



# Granite Display (Buspro) User Manual

Version: 1.0.0

Published on Aug. 9, 2019

## Content

<b>Legal Statement</b> .....	I
<b>Update History</b> .....	II
<b>1 Introduction</b> .....	1
1.1 Interface .....	1
1.2 Open Configuration Page .....	3
<b>2 Basic Information Setting</b> .....	5
2.1 Basic Setting .....	6
2.2 Shortcut Button Setting .....	6
2.2.1 Scene Shortcut Button Setting .....	6
2.2.2 Control Shortcut Button Setting .....	7
2.3 Page Display Setting .....	8
2.1 Environment Data Display and Data Source Setting .....	9
2.2 Date/time Display Setting .....	10
2.3 Broadcast Temperature Setting .....	11
2.4 Analog Information Setting/Read Panel Voltage .....	12
2.5 Sleep Group Setting .....	13
<b>3 Lighting Setting</b> .....	15
3.1 Add Light .....	15
3.2 Delete Lights .....	15
<b>4 Curtain Setting</b> .....	16
4.1 Add Curtain .....	16
4.2 Delete Curtain .....	16
<b>5 Scene Setting</b> .....	17
5.1 Add Target to Scene .....	17
5.2 Edit Scene Target .....	18

---

6	AC Setting .....	20
7	Floor Heating/Cooling Setting .....	21
8	Music Player Setting .....	23
9	Fresh Air Setting .....	24

## Legal Statement

HDL has all the intellectual property rights to this document and contents thereof. Reproduction or distribution for third parties are prohibited without written authorization from HDL. Any infringement of HDL's intellectual property rights will be investigated the legal liability.

The contents of this document will be updated as the updates of product versions or other reasons. Unless otherwise agreed upon, this document is to be used as a guidance only. All the statements, information and recommendations in this document makes no warranty expressed or implied.

HDL Automation Co., Ltd.

## Update History

The form below contains the information of every update. The latest version contains all the updates of all former versions.

No.	Version	Update Information	Date
1	V1.0.0	Initial release	Aug. 9, 2019

## 1 Introduction

Granite Display is a high-end multi-function control panel specially designed for home automation, with which the user is able to control lighting, curtain, scene, AC, floor heating, music or fresh air system.

This manual offers the information on the configuration process of Granite Display done on Buspro Setup Tool 2, and the following tools might be included:

- Granite Display (Buspro)
- A computer with Buspro Setup Tool 2
- 1-Port Programming Gateway (HDL-MBUS01IP.431) connected to the router
- Dedicated Buspro cables

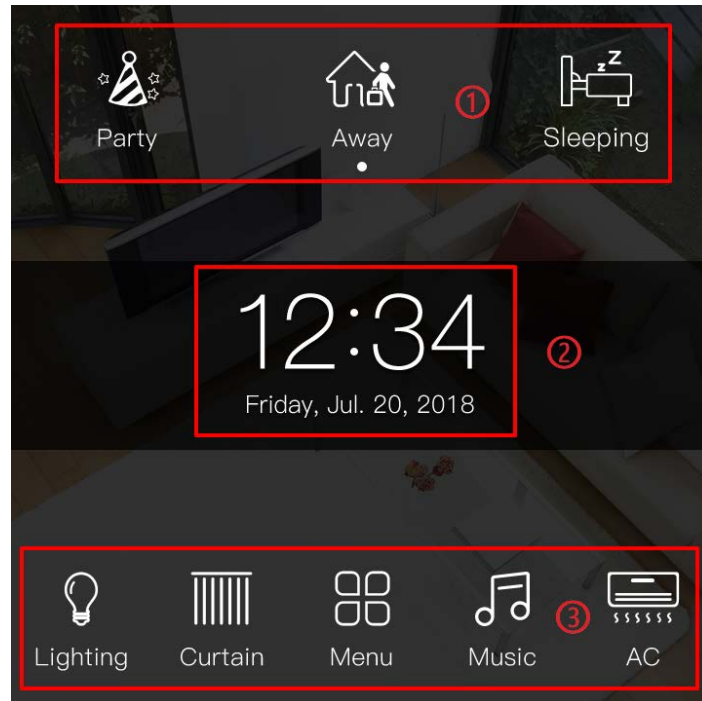
### Notice:

- ① Please refer to the datasheet attached to the product for the information of installation, wiring, specifications, etc.
- ② The pictures in this user manual are for reference only and the actual product should prevail.

### 1.1 Interface

Figure 1-1 shows the main page of Granite Display, which includes the following parts:

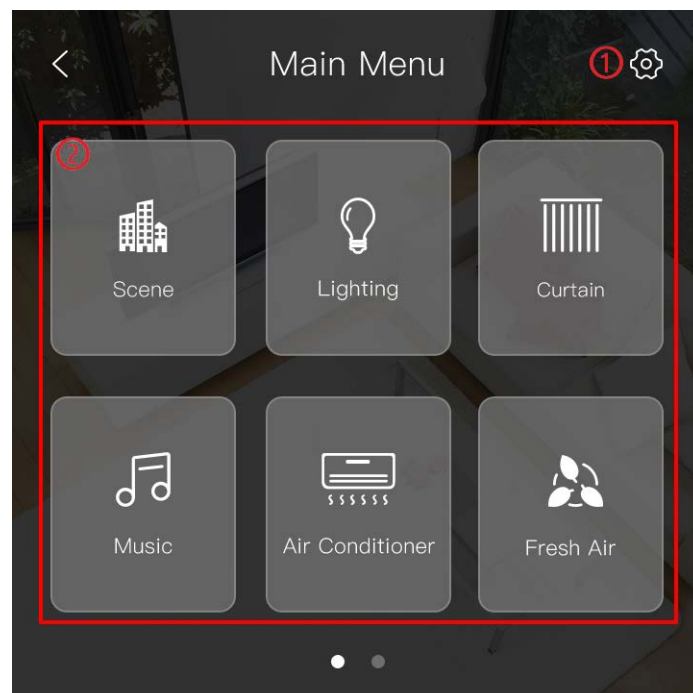
- ① Scene shortcut button: up to 3 available
- ② Date/time/air quality (humidity/temperature included) data display: click to switch between time/date display and air quality/temperature/humidity display.
- ③ Control shortcut button: click Home button to enter control page, as shown in Figure 1-2.



**Figure 1-1 Main page**

Figure 1-2 shows the control page of Granite, which includes the following parts:

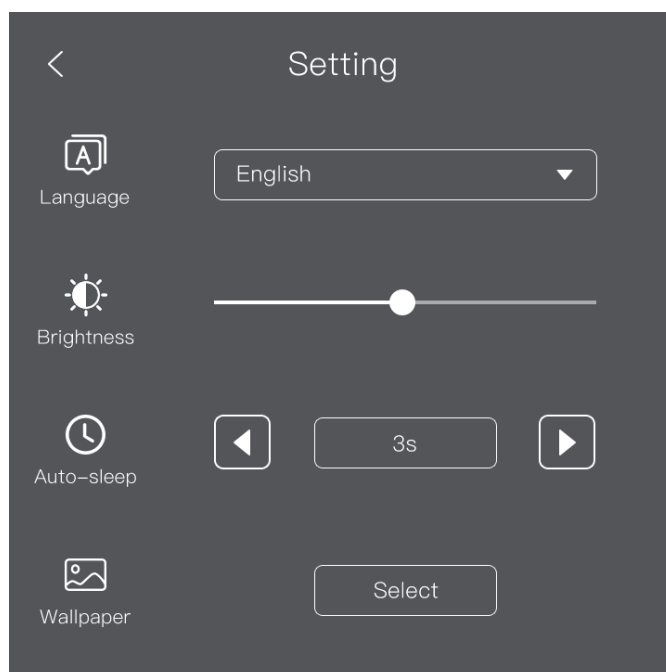
- ① Setting button: click to enter setting page.
- ② Control button: click to enter corresponding control page.



**Figure 1-2 Control page**

Figure 1-3 shows the setting page, which includes the following items:

- ① System language: user may select UI language from Simplified Chinese, Traditional Chinese, English, English (uppercase).
- ② Brightness: screen brightness adjustment
- ③ Auto-Sleep: range from 0-120 seconds
- ④ Wallpaper: user may select one picture from the photo gallery as the wallpaper.
- ⑤ Label: show/hide the name of the icons
- ⑥ Program: reserved for future application



**Figure 1-3 Setting page**

## 1.2 Open Configuration Page

1. Connect the panel to the system, and open Buspro Setup Tool 2 in the computer.
2. Click “Fast Search” to search for the devices connected to the system.
3. Double click the “Model” or “Description” column to enter configuration page, as shown in Figure 1-4, Figure 1-5. The following items can be configured in this page: basic information, lighting, curtain, scene, sensor, AC, floor heating, music, fresh air system.



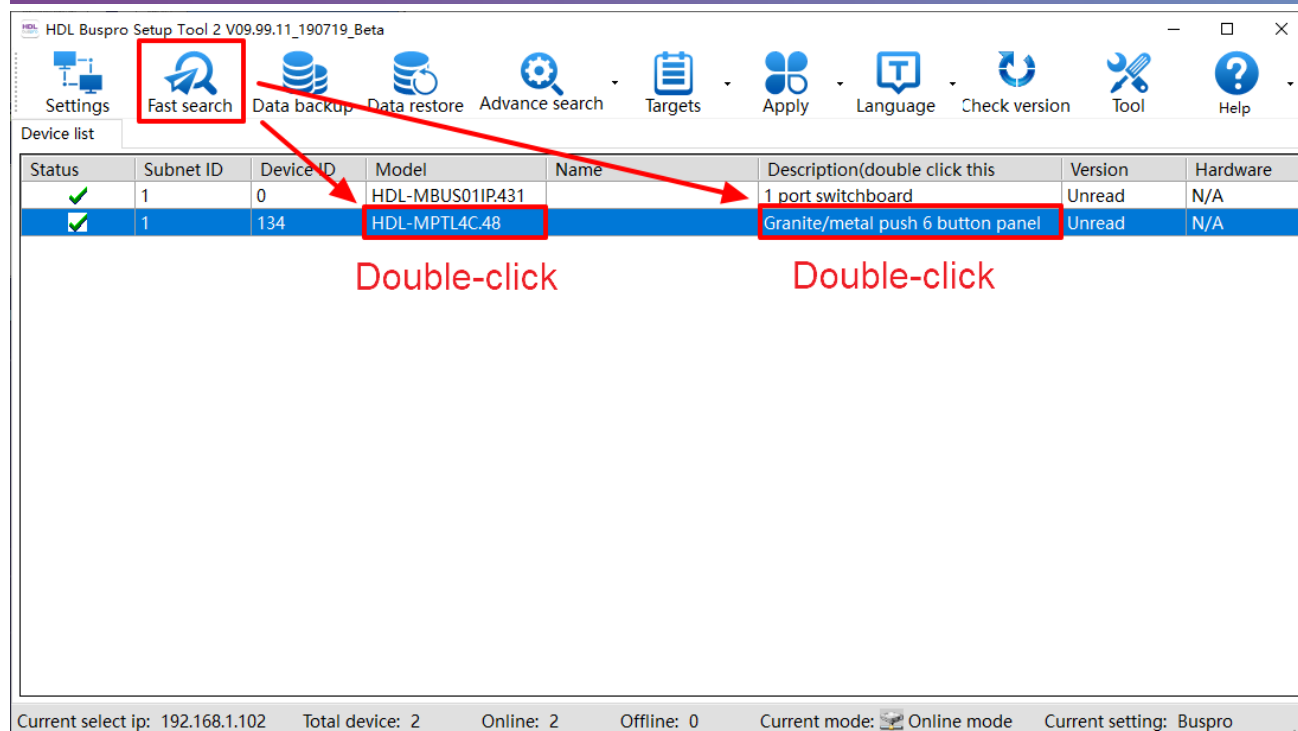


Figure 1-4 Open configuration page

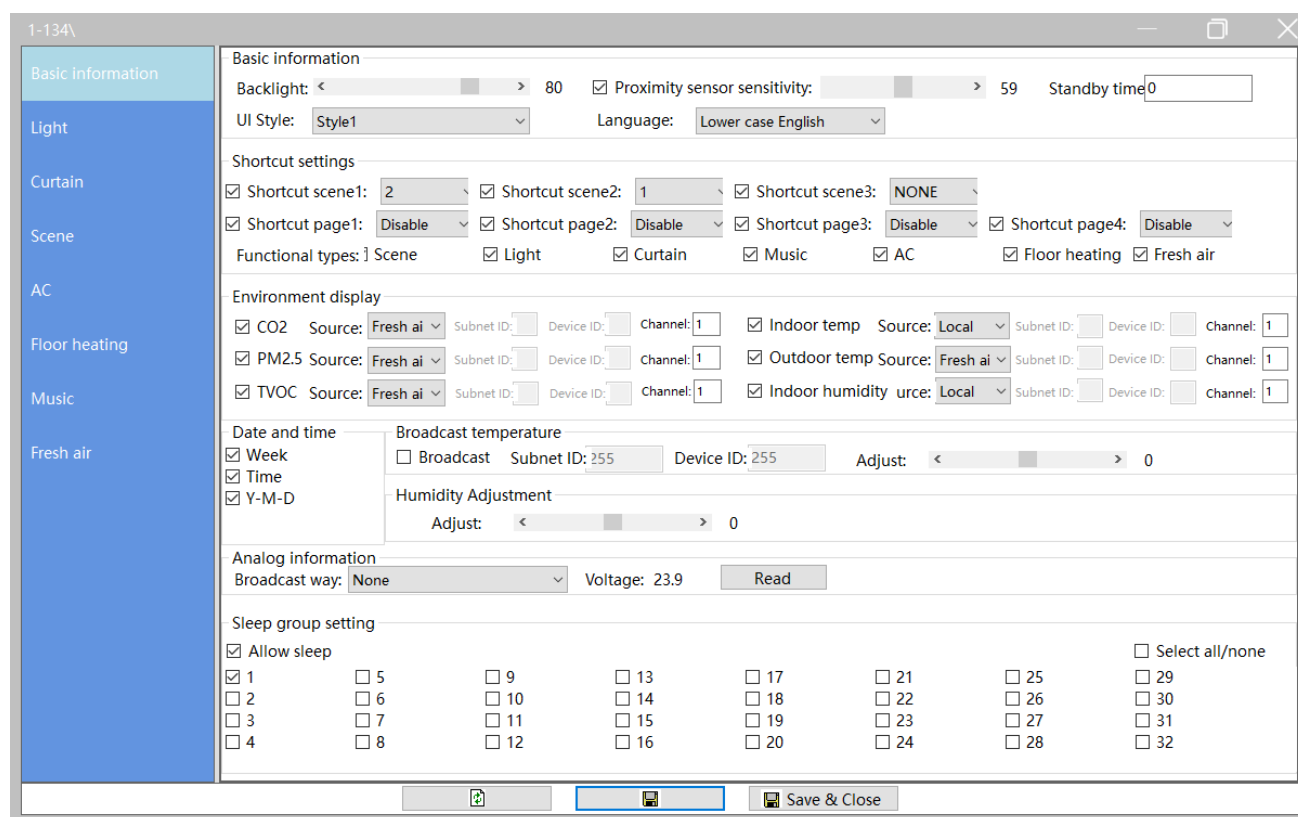


Figure 1-5 Configuration page

## 2 Basic Information Setting

Open configuration page, and basic information setting page is shown by default, as shown in Figure 2-1. The following items can be changed in this page:

- ① Basic Information: includes backlight brightness, proximity sensor sensitivity, UI style (invalid for now), language setting
- ② Shortcut setting: includes scene shortcut button setting and control page shortcut button setting
- ③ Page display setting
- ④ Environment data display and data source setting
- ⑤ Date/time display setting
- ⑥ Broadcast temperature setting
- ⑦ Analog information setting/read panel voltage
- ⑧ Sleep group setting

The screenshot shows the 'Basic Information' configuration window. On the left is a sidebar with menu items: Basic Information, Light, Curtain, Scene, AC, Floor heating, Music, and Fresh air. The main area contains the following sections:

- Basic Information:** Backlight (80), Proximity sensor sensitivity (59), Standby time (0), UI Style (Style1), Language (Lower case English). Marked with ①.
- Shortcut settings:** Shortcut scene1 (2), Shortcut scene2 (1), Shortcut scene3 (NONE), Shortcut page1 (Disable), Shortcut page2 (Disable), Shortcut page3 (Disable), Shortcut page4 (Disable). Marked with ②.
- Functional types:** Scene, Light, Curtain, Music, AC, Floor heating, Fresh air. Marked with ③.
- Environment display:** CO2, PM2.5, TVOC (all set to Fresh air source), Indoor temp, Outdoor temp, Indoor humidity (all set to Local source). Marked with ④.
- Date and time:** Week, Time, Y-M-D. Marked with ⑤.
- Broadcast temperature:** Broadcast checkbox, Subnet ID (255), Device ID (255), Adjust (0). Marked with ⑥.
- Humidity Adjustment:** Adjust (0). Marked with ⑥.
- Analog information:** Broadcast way (None), Voltage (23.9), Read button. Marked with ⑦.
- Sleep group setting:** Allow sleep checkbox, grid of checkboxes for groups 1-32, Select all/none. Marked with ⑧.

Figure 2-1 Basic Information setting

## 2.1 Basic Setting

Basic setting includes backlight brightness adjustment, panel proximity sensor sensitivity setting, UI style selection (invalid for now) and language setting. Click “Save” to save the changes after configuration.

### Notice:

If proximity sensor sensitivity is deselected, the panel will be woken up by touching the screen ONLY, instead of human detection.

Higher sensitivity means longer distance for the panel to detect human body.

## 2.2 Shortcut Button Setting

Shortcut buttons include scene shortcut button and control shortcut button.

Scene shortcut button means the scene shortcut buttons at the bottom of the main page, as Mark ① in Figure 1-1, and up to 3 are available.

Control shortcut button refers to the shortcut buttons on the left/right side of Home button at the bottom of the main page, as Mark ③ in Figure 1-1. Up to 4 are available.

### 2.2.1 Scene Shortcut Button Setting

After new scenes are added (please refer to [Scene Setting](#) for the information on scene configuration), the scenes are numbered from 1-n (n means the total number of scenes) from top to bottom in scene configuration page.

In the scene shortcut button setting part (as shown in Figure 2-2), user may enable/disable scene shortcut button, or select the scene number from the menu behind. Click “Save” to save the changes.

The screenshot displays the HDL Granite Display (Buspro) configuration window. On the left is a vertical menu with categories: Basic Information, Light, Curtain, Scene, AC, Floor heating, Music, and Fresh air. The main panel is titled 'Basic information' and contains several sections:

- Basic information:** Backlight (80), Proximity sensor sensitivity (59), Standby time (0), UI Style (Style1), and Language (Lower case English).
- Shortcut settings:** This section is highlighted with a red box. It includes:
  - Shortcut scene1: 2 (selected)
  - Shortcut scene2: 1 (selected)
  - Shortcut scene3: NONE (selected)
  - Shortcut page1: Disable, Shortcut page2: Disable, Shortcut page3: Disable, Shortcut page4: Disable
  - Functional types: Scene, Light, Curtain, Music, AC, Floor heating, Fresh air (all checked)
- Environment display:** Checkboxes for CO2, PM2.5, and TVOC, each with a source dropdown (all set to 'Fresh ai') and fields for Subnet ID, Device ID, and Channel (all set to 1). It also includes Indoor temp, Outdoor temp, and Indoor humidity settings with source dropdowns (all set to 'Local').
- Date and time:** Checkboxes for Week, Time, and Y-M-D.
- Broadcast temperature:** A checkbox for Broadcast, Subnet ID (255), Device ID (255), and an Adjust slider (0).
- Humidity Adjustment:** An Adjust slider (0).
- Analog information:** Broadcast way (None), Voltage (23.9), and a Read button.
- Sleep group setting:** A checkbox for Allow sleep and a grid of checkboxes for sleep groups 1 through 32. A 'Select all/none' checkbox is also present.

At the bottom of the window are buttons for 'Save & Close' and a 'Save' button.

Figure 2-2 Scene shortcut button setting

### 2.2.2 Control Shortcut Button Setting

In the control shortcut button setting part (as shown in Figure 2-3), user may enable/disable control shortcut button, or select corresponding control page from the menu behind. Click “Save” to save the changes.

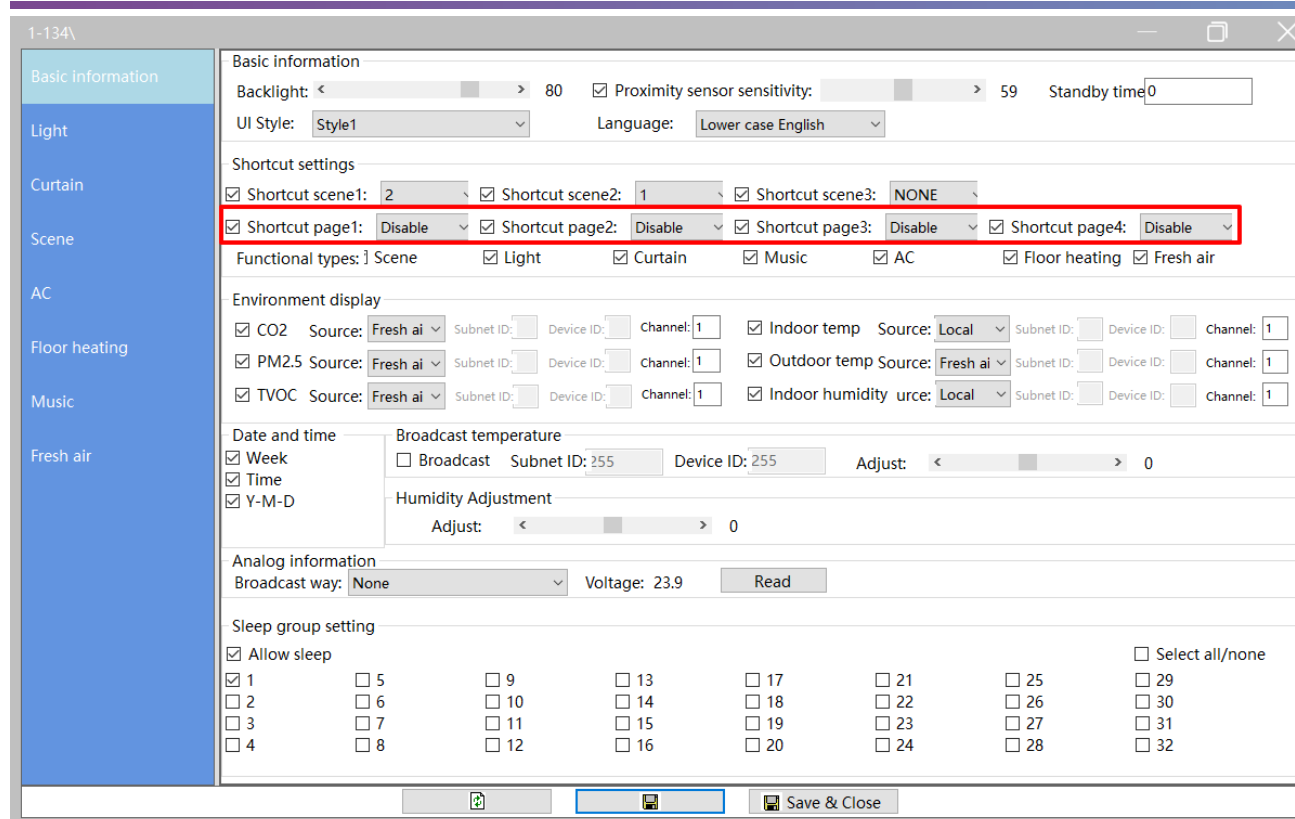


Figure 2-3 Scene shortcut button setting

## 2.3 Page Display Setting

Granite includes 7 control pages by default, which are shown after user pressing Home button. User may show/hide the control pages in shortcut setting part, as shown in Figure 2-4.

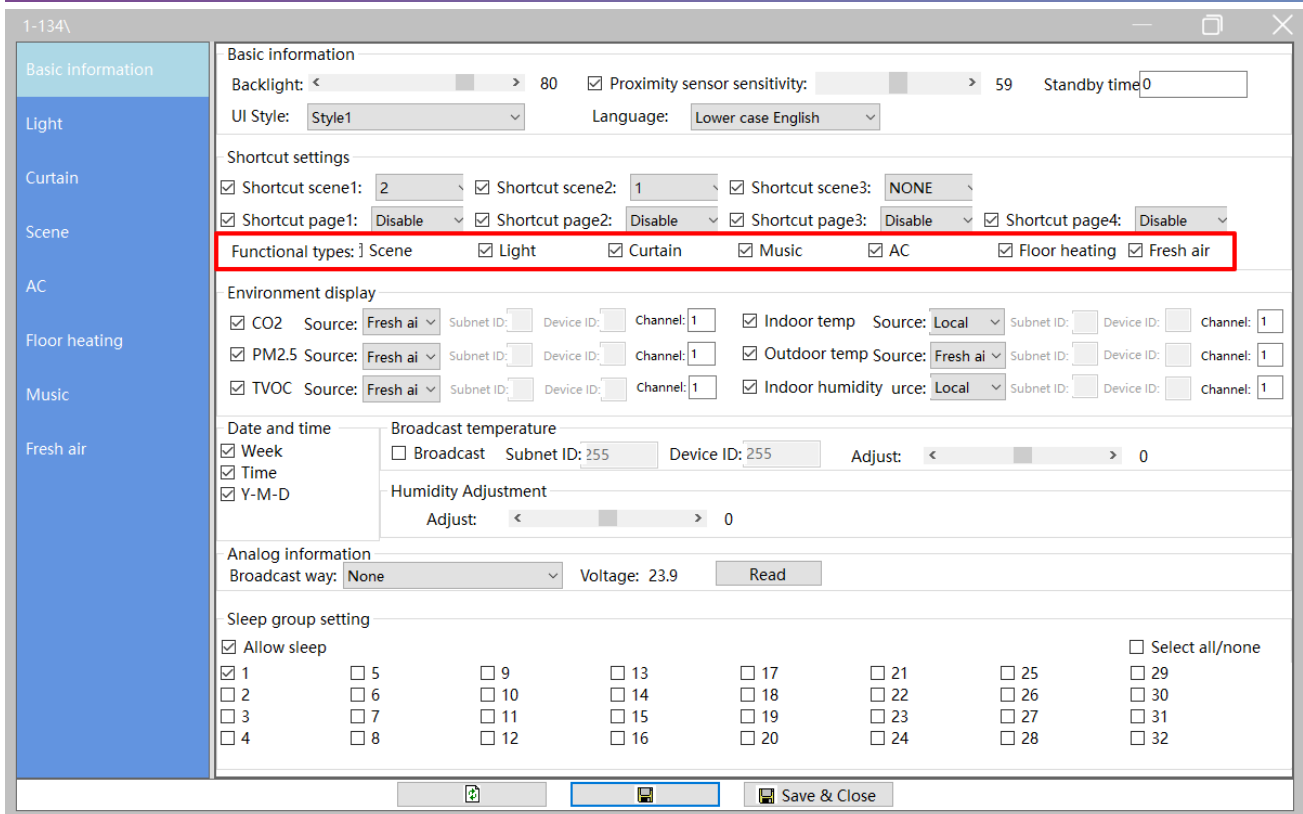


Figure 2-4 Shortcut page setting

## 2.1 Environment Data Display and Data Source Setting

Click the time/date display zone to switch to environment data display.

In “Environment display” (as shown in Figure 2-5), user may select/deselect the environment data to show/hide the data, and select the source in the menu behind.

When the number of source devices is no less than 2, user may enter the channel number to select channel.

1-134\

Basic Information

Backlight: < 80 Proximity sensor sensitivity: 59 Standby time: 0

UI Style: Style1 Language: Lower case English

Shortcut settings

Shortcut scene1: 2 Shortcut scene2: 1 Shortcut scene3: NONE

Shortcut page1: Disable Shortcut page2: Disable Shortcut page3: Disable Shortcut page4: Disable

Functional types: Scene Light Curtain Music AC Floor heating Fresh air

Environment display

CO2 Source: Fresh air Subnet ID: Device ID: Channel: 1 Indoor temp Source: Local Subnet ID: Device ID: Channel: 1

PM2.5 Source: Fresh air Subnet ID: Device ID: Channel: 1 Outdoor temp Source: Fresh air Subnet ID: Device ID: Channel: 1

TVOC Source: Fresh air Subnet ID: Device ID: Channel: 1 Indoor humidity Source: Local Subnet ID: Device ID: Channel: 1

Date and time

Week Time Y-M-D

Broadcast temperature

Broadcast Subnet ID: 255 Device ID: 255 Adjust: 0

Humidity Adjustment

Adjust: 0

Analog information

Broadcast way: None Voltage: 23.9 Read

Sleep group setting

Allow sleep

<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 5	<input type="checkbox"/> 9	<input type="checkbox"/> 13	<input type="checkbox"/> 17	<input type="checkbox"/> 21	<input type="checkbox"/> 25	<input type="checkbox"/> 29
<input type="checkbox"/> 2	<input type="checkbox"/> 6	<input type="checkbox"/> 10	<input type="checkbox"/> 14	<input type="checkbox"/> 18	<input type="checkbox"/> 22	<input type="checkbox"/> 26	<input type="checkbox"/> 30
<input type="checkbox"/> 3	<input type="checkbox"/> 7	<input type="checkbox"/> 11	<input type="checkbox"/> 15	<input type="checkbox"/> 19	<input type="checkbox"/> 23	<input type="checkbox"/> 27	<input type="checkbox"/> 31
<input type="checkbox"/> 4	<input type="checkbox"/> 8	<input type="checkbox"/> 12	<input type="checkbox"/> 16	<input type="checkbox"/> 20	<input type="checkbox"/> 24	<input type="checkbox"/> 28	<input type="checkbox"/> 32

Save & Close

Figure 2-5 Environment data display and data source setting

## 2.2 Date/time Display Setting

Granite shows the date, day of the week, and time in main page by default. User may set the display content in “Date and time” part, as shown in Figure 2-6.

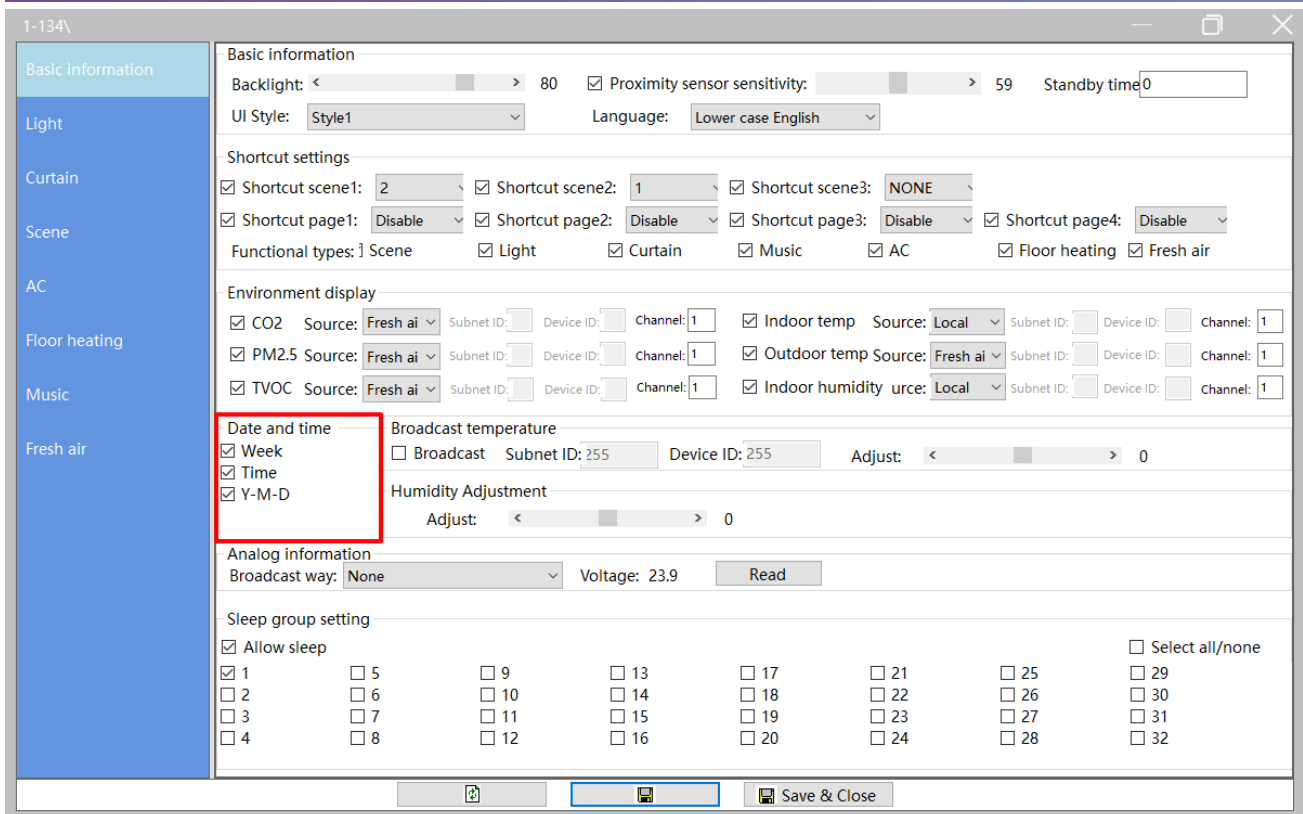


Figure 2-6 Date/time display setting

## 2.3 Broadcast Temperature Setting

With built-in temperature sensor, Granite is able to detect the temperature and broadcast it to other devices.

In “Broadcast temperature” part (as shown in Figure 2-7), user may enable/disable broadcast temperature function.

Enter the “Subnet ID” and “Device ID” of the device to receive temperature broadcast.

User may adjust the temperature data via the slider behind, range from -8~8℃.



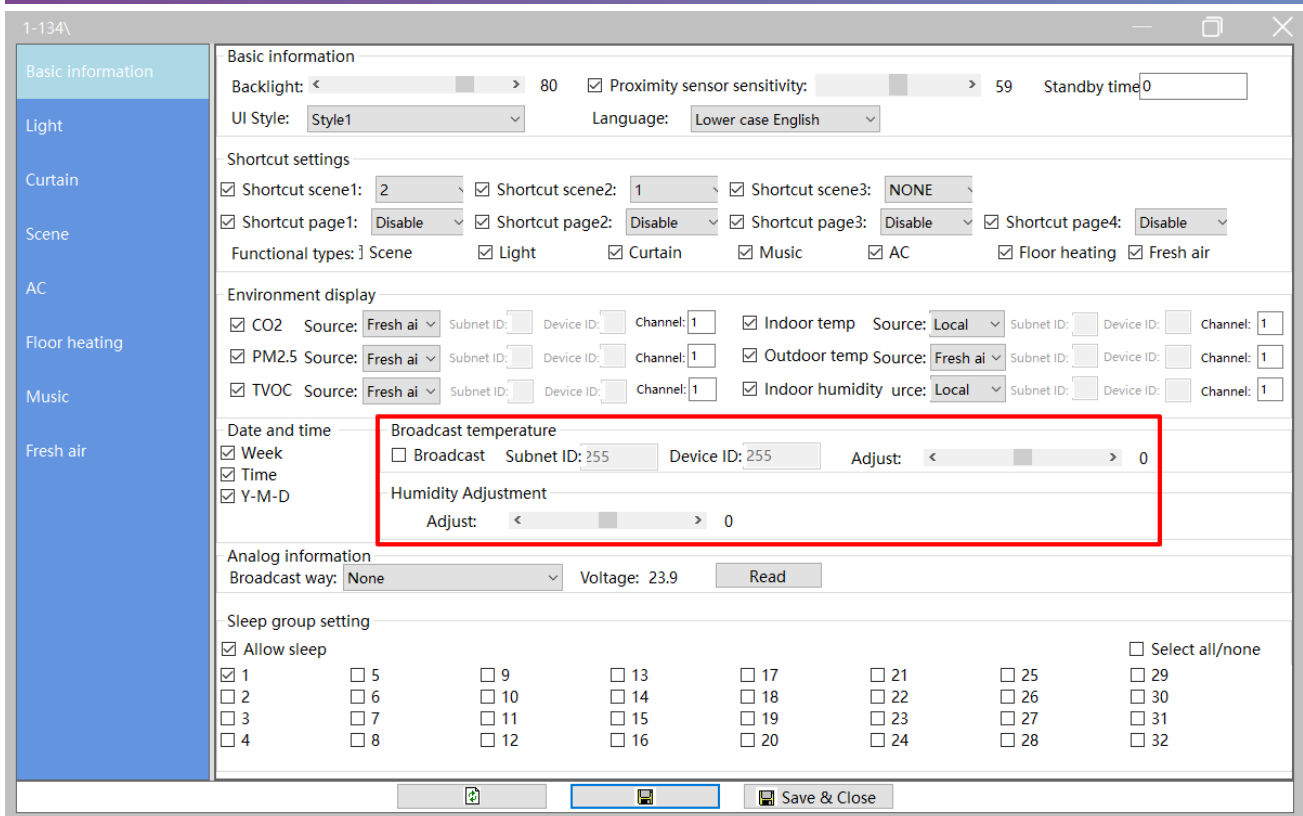


Figure 2-7 Broadcast temperature setting

## 2.4 Analog Information Setting/Read Panel Voltage

User may enable/disable analog data timing broadcast function in “Analog information” area (as shown in Figure 2-8).

Click the “Read” button to check current voltage of Granite.

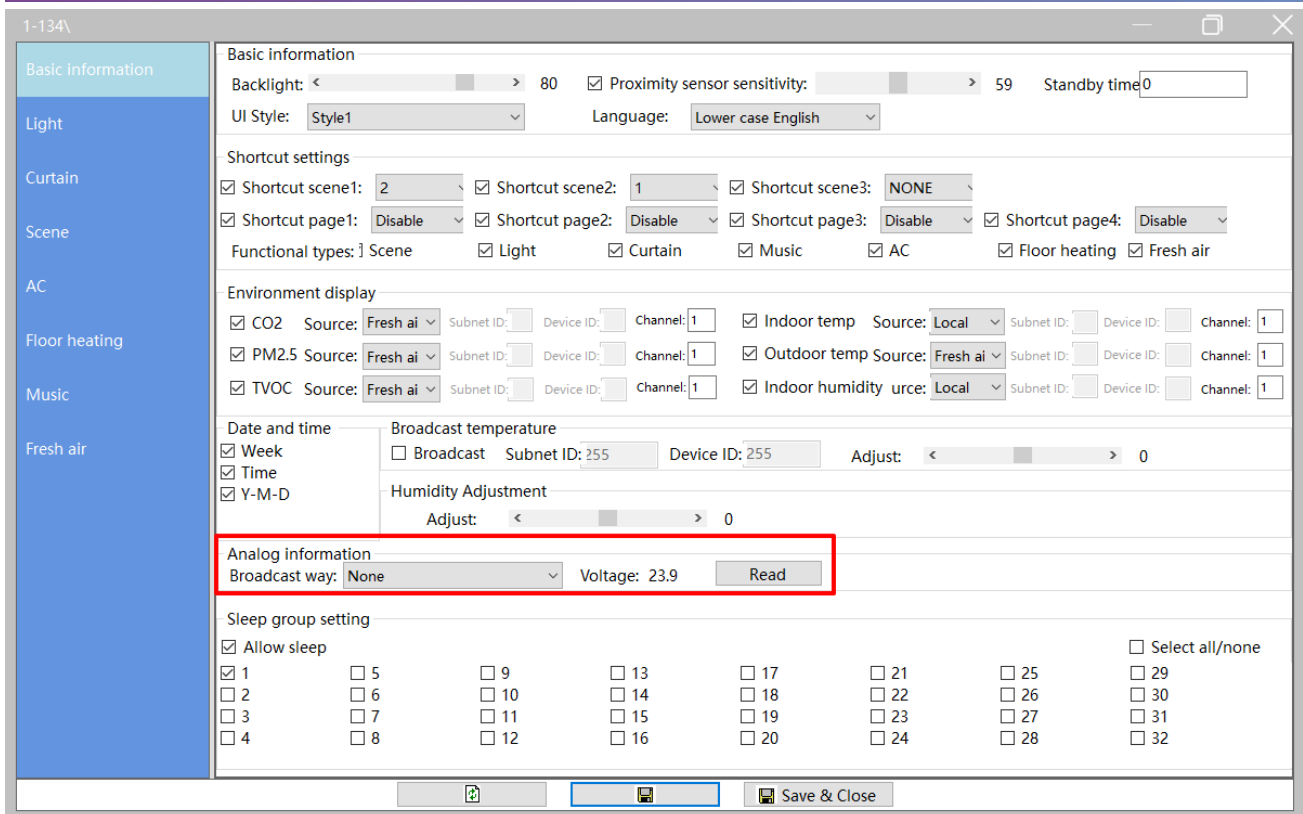


Figure 2-8 Analog information setting/read panel voltage

## 2.5 Sleep Group Setting

Sleep group setting is to wake up panels in group. For example, when Panel A is woken up, Panel B is woken up automatically. And the following steps should be followed for enabling this function:

In “Sleep group setting” part (as shown in Figure 2-9) of Panel A and Panel B, select “Allow sleep” and “1” to assign Panel A and B into Group 1, then click “Save”. Thus, when Panel A is woken up, other panels (refers to Panel B in this example) will be woken up automatically.

1-134\

Basic Information

Light

Curtain

Scene

AC

Floor heating

Music

Fresh air

Basic information

Backlight: < 80 > ☒ Proximity sensor sensitivity: < 59 > Standby time: 0

UI Style: Style1 Language: Lower case English

Shortcut settings

☒ Shortcut scene1: 2 ☒ Shortcut scene2: 1 ☒ Shortcut scene3: NONE

☒ Shortcut page1: Disable ☒ Shortcut page2: Disable ☒ Shortcut page3: Disable ☒ Shortcut page4: Disable

Functional types: ☒ Scene ☒ Light ☒ Curtain ☒ Music ☒ AC ☒ Floor heating ☒ Fresh air

Environment display

☒ CO2 Source: Fresh ai Subnet ID: Device ID: Channel: 1 ☒ Indoor temp Source: Local Subnet ID: Device ID: Channel: 1

☒ PM2.5 Source: Fresh ai Subnet ID: Device ID: Channel: 1 ☒ Outdoor temp Source: Fresh ai Subnet ID: Device ID: Channel: 1

☒ TVOC Source: Fresh ai Subnet ID: Device ID: Channel: 1 ☒ Indoor humidity Source: Local Subnet ID: Device ID: Channel: 1

Date and time

☒ Week ☒ Time ☒ Y-M-D

Broadcast temperature

☐ Broadcast Subnet ID: 255 Device ID: 255 Adjust: < 0 >

Humidity Adjustment

Adjust: < 0 >

Analog information

Broadcast way: None Voltage: 23.9 Read

Sleep group setting

☒ Allow sleep ☐ Select all/none

<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 5	<input type="checkbox"/> 9	<input type="checkbox"/> 13	<input type="checkbox"/> 17	<input type="checkbox"/> 21	<input type="checkbox"/> 25	<input type="checkbox"/> 29
<input type="checkbox"/> 2	<input type="checkbox"/> 6	<input type="checkbox"/> 10	<input type="checkbox"/> 14	<input type="checkbox"/> 18	<input type="checkbox"/> 22	<input type="checkbox"/> 26	<input type="checkbox"/> 30
<input type="checkbox"/> 3	<input type="checkbox"/> 7	<input type="checkbox"/> 11	<input type="checkbox"/> 15	<input type="checkbox"/> 19	<input type="checkbox"/> 23	<input type="checkbox"/> 27	<input type="checkbox"/> 31
<input type="checkbox"/> 4	<input type="checkbox"/> 8	<input type="checkbox"/> 12	<input type="checkbox"/> 16	<input type="checkbox"/> 20	<input type="checkbox"/> 24	<input type="checkbox"/> 28	<input type="checkbox"/> 32

Save & Close

Figure 2-9 Sleep group setting

### 3 Lighting Setting

Click “Light” in configuration page, as shown in Figure 3-1.

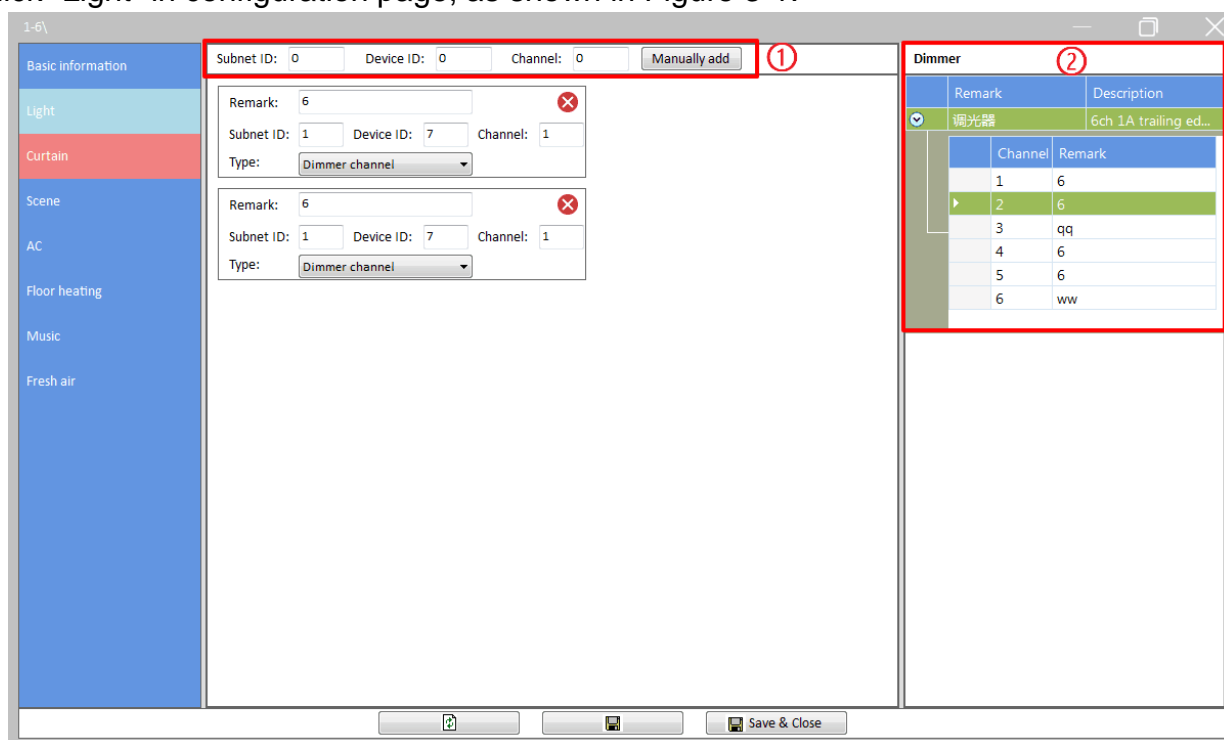


Figure 3-1 Lighting setting

#### 3.1 Add Light

User may add lights via the following two ways (as shown in Figure 3-1):

- ① Add manually: enter the “Subnet ID”, “Device ID” and “Channel” at the top of the window, then click “Manually”.
- ② Fast add: the devices that are already added to the system (click “Fast search” at the main window of Buspro Setup Tool 2 to search for added devices) will be shown on the right side of the window. Drag the device from right to left to add the device to Granite.

The added lights will be shown in the list below, and user may change the remark and type. Click “Save” after editing.

#### 3.2 Delete Lights

In lighting list, click “Delete” button at the top right side of the light to delete.

## 4 Curtain Setting

Click “Curtain” in configuration page, as shown in Figure 4-1.

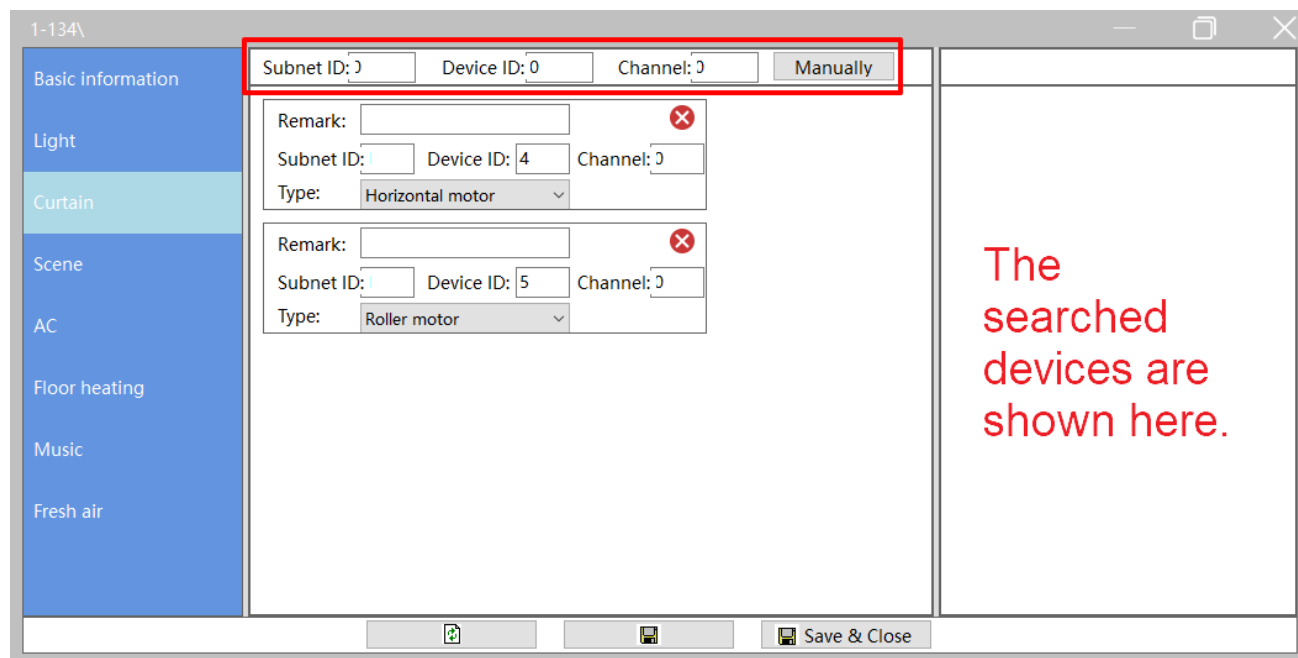


Figure 4-1 Curtain setting

### 4.1 Add Curtain

User may add curtain via the following two ways (Please refer to [Add Light](#) for reference.):

- ① Add manually: enter the “Subnet ID”, “Device ID” and “Channel” at the top of the window, then click “Manually”.
- ② Fast add: the devices that are already added to the system (click “Fast search” in the main page of Buspro Setup Tool 2 to search for all added devices) will be shown on the right side of the window. Drag the device from right to left to add the device to Granite.

The added curtains will be shown in the list below, and user may change the remark and type. Click “Save” after editing.

### 4.2 Delete Curtain

In curtain list, click “Delete” button at the top right side of the curtain to delete.

## 5 Scene Setting

Click “Scene” in configuration page, as shown in Figure 5-1.

User may enable/disable the scene, or edit the remark/icon for the scene in this page.

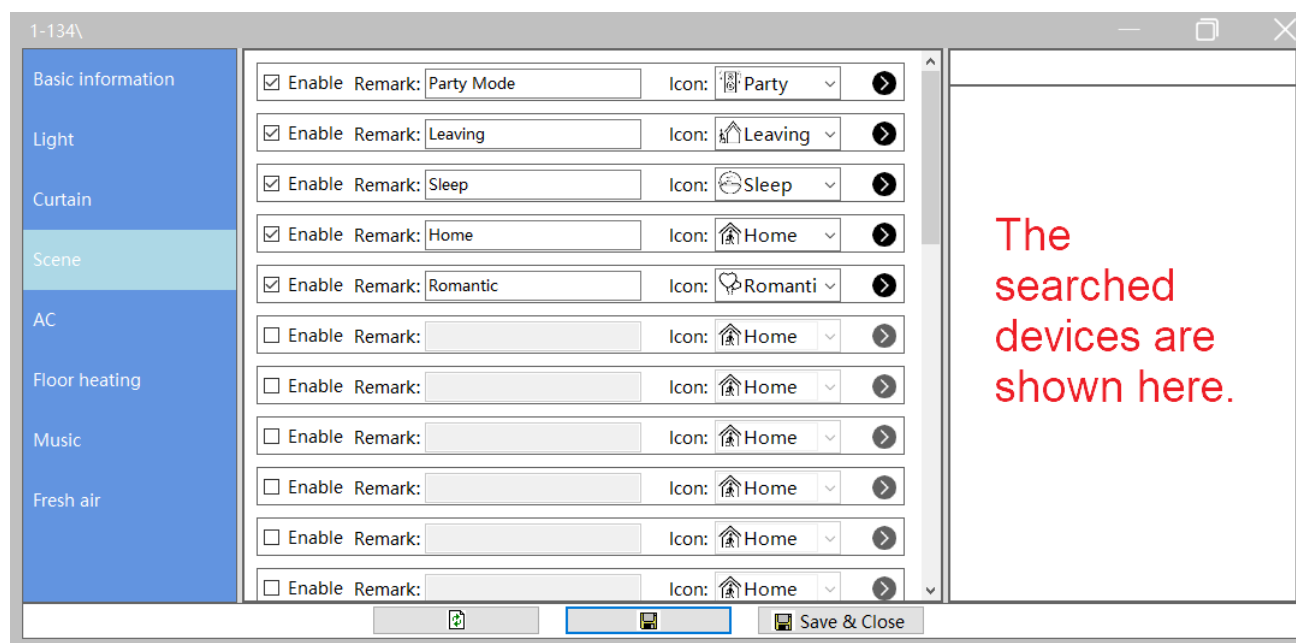


Figure 5-1 Scene setting

### 5.1 Add Target to Scene

Click “>” at the end of the scene to show all the targets in the scene, as shown in Figure 5-2.

The scene in the figure already includes one target. If another 4 targets are wanted (which means the total target number will be 5), then the user should enter “from 1 to 5” in “Input target number”, and click “Read target” to add another 4 targets to the scene.

**Notice:** one scene supports up to 99 targets.

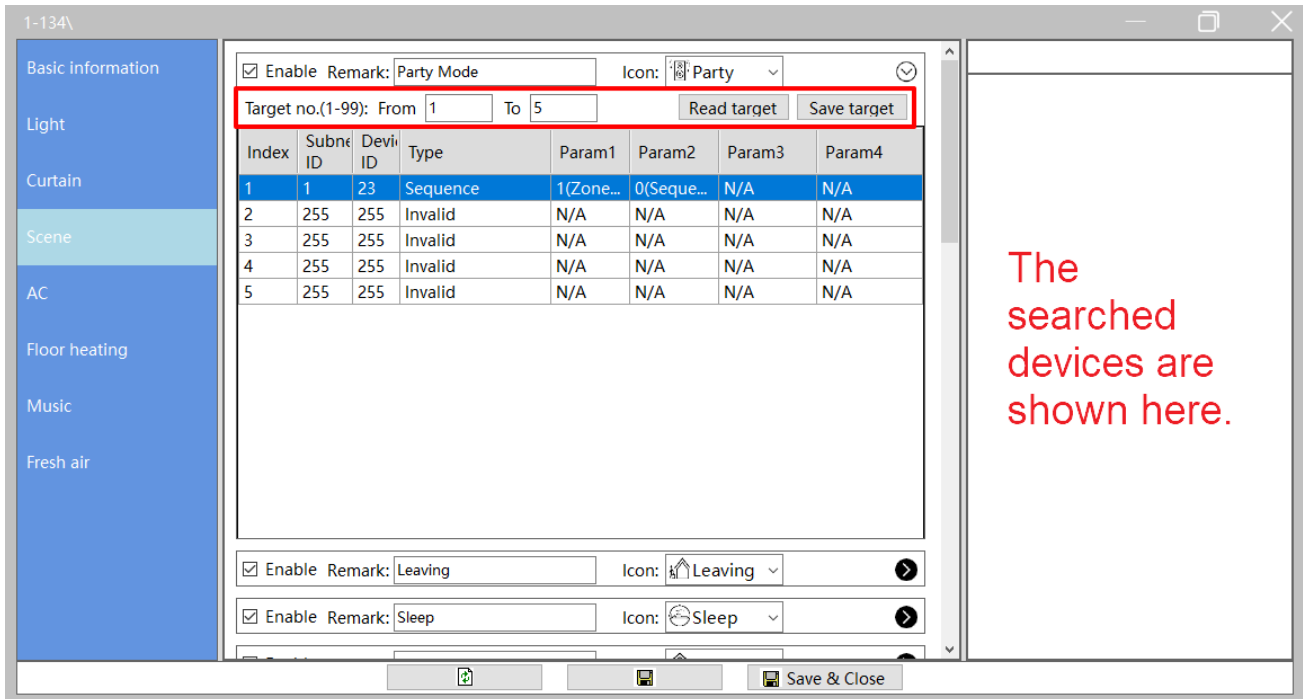


Figure 5-2 Scene target

## 5.2 Edit Scene Target

Click ">" at the end of the scene to show all the targets in the scene, as shown in Figure 5-2.

Edit the "Subnet ID", "Device ID" and "Type" of corresponding device in the target list. The list on the right shows all the added devices (click "Fast search" in the main page of Buspro Setup Tool 2 to search for all added devices), drag the target from right to left can also add the target to the scene (Please refer to [Add Light](#) for reference.).

Param 1 to 4 defers from the type selected. For example, if "Universal switch" is selected, Param 1 refers to "Switch No.", and Param 2 refers to "Switch Status", as shown in Figure 5-3.

Click "Save target" after editing all targets. Click "Save" button after editing all scenes.

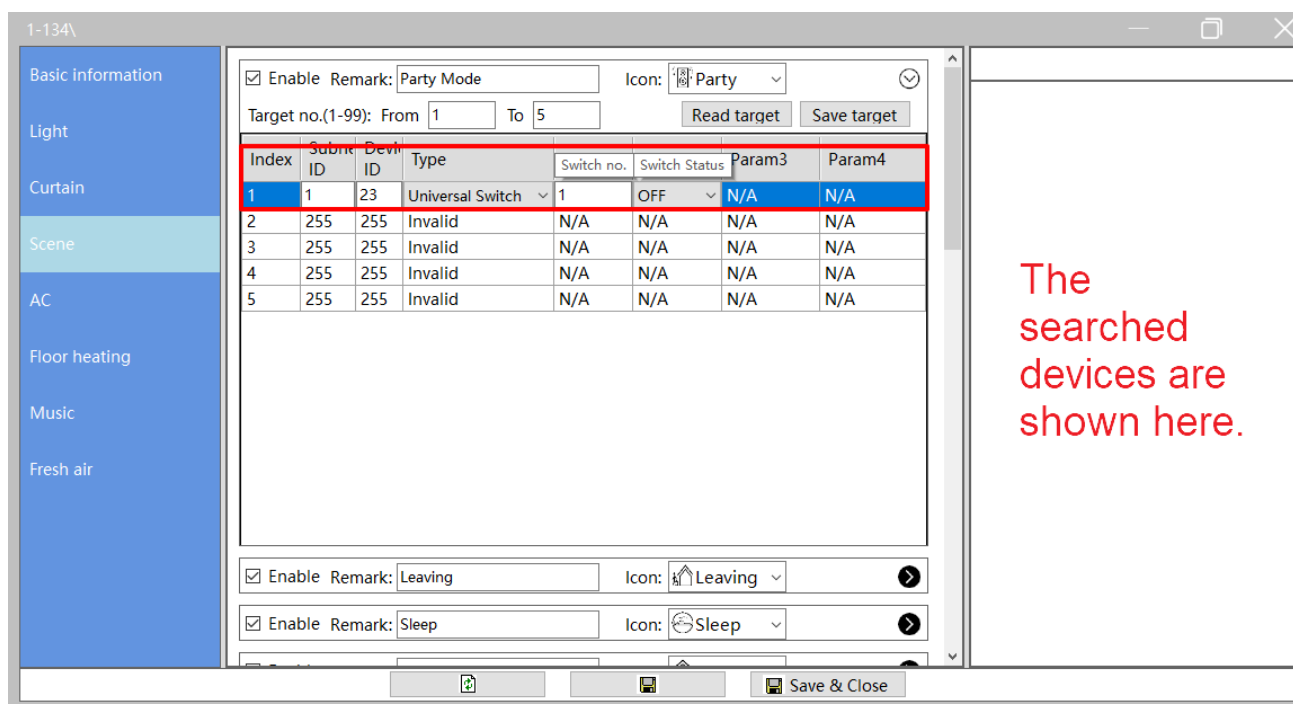


Figure 5-3 Edit scene target



## 6 AC Setting

Up to 8 ACs are supported by Granite, and each AC can be configured independently.

Click “AC” in configuration page, as shown in Figure 6-1. This page includes the following setting items for AC:

- ① AC information setting: enable/disable the AC, edit the remark/operation ways.
- ② Fan speed/mode selection: select fan speed, enable/disable mode button.
- ③ HVAC setting: edit the information, including Subnet ID, Device ID and AC No. of the corresponding HVAC. Drag the AC in the list of added devices on the right can add AC as well. Please refer to [Add Light](#) for reference.
- ④ Temperature range: to set the temperature adjustment range, the minimum and maximum value can both be set between 0-30℃.
- ⑤ Temperature source: to select the source of the temperature data. Edit the information of external device if “external” is selected.
- ⑥ Others: to enable/disable Eco mode and indoor temperature display.

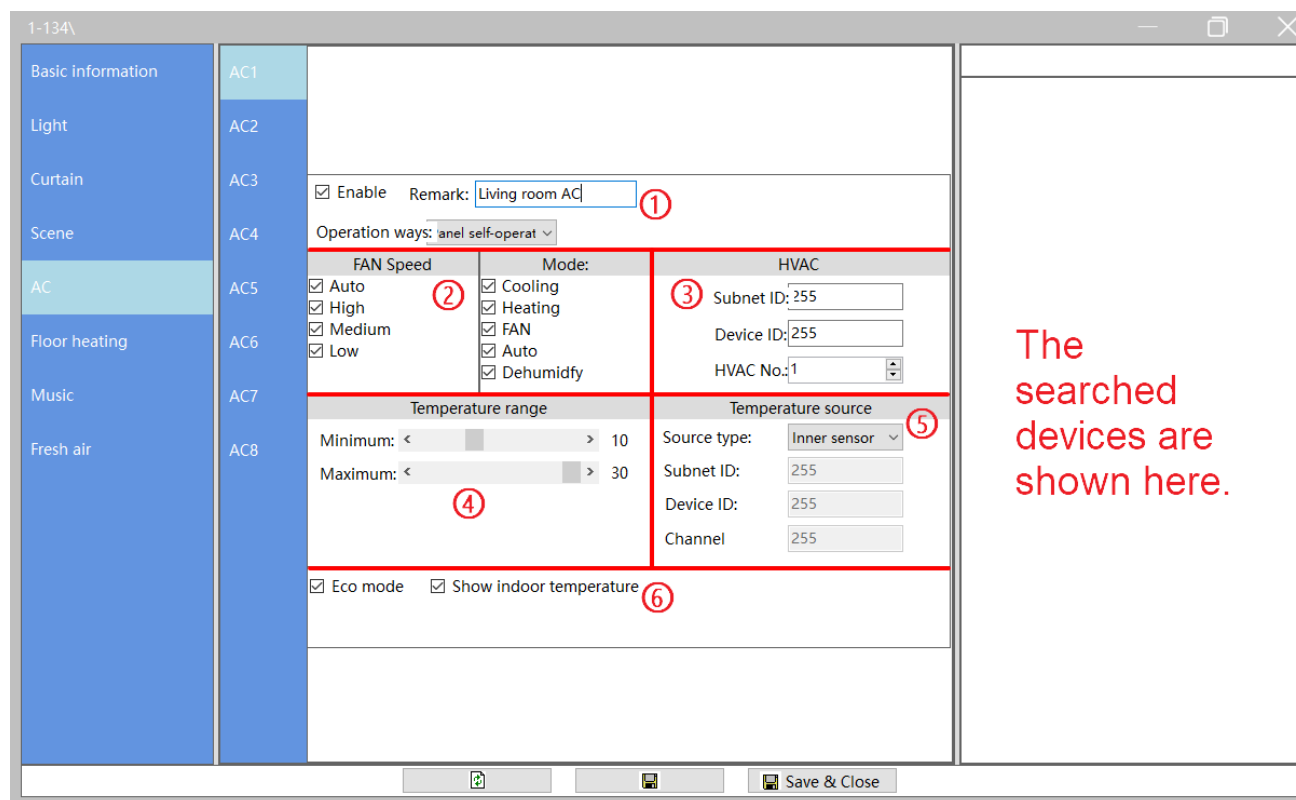


Figure 6-1 AC setting

## 7 Floor Heating/Cooling Setting

Click “Floor heating” in configuration page, as shown in Figure 7-1. This page includes the following setting items for floor heating/cooling:

- ① Basic information: edit the remark, type, control type and temperature display of floor heating/cooling.
- ② Mode: enable/disable modes, and edit the temperature for corresponding mode. At the bottom of this part, user may select the default mode when floor heating/cooling is powered on.
- ③ Floor heating module setting: to set the information of the floor heating module (Drag the device in the list of added devices on the right can add floor heating/cooling as well. Please refer to [Add Light](#) for reference).
- ④ Temperature range: to set the temperature adjustment range, the minimum and maximum value can both be set between 5-35°C.
- ⑤ Relay parameter setting: to set the parameters of floor heating controlled by relay.
- ⑥ Temperature source: to select the source of the temperature data for floor heating/cooling. Edit the information of external device if “external” is selected.
- ⑦ Relay channel setting. Drag the device in the list of added devices on the right can add floor heating/cooling as well. Please refer to [Add Light](#) for reference.

### Notice:

Some of the setting items might be invalid according to the “Control type” selected:

- If “Relay” is selected, Mark ③ is invalid;
- If “Floor heating module” is selected, Mark ② (only enabling/disabling mode is valid, the mode details are edited on the floor heating module.), ⑤, ⑥ (temperature source can only be floor heating module) and ⑦ are invalid.

1-134\

Basic Information

Light

Curtain

Scene

AC

Floor heating

Music

Fresh air

Floor heating1

Floor heating2

Floor heating3

Floor heating4

Floor heating5

Floor heating6

Floor heating7

Floor heating8

☒ Enable Remark: Living room

Type: Floor Heating

Control type: Floor heating module ☒ Show temperature

**Mode**

☒ Normal Normal: < 25

☒ Day Day: < 25

☒ Night Night: < 25

☒ Away Away: < 25

☒ Timer Mode: Normal

**Floor heating module**

Subnet ID: 255

Device ID: 255

Floor Heating channel: 255

**Temperature range**

Minimum: < 5

Maximum: < 35

**Min.-Max.PWM:** 0% - 100%

Heating speed: Medium

Control cycle: 5(M)

Day start at(HH:MM): 7:0

Night start at(HH:MM): 19:0

**Temperature source**

Source type: Inner sensor

Subnet ID: 255

Device ID: 255

Channel: 255

**Relay channel**

ID	Enable	Subnet ID	Device ID	Channel
1	<input checked="" type="checkbox"/>	255	255	255
2	<input type="checkbox"/>	255	255	255
3	<input type="checkbox"/>	255	255	255
4	<input type="checkbox"/>	255	255	255

Save & Close

The searched devices are shown here.

Figure 7-1 Floor heating/cooling setting

## 8 Music Player Setting

Up to 8 music players are supported by Granite, and each music player can be configured independently.

Click “Music” in configuration page, as shown in Figure 8-1. The following setting items are included:

- ① Basic information: to enable/disable or rename the music player
- ② Music source selection
- ③ Music module setting (Drag the music player in the list of added devices on the right can add music player as well. Please refer to [Add Light](#) for reference.)

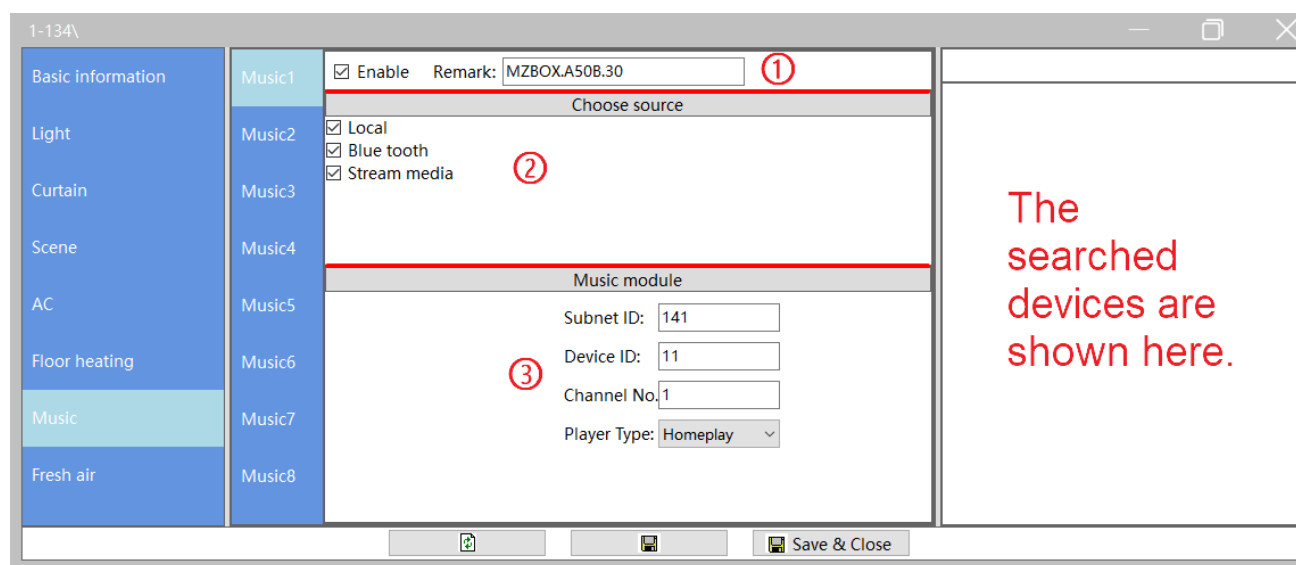


Figure 8-1 Music player setting

## 9 Fresh Air Setting

Up to 8 fresh air systems are supported by Granite, and each system can be configured independently.

Click “Fresh air” in configuration page, as shown in Figure 9-1. The following setting items are included:

- ① Basic information: to enable/disable or rename the system
- ② Fan speed setting: to select the fan speed levels
- ③ Mode setting: to select the modes
- ④ Fresh air information setting (Drag the fresh air system in the list of added devices on the right can add to Granite as well. Please refer to [Add Light](#) for reference.)
- ⑤ Temperature range: the minimum and maximum value can both be set between 0-30℃.
- ⑥ Fresh air data display setting: Fresh air data includes air quality, temperature and humidity. User may enable/disable corresponding data display.

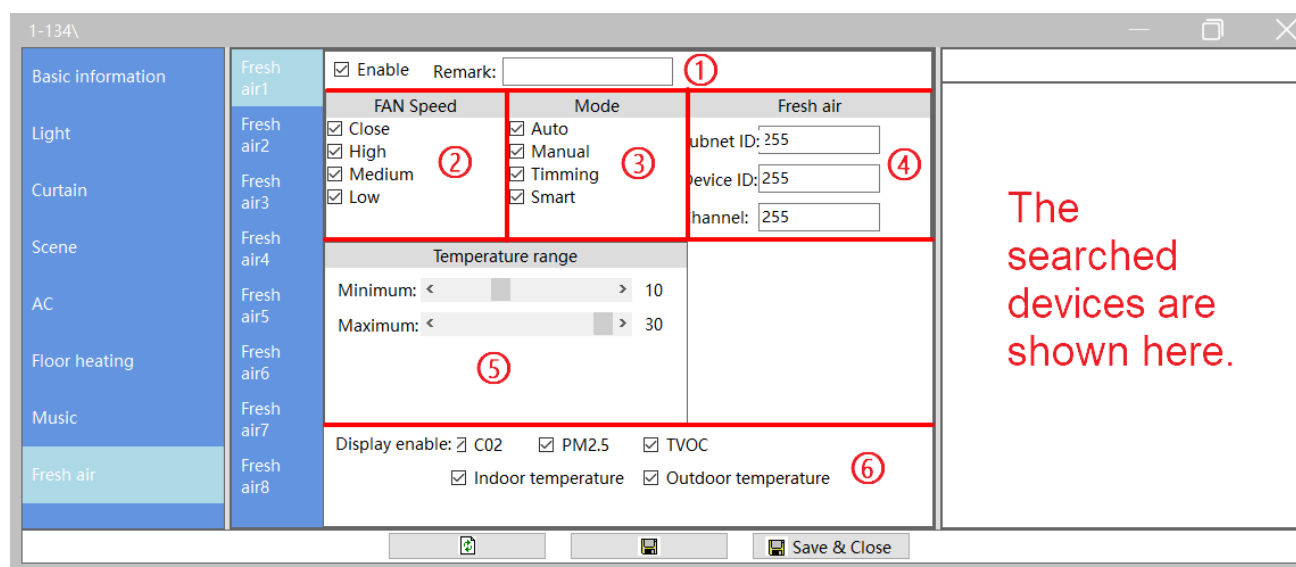


Figure 9-1 Fresh air setting