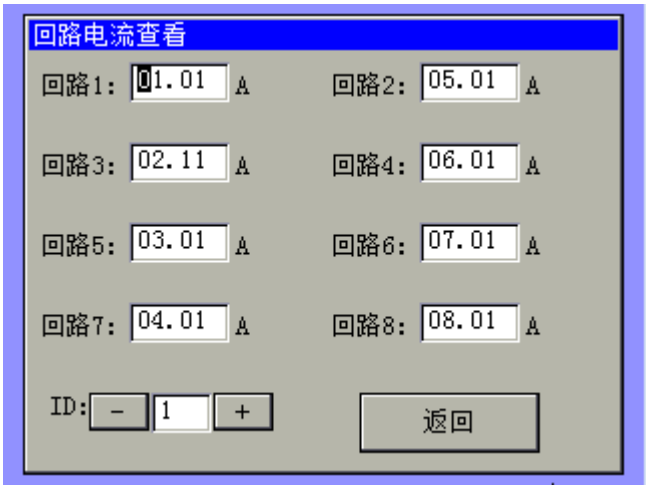
2-4 magnetic holding controller advantages over ordinary controllers:

1. Use large-capacity magnetic holding relay to control the circuit on and off. Compared with ordinary relays, it has lower power consumption and less heat.

2. Suitable for occasions with relatively strict lighting requirements, such as hospitals, shopping malls, office buildings, schools, etc., when the control power supply cannot be guaranteed (fault), the magnetic holding relay can be kept in the original state, or manually pulled to force the closure / disconnection of each circuit to ensure the normal operation of each circuit lighting.

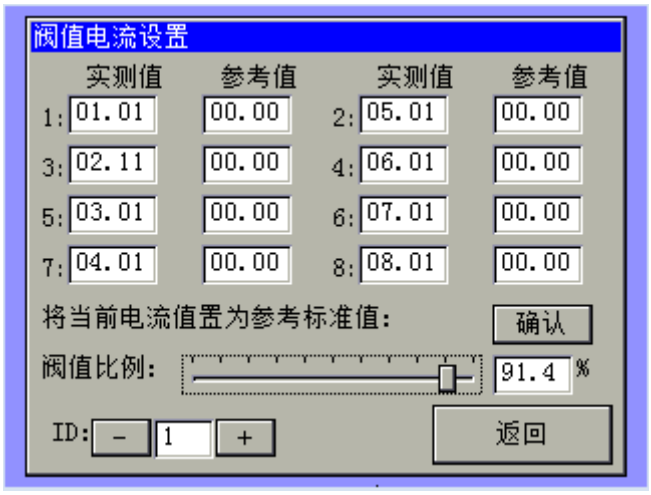
3. With loop current detection function, can monitor each loop current in real time.

Note: Cooperate with DK2000-OPT322 touch screen to monitor loop current in real time.
Click the 'Current View' button to enter the current viewing interface as follows:



Note: ID number, that is, the address number of the lower controller, if the number of lower controllers was set to n in the 'parameter setting' interface before, then this value can only be 1-n value.

4. With the OPT322 screen, you can set loop abnormal alarm for loop current monitoring.

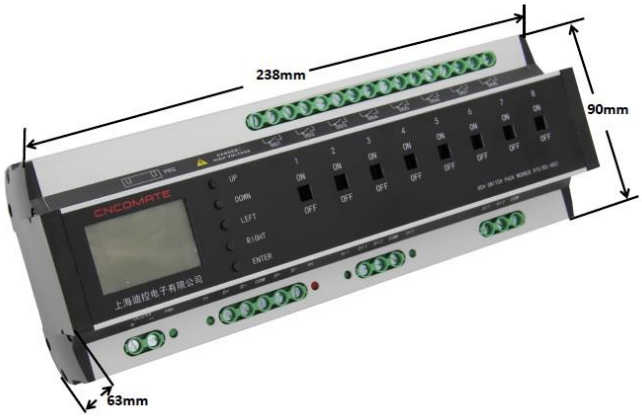


This setting function is to detect whether the load in the circuit is damaged (if the bulb), and when the detected current is less than the threshold percentage of the reference current, the corresponding loop will alarm to remind the staff that the line should be checked and handled. The current current can be set as the reference current when the current of each loop state is normal. The current threshold percentage user can evaluate the setting according to the nature of the load, importance, etc.

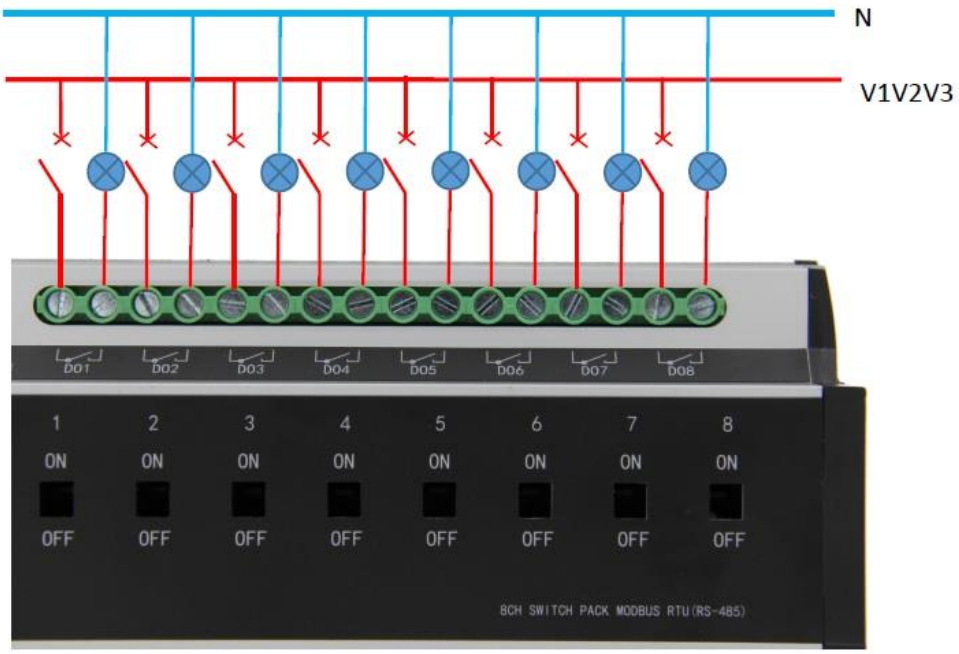
5. With zero-crossing disconnection function, to ensure that when the loop is disconnected with load, the load is disconnected when the current value is close to 0A, which plays a good role in protecting the relay contacts and avoiding contact sintering (bad) as much as possible. The service life of the relay is increased, which increases the service life of the controller.

6. Using large-capacity magnetic holding relay, resistive load rated current 50A, anti-surge current up to 500A/2ms Good load adaptability.

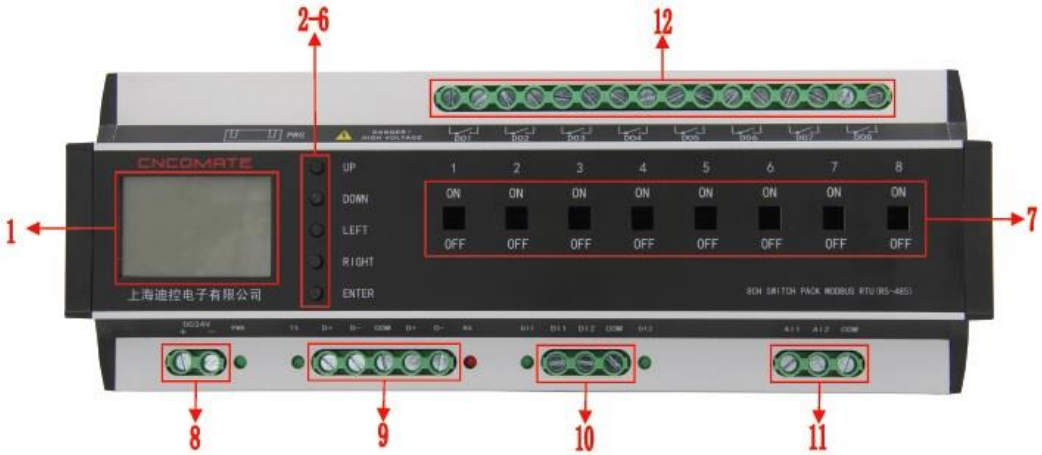
2-5 Product shell size and annotation



2-6 keys and wiring instructions

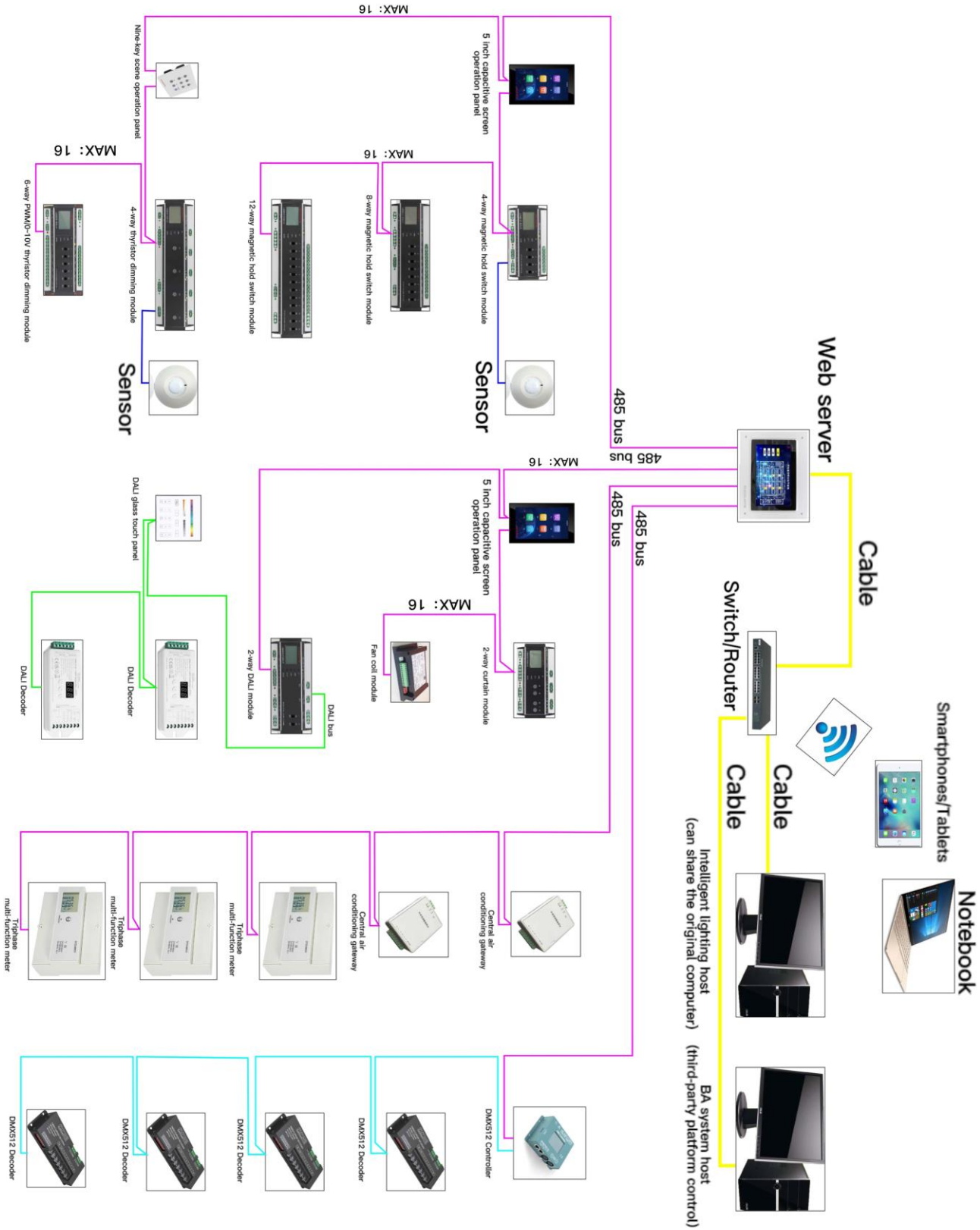


2-7 Controller hardware description



CSI0820M controller hardware description			
Project	Name	Function	Remark
1	LCD screen	Human machine interface, showing functions related to settings	
2	Press the key Up	Adjust the setting parameter value/status	
3	Press the key Down		
4	Press the key Left	Move the menu and select the desired menu item	
5	Press Right		
6	Press Enter	The 'Confirm' button, when a menu or option is selected, will be the reverse effect state.	
7	Manually force the loop on and off	ON-loop forced closure; OFF - The loop is forcibly disconnected	For safe operation, it needs to be toggled with the help of tools such as a driver
8	Terminal blocks 24+,24-	Power supply DC24V input	Power power indicator, the indicator light is on when working normally
9	Terminal block 2 groups of communication D+, D-, GND	RS485 communication line. D+ communication line positive; D - Connect the communication line negative. One set of incoming wires, one set of outgoing lines.	Tx, Rx indicator, when the communication is normal, the two indicators flash
10	Terminal blocks DI1, DI2, COM	The passive switching input DI1, DI2, COM terminal is the common terminal.	When the switch is closed, the corresponding indicators DI1 and DI2 are on
11	Terminal blocks AI1, AI2, AIG	The analog signal input AI1, AI2, AIG is the common end. The input source can be 0-10v, 4-20mA, or NTC signal source.	Select the source input method by changing the JP route position
12	Terminal blocks DO1-DO8	8-loop switching output	

2-8 System diagram



Chapter 3 Operating Instructions

3-1 Introduction to man-machine operation interface

The man-machine interface is composed of 12864 LCD screen and 5 buttons: "Menu/Confirm", "Up", "Down", "Left" and "Right". Users can set the parameters and call functions of the controller through the man-machine interface:

Note: 'Menu/Confirm' When a menu or option is selected, it will be the reverse effect state.

'Left' 'Right' Move the menu and select the desired menu option

'Up' 'Down' to adjust the parameter value / status

One. Parameter settings:

1. Controller address ID setting
2. Perpetual calendar time setting
3. Each circuit of the controller on/off interval delay time setting
4. Scene settings
5. Timing settings
6. Sensor settings
7. Latitude and longitude
8. Data synchronization is enabled
9. Exception alarm clearance
10. Factory reset
11. Illuminance + human detection setting
12. Illuminance + timing setting
13. Chinese/English switching

Two. Function calls：

1. Loop operation
2. Scene invocation
3. Timing calls
4. Warp and latitude timing control enable
5. Illuminance control enabled
6. Hands switch automatically
7. Software version view

3-2 Home:

After the system is powered on, it will enter the main page：

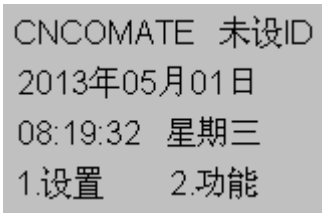


Figure 1-1

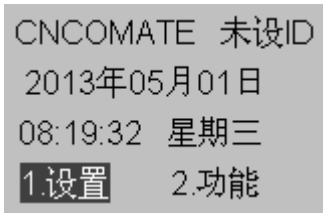


Figure 1-2

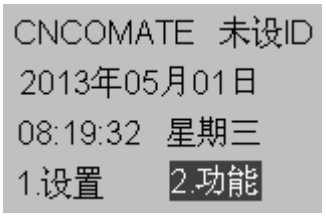


Figure 1-3

Figure 1-1 Click the 'Menu/Confirm' button The status of Figure 1-2 will appear, then you can select the desired option through 'Left' and 'Right', and click 'Menu/Confirm' to enter the corresponding interface. Press the OK key when setting the option, which will enter the setting interface Figure 2-1. Press the OK key when the Function option will enter the function interface Figure 13-1

Note: After the ID address is set, the ID address number of the controller will be displayed in the upper left corner, and the ID address must be set before the system runs normally.

3-3 Setting interface:

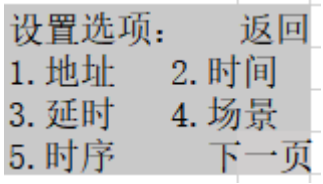


Figure 2-1

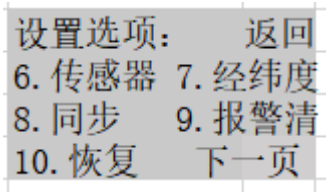


Figure 2-2

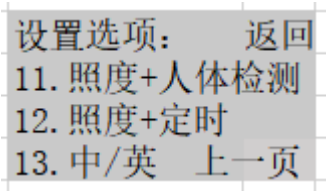


Figure 2-3

1. Set the local ID address of the controller. Values: 1-16
2. Sets the current time.
3. Set the delay interval time value when each circuit of the controller is closed and disconnected. Value: 0.2s-2.0s
4. Scene settings. Six built-in scenarios can be set.
5. Timing settings. One built-in timing can be set.
6. Sensor settings. The range and correction value of the sensor can be set.
7. When the latitude and longitude function is enabled, set a predetermined longitude and latitude value, and you can also select the corresponding city.
8. The data synchronization function, when connected to the host computer control, is used to synchronize the scene set by the host computer, perpetual calendar time and other data.
9. Clear fire alarms and abnormal circuit alarms.
10. Factory reset values.
11. Illuminance + human detection function setting. Illuminance can be used together with body detection sensors.
12. Illuminance + timing function setting. Illuminance control can be used together with set timing.
13. Switch between Chinese and English.

The setting interface has three pages, as shown in Figure 2-1, Figure 2-2, Figure 2-3, press the OK button in the corresponding setting option, you will enter the user's desired setting interface, as shown in item 3 - No 11 items. When the Back option, press the OK key, which will return to the Home Page Figure 1-1.

3-4 Controller ID address setting:

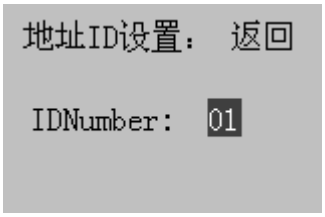


Figure 3-1

When the ID Number option is selected, set the ID address number of the controller via the 'Up' or 'Down' keys and press the OK key, which is the ID of the controller The address will be set and the ID address number of the controller will be displayed in the upper left corner of the home page. When the Back option, press the OK key, which will return to the setting interface Figure 2-1

Note: Please make sure that you are on the same network and do not set duplicate ID addresses.

3-5 Time settings:

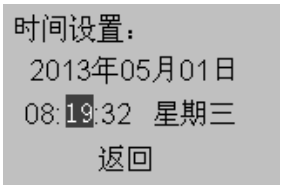


Figure 4-1

Use the 'Left' 'Right' key to select the setting options you want to adjust, add or subtract the corresponding values through the 'Up' and 'Down' keys, adjust the set date and time values, press the OK key, that is, the time will be saved as the current time.

When the Back option, press the OK key, and the interface will return to the setting interface Figure 2-1

3-6 Loop on/off interval delay setting:

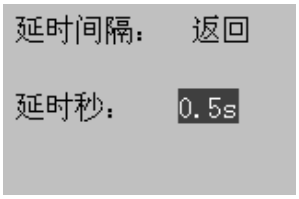


Figure 5-1

This interval time value is used to ensure that when the controller loop is closed/disconnected, each circuit does not operate at the same time to avoid large inrush currents. Use the 'up' and 'down' keys to add or subtract the corresponding values, adjust the time interval value, press the OK button, that is, the time interval is saved as the current delay interval. When the Back option, press the OK key, and the interface will return to the setting interface Figure 2-1

3-7 Scene settings:

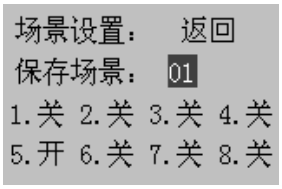


Figure 6-1

With this controller, users can customize 6 scenarios, namely Scene 1 - Scene 6 Set the desired saved scene number via the 'Up' 'Down' keys, i.e. Save Scene 01-06

Select the circuit via the 'Left' 'Right' keys, and change the status of the selected circuit On/Off via the 'Up' and 'Down' keys. After setting the status of each scene, press the OK button, that is, the state of each scene is savedto the corresponding scene. in case the scene is invoked in the function or the scene is invoked in the timing.

Press the OK key when the Back option, and the interface will return to the setting interface Figure 2-1

3-8 Timing settings:

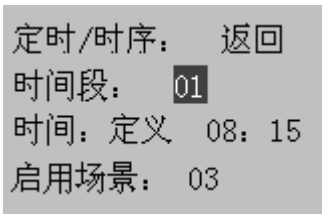


Figure 7-1

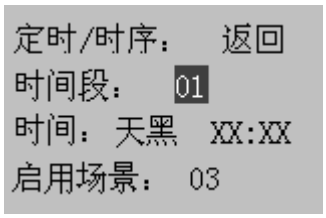


Figure 7-2

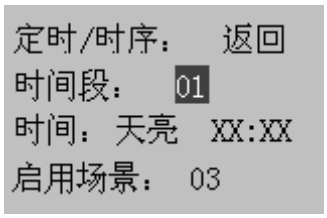


Figure 7-3

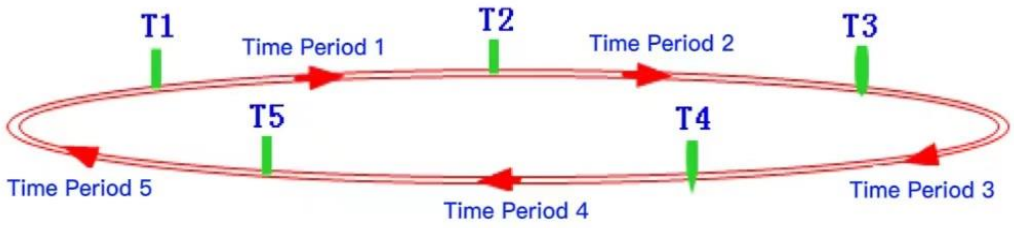


Figure 7-4

1) **Normal timing control:** The controller user can set a set of timing control according to the requirements. The 24 hours of the day are divided by T1, T2, T3, T4, and T5 into time periods 1 - 5 periods, and the corresponding required scenes (scene 1, scene 2) can be set in each time period , scene 3, scene 4, scene 5, scene 6, full off, full on, light control), the corresponding scene will be automatically called within the time period.

2) **Timing and astronomical clock combination control:** The setting of the time value T1 - T5 can be a user-defined time value, or the dark and dawn time value calculated by the astronomical algorithm can be selected through the 'up' and 'down' keys, and the user can pass when the time value is defined when selected 'Left', 'Right', 'Up' and 'Down' keys to set a custom time value; when the Dark/Dawn time value is selected, the system will automatically assign the Dark/Dawn time value to the time value every day.

When the desired timing function combination is set, press the OK button and the set timing combination will be saved to the system for the function to be enabled in the function call.

Press the OK key when the Back option, and the interface will return to the setting interface Figure 2-1

Note: The time values T1~T5 must be arranged in increments from **0 to 23 points.**

3-9 illuminance + timing + human detection automatic control settings:

3-9-1 Illuminance + timing control

The path to enter the illumination control parameter setting is:

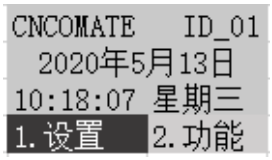


Figure 8-1

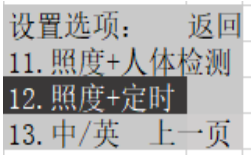


Figure 8-2

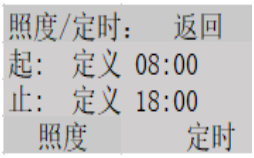


Figure 8-3

Figure 4-3 shows that illuminance control is enabled during the daytime period of 8:00~18:00, and 5 illuminance interval segments are tentatively determined; Click "Illuminance" in Figure 4-3 to open the illuminance settings page, as shown in the figure below.

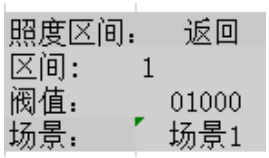


Figure 8-4

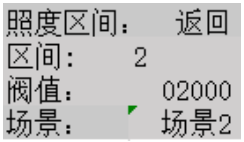


Figure 8-5

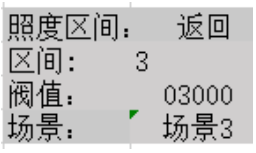


Figure 8-6

Fig. 4-4 ~ to Fig. 4-6 means:

When the current illumination is lower than 1000, scene 1 is called

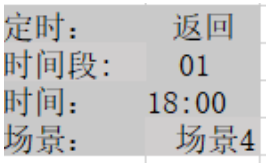
When the current illuminance is lower than 2000 and higher than 1000, scene 2 is called

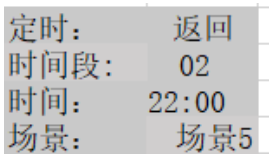
When the current illumination is higher than 3000, scene 3 is called.

Note: If you want to use timing control at night, see the following introduction for details

Outside the specified time period, timing control is implemented, tentatively five time periods. **When the set set time start and end times are equal, only the illuminance logic control is available 24 hours a day.**

The entry path is: select the "Timer" button in Figure 8-3 above to enter the following interface (to give 2 examples to illustrate)





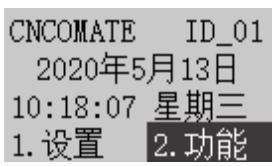
The above picture means:

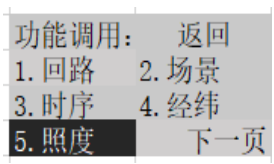
At 18:00, call scenario 4

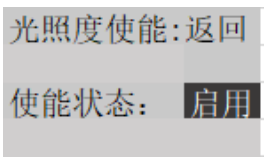
At 22:00, call scenario 5

Note: There is an "Enable" button for the illuminance control function, and the above functions are performed only when "Enable" is enabled.

The Enable path to enable is as follows:

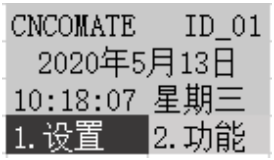


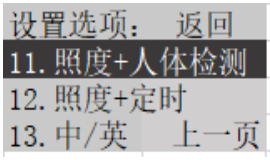


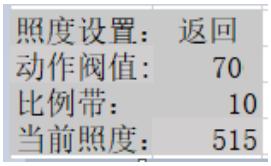


3-9-2 Illuminance + human detection control

The set path is as follows:







The figure above shows that the current ambient brightness is very high, reaching 515LUX, and the action threshold higher than the human body induction is 80 (70+10), at this time, even if there are people in the room, the light will not automatically turn on. Human sensing takes effect only when the ambient illumination is lower than 60 (70-10) LUX, at which point the lamp automatically lights up as soon as someone moves.

Note: All proportional bands should be set to avoid frequent switching of electric lights, affecting the service life of lamps.

The port parameters are as follows:

DI1 default fire dry contact signal input, signal point closed, all loops forced to start.

DI2 defaults to the dry contact signal of the human detector, the signal point is closed, scene 2 is turned on, the signal is canceled, and the scene 2 is closed.

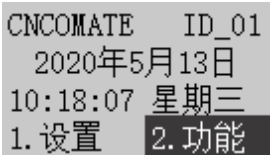
AI1 default analog signal input, contact illuminance sensor standard 4-20mA signal, acquisition of ambient illumination.

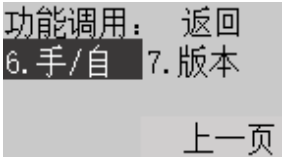
AI2 connects to the dry contact signal of the human detector by default, the signal point is closed, scene 4 is turned on, the signal is canceled, and scene 4 is closed.

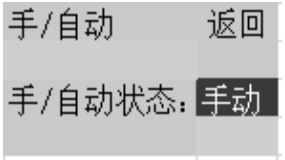
(Note:A I2 can also be used as an analog signal input).

Note: The body sensing function (DI2, AI2) is subject to 'hand/auto', and only 'automatic' performs the above logic functions

The path to enable the "Hand/Auto" function of the body sensing is as follows:







3-10 latitude and longitude settings:

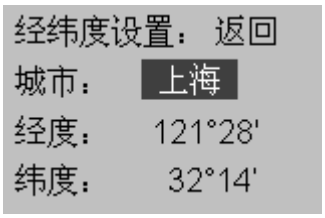


Figure 9-1

Figure 9-2

The user can set the latitude and longitude values according to the region used by the controller, and the controller defines the representative continental region inside

Some cities such as: Shanghai, Beijing, Shenzhen, Harbin, Haikou, Urumqi…, the user can select one of these cities via the 'Up' 'Down' keys, or select it Customize when the City option is selected Custom time

The user can enter the required latitude and longitude value by himself, and after setting, press the OK button, that is, the set latitude and longitude value will be saved to the system for calling in the latitude and longitude enablement.

Press the OK key when the Back option is displayed, and the interface will return to the setting interface Figure 2-2

3-11 Data synchronization enable:

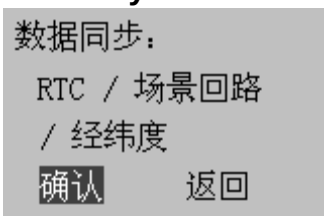


Figure 10-1

This function is convenient for the RTC time value of the controller and the loop status of each scene to be synchronized with the host computer. When the Confirm key is pressed when the Confirm option is pressed, the RTC Time scene loop status of the controller is synchronized with the host computer.

Press the OK key when the Back option is displayed, and the interface will return to the setting interface Figure2-2

3-12 Abnormal alarm clearance enable:

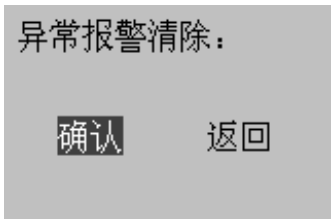


Figure 11-1

This function is used to clear the circuit abnormal alarm and fire abnormal alarm, when the Confirm button is pressed when the Confirm option, the circuit abnormal alarm and fire abnormal alarm will be cleared, and after the fire alarm is cleared, the system loop state will return to the state before the power failure. Note: Please ensure that the hardware failure/event of the abnormal alarm is really resolved, otherwise the system will activate the corresponding abnormal alarm within a certain period of time.

Press the OK key when the Back option is displayed, and the interface will return to the setting interface Figure2-2

3-13 Factory reset:

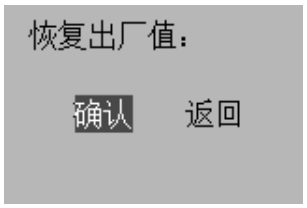


Figure 12-1

When you press the Confirm button when the Confirm option is pressed, the relevant parameters and settings of the controller will be restored to the factory default state: each saved scene will be cleared; Timing settings clear; The loop interval delay time is restored to 0.5s;

3-14 Function call interface:

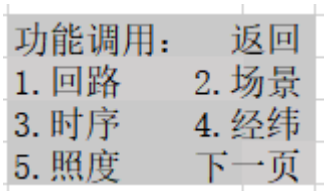


Figure 13-1

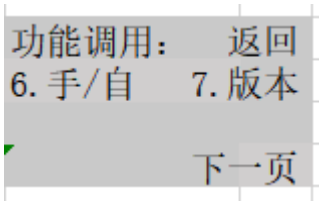


Figure 13-2

1. Manually invoke (view) the loop
2. Invoke (view) built-in scenes with corresponding settings.
3. Invoke (view) the corresponding set timing.
4. Enables/disables the latitude and longitude timing feature.
5. Enable/disable the illuminance feature
6. The hand is automatically enabled.
7. View the current software version information.

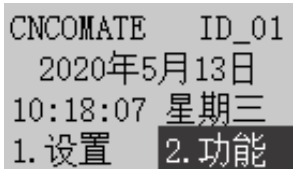
On the main page Figure 1-3 When you press the OK button, the interface will enter the function call interface Figure 13-1. You can select the desired option through the 'Menu/Confirm', 'Left' and 'Right' keys and enter the corresponding function call interface. As shown in items 14-18.

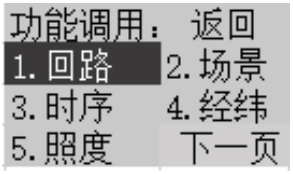
Press the OK key when the Back option is displayed, and the interface will return to the setting interface Figure 1-1

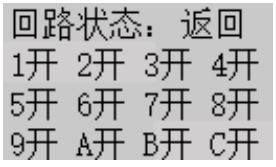
3-15 Loop and scene call:

3-15-1 loop state view and call:

The specific operation path is as follows:







The user can intuitively see the status of each circuit, and can also manually switch any circuit.

3-15-2 Scene call

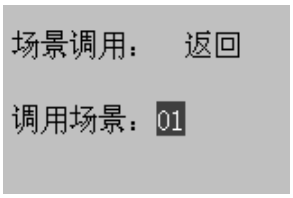
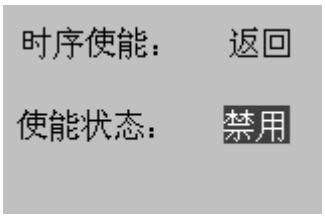


Figure 14-1

Use the 'Up' and 'Down' keys to select the scene to be called: Scene 1, Scene 2, Scene 3, Scene 4, Scene 5, Scene 6, Full Off, Full On. After clicking the OK button, the corresponding scene function is called.

Press the OK key when the Back option, and the interface will return to the setting interface Figure 13-1

3-16 Timing Control Enable:



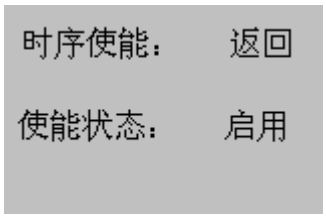
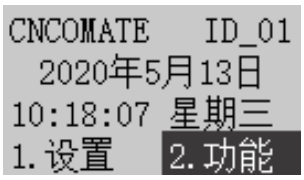


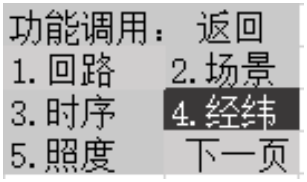
Figure 15-1 Figure 15-2

The Enable/Disable timing function is selected via the 'Up' and 'Down' keys, and the Activate key is enabled/disabled when the corresponding function option is clicked.

Press the OK key when the Back option, and the interface will return to the setting interface Figure 13-1

3-17 longitude and latitude time control enable:





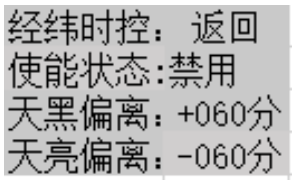


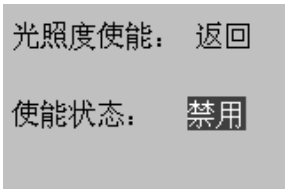
Figure 16-1 Figure 16-2 Figure 16-3

Select the Enable / Disable the longitude and latitude timing function by using the 'Up' and 'Down' keys, and click the Confirm button when the corresponding function option is clicked, that is, the longitude and latitude timing function is enabled /disabled.

When it is dark (dawn), the deviation time can be set according to the actual needs.

Press the OK key when the Back option, and the interface will return to the setting interface Figure 13-1

3-18 illuminance control enable:



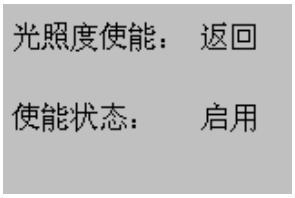


Figure 17-1 Figure 17-2

Use the 'Up' and 'Down' keys to select the Enable/Disable illuminance control function, and when you click the Confirm button when the corresponding function option is selected, the illuminance control function is enabled /disabled.

Press the OK key when the Back option, and the interface will return to the setting interface Figure 13-1

3-19 Software Version View:

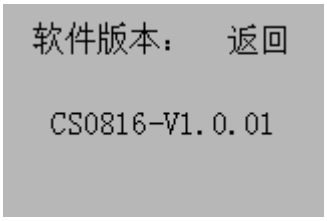


Figure 19-1

Press the OK key when the Back option, and the interface will return to the setting interface Figure 13-1

3-20 Function mode and interlock status:

The defining functional modes are: 1 Full; 2. All off; 3. Single-loop operation; 4. scene calling; 5. illuminance control; 6. timing calls; 7. longitude and latitude time control; 8. scene overlay; 9. Data synchronization.

Interlocking constraints：

1. Timing, longitude and latitude timing control, full on, full off, the state of the last start is the current state, and the last state will be terminated.
2. Single-loop operation operates with a two-position switch, force on at the 'On' bit and force off at the 'Off ' bit.
3. When the timing sequence, longitude and latitude timing control, full on or full off, when called, the scene state can be terminated by these four states.
4. When the timing or longitude and latitude timing is called, and then the scene is enabled, the timing or longitude and latitude timing control will not be terminated by the scene.
5. When the timing or longitude and latitude timing control is invoked, the overlay function will be disabled and the overlay function cannot be enabled.
6. Data synchronization is independent of other functions and ready to operate. After enabling this function, the RTC time of the controller and the scene loop state will be synchronized with the host computer, if the host computer is not connected, or the host computer is not set to save the scene, at this time, the data is synchronized, and the scene loop state of the controller will be fully off.
7. When fully on, fully off, when calling the timing, calling the longitude and latitude timing control, or calling the scene, the illuminance control function can be operated.
8. When you call a scene that has not been edited, it will be the output state of all off.
9. When the unedited timing is invoked, it will carry over the output state of the previous controller.
10. When the fire alarm is activated, all circuits of the controller will be opened. After the fire alarm is lifted, the circuit state returns to the state before the fire alarm.

3-21 Various types of system defaults:

1. The time interval when the loop is closed, the system defaults to 0.5 seconds.
2. Latitude and longitude setting, the system defaults to Shanghai: 121°28′ East longitude 32°14′ N
3. The activation time of abnormal alarms is 12 seconds by default.

3-22 English operation interface menu English abbreviation comparison table:

1	RET.	Return	返回
2	SET OPT.	Set Option	设置选项
3	ID	ID	ID 地址
4	TIM	Time	时间
5	INT	Interval	延时间隔
6	SCE	Scene	场景
7	SEQ	Sequence	时序（定时）
8	NEXT	Next	下一页
9	LOLA	Longitude Latitude	经纬度
10	LM	Lumen	照度（流明）
11	COM	Composit	叠加
12	VER	Version	软件版本
13	DISA	Disable	禁用
14	ENAB	Enable	启用
15	CAL	Calibrate	校正
16	CUS	Customized	自定义
17	DARK	Dark	天黑
18	DAWN	Dawn	天亮
19	TAG.LM	Target Lumen	目标照度
20	P-BAND	P-Band	比例带
21	PRES.LM	Present Lumen	当前照度
22	SEQ_CL	Sequence-Cloud	云时序
23	LOLA SEQ	Longitude-Latitude Sequence	经纬时控
24	EN.STATU	Enable Status	使能状态
25	ENTE	Enter	确认
26	SYNC	Synchro	数据同步
27	CLRALM	Clear Alarm	报警清除
28	RREV	Previously	上一页

Chapter IV Installation, Operation and Maintenance

4-1 Transportation/Storage

Prompt

The equipment is transported using the packaging of Shanghai Dikong to avoid the equipment being crushed, but the equipment should still be carefully protected from rain, even if it has been packaged.

Prompt

The equipment must be protected from dust and moisture.

Prompt

In principle, the equipment in storage must not be subjected to mechanical loads or oscillations.

4-2 Installation and maintenance

Prompt

The communication signal line uses the models and specifications recommended by Shanghai Dikong Company to ensure the quality of communication signals.

Prompt

The device is mounted on a standard DIN35 electrical rail and requires a secure fixture.

Prompt

The device should not be installed in the open air.

Note

After the wiring is completed, before power transmission, ensure that there is no short circuit in the load circuit and no ground fault.

Chapter 5 Common Faults and Troubleshooting

Item number	Symptom	Measures / Possible causes
1	After power transmission, the device does not respond, and the screen has no display	1. Confirm whether DC24V is input normally and whether the positive and negative polarities are correct. 2. Check to see if the device software version is loaded correctly.
2	The system does not work properly after power transmission	1. Confirm whether the device address is set correctly and that there can be no duplicate addresses. 2. Whether the parameter settings are correct. 3. Whether the communication line is wired correctly and whether there is no short circuit.
3	The loop output indicator is normal, but the loop load is not working	1. Check whether the loop output is normal. 2. Check that the load loop is wired correctly.
4		
5		
6		
7		
8		
9		

After-sales service commitment

One. Warranty commitment

1) The warranty period of the whole product is two years;
2) During the warranty period, free repair or replacement;
3) Warranty coverage means that the product has problems under normal use;
4) Except for the agreement of both parties, after the project adjustment test is qualified, the company will not provide additional services during the warranty period, please hand over the faulty products to the dealer or express mail to our company.

Two. Warranty exceptions

1) The above commitments do not apply in the following cases:
2) The whole machine or parts of the product have exceeded the free warranty period
3) The product has been dismantled or repaired without permission;
4) The product has physical damage, such as falling, extrusion, deformation, screen breakage, etc.;
5) Failure or damage caused by the working environment not specified by the product (such as: too high temperature, too low, too wet or dry, abnormal physical pressure, electromagnetic interference, unstable power supply, electrostatic interference, excessive zero ground voltage, inappropriate input voltage, etc.);
6) Failure or damage caused by human reasons (e.g. circuit board burnout due to short circuit of the line, etc.);
7) Failure or damage caused by force majeure (force majeure refers to objective events that cannot be foreseen, unavoided or resisted, including natural disasters such as floods, fires, explosions, lightning, earthquakes and storms, and social events such as wars, turmoil, etc.);
8) If the product cannot be used due to the above reasons, the company will repair it according to the cost;
9) This product is repaired for life, if the warranty period is exceeded, the company provides cost maintenance.

Three. Supplementary Provisions

The entry into force, performance, interpretation and dispute resolution of these Regulations shall be governed by the laws of the People's Republic of China, and if there is no conflict with national laws and regulations, these Regulations shall be followed.

The right to amend and interpret these Terms and Conditions shall be owned by the Company to the extent permitted by law.

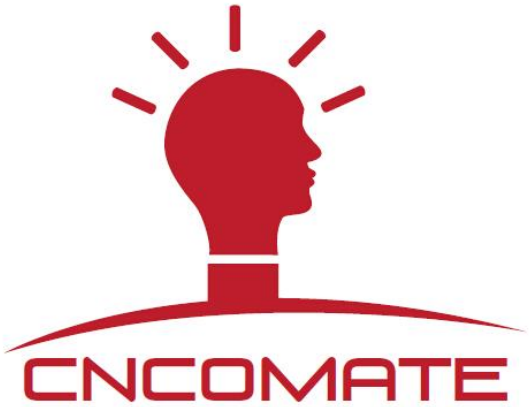
Shanghai Dikong Electronics Co., Ltd

January 26, 2022

Change History

Version	Illustrate
V1.0.0	Initially issued
V2.1.1	January 6, 2017
V2.1.2	July 1, 2017
V2.1.3	February 1, 2018
V2.1.4	June 8, 2018
V2.1.5	April 13, 2019
V2.1.6	April 24, 2019
V2.1.7	May 19, 2020
V2.1.8	December 22, 2020
V2.1.9	January 26, 2022

Issue time: January 2022



Shanghai Dikong Electronics Co., Ltd

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