

## Introduction of Configure Software for 3.5" Touch Panel

### 1. Brief Introduction

This Configure Software is used with the 3.5" Touch Panel. After setting group address of different devices in ETS users can set multiple functions via this Software. Put generated configure project directory in the root directory of the SD Card, change the name of the folder as "project", insert this SD Card into card slot of 3.5" touch panel to update the data. This Configure Software can set the following types of functions: lighting functions, curtain functions, scene functions and customize functions.

### 2. Runtime Environment

Operating System: windows XP, windows 2000, windows 2003, windows 7.

### 3. Install

This Software can work without installation; double-click the exe file to run.

### 4. Operation Guide

The Guide includes these parts: Menu, Window interfaces, Control manipulation, TabIndex, common settings interface, and picture configuration.

#### 4.1 Menu

After setting group address of different devices in ETS users can set multiple functions via this Software. Open the software, the interface shows as figure 4.1.1; new build a 3.5-inch touch panel project as figure 4.1.2.

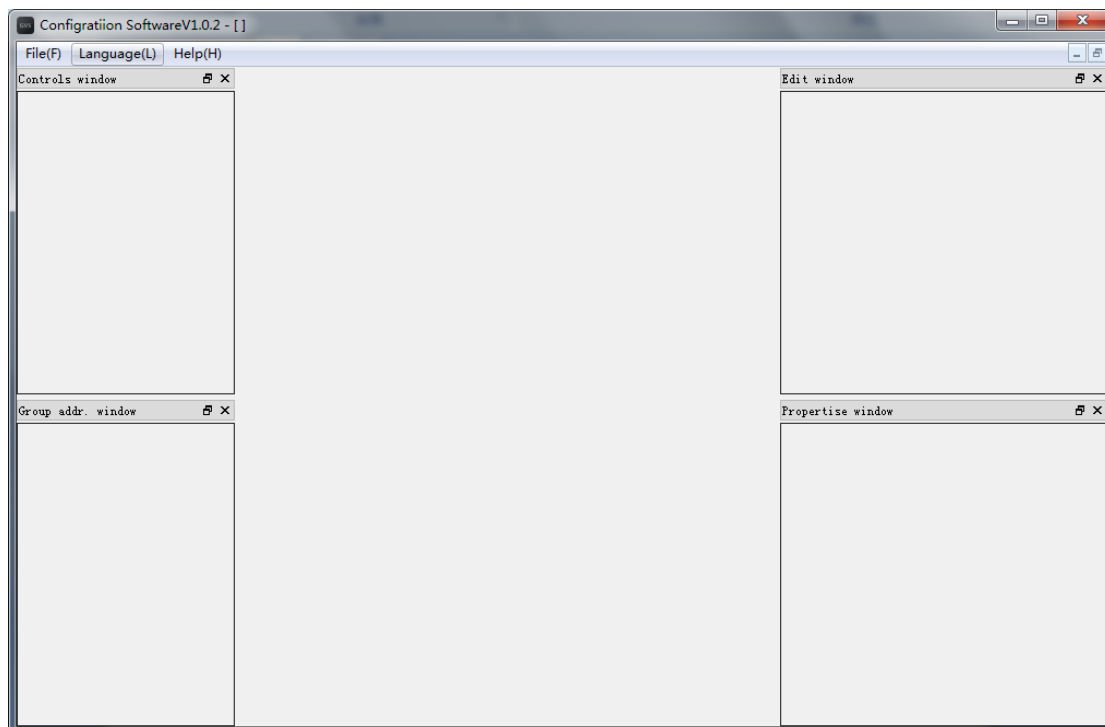
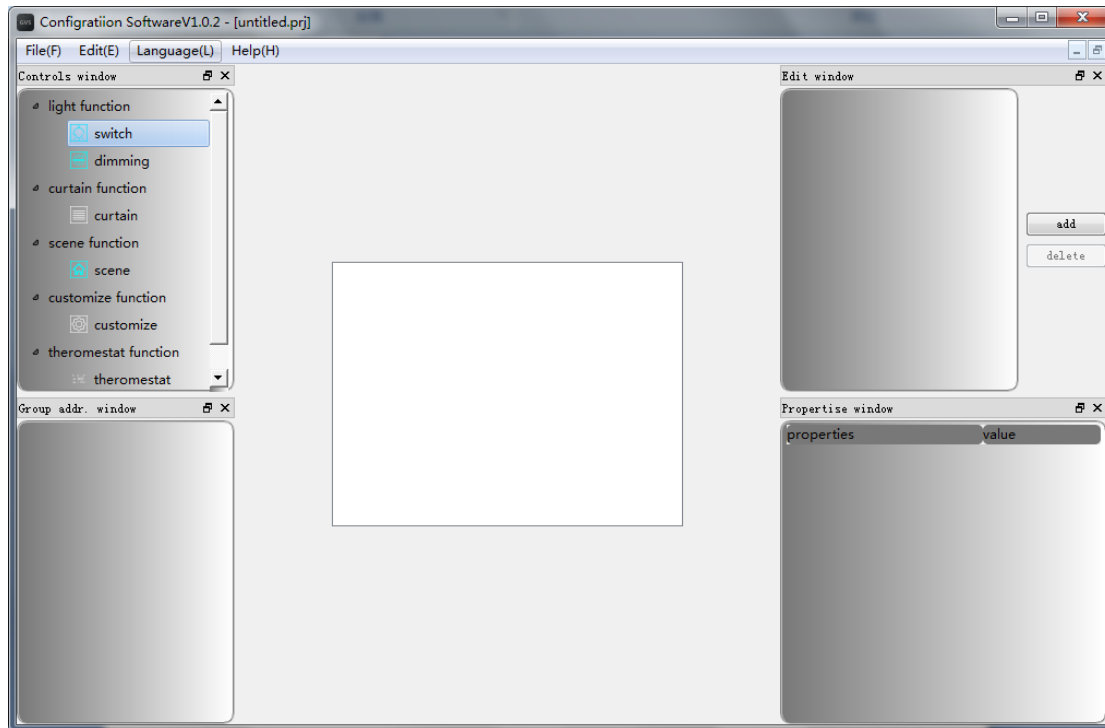


Figure 4.1.1 Interface with project unopened



#### 4.1.2 New-built 3.5" Touch Panel Project Interface

Menu includes: [File] menu group, [Edit] menu group, [Language] menu group and [Help] menu group. Next come the contents and using guidance of those menu groups. Here shows a menu when new-building a 3.5" Touch Panel Project; if no new-built project, this menu doesn't appear.

##### (1) [File] menu group

It mainly includes the commands related to file; when user clicks [File], a menu bar as figure 4.1.3 appears.

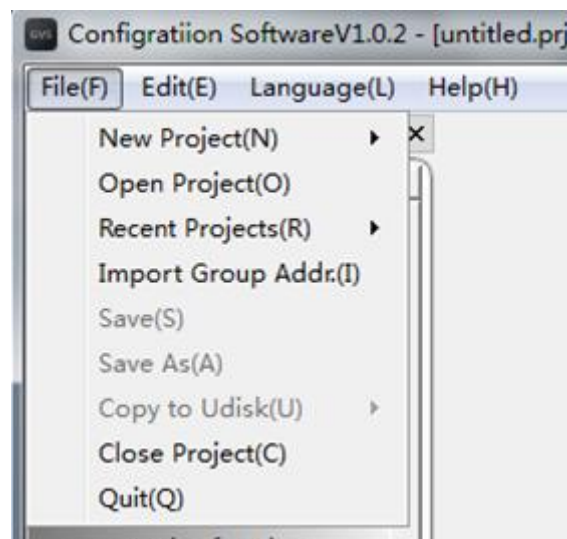


Figure 4.1.3 [File] menu group

[File] menu group includes the following commands:

[New-built Project]

It runs to new-build a project. For the time being, the Software can be used to configure the 3.5" Touch Panel (resolution: 320\*240).

[Open Project]

It runs to open an existing project.

[Recent Projects]

It can track the records of the recent projects, and the max. projects quantity is 5. Click a project name to open it.

[Import Group Addr.]

This can import group address from the esf file saved by ETS software.

[Save]

It runs to save the current project. It has two running ways, first, if the current project is new-built, only when adding a page can activate the function, select Path and then save the project.

When saving a project, if the project exists already, users will be prompted whether to delete the folder and its contents. If yes, the folder and its contents of the same name will be deleted; or no, the new folder will cover the old one. See figure 4.1.4.

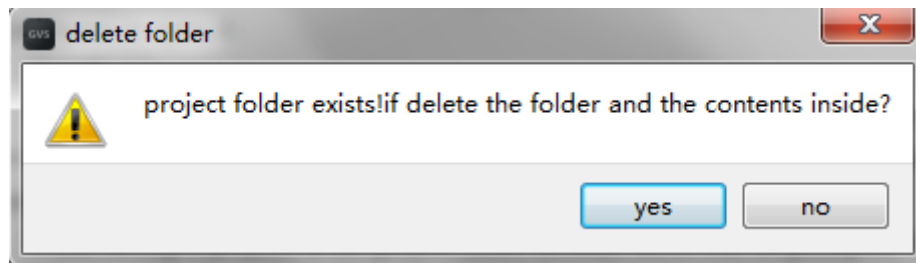


Figure 4.1.4 Dialog box [Delete the Folder]

After a successful save it prompts. See figure 4.1.5.

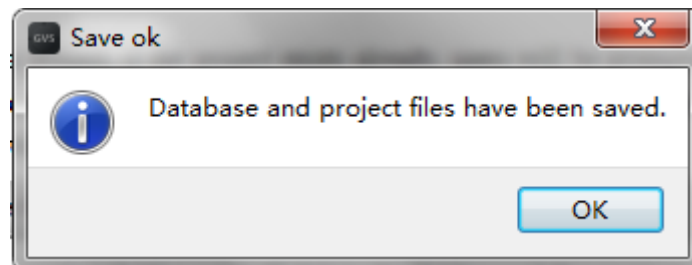


Figure 4.1.5 Dialog box [Saved]

[Save as]

It is to save the current project in another path; select it to save the project in your designated path. If no project is open currently, it is inactive.

[Copy to USB Disk]

In the case of this software is running, when user inserts a removable disk, the drive can be detected and displayed. User can copy the project directly in the removable disk, or insert a Micro SD Card into card slot of 3.5" touch panel to update the data. Only when the software is open, the Drive Letter can be detected after inserting the driver.

Click "copy directly to the U disk", the project files and project folders will be directly copied in the corresponding driver letter. Of course, you can own the project folder to the SD card, and then update the configuration of 3.5-inch touch panel. After copying, the directory is shown in Figure 4.1.6.

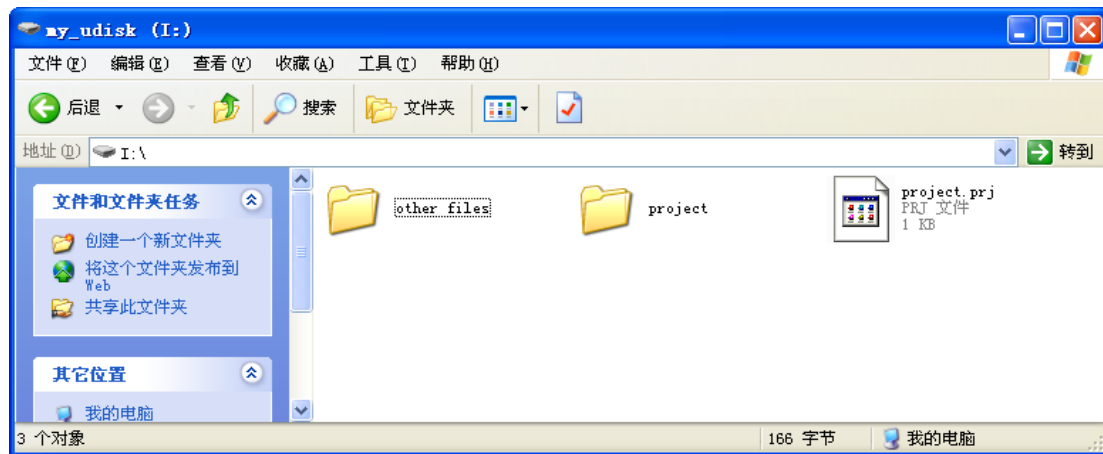


Figure 4.1.6 Directory After copying to SD card

#### [Close Project]

It is used to close a project. If the current open project has not been saved or has been modified, then select the command to bring up a message box asking whether to save the current project.

#### [Exit]

It is used to exit from the software. If the current open project has not been saved or has been modified, then select the command to bring up a message box asking whether to save the current project.

#### (2) [Edit] menu group

It mainly includes the commands related to file; when user clicks [Edit], a menu bar as figure 4.1.7 appears.

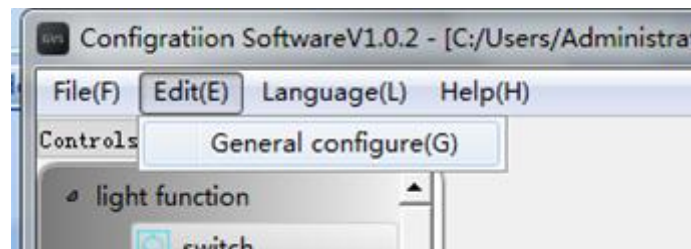


Figure 4.1.7 [Edit] menu group

[Edit] menu group includes the following commands:

#### [Common Settings]

With this command, User can open "Common settings" configuration window.

#### (3) [Language] menu group

It mainly includes the commands related to file; when user clicks [Language], a menu bar as figure 4.1.8 appears.

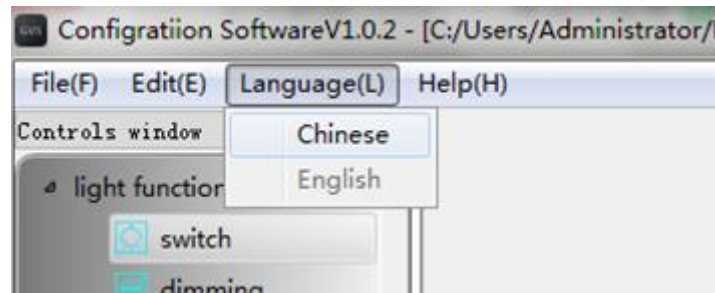


Figure 4.1.8 [Language] menu group

[Language] menu group includes the following commands:

[Chinese]

With this command, User can switch to the Chinese interface. Using the command software will restart, if there is unsaved project, it will be prompted to save.

[English]

With this command, User can switch to the English interface. Using the command software will restart, if there is unsaved project, it will be prompted to save. Select "English", then build a new 3.5-inch touch panel project, the interface shows as figure 4.1.9.

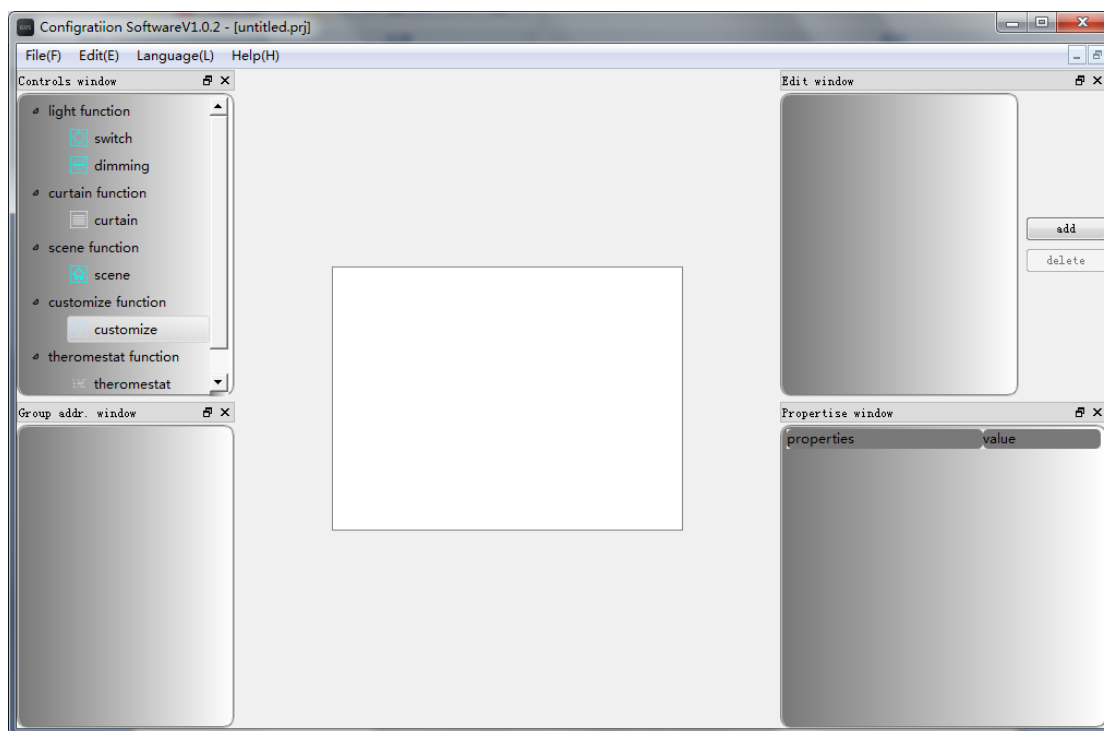


Figure 4.1.9 New-built Project Interface after selecting English

(4) [Help] menu group

It mainly includes the commands related to file; when user clicks [Help], a menu bar as figure 4.1.10 appears.

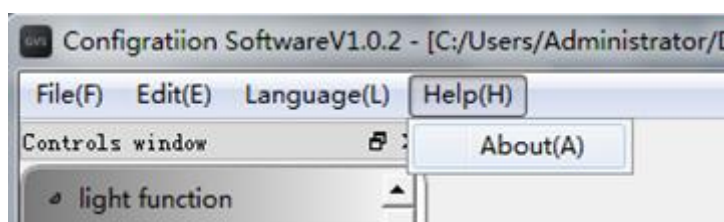


Figure 4.1.10 [Help] menu group

[Help] menu group includes the following commands:

[About]

By the command, it can display the configuration information of the software. See figure 4.1.11.

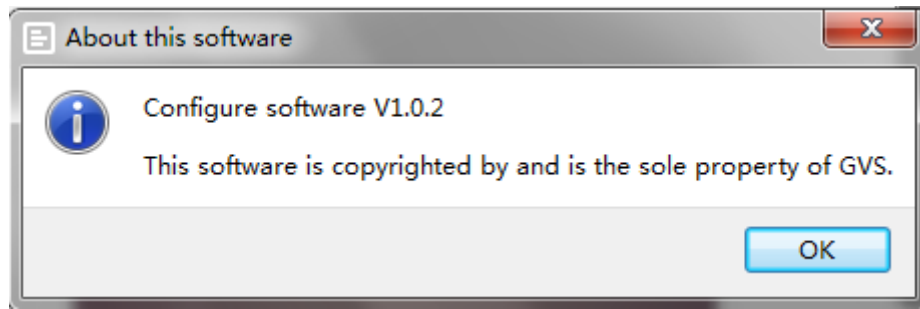


Figure 4.1.11 About

## 4.2 Window Interface

Select the menu "File - New Project -3.5-inch (320 \* 240)" it will display the corresponding sub-window interface in the work area, including the control window, edit window, the Properties window, and display window in the middle region. See figure 4.2.1.

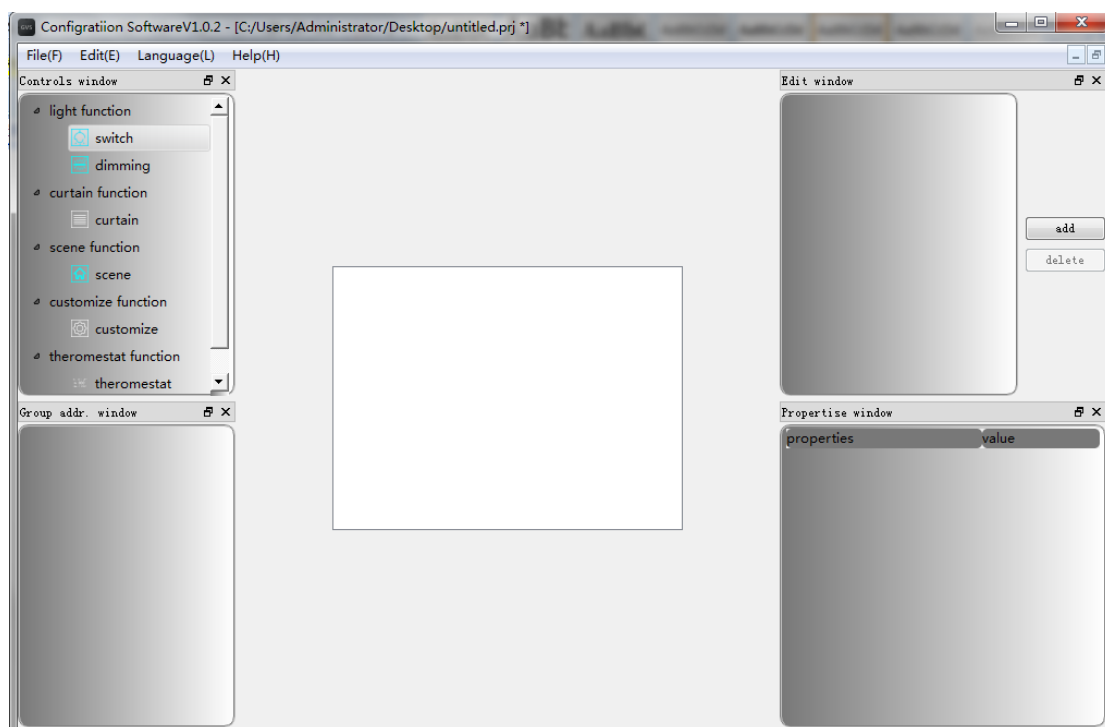


Figure 4.2.1 New-built Project Window

### (1) Control Window

It displays the interface can be dragged to home page, including lighting, curtain, scenes and customization functions. Lighting function also contains two kinds of controls: switching and dimming. After adding pages, user can drag the corresponding control to the middle area of the display window, or place controls to the corresponding home page. See figure 4.2.2.

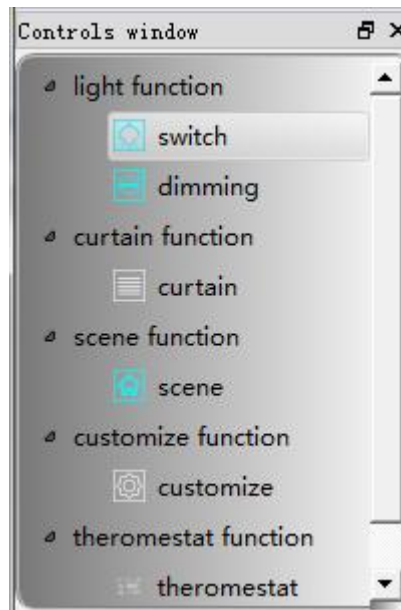


Figure 4.2.2 Control Window

### (2) Group Address Window

It is used to display the imported group address, and can be saved by dragging to the corresponding controls, in addition to thermostat.

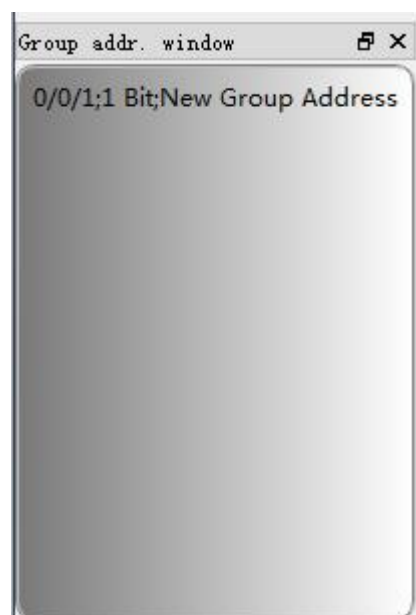


Figure 4.2.3 Group Address Window

### (3) Edit Window

It includes the page name display area, and adding and deleting buttons, click Add to add one, page names from 0, can add up to 10, by selecting the page user wants to delete, then click the Delete button to delete the corresponding page. It will display the corresponding page and page controls already in the display window by clicking on the corresponding pages. Double-click the name of the corresponding page to modify, drag to change the page order. See figure 4.2.4.

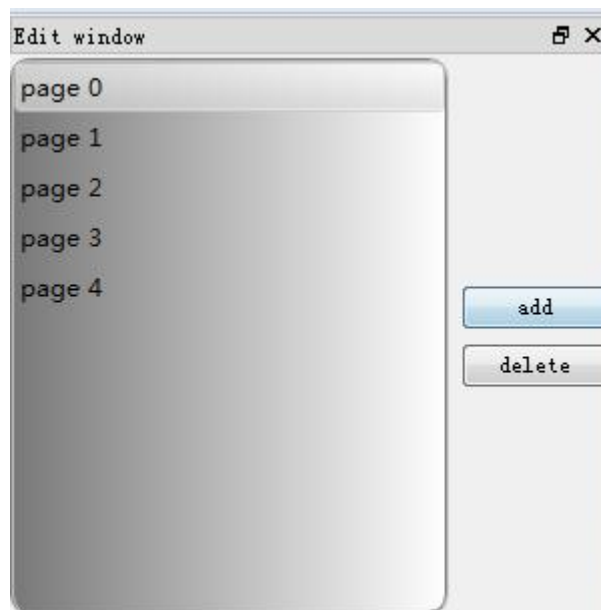


Figure 4.2.4 Edit Window

#### (4) Properties Window

When you add a page, and add the controls to the home interface, user can click to display the configuration information of the control. See figure 4.2.5.

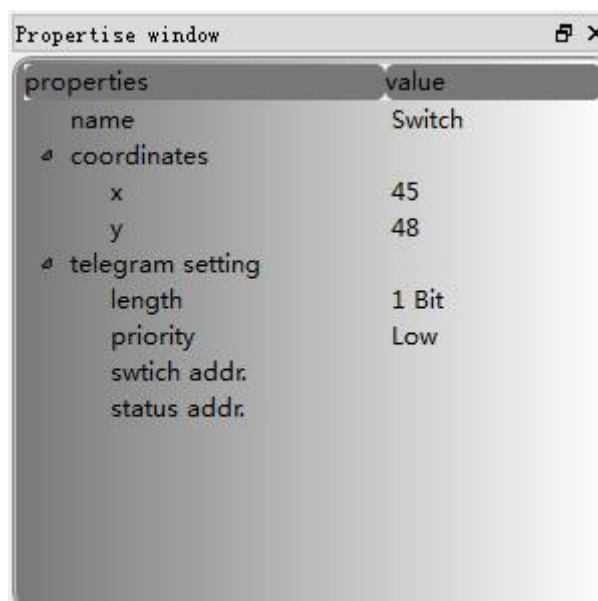


Figure 4.2.5 Properties Window

#### (5) Home Interface of the Display Window

By clicking the page of edit window, the display window can show the contents of the page. Now, adding a page, and click the page to display the contents of the page. See figure 4.2.6



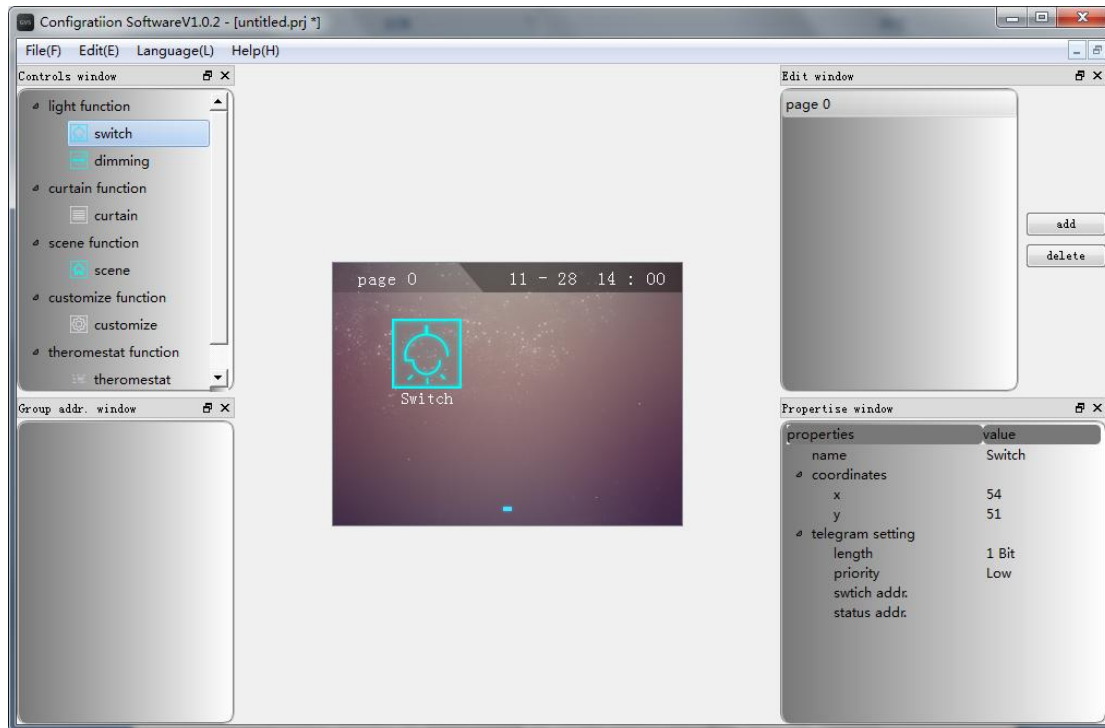


Figure 4.2.6 Home Interface

#### (5) Secondary Interface of the Display Window

Firstly, place a curtain control in the home interface, as the picture shows. Then enter the secondary interface by double-clicking the curtain control. The figure shows the secondary interface of curtain control. Note: Here only the curtain control has the secondary interface.

Returning to the home interface can be achieved by clicking the back button in the secondary interface, or click the page in edit curtain.

Figure 4.2.7 shows adding a curtain control to the home interface. Double-click it to enter its secondary interface, as figure 4.2.8 shows.

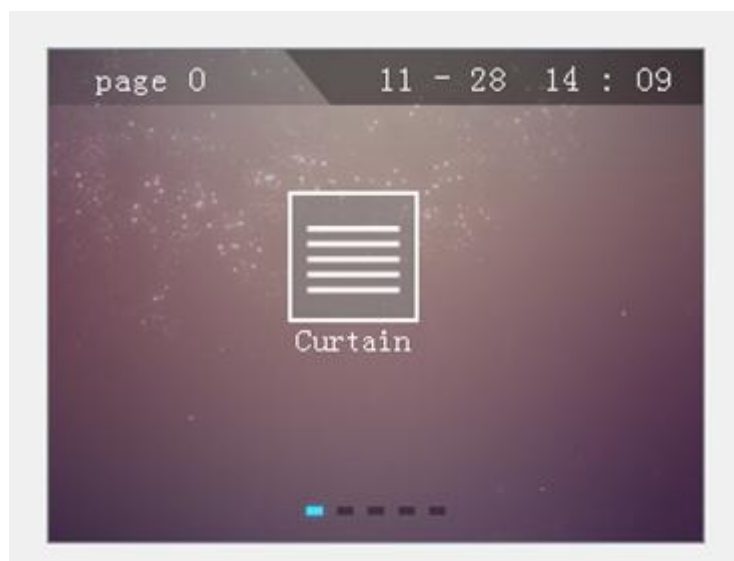


Figure 4.2.7 Place curtain control

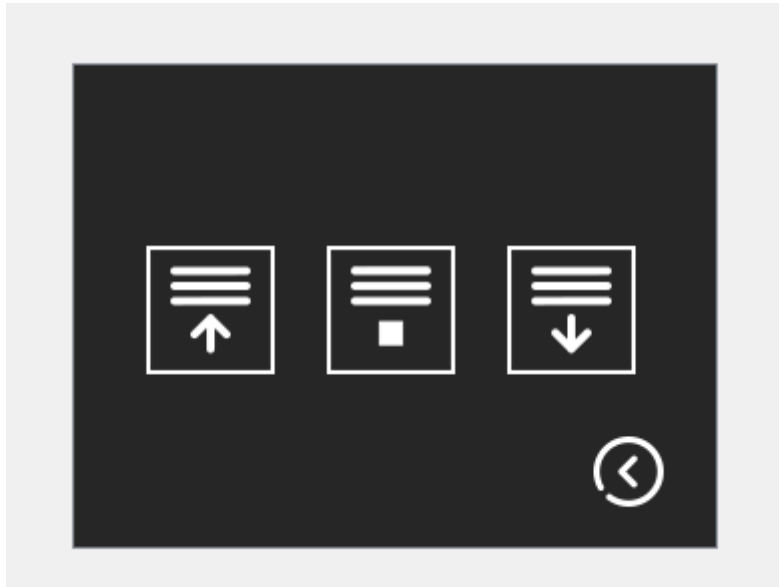


Figure 4.2.8 the secondary interface of curtain control

#### 4.3 Control Operations

Control Operations consist of Drag&Drop, click, Right-click, long press to adjust the position, and double-click.

##### (1) Drag&Drop

User can select a control, and drag it out, place into the home interface, but never place into other interfaces, such as the secondary interface of curtain control.

##### (2) Click

User can click to select the corresponding controls for focus, and the Properties window displays its various properties.

##### (3) Right-click

Place a switch control in the home interface, and then by right-clicking show the menu, which consists of edit, copy, cut, and delete. See figure 4.3.1.

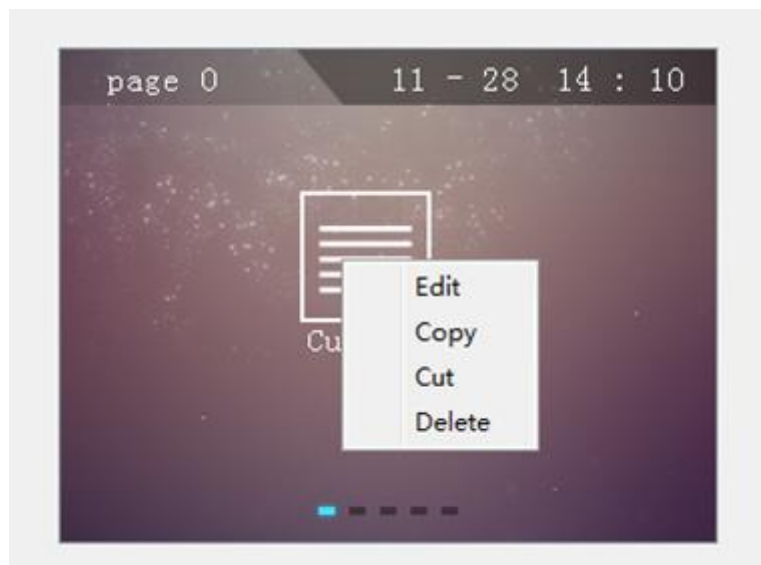


Figure 4.3.1 Right-click Menu Control

Edit: click to enter the setting interface of the switch control.

Copy: it is used to copy a control.

Cut: it is used to cut the control.

Paste: it is used to paste the control being copied or cut before.

(4) Long-press to adjust the position

User can by long pressing the control, adjust the position of the icon. When user drags the control, the icons will be aligned by 3 pixel, and displays the preset position See the figure. Of course, user can set the Page Coordinate for precise settings. See figure 4.3.2.



Figure 4.3.2 Drag to Default Location

(5) Double-click

Only curtain control can use double-clicking. Double-click to enter the secondary interface.

#### 4.4 Control Settings

Control Settings include switch control settings, dimming control settings, curtain control settings, scene control settings, and customization control settings.

##### 4.4.1 Switch Control Settings

Switch Control Settings

See figure 4.4.1.

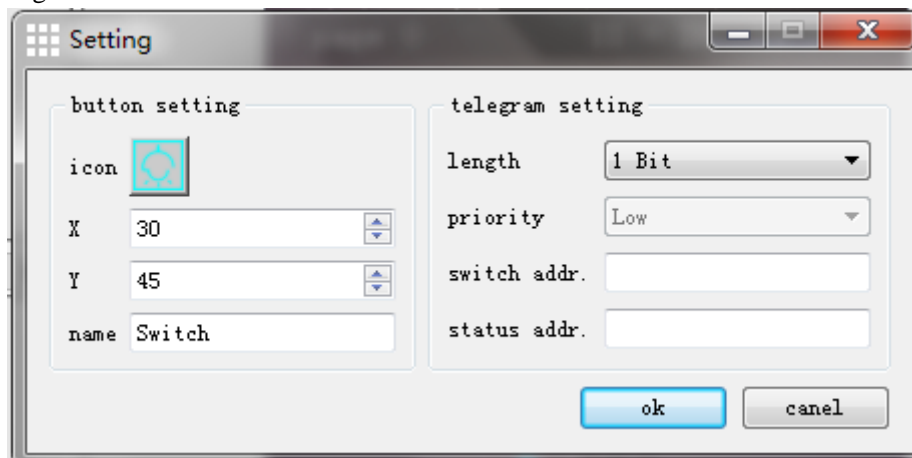


Figure 4.4.1 Switch Control Settings Interface

Icon: click the icon button to enter the icons setting interface, the interface will display the new icon after modifying. See more about icon selection in the following section.

X coordinates: manually modify the value of the X coordinate.

Y coordinates: manually modify the value of the Y coordinate.

Name: After modifying, the text can be displayed in the interface after replacing the controls.

Length: user can modify the data type of the telegram length. Including 1 Bit,2 Bit,4 Bit,6 Bit,1 Byte,2 Byte. Recommend using 1 Bit. Note that the switch group address uses the same data length with the State group address.

If the priority is Low, the configuration wasn't performed.

Switch group address: to configure the group address of switching function. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

State Group Address: group address for states feedback. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

#### 4.4.2 Dimming Control Settings Interface

Dimming Control Settings Interface includes all the parameters that can be configured, such as icons, X coordinate, Y coordinate, name, priority, the length of switch group, the switch group address, the length of the dimmer group, the dimming group address, the length of the state group, the state group address, and sending interval. See figure 4.4.2.

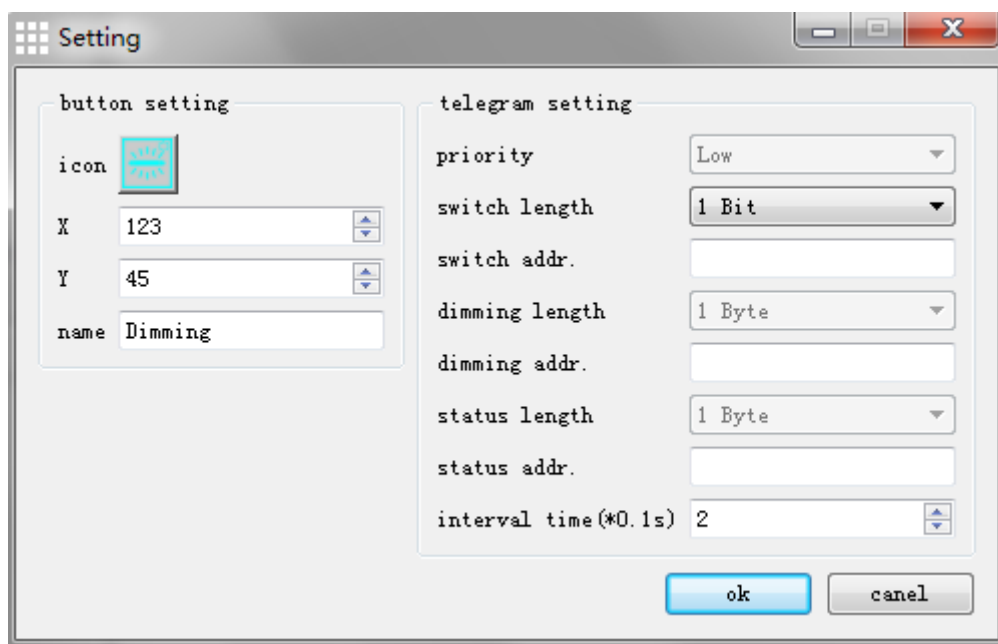


Figure 4.4.2 Dimming Control Settings Interface

Icon: click the icon button to enter the icons setting interface, the interface will display the new icon after modifying. See more about icon selection in the following section.

X coordinates: manually modify the value of the X coordinate.

Y coordinates: manually modify the value of the Y coordinate.

Name: After modifying, the text can be displayed in the interface after replacing the controls.

If the priority is Low, the configuration wasn't performed.

Length: user can modify the data type of the telegram length. Including 1 Bit,2 Bit,4 Bit,6

Bit,1 Byte,2 Byte. Recommend using 1 Bit.

Switch group address: to configure the group address of switching function. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

The length of Dimming Group: it can only use 1 Byte, and the length cannot be customized.

Dimming group address: to configure the group address of dimming function. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

The length of State Group: it can only use 1 Byte, and the length cannot be customized.

State group address: it is used for the feedback of the current state. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

Sending Interval: it is used to configure the interval of sending telegram when people use the slider dimming. Interval ranges from 0.1s to 1s, and the default value is 0.2s.

#### 4.4.3Curtain Control Settings Interface

Curtain Control Settings Interface includes all the parameters that can be configured, such as icons, X coordinate, Y coordinate, name, length, priority,the switch group address, the stop group address, long-press operation and button types. See figure 4.4.3.

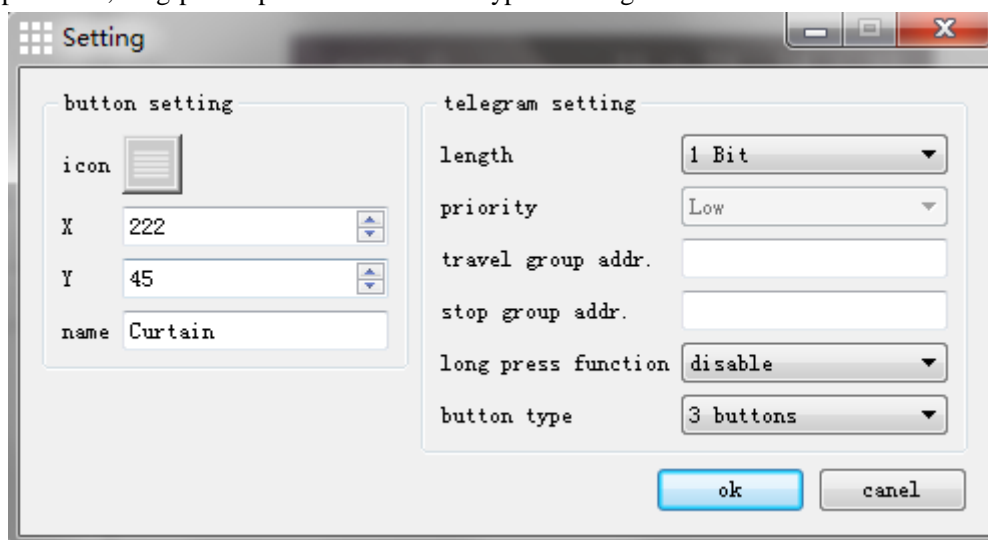


Figure 4.4.3 Dimming Control Settings Interface

Icon: click the icon button to enter the icons setting interface, the interface will display the new icon after modifying. See more about icon selection in the following section.

X coordinates: manually modify the value of the X coordinate.

Y coordinates: manually modify the value of the Y coordinate.

Name: After modifying, the text can be displayed in the interface after replacing the controls.

If the priority is Low, the configuration wasn't performed.

Length: user can modify the data type of the telegram length. Including 1 Bit,2 Bit,4 Bit,6 Bit,1 Byte,2 Byte. Recommend using 1 Bit.

Switch group address: to configure the group address of switching function. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

Stop group address: to configure the group address of stopping function. User must configure

the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

Long press operation: user can choose to enable or disable. Disabled by default. When the curtain is in blinds mode, long press operation can adjust the angle of the blinds, and the release button can stop adjusting the angle.

Curtain Type: configuration uses three button or two button curtains. Figure 4.4.4: three-button curtains; figure 4.4.5: two-button curtains. Users can modify it according to needs.



Figure 4.4.4:three-button curtains

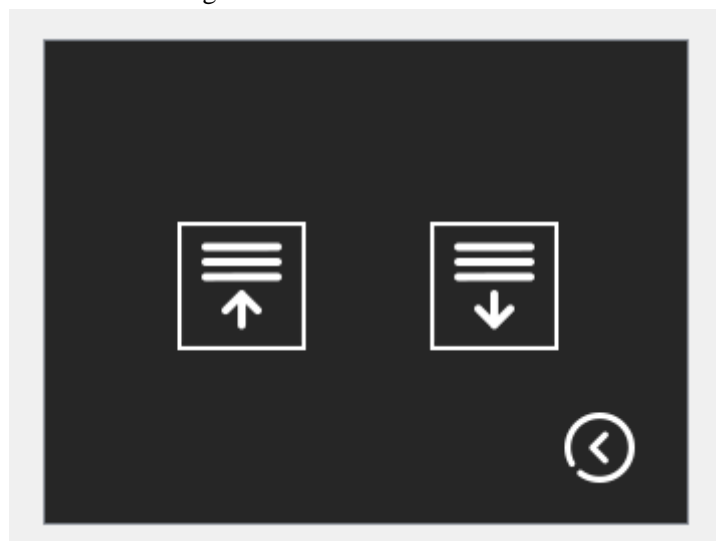


Figure 4.4.5: two-button curtains

#### 4.4.4 Scene Control Settings Interface

Scene Control Settings Interface includes all the parameters that can be configured, such as icons, X coordinate, Y coordinate, name, length, priority,the switch group address, and saving scene. See figure 4.4.6.

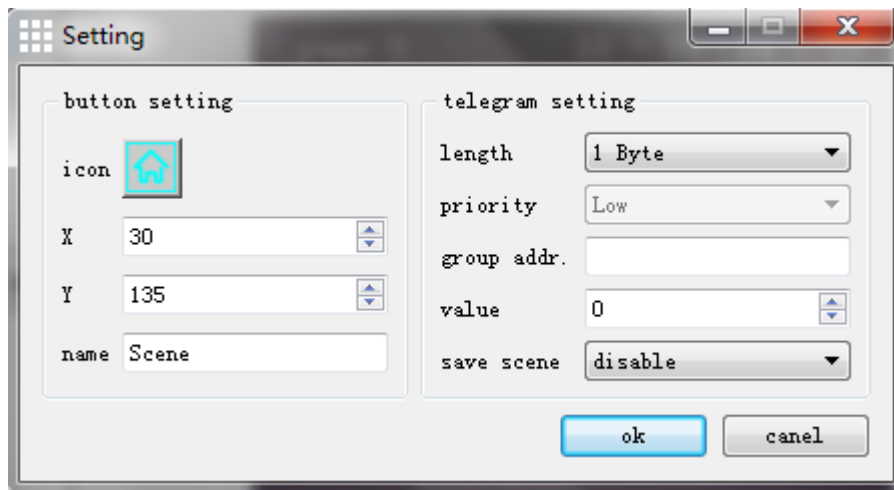


Figure 4.4.6 Scene Control Settings Interface

Icon: click the icon button to enter the icons setting interface, the interface will display the new icon after modifying. See more about icon selection in the following section.

X coordinates: manually modify the value of the X coordinate.

Y coordinates: manually modify the value of the Y coordinate.

Name: After modifying, the text can be displayed in the interface after replacing the controls.

If the priority is Low, the configuration wasn't performed.

Length: user can modify the data type of the telegram length. Including 1 Bit, 2 Bit, 4 Bit, 6 Bit, 1 Byte, 2 Byte. Recommend using 1 Byte.

Scene group address: to configure the group address of scene function. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

Scene Value: it is used to sending the scene number. Default value is zero.

Save Scene: user can select whether to set the "save scene" function. User can choose "enable" or "disable".

#### 4.4.5 Customization Control Settings Interface

Customization Control Settings Interface includes all the parameters that can be configured, such as icons, X coordinate, Y coordinate, name, priority, telegram number, group address 1, length 1, sending value 1, group address 2, length 2, sending value 2, and group address 3, length 3, sending value 3.

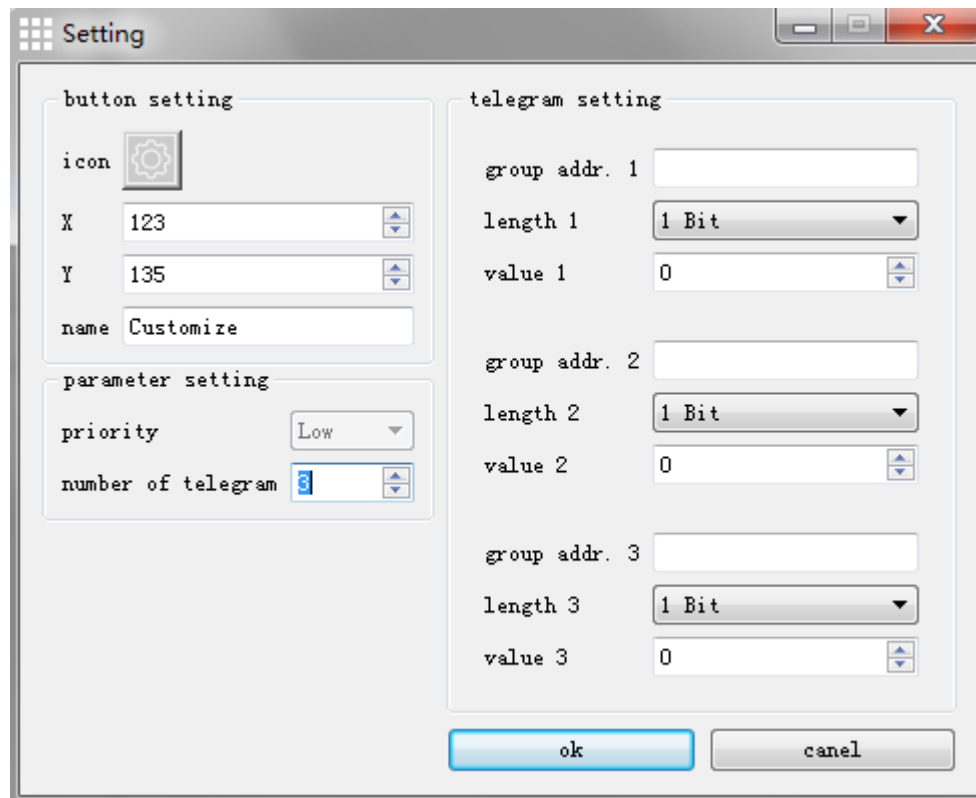


Figure 4.4.7 Customization Control Settings Interface

Icon: click the icon button to enter the icons setting interface, the interface will display the new icon after modifying. See more about icon selection in the following section.

X coordinates: manually modify the value of the X coordinate.

Y coordinates: manually modify the value of the Y coordinate.

Name: After modifying, the text can be displayed in the interface after replacing the controls.

If the priority is Low, the configuration wasn't performed.

Number of telegrams: it is used for configuring the number of telegrams. User can choose from 1, 2, and 3. Select "1" as default.

Group Address 1: it is used for the the group address of the first telegram. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

Length 1: user can modify the data type of the first telegram length. Including 1 Bit, 2 Bit, 4 Bit, 6 Bit, 1 Byte (unsigned), 2 Byte (unsigned), 1 Byte.

Sending Value 1: user can modify the value of telegram 1. The limit range should be matched with the length 1. When select the float time, user should pay attention to the existence of deviation.

Group Address 2: it is used for the the group address of the second telegram. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

Length 2: user can modify the data type of the second telegram length. Including 1 Bit, 2 Bit, 4 Bit, 6 Bit, 1 Byte (unsigned), 2 Byte (unsigned), 1 Byte.

Sending Value 2: user can modify the value of telegram 2. The limit range should be matched with the length 2. When select the float time, user should pay attention to the existence of



deviation.

Group Address 3: it is used for the the group address of telegram 3. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

Length 3: user can modify the data type of the third telegram length. Including 1 Bit,2 Bit,4 Bit,6 Bit,1 Byte (unsigned) ,2 Byte (unsigned) ,1 Byte.

Sending Value 3: user can modify the value of telegram 3. The limit range should be matched with the length 3. When select the float time, user should pay attention to the existence of deviation.

#### 4.4.6 Thermostat Parameter Setting

### (1)Introduction

Thermostat panel can set different modes according to the users' needs, the following is the detailed description of parameter setting of thermostat.

### (2)Parameter Setting Window "General Settings"

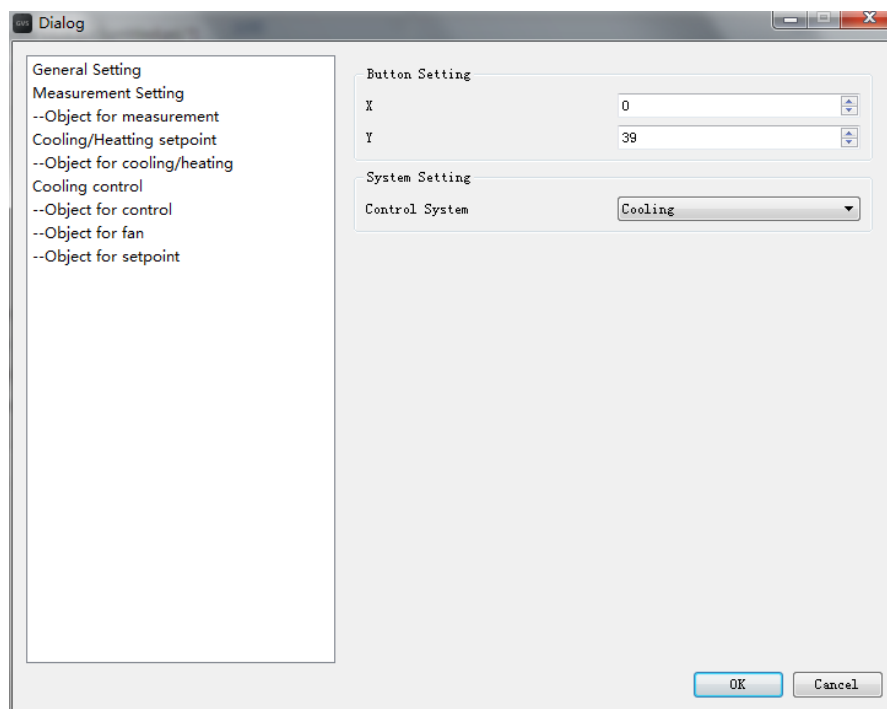


Figure 4.4.8 General Settings

Including button settings and system settings;

#### 1. General Settings

##### *Parameter "Button Settings"*

Only coordinates setting, including x and y coordinates.

##### *Parameter "System Settings"*

Control system is divided into cooling, heating, and cooling/ heating, which has their own

parameter setting windows. When selecting cooling / heating, the communication object "parameters shared" will appear.

### ***Parameter "Shared Communication Object"***

User can select YES or NO, and the corresponding parameter settings page will appear.

## **2.Measuring Settings**

Including the indoor temperature and humidity sensor selection, the temperature initialization.

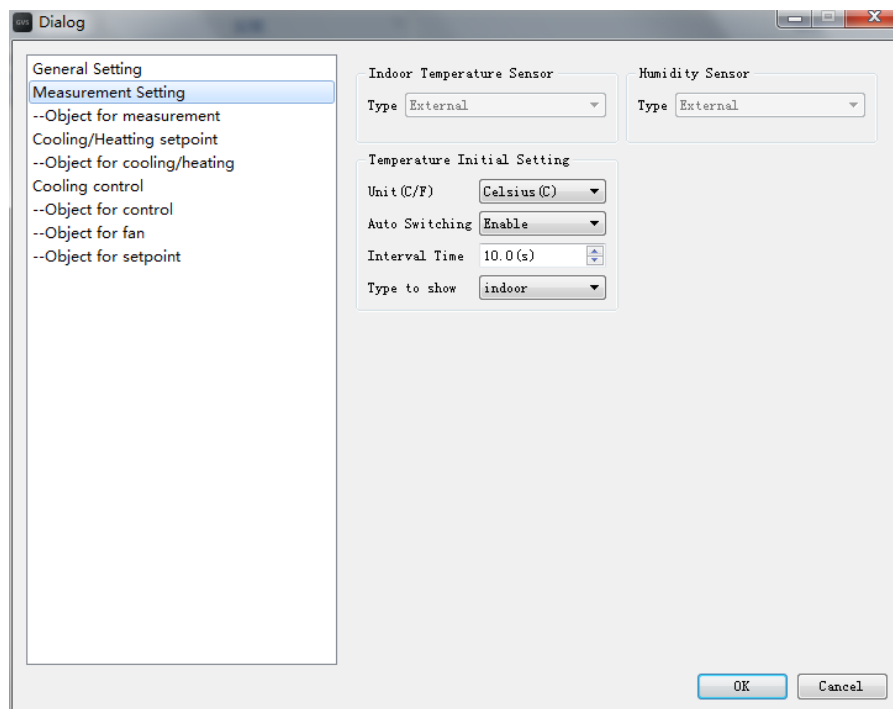


Figure 4.4.9 Measurement Setting

Both indoor temperature and humidity are detected by the external sensors by default, and updated status via the bus telegrams.

### **Temperature Initial Setting**

#### ***Unit:***

Select from Celsius and Fahrenheit.

### ***Auto Switching:***

Options: enable, disable; enable by default. When selecting "enable", time switching interval will appear.

### ***Interval time:***

10s- 60s

### ***Type to show:***

Indoor, or outdoor

## **3. Object for Measurement**

This part includes indoor temperature, outdoor temperature, and humidity.

Manually fill in the group address, empty by default. Data type is 2 Byte, and cannot be modified.

The screenshot shows a 'Dialog' window with a sidebar on the left and a main content area on the right. The sidebar contains a list of settings: 'General Setting', 'Measurement Setting' (which is selected and highlighted), 'Cooling/Heating setpoint', '--Object for cooling/heating', 'Cooling control', '--Object for control', '--Object for fan', and '--Object for setpoint'. The main content area is divided into three sections: 'Indoor temperature', 'Outdoor temperature', and 'Humidity'. Each section has a 'Status' label, an 'Addr.' text box, and a 'Length' dropdown menu. For 'Indoor temperature' and 'Outdoor temperature', the 'Length' is set to '2 Byte'. For 'Humidity', the 'Length' is set to '1 Byte'. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

Figure 4.4.10 Temperature and Humidity Communication Object

## **4. cooling/heating setpoint**

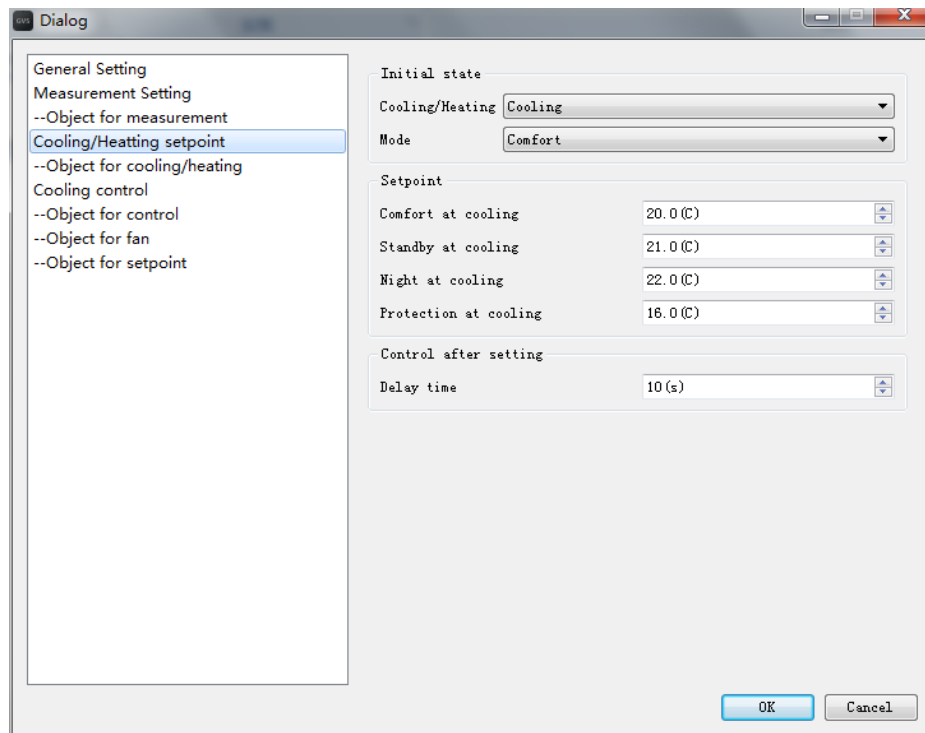


Figure 4.4.11 cooling/heating setpoint

This window includes Initial state, temperature setpoint, and the delay times of control after setting.

### ***Cooling/Heating***

Here is to set cooling or heating.

### ***Setpoint***

Temperature controller has four operating modes: comfort mode, standby mode, night mode, freeze/overheat protection mode. Each operation mode has the own temperature setpoint.

### ***Delay Times of Control after Setting***

Here is to set the delay times of PI auto control after setting temperature.

## **5.Object for cooling/heating**

Different objects for different control systems.

**Dialog**

General Setting  
 Measurement Setting  
 --Object for measurement  
 Cooling/Heating setpoint  
 --Object for cooling/heating  
 Cooling control  
 --Object for control  
 --Object for fan  
 --Object for setpoint

**Cooling temperature setting**  
 Cooling setting  
 Addr.   
 Length 2 Byte

**Cooling**

Setting		Status	
Addr.	<input type="text"/>	Addr.	<input type="text"/>
Length	1 Bit	Length	1 Bit
Value	0	Value	0

**Mode Comfort**

Setting		Status	
Addr.	<input type="text"/>	Addr.	<input type="text"/>
Length	1 Bit	Length	1 Bit
Value	0	Value	0

**Mode Standby**

Setting		Status	
Addr.	<input type="text"/>	Addr.	<input type="text"/>
Length	1 Bit	Length	1 Bit
Value	0	Value	0

OK Cancel

Figure 4.4.12 Object for cooling/heating

Including cooling object setting and status, heating object setting and status, comfort mode object setting and status, standby mode setting and status, night mode setting and status, cooling/thermal protection mode object setting and status.

## 6.Cooling PI Auto Control Setting

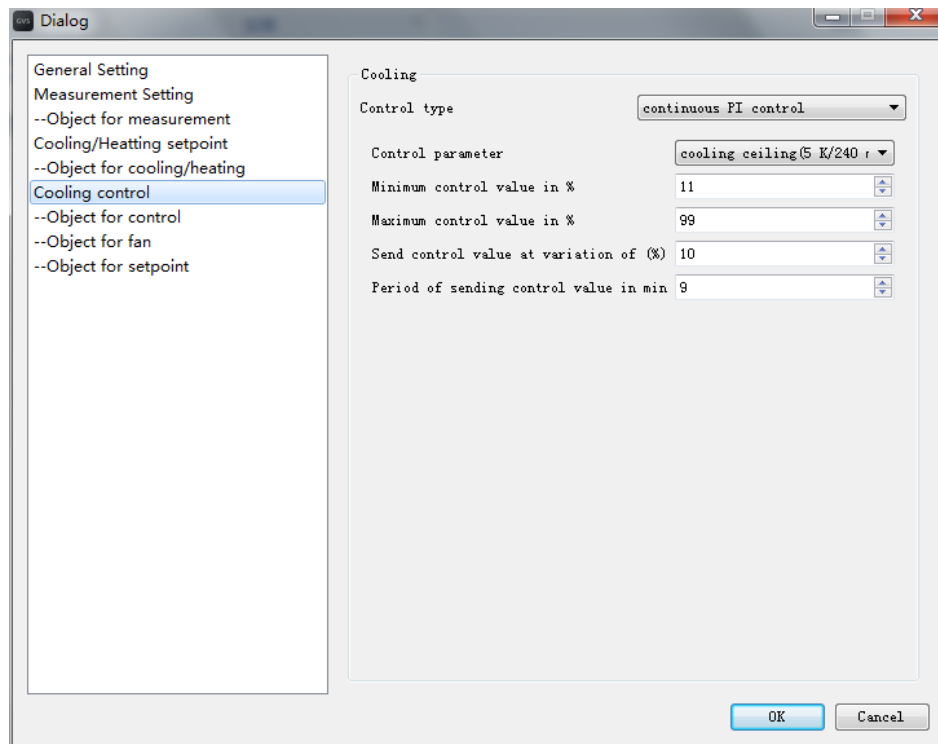


Figure 4.4.13 Cooling PI Control

Including continuous PI control

Switching PI control

***Parameter "control parameter"***

Options: Hot water heating (5K/150min)

Floor heating (5K/240 min)

Electric heating (4K/100min)

Split unit (4K/90min)

PI auto tuning

User-defined parameter

***Parameter "control parameter of cooling system"***

Options: Cooling ceiling (5K/240min)

Split unit (4K/90min)

PI auto tuning

User-defined parameter

***Parameter "proportional range ( $\times 0.1$  °C)"***

Options: 10...100

In parameter "control parameter of heating/cooling system", select "user-defined parameter", so this parameter is visible, used for setting the value of P (proportional range), with unit °C. Proportional coefficient is 255 divided by the proportional range. Proportional range should be proper, if too small, the overshoot may happen; if too big, the overshoot will less happen, but it responds slowly. For example, the proportional range is 5°C, when the temperature deviation is 2 °C, the proportional Control value is  $(255/5)*2=102$ . Proportional Control value plus integral term control value, is the control value of PI.

***Parameter "reset time (min)"***

Options: 0...255

In parameter "control parameter of heating/cooling system", select "user-defined parameter", so this parameter is visible, used for setting the value of I (Integration time). Integration time value should be proper: if too big, the response will be very slow, and the oscillation is not obvious; while if too small, it will adjust quickly, but there will be obvious oscillation phenomenon.

"0" means no use of the integral term

***Parameter "invert control value"***

Option: Normal

Inverse

Here is to set the way of sending control value by control object: normal or inverse, to adapt the control value to the type of valve.

Select "normal", control value "Heating/Cooling control value" will send normal values.

Select "Inverse", control value "Heating/Cooling control value" will send inverse values.

If the control value is "off" or "0%", then the inverse one will be "on" or "100%", and Vice versa.

If the control value is "60%", then the inverse one will be "40".

***Parameter "minimum control value in %"***

Options: 0...30

This parameter is used to set the minimum value of PI control. When the PI control calculated value is less than the minimum value of the parameter settings, the panel will send the minimum value of parameter settings. This parameter is very necessary if the temperature control panel controls the actuator with a PWM (Pulse Width Modulation) mode.

In PWM mode, if the PI control value is very small, it will cause the valve opens for a short time, but closes for a long time, and even there is a chance that people haven't enough time to open the valve, so the temperature of the room cannot be usefully adjusted, and easily damaged the valve.

***Parameter "minimum control value in %"***

Options: 70...100

This parameter is used to set the maximum value of PI control. When the PI control calculated value is above the minimum value of the parameter settings, the panel will send the maximum value of parameter settings. This parameter is very necessary if the temperature control panel controls the actuator with a PWM (Pulse Width Modulation) mode.

In PWM mode, if the PI control value is very big, it will cause the valve opens for a long time, but closes for a short time, and even there is a chance that people haven't enough time to close the valve, so the temperature of the room cannot be usefully adjusted, and easily damaged the valve.

***Parameter "send control value at variation of %"***

Options: 0- 15

Only select "continuous PI control", the control value changes, will "Heating / cooling control value" send the current control value to the bus. , "0" means no use of this parameter

Parameter "period of sending control value (1...255 min)"

Options: 0...255

It sets the time interval of cyclic sending values to the bus. , "0" means no use of this parameter  
After finishing sending a control value to the bus, the cyclically sending time will Re-timing.

***Parameter "PWM cycle time (1...255 min)"***



Options: 1- 255

This parameter is visible when the control cycle type is "switching PI control", and is used to set the period of cyclic sending the switch values.

The thermostat panel sends switch values according to Duty Ratio of control values.

For example, is the period is 10min, and the control value is 80%, and then it will send an ON telegram in each 8 min, and an OFF telegram in each 2 min.

If the control value changes, so will the time Duty Ratio of sending ON/OFF telegrams, but the period is still the pre-set time in the parameters.

If the control object sends a full-ON/full-OFF telegram, it will be sent cyclically.

"Continuous PI control" and "switching PI control" have the same PI control value, but different control objects; "continuous PI"'s control object directly outputs PI control value (1byte), while the "switching PI"'s control object outputs an "on / off" control telegram according to the duty ratio of PI control value.

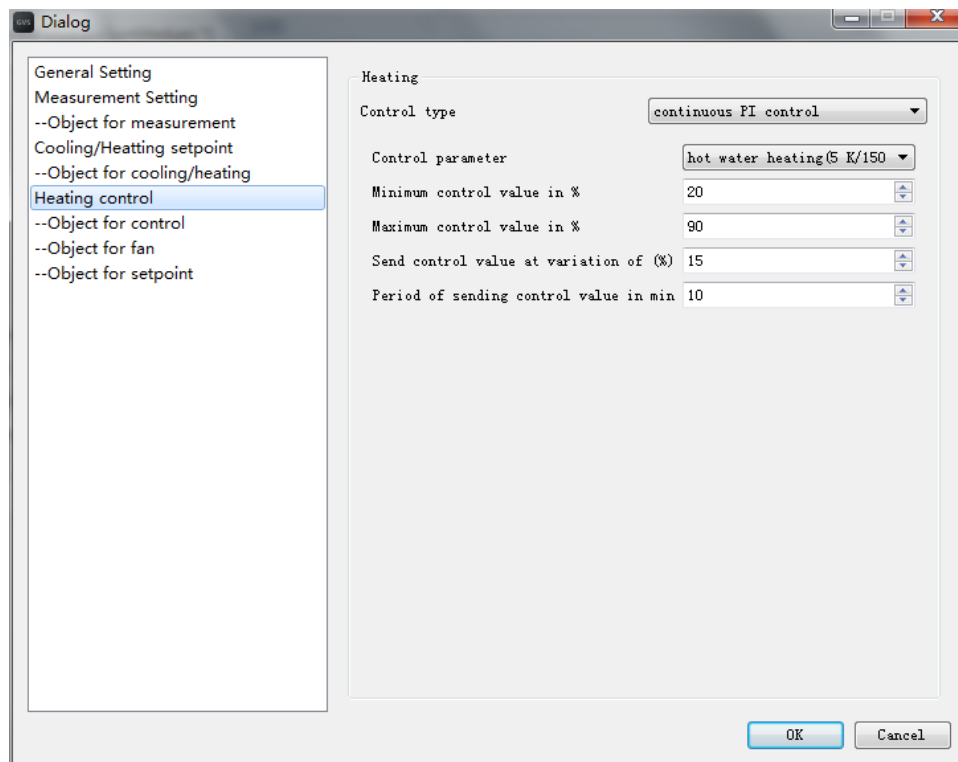


Figure 4.4.14 heating PI control

The parameters of heating PI control are similar to those of cooling PI control.

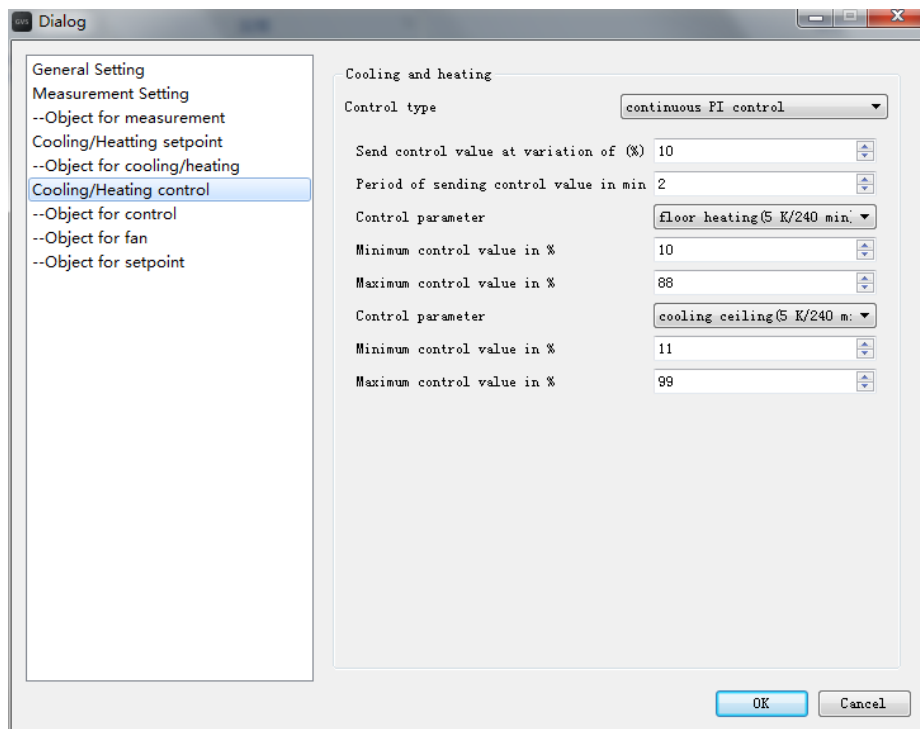


Figure 4.4.15 Heating/Cooling PI Control

The parameters of heating/cooling PI control are similar to those of cooling PI control.

## 7.PI control object

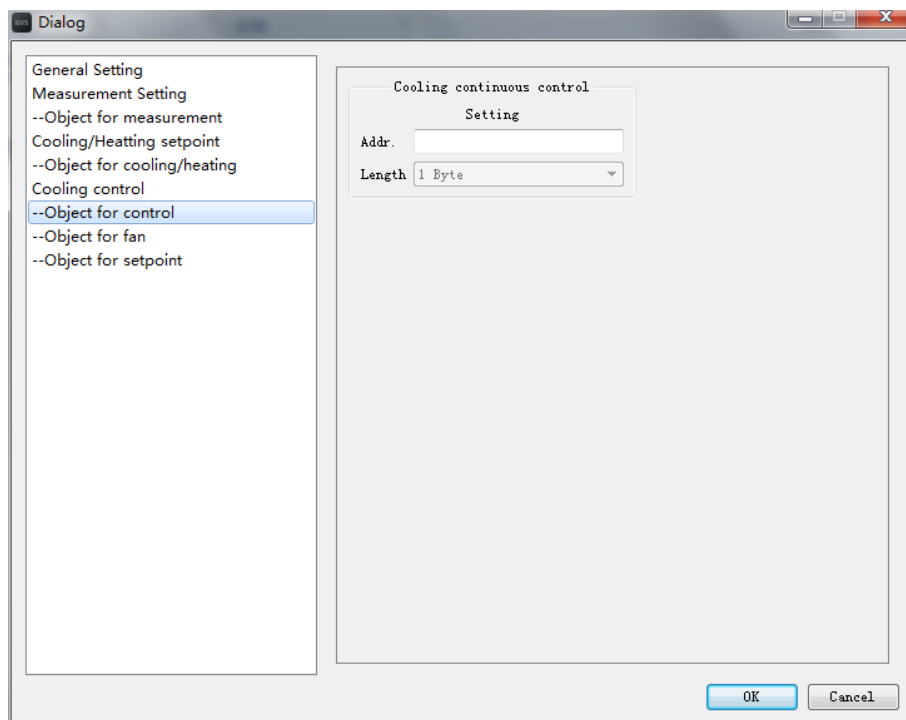


Figure 4.4.16 PI control object settings

There are different objects for different PT control. 1byte for the continuous control, 1bit

pwm control.

## 8.Fan & Object Setting

The screenshot shows a 'Dialog' window with a tree view on the left and configuration fields on the right. The tree view includes 'General Setting', 'Measurement Setting', and several object settings. The 'Object for fan' is selected. The right panel has sections for 'Fan Speed' and 'Fan Mode Auto', each with 'Setting' and 'Status' columns. The 'Fan Speed' section has address and length fields set to 1 Byte. The 'Fan Mode Auto' section has address and length fields set to 1 Bit, and a value field set to 0. An 'Enable' section has an 'Auto mode' dropdown set to 'Enable'. 'OK' and 'Cancel' buttons are at the bottom right.

Fan Speed	
Setting	Status
Addr. <input type="text"/>	Addr. <input type="text"/>
Length 1 Byte	Length 1 Byte

Enable

Auto mode

Fan Mode Auto	
Setting	Status
Addr. <input type="text"/>	Addr. <input type="text"/>
Length 1 Bit	Length 1 Bit
Value 0	Value 0

OK Cancel

Figure 4.4.17 fan speed settings and communication objects

Including objects for fan speed setting and state, for the automatic mode setting and state, and the enable of auto mode.

## 9.Object for temperature setting

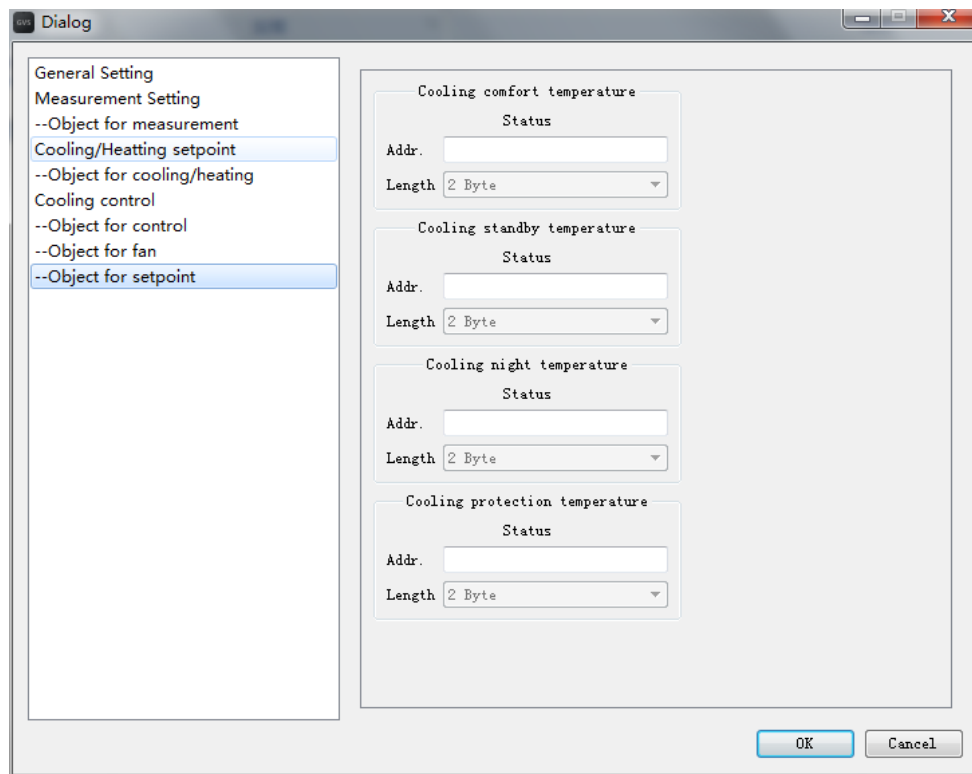


Figure 4.4.18 Object for temperature setting

Including object to set the temperature status of each mode.

#### 4.5 Common Settings Interface

Common Settings Interface includes common settings, one-key scene and scene time setting. See figure 4.5.1.

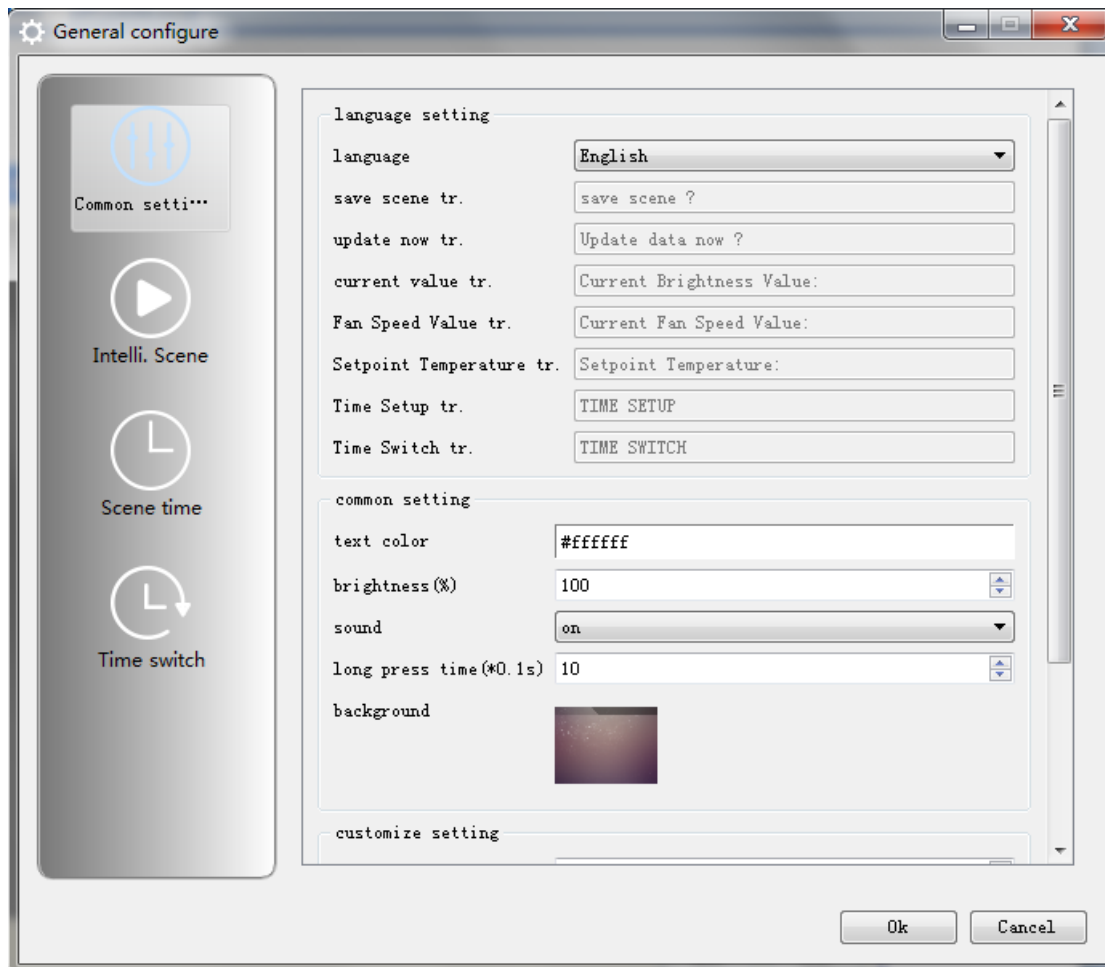


Figure 4.5.1 Common Settings Box

#### (1) Common Settings

Language Settings: three options- English, Chinese, customize. Two pre-set languages of menus, English and Chinese. If users want to customize the menu, they should edit by themselves. Please be noted that the length of customized words should be proper, since the words will not be fully displayed if the words are too long. Because of language differences, the software does not set limit for the character length, so the user should be noted that when customizes the menu. Figure 4.5.2 English; Figure 4.5.3 Chinese; Figure 4.5.4 Customize to better show the effects, the English and Chinese menus have been adjusted with the proper length. When customizing, users can adjust the length by themselves.

language setting	
language	English
save scene tr.	save scene ?
update now tr.	Update data now ?
current value tr.	Current Brightness Value:
Fan Speed Value tr.	Current Fan Speed Value:
Setpoint Temperature tr.	Setpoint Temperature:
Time Setup tr.	TIME SETUP
Time Switch tr.	TIME SWITCH

Figure 4.5.2 English;

language setting	
language	Chinese
save scene tr.	是否保存为当前场景 ?
update now tr.	是否立即更新程序 ?
current value tr.	当前灯光亮度值为 :
Fan Speed Value tr.	当前风速设定值为 :
Setpoint Temperature tr.	当前温度设定值为 :
Time Setup tr.	时间设置
Time Switch tr.	时间定时器

Figure 4.5.3 Chinese;

language setting	
language	customize
save scene tr.	
update now tr.	
current value tr.	
Fan Speed Value tr.	
Setpoint Temperature tr.	
Time Setup tr.	
Time Switch tr.	

Figure 4.5.4 Customize

Common: including text color, brightness, sound, long-press time, and background.

Text Color: it is used to configure the interface to color of all the text. Click on the color display box at the right side, it will pop up a selection menu, where users can choose from color

palette. White by default. Figure 4.5.5 shows the color selection interface, and the color can be changed after users selected OK.

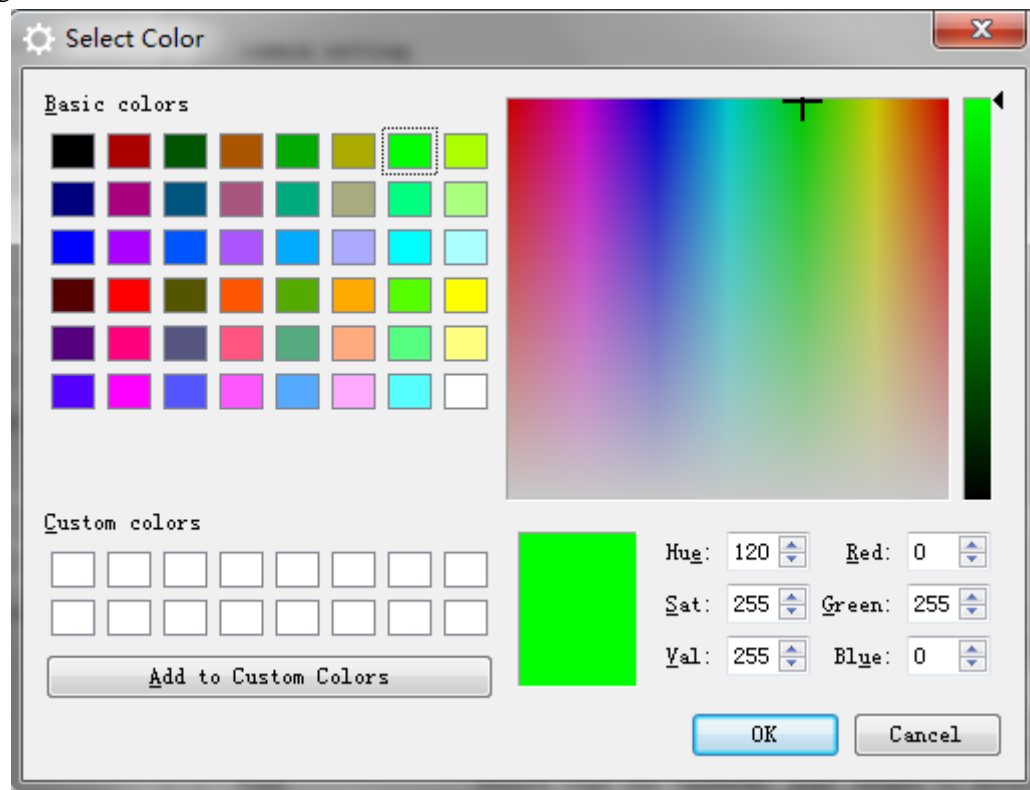


Figure 4.5.5 Color Selection Interface

Brightness: it is used for configuring screen brightness. Range: 50-100, 100 by default.

Sound: it is used for configuring the sound of the 3.5inch touch panel. Sound options: ON/OFF ON by default.

Long-press time: it is used for configuring the dimming, scene and the long-press time of curtain control. Range: from 0.1s to 1s, and the default value is 1s.

Background image: it is used for configuring the background image of the home interface. Users can select the background image from its won or other sources.

Custom Settings:

Custom Sending Interval: it is used for setting the interval of sending telegrams. Range: 0.2s-5s; 0.2s by default.

Screensaver Settings:

Function: to set whether to open the screen saver. Options: enable or disable. Enable by default.

Screensavers interval: it is used to configure the screen saver interval. Range: from 5s to 300s, and the default value is 60s.

Screensaver mode: Options are black, clock, and picture browsing.

If selecting picture browsing, it wil show as figure 4.5.6. Note that user should copy the pictures under screensaver\_dir.

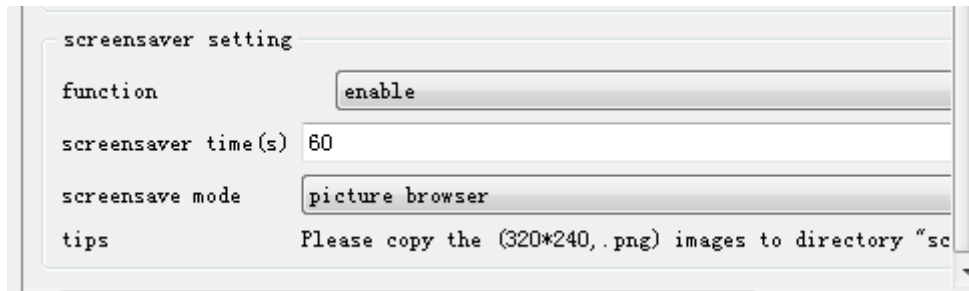


Figure 4.5.6 Picture Browsing

## (2)One key Scene

### Settings:

This part includes enabled, background, icons, and the X coordinate and Y coordinate, data length, address, etc., and the group address. See figure 4.5.7.

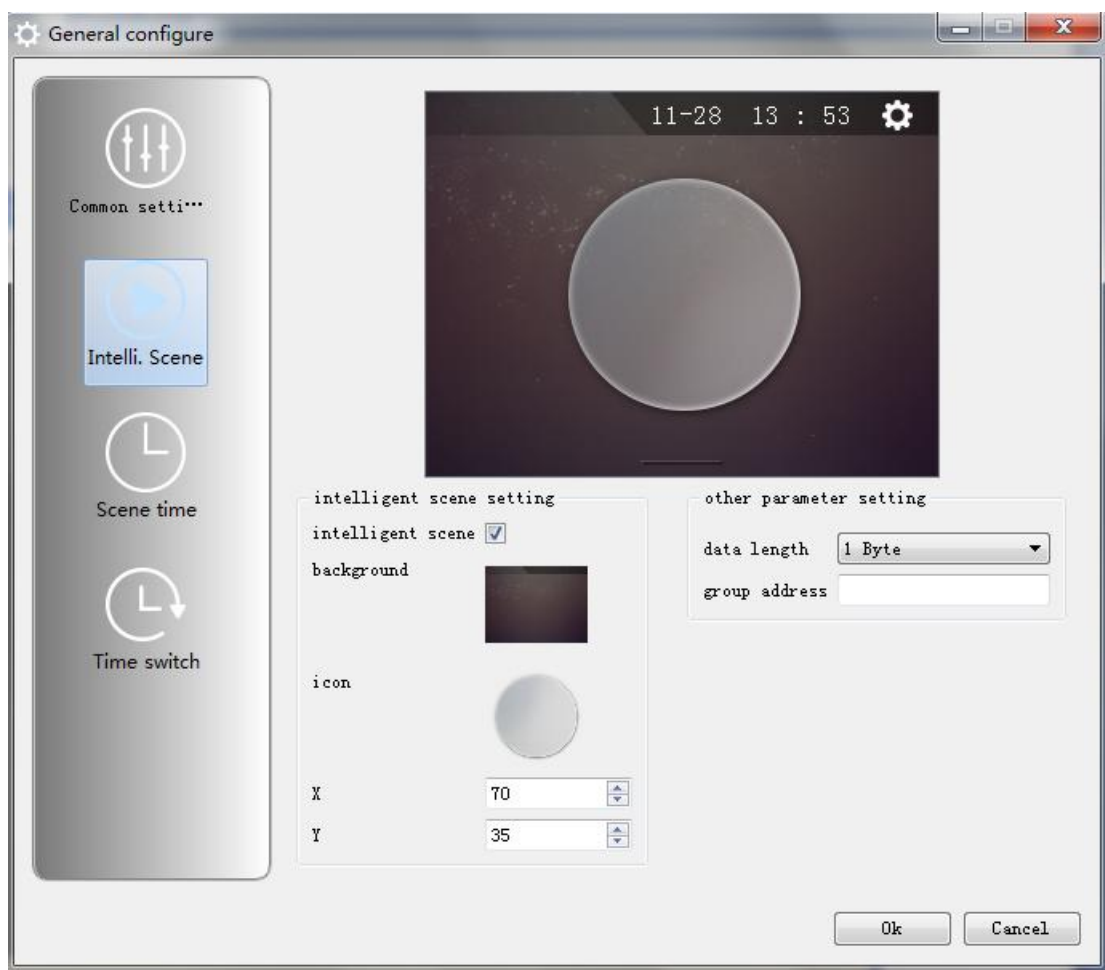


Figure 4.5.7 One Key Scene Setting Interface

**Enable:** tick this option to enable one key scene function. Move the tick to disable this function. So, the scene interface will not show.

**Background:** users can select the pre-saved pictures, or customize their own background image.

**Icons:** users can select the pre-saved icons, or customize their own ones.

**Other parameter settings**

**Page Name:** it is used to setting the name of scene page.



Data Length: it is used to setting the length of data. User can modify the data type of the telegram length. Including 1 Bit, 2 Bit, 4 Bit, 6 Bit, 1 Byte, 2 Byte. Recommend using 1 Byte.

Scene group address: to configure the group address of scene function. User must configure the value from [0.0.0] to [15.7.255], but it cannot be configured as [0.0.0] broadcast address. Default value is null.

### (3) Scene Time Setting

Here is used to set the scene number of one key scene, users can be divided the time period and set the scene number by themselves. Only users enable the function of one key scene, the configuration page will be displayed. After configuration is complete, click on a button you can send the key scenes of different scenarios according to the configured time.

Time: 00:00-23:59. And each time period has its own scene number. Scene Number: 0-63 Max. 24 time periods, and users can freely match the time period with the scene by themselves. Note: all time periods will have their scene numbers. See figure 4.5.8.

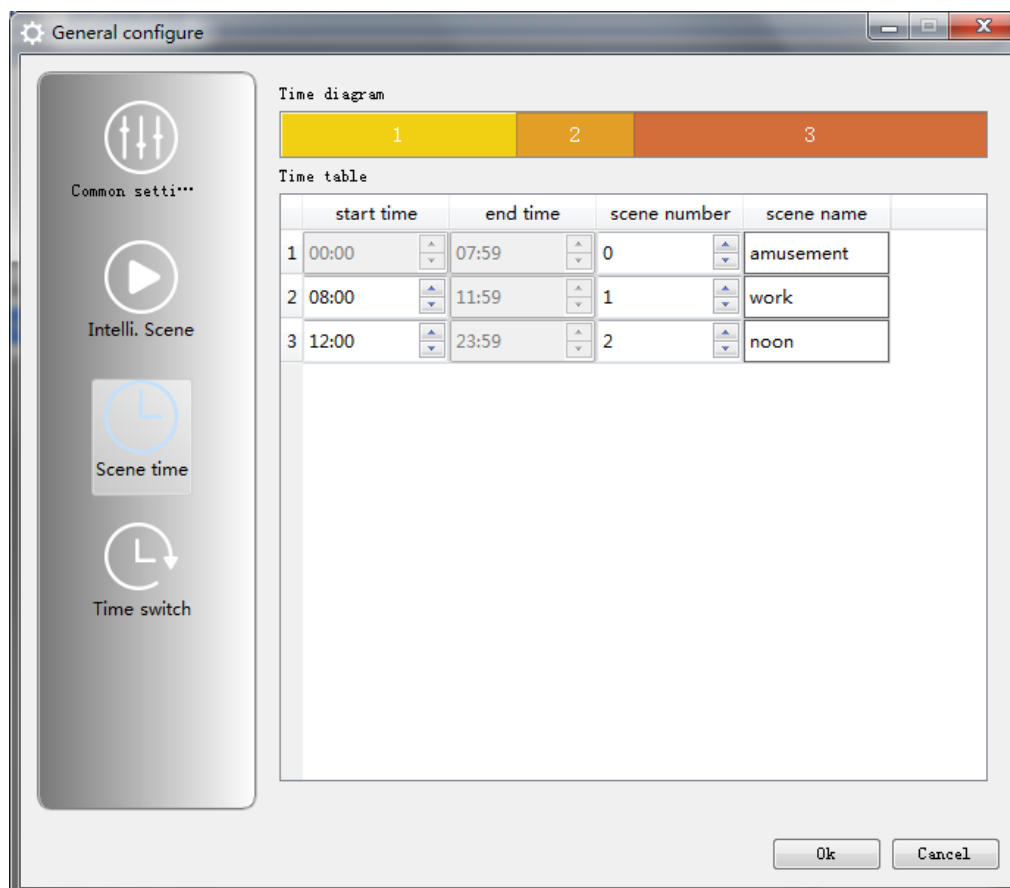


Figure 4.5.8 Scene Time Setting

This part contains time diagram and time schedule.

Time diagram: displays time settings. By right-clicking the time period, the menu will display accordingly. Split time menu will be displayed by right-clicking. See figure 4.5.9.

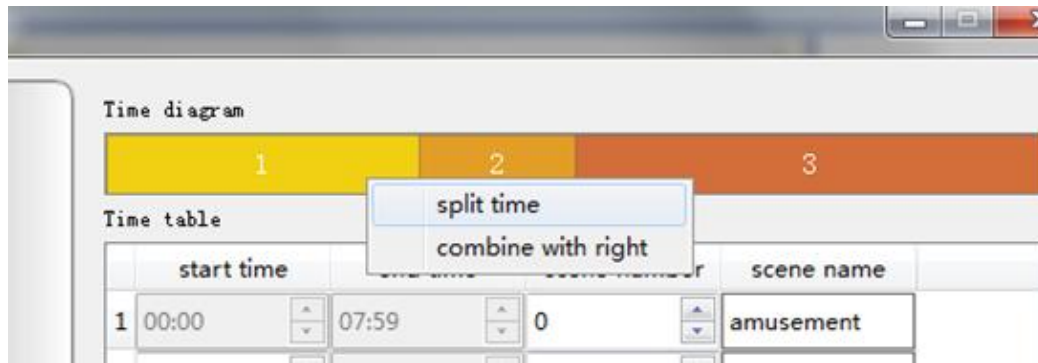


Figure 4.5.9 Right-clicking Menu

By clicking "split time", the time setting box will display. See figure 4.5.10.

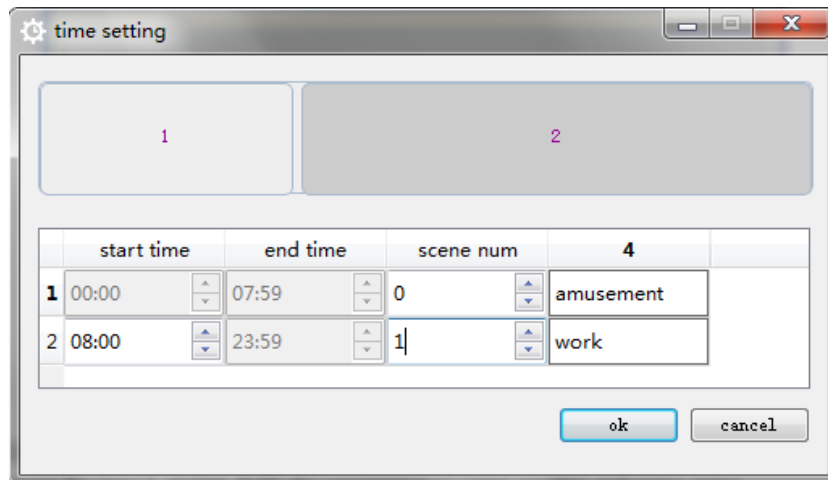


Figure 4.5.10 Set Time Period and Scene Number

Users can split time in graphical form by dragging the slider, or directly conduct fine adjustment for time 2. At last, fulfil the corresponding scene number and scene name.

Below is an example of dividing scene time. One day is divided into 6 time periods. See figure 4.5.11.

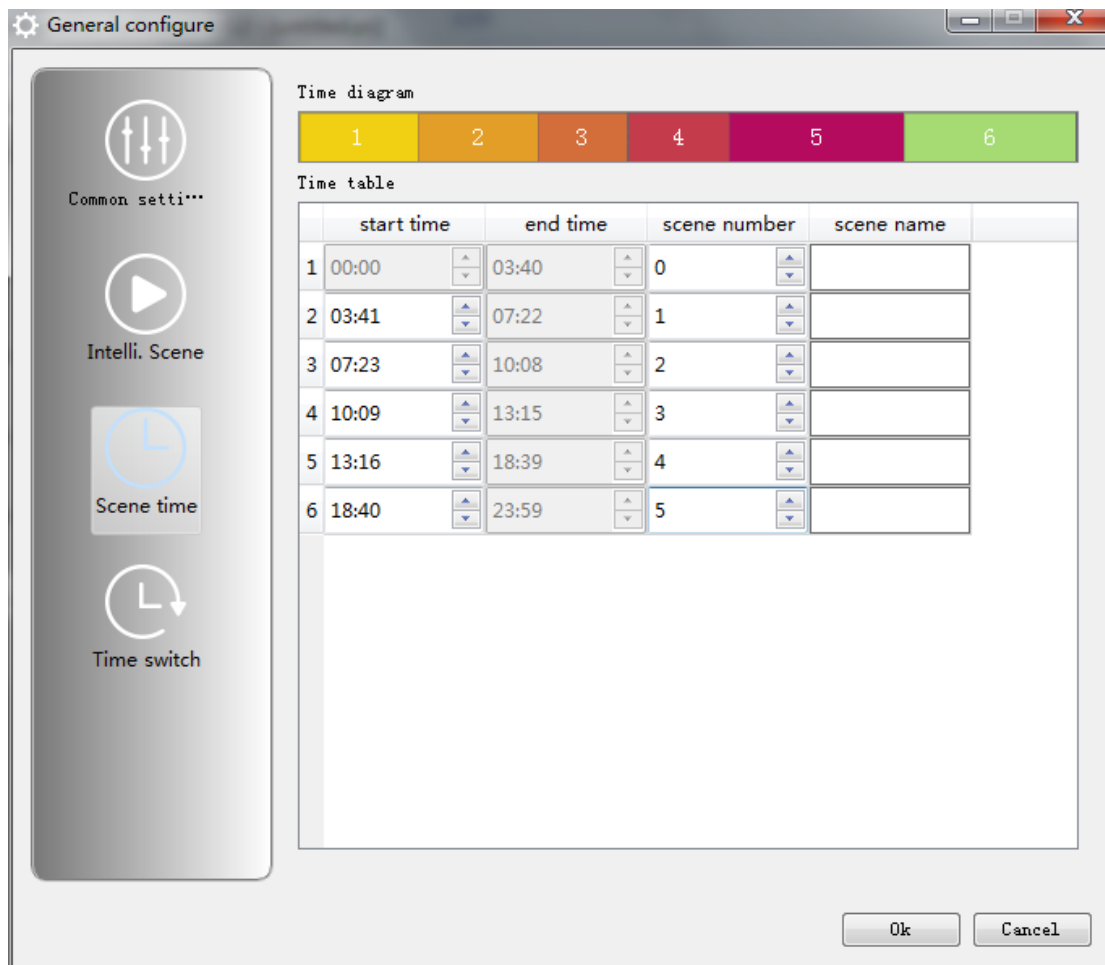


Figure 4.5.11 Example of "Splitting Time"

If users need to merge the two time zones, they can right-click on one Period, and select to merge left or right.

## 4.6 Time Switch Settings

### Parameter Settings

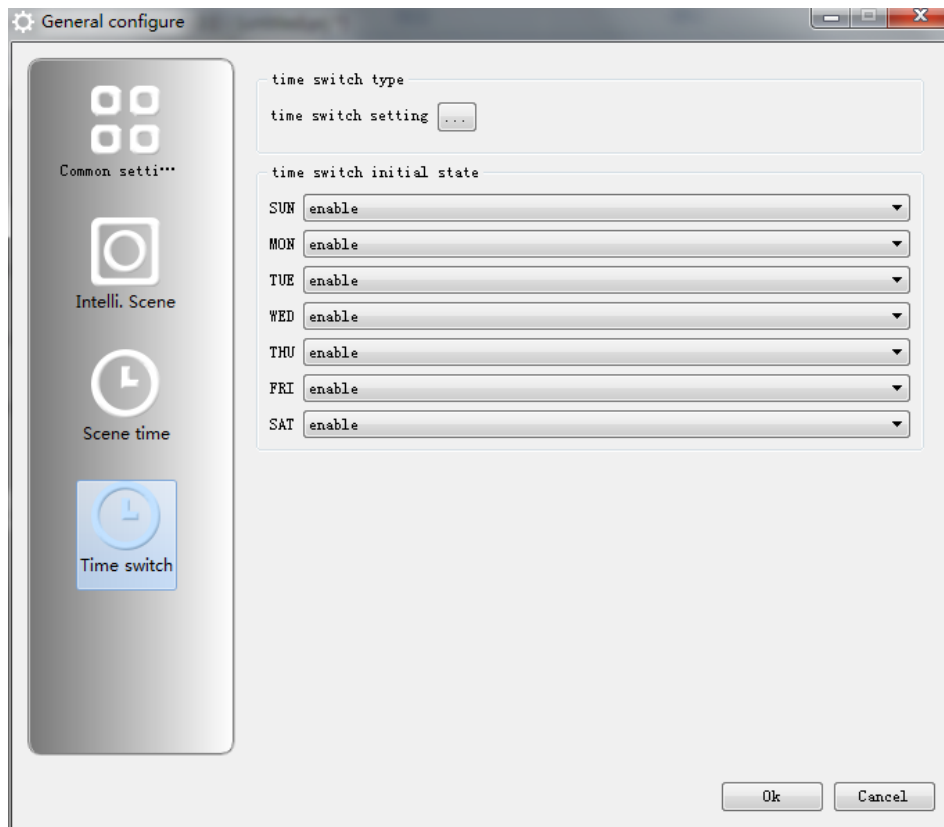


Figure 4.6.1 Time Switch Settings Interface

#### 4.6.1 Initialization State

Select form enable or disable in each day of a week.

#### 4.6.2 Time Settings

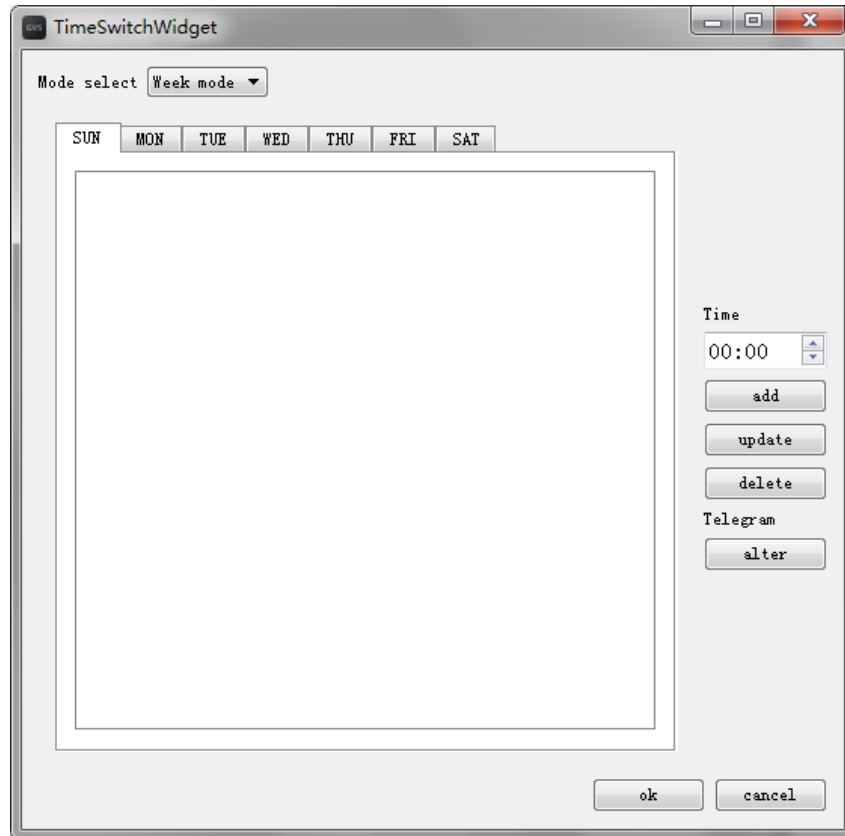


Figure 4.6.2 Time Switch - Time Settings

Click "Add", user can add a time to the list; click "Update" to modify the currently selected time; by clicking "delete" to delete the currently selected time; by clicking "alter", user can enter the telegram settings interface.

Figure 4.6.3 Time Switch - Telegrams Settings

User can add the required telegrams in the telegram setting of time switch. Including name, group address, length, telegram value, Transmission Time Interval.

#### 4.7 Picture Setting

This part includes switching, dimming, curtains, scene, customization, the background of the main interface, "one key scene" button and background.

##### (1)Switching Control Picture

Corresponding icon selection window shows as Figure 4.7.1, the software by default has 6 sets of icons for users. Pictures should be png file. When the users select a picture, they can put the local picture as picture of control, but they need to select pictures in accordance with the requirements of configuring the software. It's recommended to use png file with resolution of 64 \* 64.

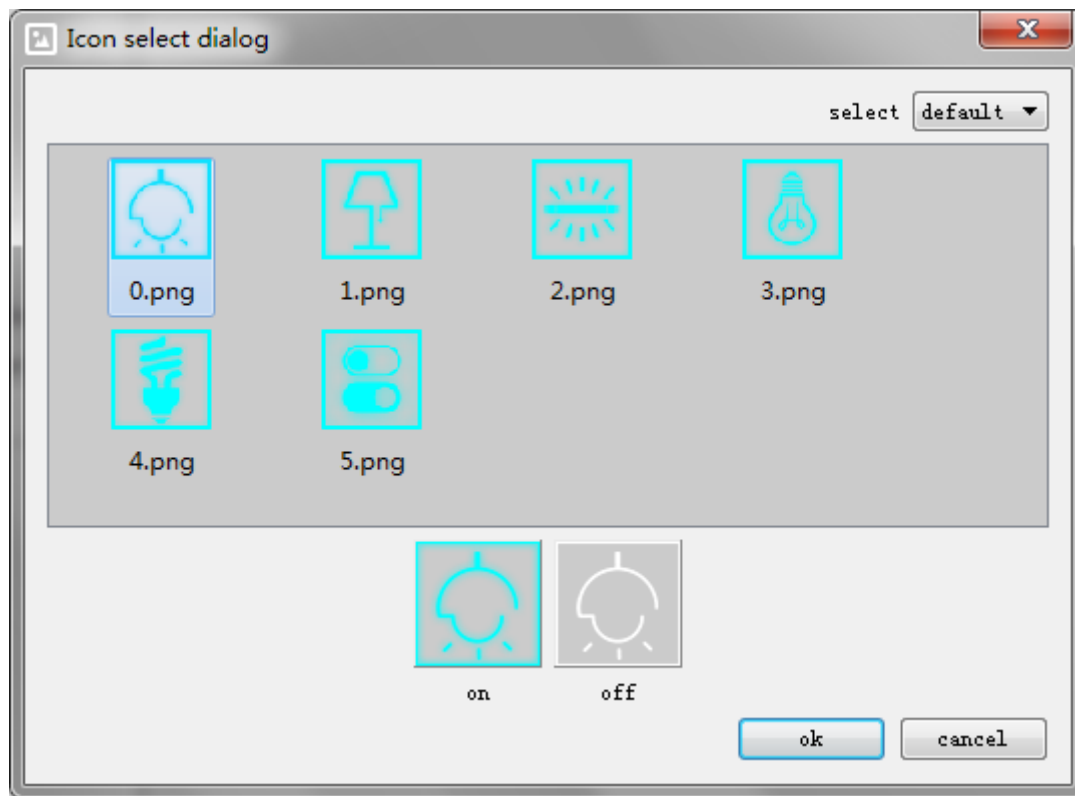


Figure 4.7.1 Switching Control Picture Selection Interface

Switching control must have two images, one for ON icon, one for OFF icon; and the OFF icon's name is adding prefixed "s\_" to the name of "ON icon". For example, 0.png is ON, when selecting to open the picture; the software will automatically search s\_0.png in the same path as OFF, so please modify the two pictures and place them in the same directory.

Here demonstrates how to selected local picture as switch control icons. Firstly copy pictures to a directory, such as C root directory, and make 0.png as ON icon, and s\_0.png as OFF icon. See figure 4.7.2.



Figure 4.7.2 Copy pictures to a directory

Click the Select button in the upper right corner, select the user, which can be switched to select among the local picture. Click on the C drive, the software will list all the png images, but as long as users choose one as ON icon, the software will automatically check the picture in the current directory "s\_" prefix as OFF icon. So after users modify the image name of ON icon, and then modify the OFF icon by adding "s\_" prefix to the name of ON icon. And then select ON icon. See figure 4.7.3.

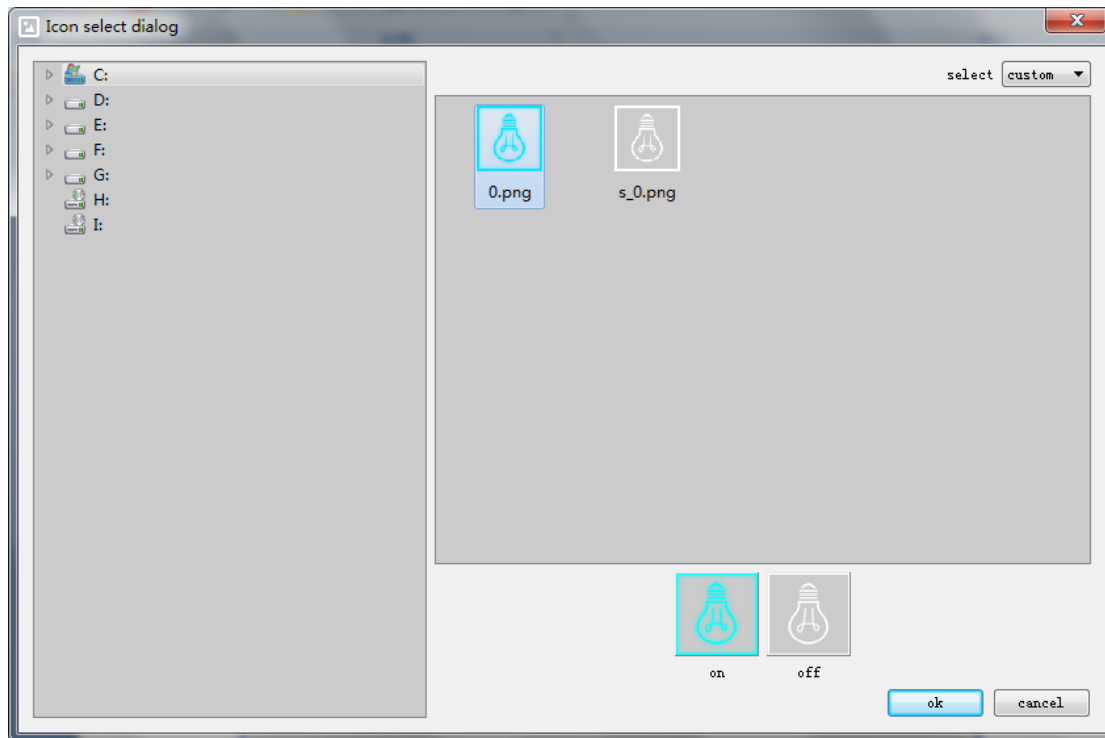


Figure 4.7.3 Example of pictures selection in C root directory

But if users choose s\_0.png as ON icon, they cannot find s\_s\_0.png, thus resulting selection failed, as shows in Figure 4.7.4. Users must follow the rule to name and select pictures.

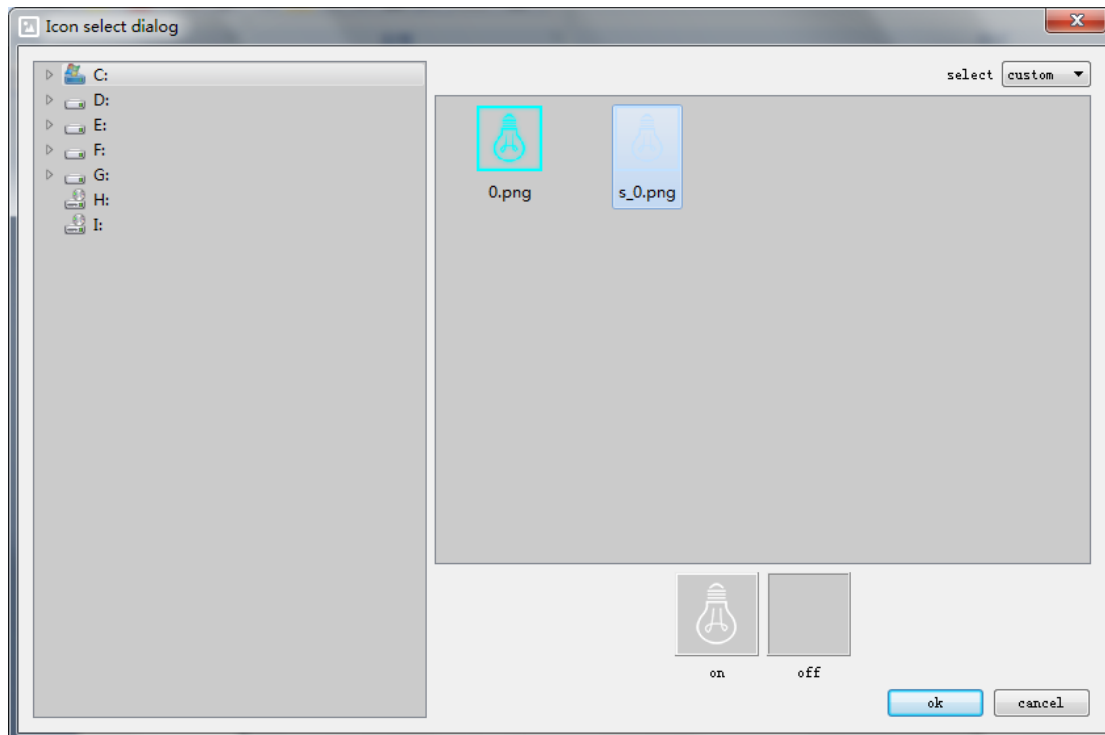


Figure 4.7.4 example of "there isn't the "OFF" icon"

## (2)Dimming Control Picture

Corresponding icon selection window shows as Figure 4.7.5, the software by default has 5 sets of icons for users. Pictures should be png file. When the users select a picture, they can put the local picture as picture of control, but they need to select pictures in accordance with the



requirements of configuring the software. It's recommended to use png file with resolution of 64 \* 64.

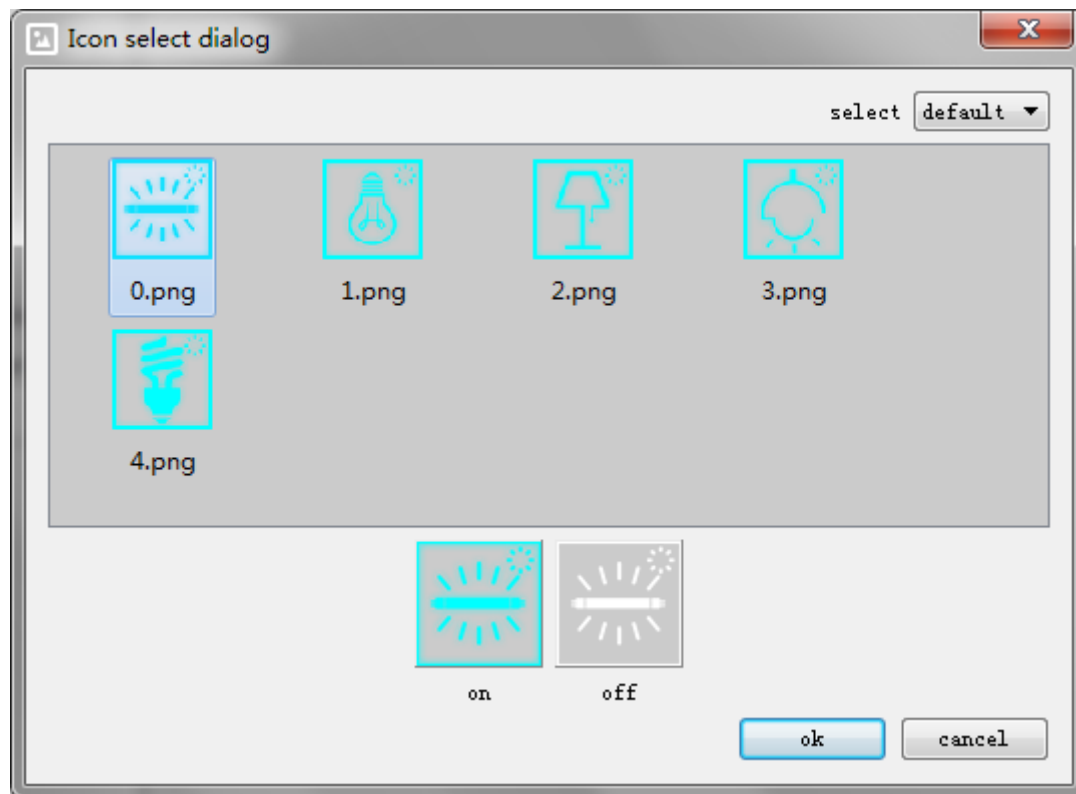


Figure 4.7.5 Dimming Control Picture Selection Interface

"One key Scene" control must have two images, one for ON icon, one for the OFF icon; and the OFF icon's name is adding prefixed "s\_" to the name of "ON icon". For example, 0.png is ON, when selecting to open the picture; the software will automatically search s\_0.png in the same path as OFF, so please modify the two pictures and place them in the same directory.

### (3) Curtain Control Picture

Corresponding icon selection window shows as Figure 4.7.6, the software by default has 2 sets of icons for users. Pictures should be png file. When the users select a picture, they can put the local picture as picture of control, but they need to select pictures in accordance with the requirements of configuring the software. It's recommended to use png file with resolution of 64 \* 64.

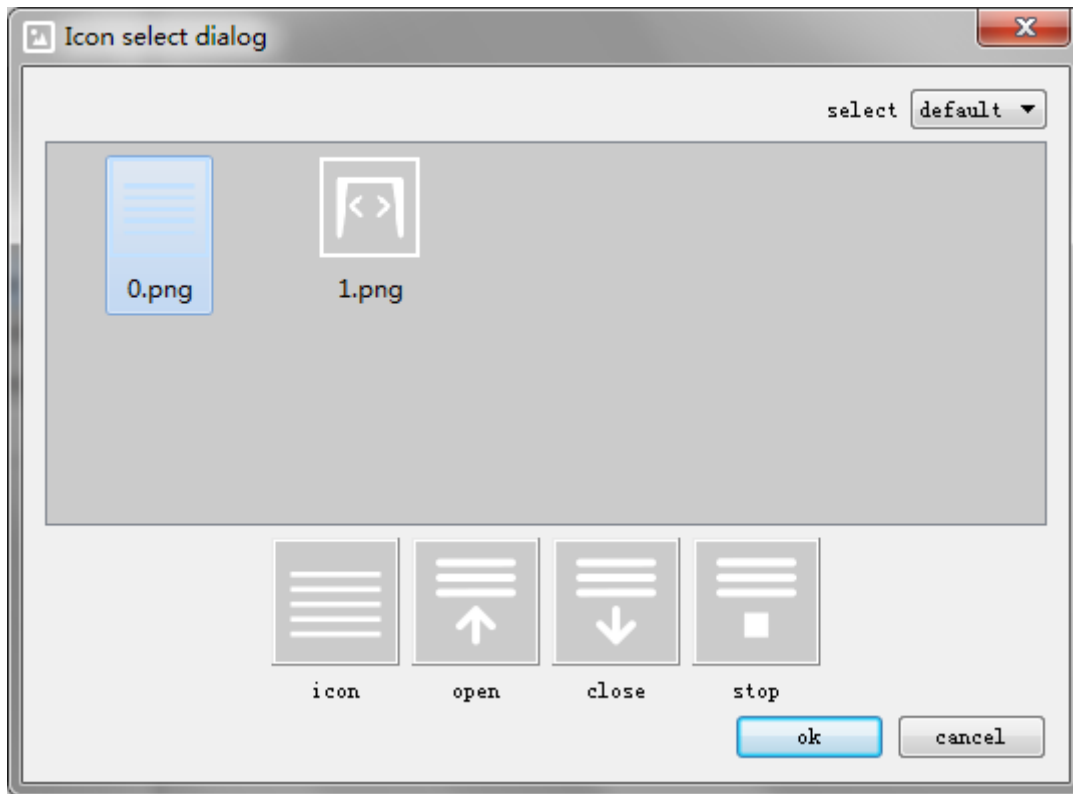


Figure 4.7.6 Curtain Control Picture Selection Interface

When users customize the icons, they must select a set of pictures with 4. Naming rule: if curtain icon is "A.png", and then the software will automatically go to the same path, and make "o\_A.png" as icon of open the curtains, "c\_A.png" as icon of the curtains shut, and "s\_A.png" as icon of curtains stop. Users can modify the corresponding names.

#### (4)Scene Control Picture

Corresponding icon selection window shows as Figure 4.7.7, the software by default has 12 sets of icons for users. Pictures should be png file. When the users select a picture, they can put the local picture as picture of control, but they need to select pictures in accordance with the requirements of configuring the software. It's recommended to use png file with resolution of 64 \* 64.

"One key Scene"control must have two images, one for inactive icon, one for the active icon; and the activate icon name is adding prefixed "s\_"to the name of "inactive icon". For example, 0.png is inactivated, when selecting to open the picture, the software will automatically search s\_0.png in the same path as active, so please modify the two pictures and place them in the same directory.

Please pay attention to the difference of naming from scene control icon.

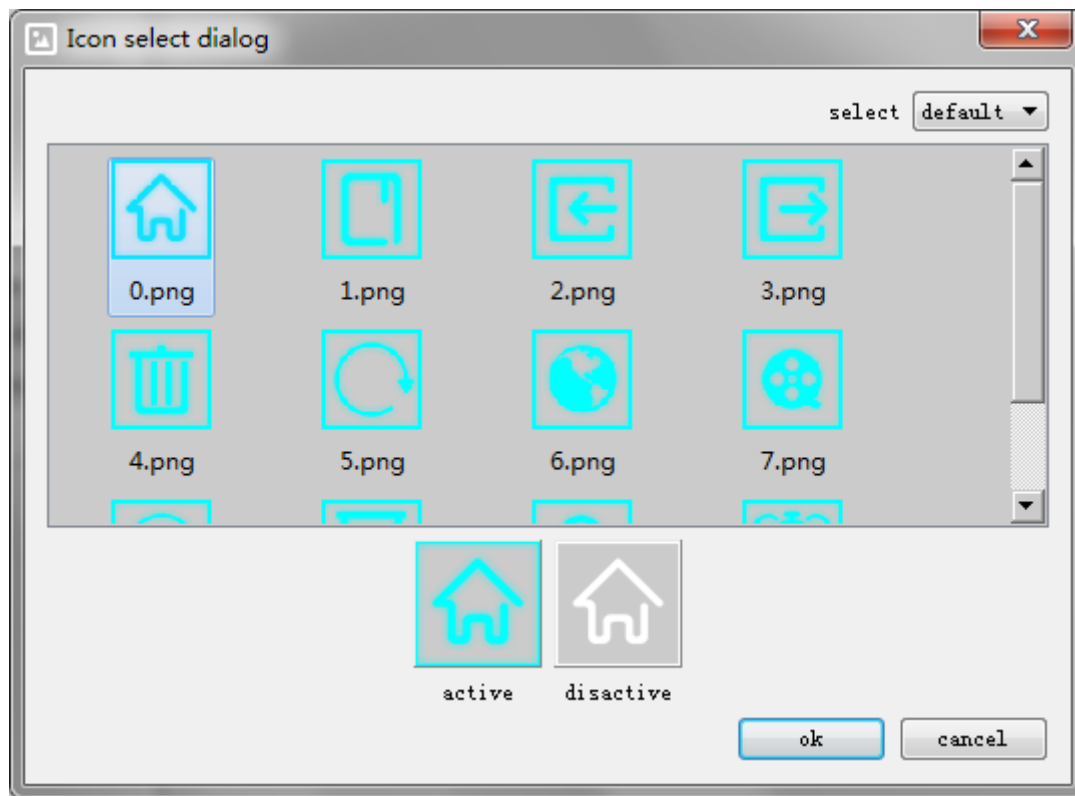


Figure 4.7.7 Scene Control Picture Selection Interface

#### (5) Customization Control Picture

Corresponding icon selection window shows as Figure 4.7.8, the software by default has 13 sets of icons for users. Pictures should be png file. When the users select a picture, they can put the local picture as picture of control, but they need to select pictures in accordance with the requirements of configuring the software. It's recommended to use png file with resolution of 64 \* 64.

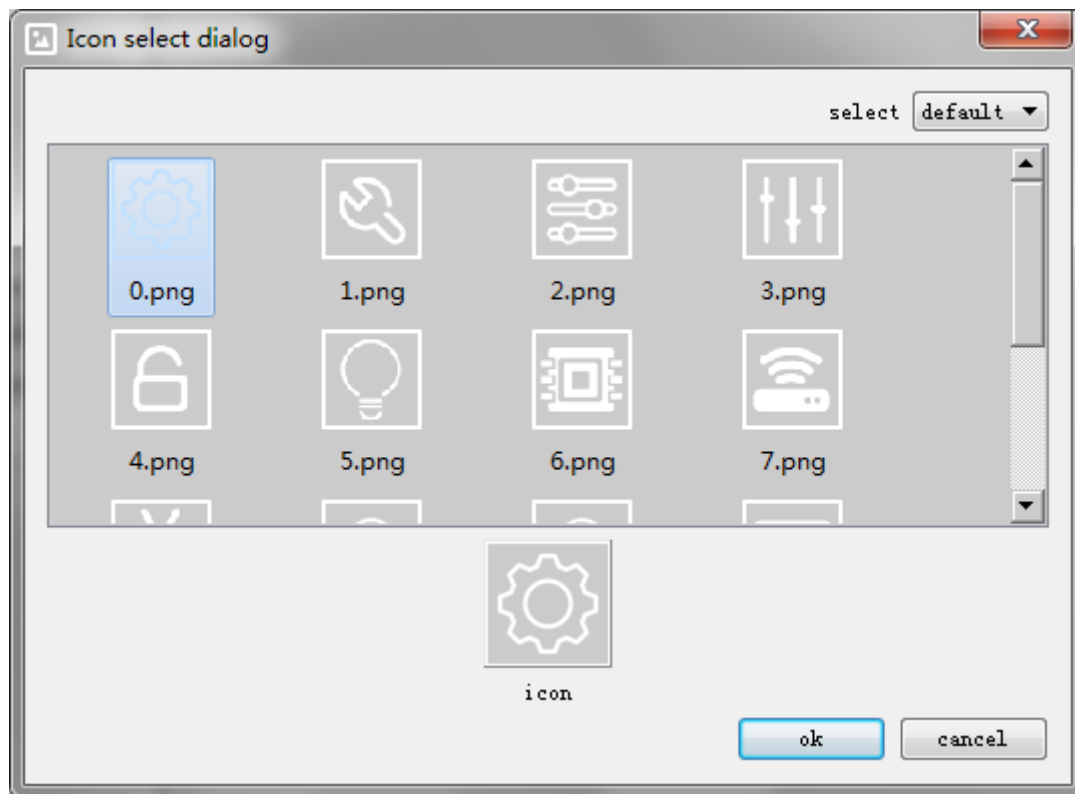


Figure 4.7.8 Customization Control Picture Selection Interface

#### (6) Background Images of Home interface

Corresponding picture selection window shows as Figure 4.7.9, the software by default has seven sets of icons for users. Pictures should be 320\*240 png file. When the users select a picture, they can put the local picture as picture of control, but they need to select pictures in accordance with the requirements of configuring the software. Here just selecting one picture will be OK.

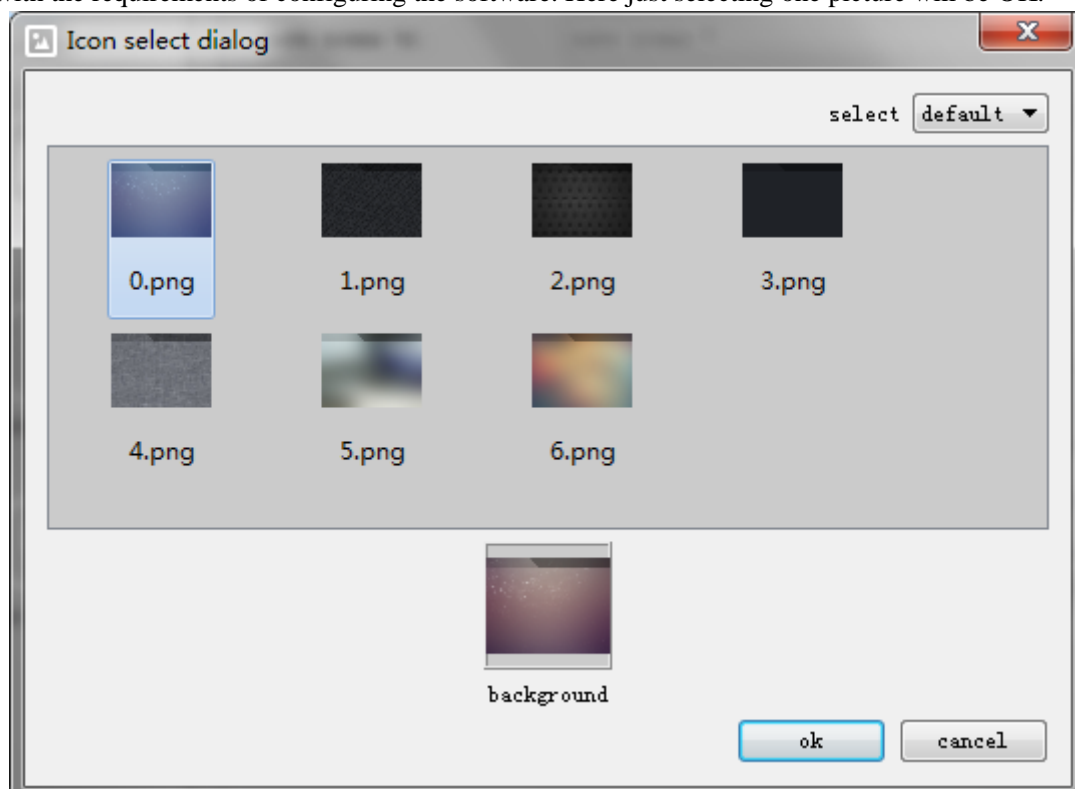


Figure 4.7.9 Selection Interface of Background Picture of Main Interface

(7) "One Key Scene" Icon

Corresponding icon selection window shows as Figure 4.7.10, the software by default has 2 sets of icons for users. Pictures should be png file. When the users select a picture, they can put the local picture as picture of control, but they need to select pictures in accordance with the requirements of configuring the software. It's recommended to use a similar picture with resolution of 180 \* 180.

"One key Scene" control must have two images, one for inactive icon, one for the active icon; and the activate icon name is adding prefixed "s\_" to the name of "inactive icon". For example, 0.png is inactivated, when selecting to open the picture; the software will automatically search s\_0.png in the same path as active, so please modify the two pictures and place them in the same directory.

Please pay attention to the difference of naming from scene control icon.

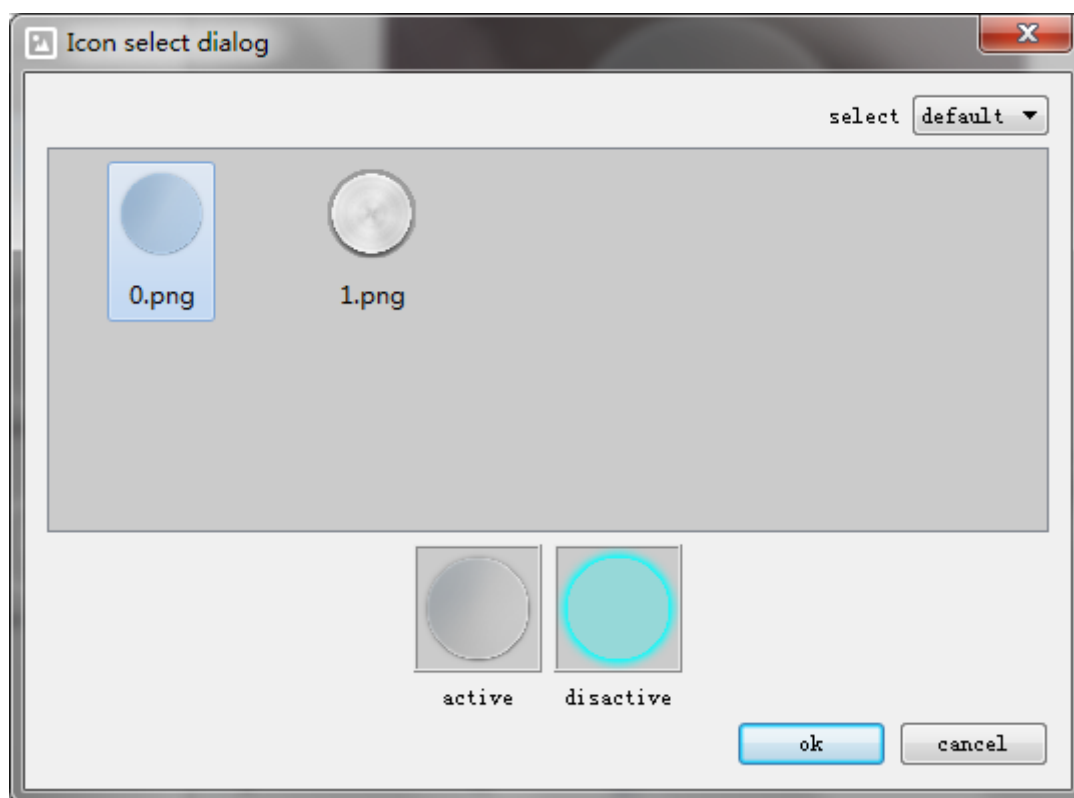


Figure 4.7.10 "One Key Scene" Icon Selection Interface

(8) "One Key Scene" Background Picture

Corresponding icon selection window shows as Figure 4.7.11, the software by default has 7 sets of icons for users. Pictures should be 320\*240 png file. When the users select a picture, they can put the local picture as picture of control, but they need to select pictures in accordance with the requirements of configuring the software. Here just selecting one picture will be OK.

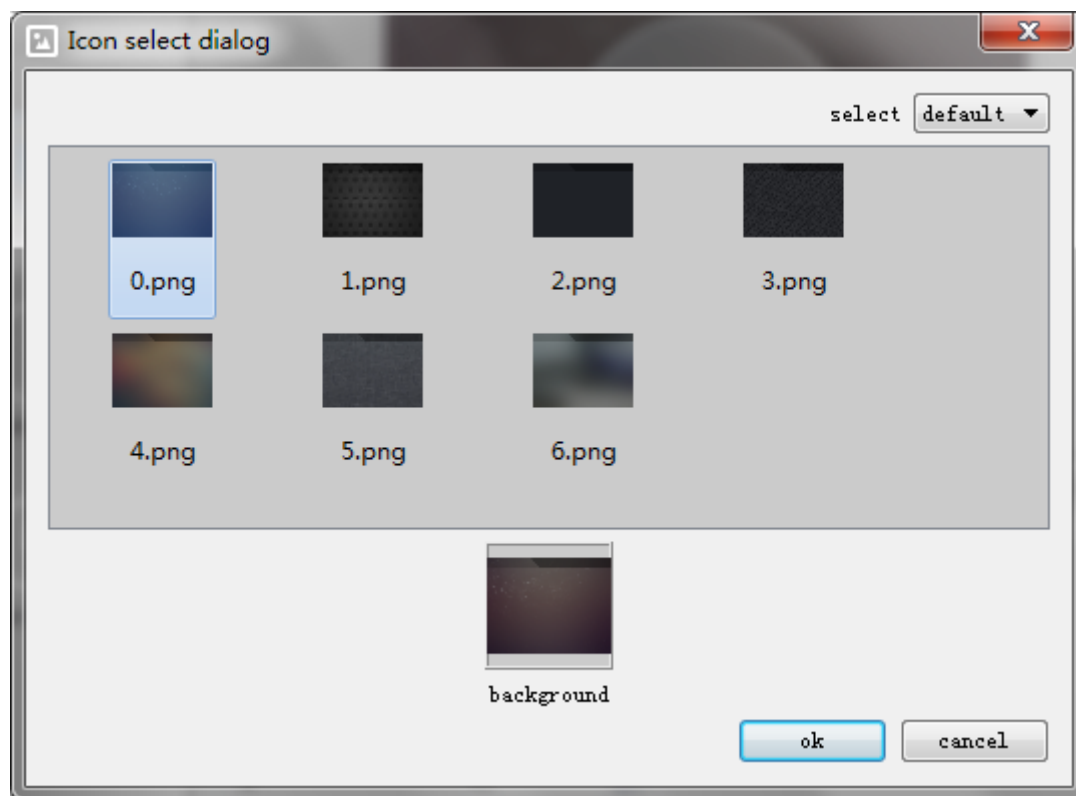


Figure 4.7.11 Selection Interface of "One Key Scene" Background Picture