



Tile Series Button Panel (KNX) User Manual

(Model: HDL-MP1-EC/TILE.48)

Version: V1.0.0

Published on Nov.5, 2019

Content

| | |
|---|----|
| Legal Statement | I |
| Update History | II |
| 1 Introduction | 1 |
| 1.1 Import Database to ETS (.knxprod)..... | 2 |
| 1.2 Import Projects (.knxproj/.pr5)..... | 7 |
| 1.3 Open Configuration Window..... | 8 |
| 1.4 Button Number Instruction..... | 9 |
| 2 General Setting | 10 |
| 2.1 Status Light Brightness Adjustment..... | 12 |
| 2.2 Panel Scene Setting..... | 13 |
| 2.2.1 Enable Panel Scenes..... | 13 |
| 2.2.2 Scene Setting..... | 14 |
| 3 Button Setting | 16 |
| 3.1 Combined Button Mode..... | 17 |
| 3.1.1 Select Operation Mode..... | 17 |
| 3.1.2 Switch Controller Setting..... | 18 |
| 3.1.3 Dimming Controller Setting..... | 20 |
| 3.1.4 Shutter Controller Setting..... | 21 |
| 3.1.5 Flexible Controller Setting..... | 24 |
| 3.1.6 Scene Controller Setting..... | 25 |
| 3.1.7 Sequence Controller Setting..... | 27 |
| 3.1.8 Percentage Controller Setting..... | 29 |
| 3.1.9 Threshold Controller Setting..... | 31 |
| 3.1.10 14-byte String Controller Setting..... | 32 |
| 3.1.11 Alternate Controller Setting..... | 34 |
| 3.1.12 RGB Controller Setting..... | 36 |
| 3.1.13 Fan Controller Setting..... | 38 |

| | | |
|----------|---|----|
| 3.1.14 | Combination Controller Setting..... | 40 |
| 3.1.14.1 | Switch Controller Setting..... | 40 |
| 3.1.14.2 | Shutter Controller Setting..... | 40 |
| 3.1.14.3 | Scene Controller Setting | 41 |
| 3.1.14.4 | Sequence Controller Setting | 41 |
| 3.1.14.5 | Percentage Controller Setting..... | 41 |
| 3.1.14.6 | Threshold Controller Setting | 41 |
| 3.1.14.7 | 14-byte String Controller Setting | 41 |
| 3.2 | Independent Button Mode | 41 |
| 3.2.1 | Select Operation Mode | 42 |
| 3.2.2 | Switch Controller Setting | 43 |
| 3.2.3 | Dimming Controller Setting..... | 45 |
| 3.2.4 | Shutter Controller Setting | 47 |
| 3.2.5 | Flexible Controller Setting..... | 49 |
| 3.2.6 | Scene Controller Setting..... | 50 |
| 3.2.7 | Sequence Controller Setting..... | 52 |
| 3.2.8 | Percentage Controller Setting..... | 54 |
| 3.2.9 | Threshold Controller Setting | 56 |
| 3.2.10 | 14-byte String Controller Setting | 57 |
| 3.2.11 | Alternate Controller Setting | 59 |
| 3.2.12 | RGB Controller Setting..... | 61 |
| 3.2.13 | Fan Controller Setting | 62 |
| 3.2.14 | Thermostat Controller Setting..... | 64 |
| 3.2.15 | Combination Controller Setting..... | 67 |
| 3.2.15.1 | Switch Controller Setting..... | 67 |
| 3.2.15.2 | Shutter Controller Setting..... | 68 |
| 3.2.15.3 | Scene Controller Setting | 68 |
| 3.2.15.4 | Dimming Controller Setting | 68 |

| | | |
|----------|---|----|
| 3.2.15.5 | Percentage Controller Setting | 68 |
| 3.2.15.6 | Threshold Controller Setting | 69 |
| 3.2.15.7 | 14-byte String Controller Setting | 69 |
| 3.2.15.8 | Short-long Controller..... | 69 |
| 4 | Download Data to the Panel | 70 |
| 4.1 | Interface Setting | 70 |
| 4.2 | Download Data..... | 71 |
| 5 | Object Instruction..... | 72 |
| 5.1 | Objects “General” | 72 |
| 5.2 | Objects “Panel scene” | 73 |
| 5.3 | Objects “Rocker A/B/C/D”..... | 75 |
| 5.3.1 | Objects “Rocker A/B/C/D” (Switch and Dimming Function)..... | 75 |
| 5.3.2 | Objects “Rocker A/B/C” (LED Status) | 75 |
| 5.3.3 | Objects “Rocker A/B/C” (Curtain Controller) | 76 |
| 5.3.4 | Objects “Rocker A/B/C” (Flexible Controller)..... | 76 |
| 5.3.5 | Objects “Rocker A/B/C” (Scene Controller)..... | 76 |
| 5.3.6 | Objects “Rocker A/B/C” (Sequence Controller)..... | 77 |
| 5.3.7 | Objects “Rocker A/B/C” (Percentage Controller)..... | 77 |
| 5.3.8 | Objects “Rocker A/B/C” (Threshold Controller) | 77 |
| 5.3.9 | Objects “Rocker A/B/C” (String (14 bytes) Controller)..... | 78 |
| 5.3.10 | Objects “Rocker A/B/C” (Alternate Controller) | 78 |
| 5.3.11 | Objects “Rocker A/B/C” (RGB Controller)..... | 78 |
| 5.3.12 | Objects “Rocker A/B/C” (Fan Controller) | 79 |
| 5.3.13 | Objects “Rocker A/B/C” (Thermostat Controller)..... | 79 |
| 5.3.14 | Objects “Rocker A/B/C” (Combination Controller)..... | 80 |

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 | Nov.5, 2019 |
| | | | |
| | | | |
| | | | |
| | | | |

1 Introduction

This user manual offers the information on configuring Tile Series Button Panel (KNX) (Model: HDL-MP1-EC/TILE.48, hereinafter referred to as Tile), by taking “4 Buttons Panel A” as an example. The following tools might be included:

- Tile Series Button Panel (KNX) (Model: HDL-MP1-EC/TILE.48) and corresponding power interface (Model: M/PCI.1-A in conjunction with EU panel, M/PCI.3-A in conjunction with US panel)
- A computer with ETS5 software
- KNX USB interface (Model: M/USB.1)
- KNX power supply and auxiliary power supply
- KNX project files
- Dedicated KNX cable(s)

1.1 Import Database to ETS (.knxprod)

1. **Import Catalogs:** click “Catalogs” → “Import...” in the main page of ETS5 software and select local database files with the suffix of .knxprod, as shown in Figure 1-1.

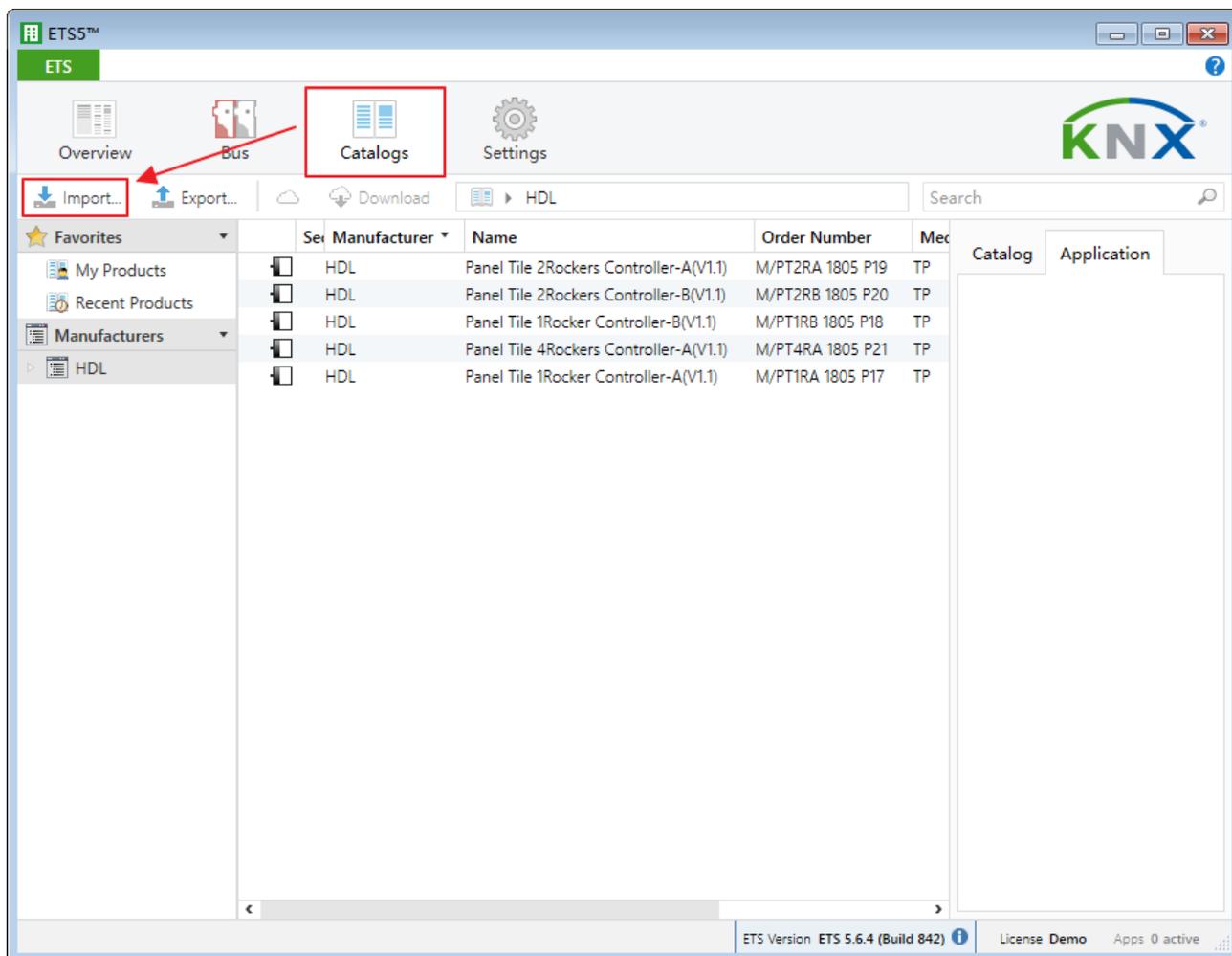


Figure 1-1 Import catalog

- 2. Create Projects:** as shown in Figure 1-2, in “Your Projects” tab from ETS5 software’s “Overview” page, click “+” to create projects. After editing project name, please keep other setting items by default.

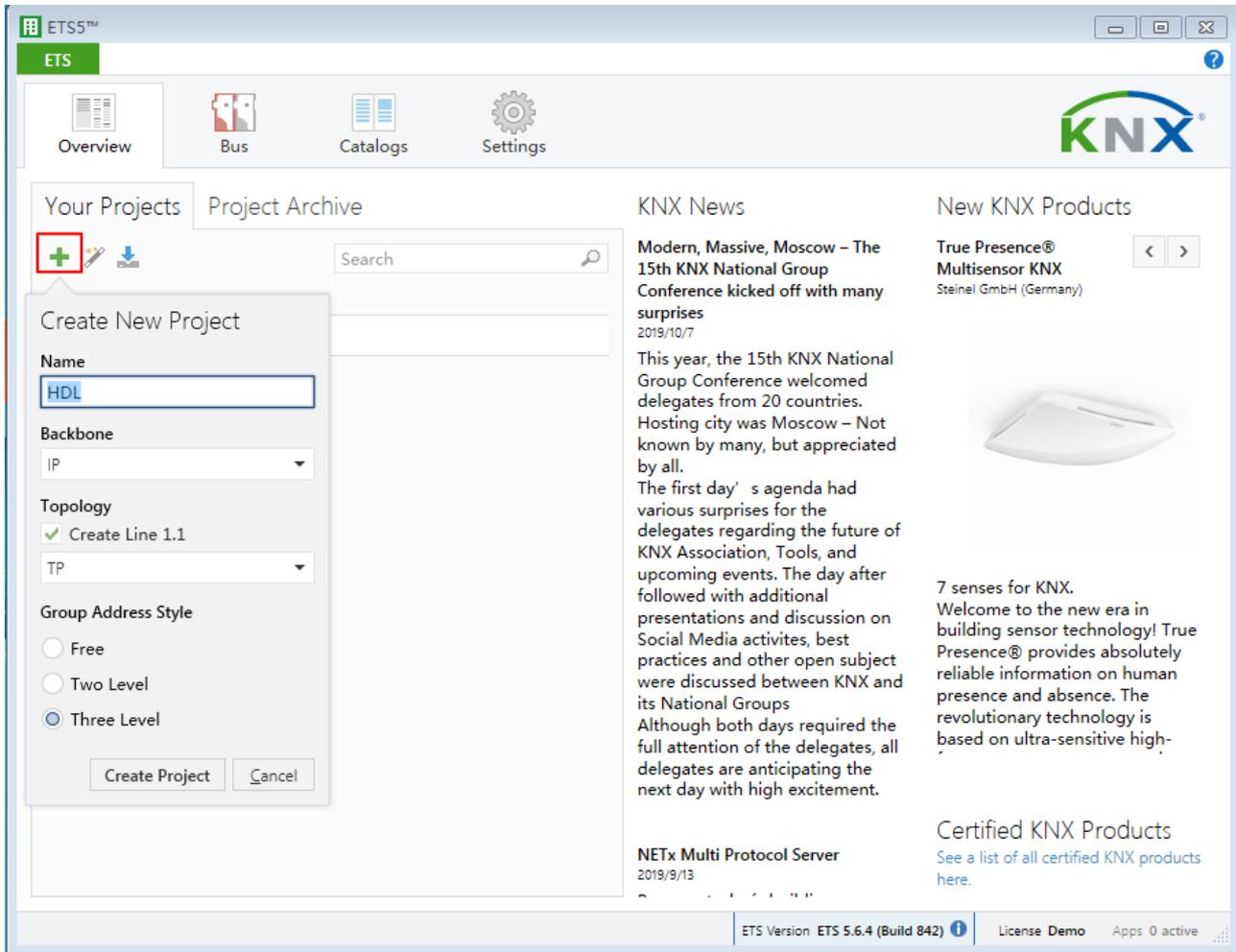


Figure 1-2 Create projects

3. Add Devices to Projects:

- ① After creating a project, the project page will show up by default. Click “Buildings” and select “Topology”, as shown in Figure 1-3.

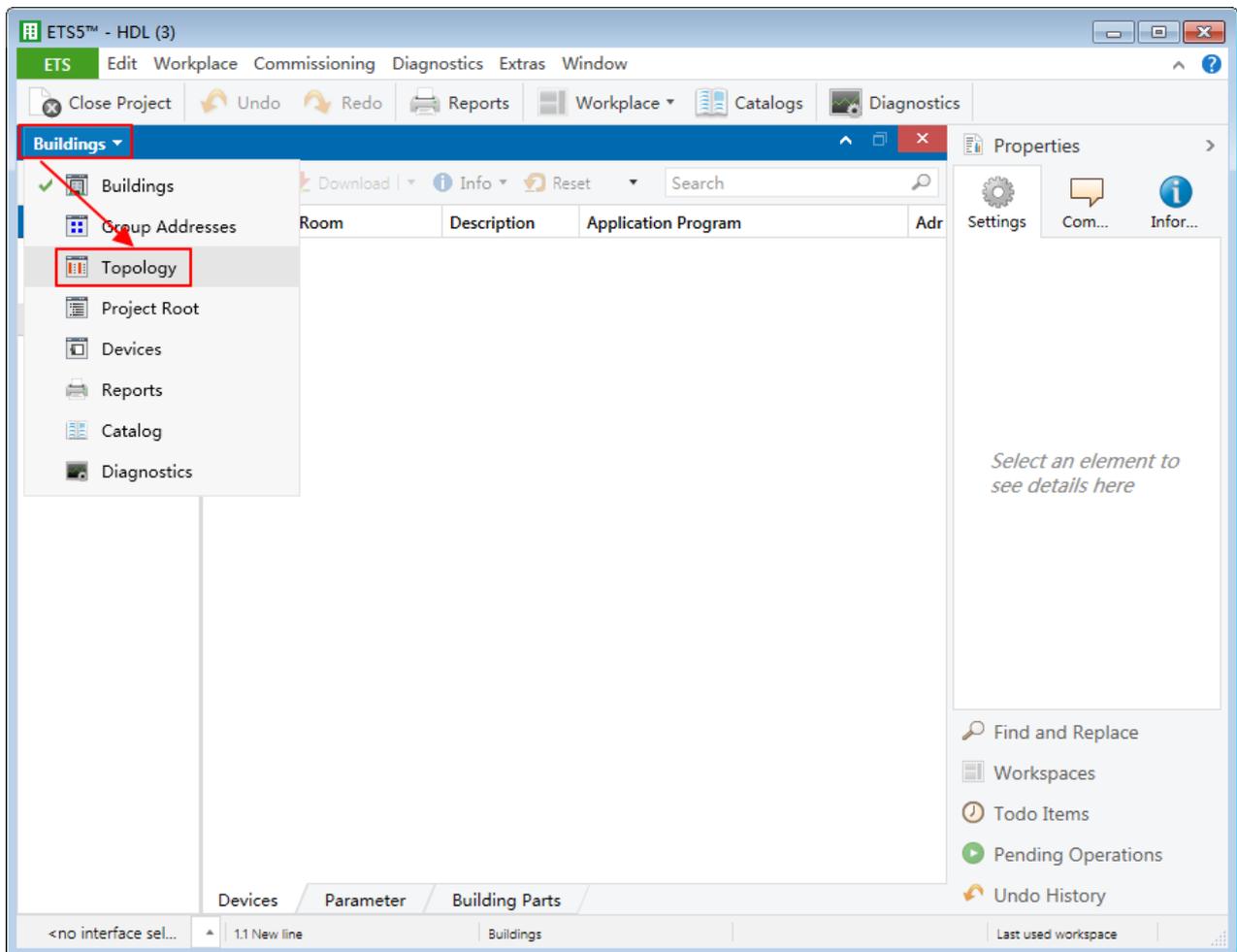


Figure 1-3 Select topology

- ② Figure 1-4 shows “Topology” page, click the arrow beside “Add Areas” and select “Devices”, and the catalog page will show up below.

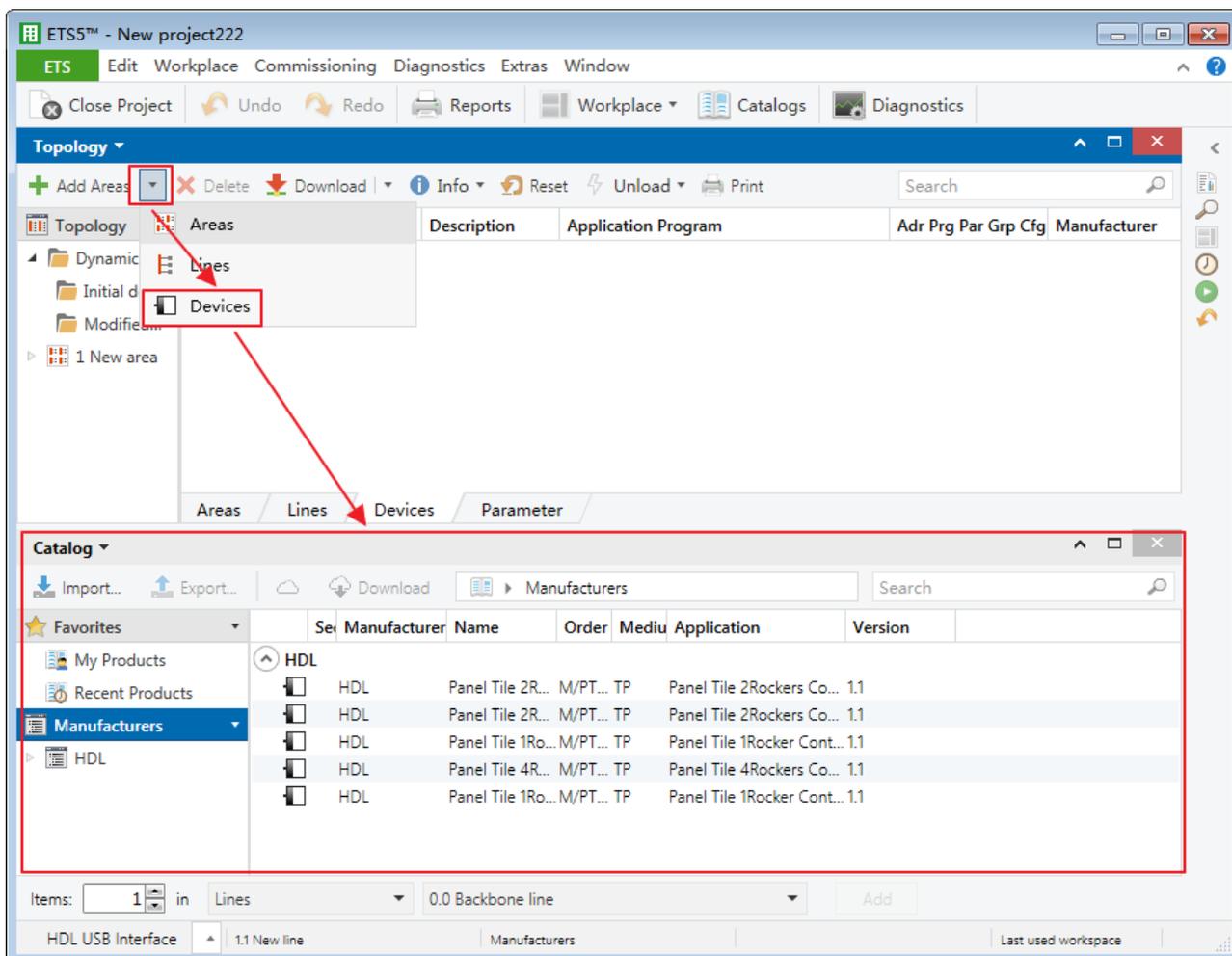


Figure 1-4 Open catalog page

- ③ As shown in Figure 1-5, click “HDL” in “Manufactures” column and select devices to be added to the project on the right. Drag devices to the above area (Method 1) or click “Add” button to add devices after clicking the location needed to add projects below (Method 2).

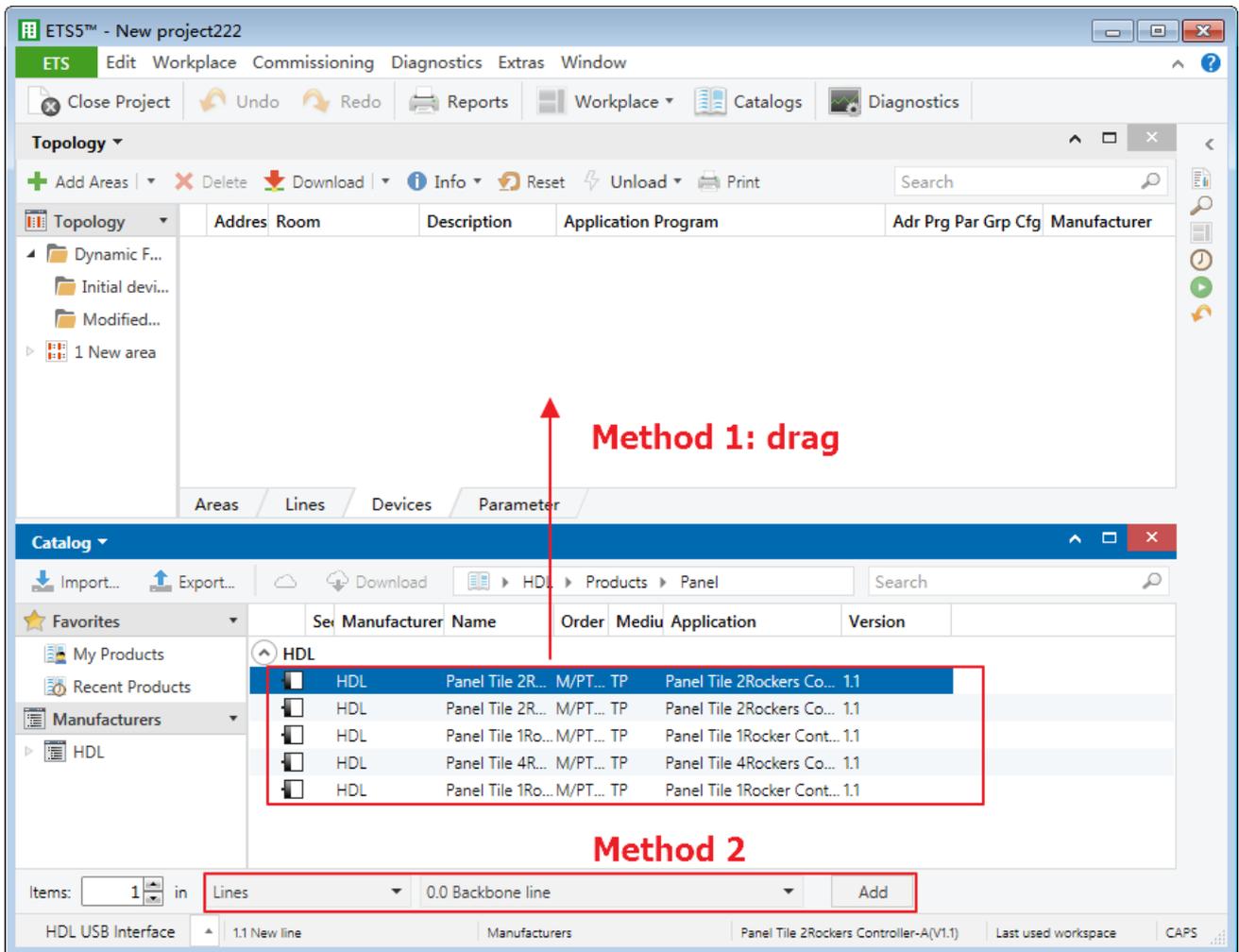


Figure 1-5 Add devices to projects

1.2 Import Projects (.knxproj/.pr5)

As shown in Figure 1-6. Open ETS5 and click “Import project” button of “Your Project” tab of “Overview” page and import obtained KNX project files with the suffix of .knxproj/.pr5. After importing projects, added/created projects will be listed below. Double click to edit.

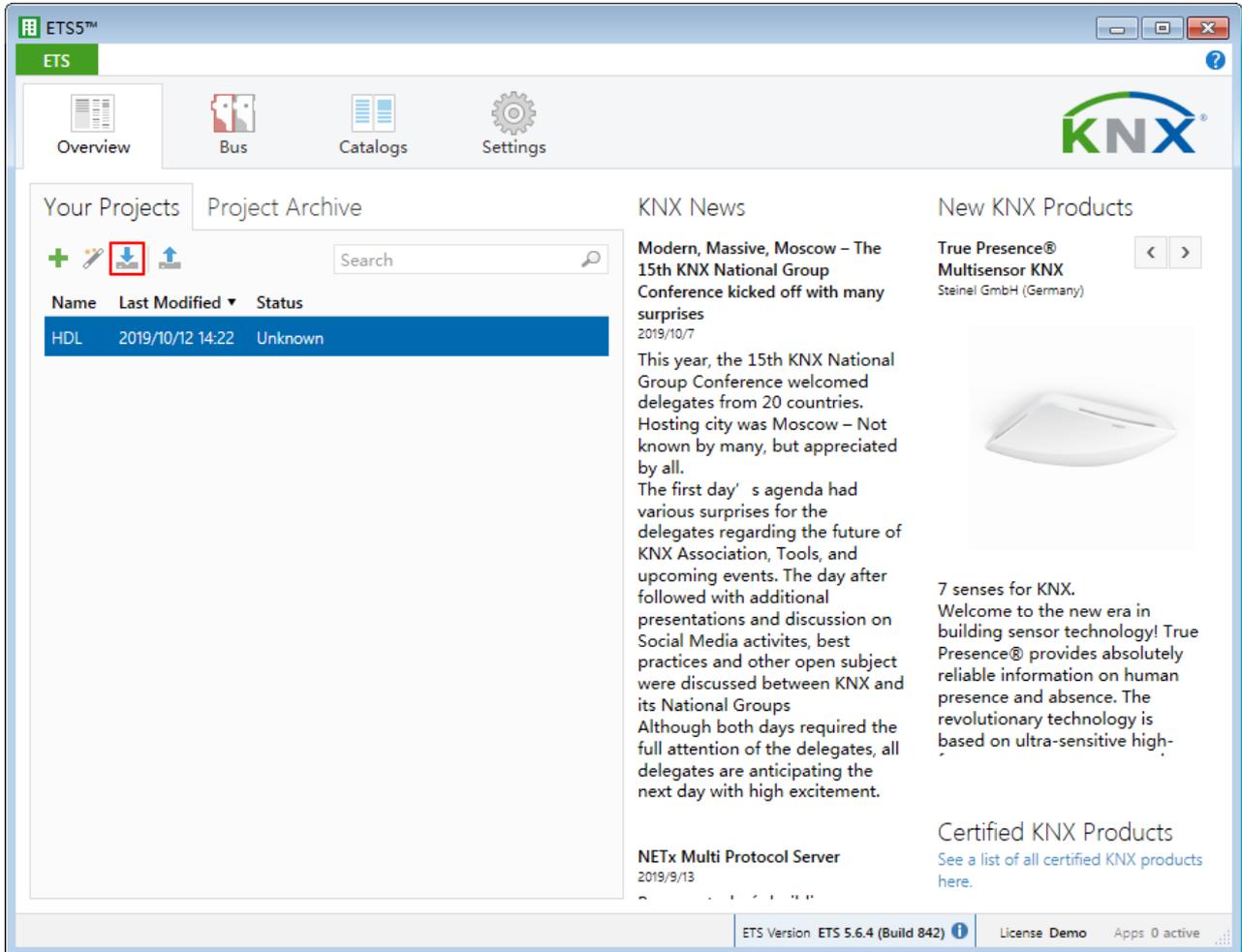


Figure 1-6 Import projects

1.3 Open Configuration Window

Double click the project to be configured. Click “Workspace” → “Open New Panel” → “Topology” to open the window, as shown in Figure 1-7.

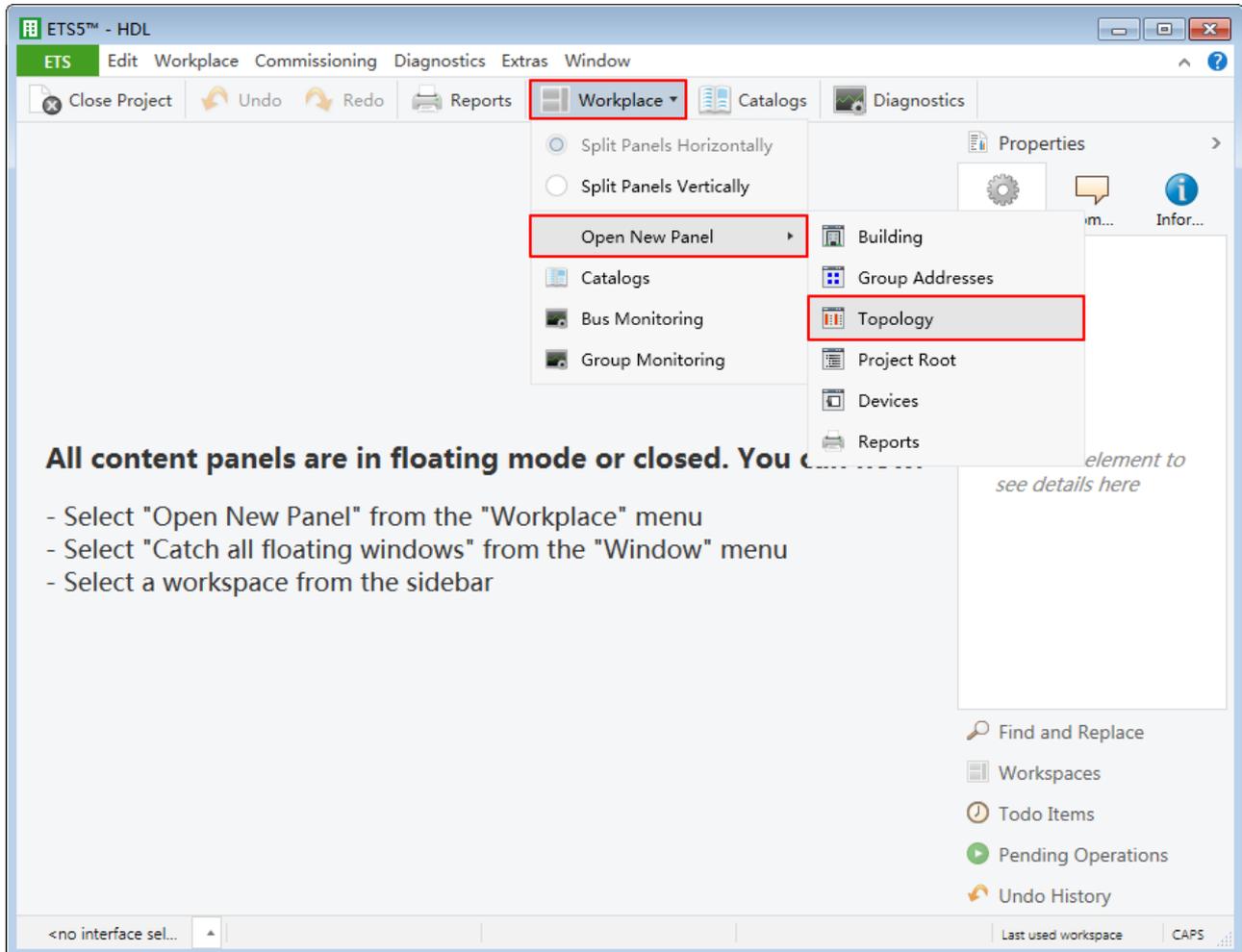


Figure 1-7 Open configuration window

1.4 Button Number Instruction

All button numbers in this user manual are subject to Figure 1-8.

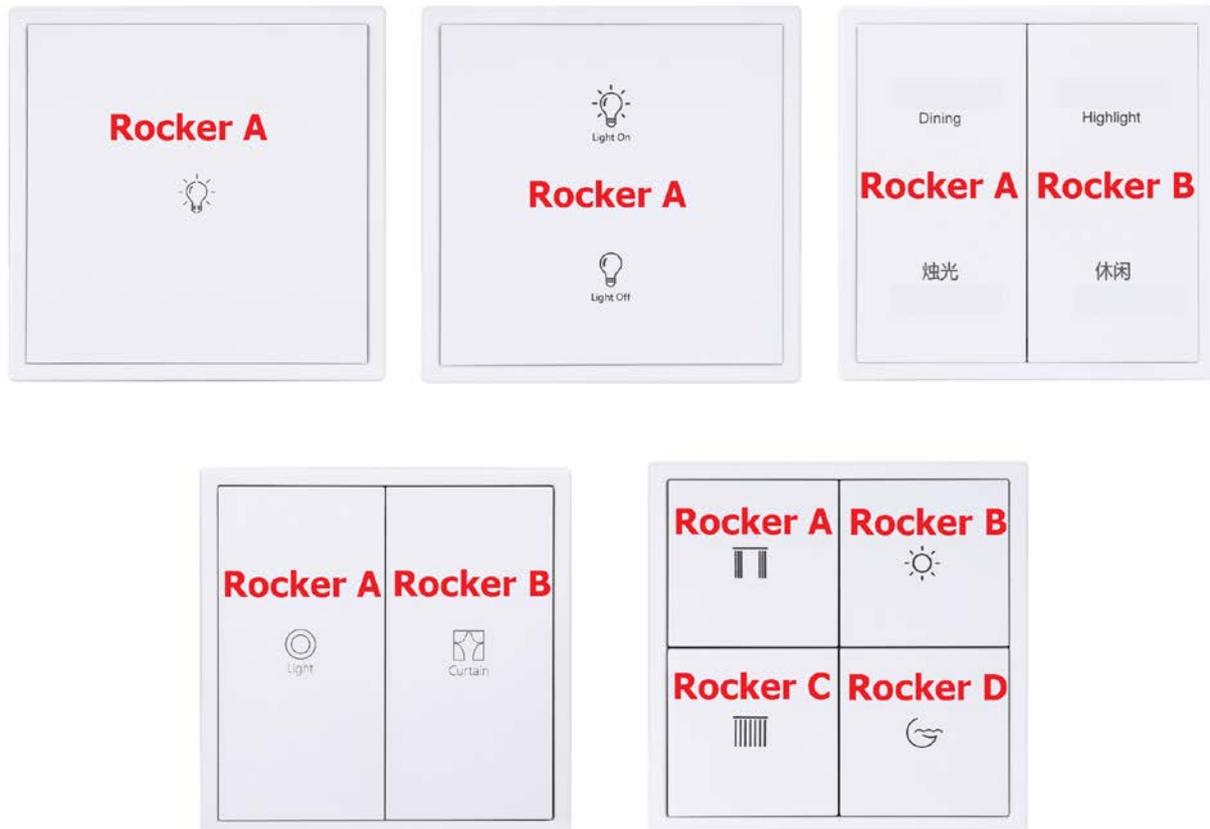


Figure 1-8 Button number

2 General Setting

In topology skeleton on the left side of topology page, click devices to be set and select “General” in “Parameter” option, as shown in Figure 2-1.

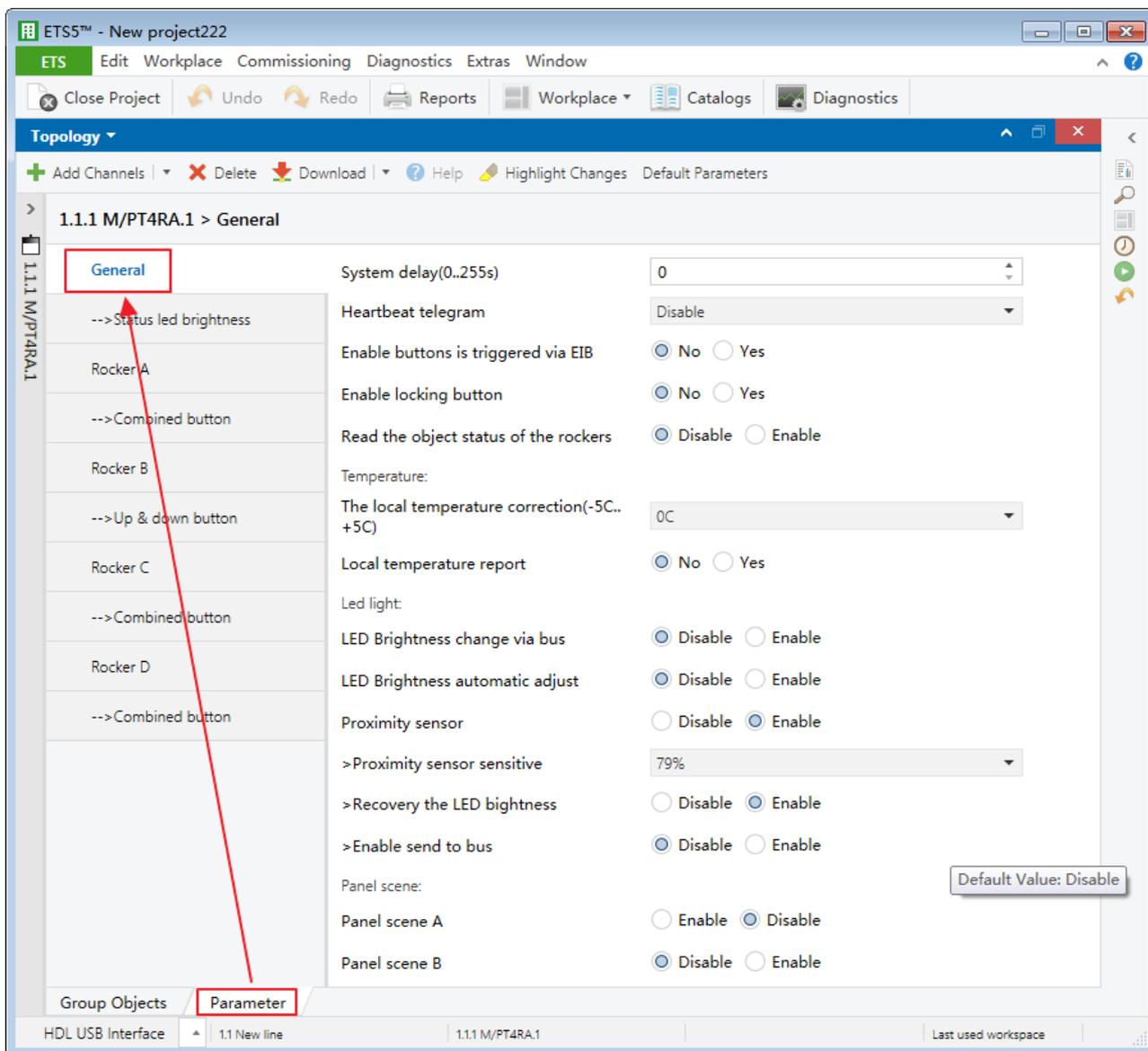


Figure 2-1 General Setting

The setting items are explained below:

1. System delay: time-delay function, namely a delay time between powering on the device and activating the system, range from 1 to 255s.
2. Heartbeat telegram: to choose to send “1”, “0”, or “1, 0” cyclically.
 - Telegram is sent time interval: to set the interval of sending heartbeat telegram.

3. Enable buttons is triggered via EIB: to enable triggering buttons via EIB.
 - The button trigger condition: to trigger buttons when receiving 0 or 1.
 - Enable rocker A/B/C/D buttons is triggered via EIB: to enable triggering button A/B/C/D via EIB.
4. Enable locking button: to enable locking buttons.
5. Read the object status of the rockers: to enable reading button object status. After enabled, users may set the delay time of reading object status in “Delay for read the object status” below, range from 5 to 255s.
6. The local temperature correction: to choose to correct local temperature, range from -5°C to +5°C.
7. Local temperature report: to choose whether to send local temperature report.
 - Temperature report mode: to select the mode of sending temperature signal, including “Report when changed” and “Report cyclic”. When the former is selected, users may change the deviation value of checking temperature, range from 1 to 50°C. While the latter is selected, users may change the period of sending, range from 1 to 255s.
8. LED Brightness change via bus: to enable changing LED brightness via the bus.
9. Brightness automatic adjust: to enable adjusting brightness automatically.
 - Automatic adjust after a delay: to set the delay time of adjusting background light brightness automatically, range from 3 to 255s.
 - The operation of first time press the button: to select the operation of buttons pressed for the first time, including “Normal operation” and “The brightness of ON status”.
10. Proximity sensor: to enable proximity sensor.
 - Proximity sensor sensitive: to change proximity sensor sensitivity.
 - Recovery the LED brightness: to enable recovering the LED brightness after sensing human body.
 - Enable send to bus: to enable sending sensor status to the bus. Toggle is to take the negation operation (for example: When the sensor senses human bodies for the first time, the system sends ON. When human bodies are sensed for the second time, the system sends OFF). ON is to turn on, OFF is to turn off.
 - Send to bus after delay time: to send sensor status to the bus after the delay time. Toggle is to take the negation operation, (for example: When the sensor senses human bodies for the first time, the system sends ON. When human bodies are sensed for the second time, the system sends OFF.) ON is to turn on, OFF is to turn

off.

- Delay time: to set the delay time of feedback to the bus, range from 5 to 255s.

11. Panel scene A/B: to enable panel scene A/B.

2.1 Status Light Brightness Adjustment

Select “Status light brightness” in “Parameter” tab, as shown in Figure 2-2.

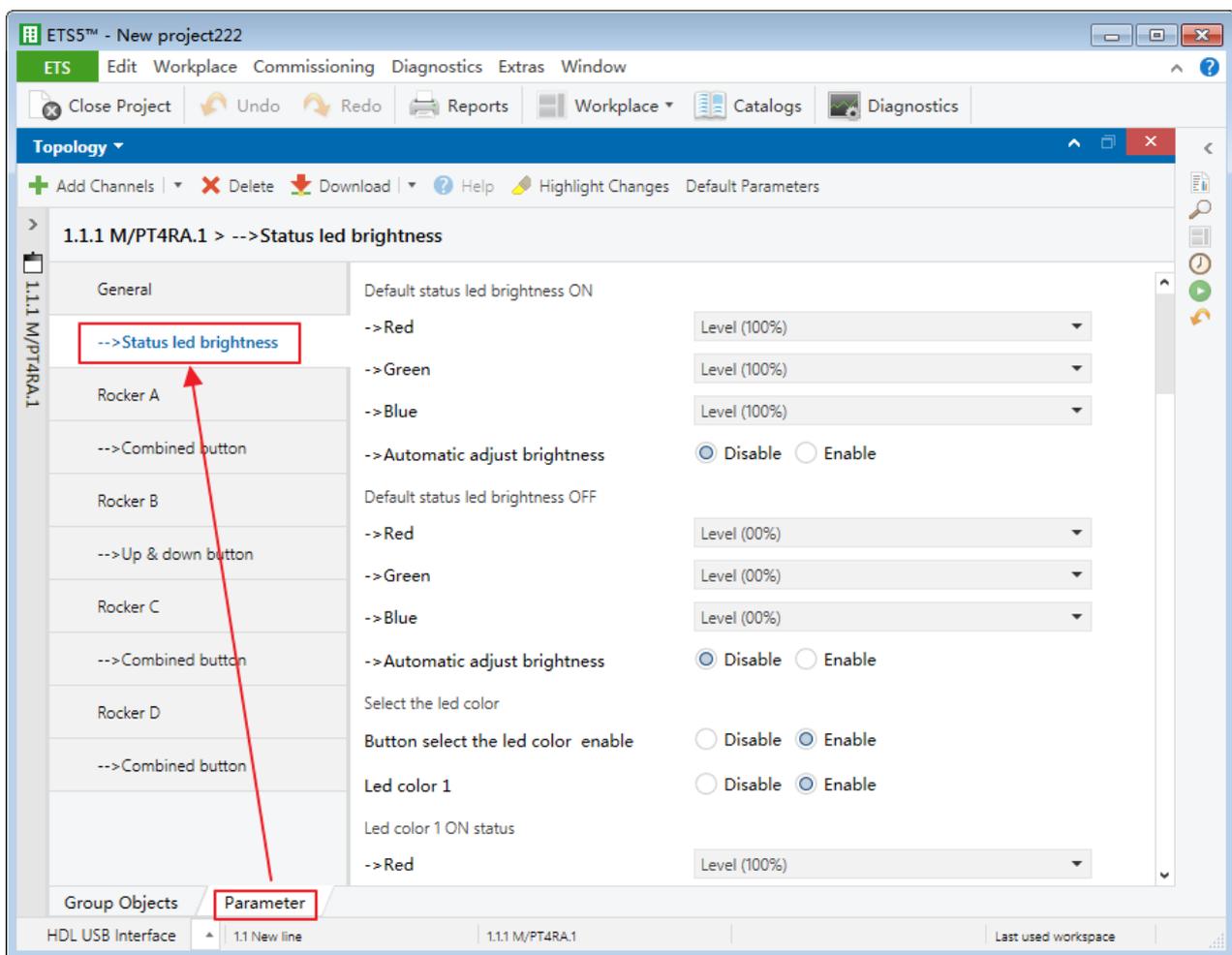


Figure 2-2 Adjust status light color

The setting items are explained below:

1. Default status light brightness ON/OFF is to set the default brightness of button status lights when objects of buttons are opened/closed, the brightness can be set by changing the level value of RGB below.
2. “Automatic adjust brightness” is to set the value of adjusting brightness automatically.

After enabled, the value can be set by changing the level value of RGB below.

3. Button select the led color enable: to enable selecting LED color via buttons. After enabled, the LED color of open/closed buttons can be set below. (Please refer to the datasheet attached to the product for the operation instruction of adjusting LED color).

2.2 Panel Scene Setting

The chapter takes “Panel scene A” as an example to introduce the way of configuring panel scenes.

2.2.1 Enable Panel Scenes

Click “General” in the parameter list to enable/disable panel scene A/B at the bottom.

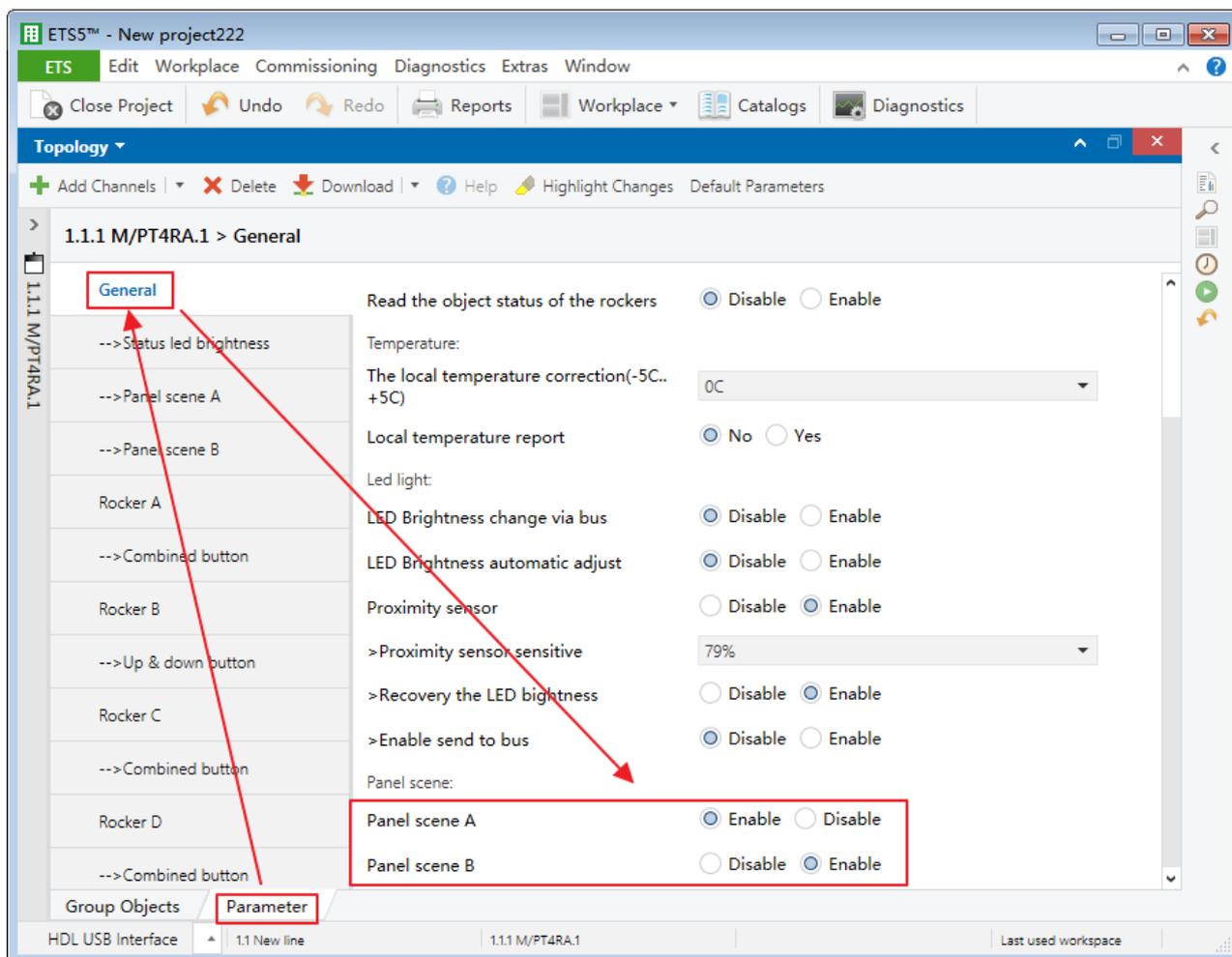


Figure 2-3 Enable/disable panel scenes

2.2.2 Scene Setting

After enabling panel scenes, click the panel scene to be configured on the left, as shown in Figure 2-4.

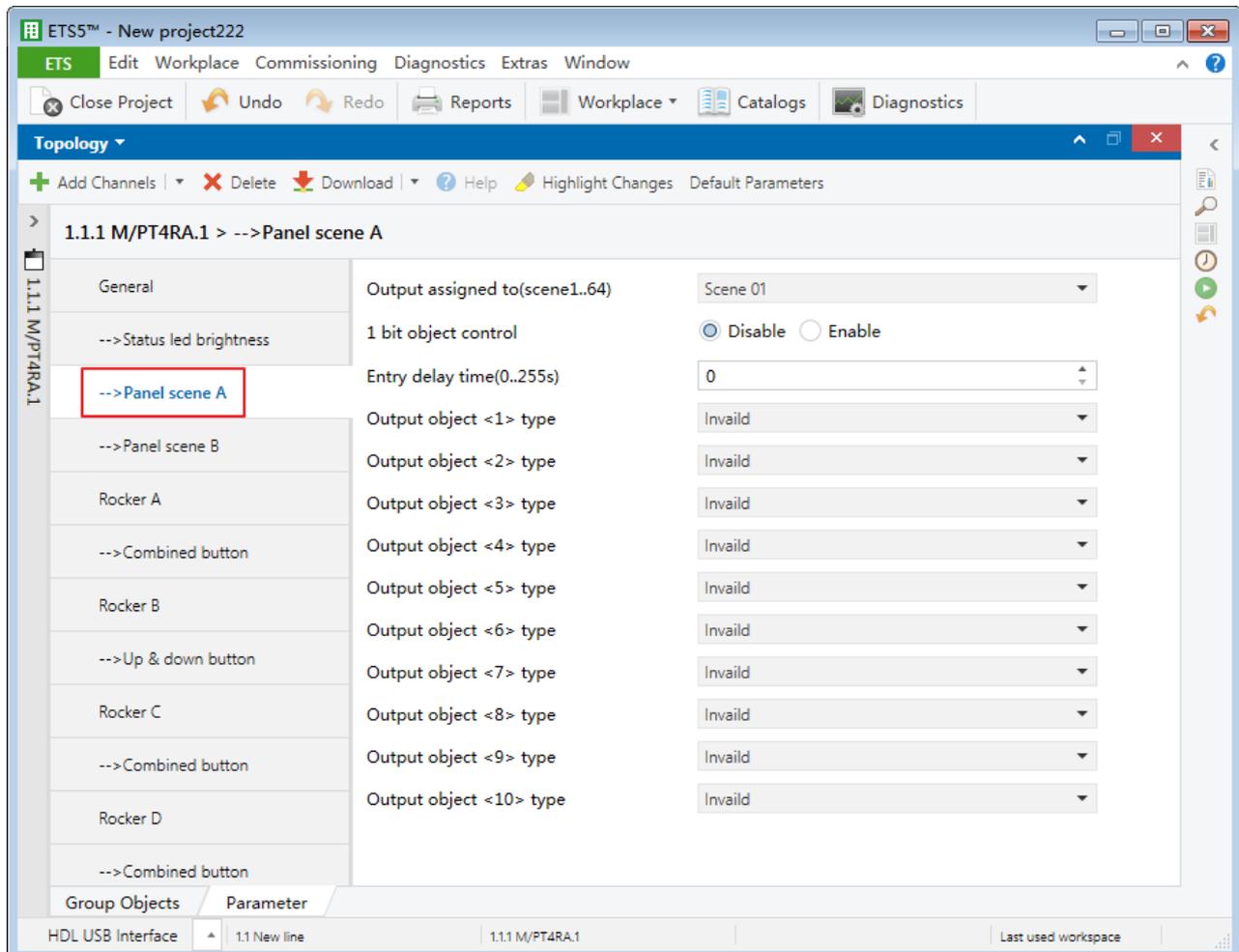


Figure 2-4 Scene Setting

The setting items are explained below:

1. Output assigned to: to choose to output corresponding scene number (Up to 64 scene numbers available).
2. 1 bit object control: to enable turning on/off devices via 1-bit object.
 - 1 bit object trigger: to enable turning on/off devices in scenes by selecting “0”, “1” or “1/0”.
 - 1 bit object save: to choose whether to save object switch status in current scene to overwrite scene setting when objects are changed by the panel.
3. Entry delay time: to set the delay time of triggering scenes.

4. Output object <n> type: to set object <n> status in scenes. A scene includes up to 10 object status. For example, “1 bit value” is to control the relay and “3 byte value” is to control RGB dimmer, etc.

3 Button Setting

This chapter takes “Rocker A” as an example to introduce the way of configuring buttons. Click “Rocker A” in the button list to open the setting menu, as shown in Figure 3-1.

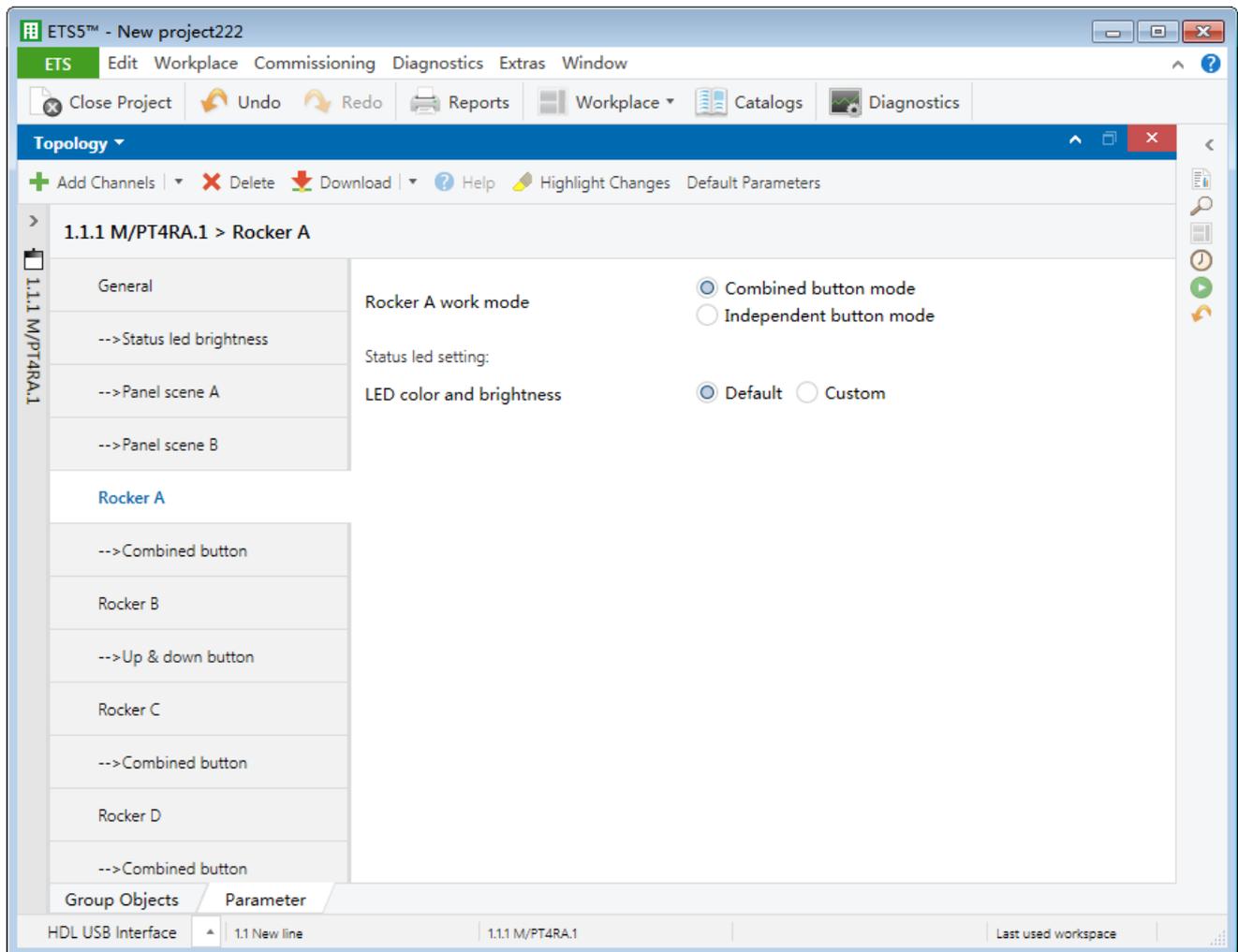


Figure 3-1 Button setting

1. Rocker A work mode
 - Independent button mode: the up/down button of “Rocker A” can control objects independently.
 - Combined button mode: objects can be controlled by the combination of the up button and down button of “Rocker A”.
2. LED Color and Brightness Adjustment
 - Default: to keep the default settings.

- Custom: to customize items. When selecting “Custom”, users may click “A: LED color” on the left and set LED color and brightness of the up and down button on/off independently, which is achieved by changing the corresponding level value of RGB. In the meantime, “Automatic adjust brightness” option can be enabled, the details can be set below.

3.1 Combined Button Mode

3.1.1 Select Operation Mode

The operation mode of combined buttons can be selected at the top of “Combined button” tab, as shown in Figure 3-2.

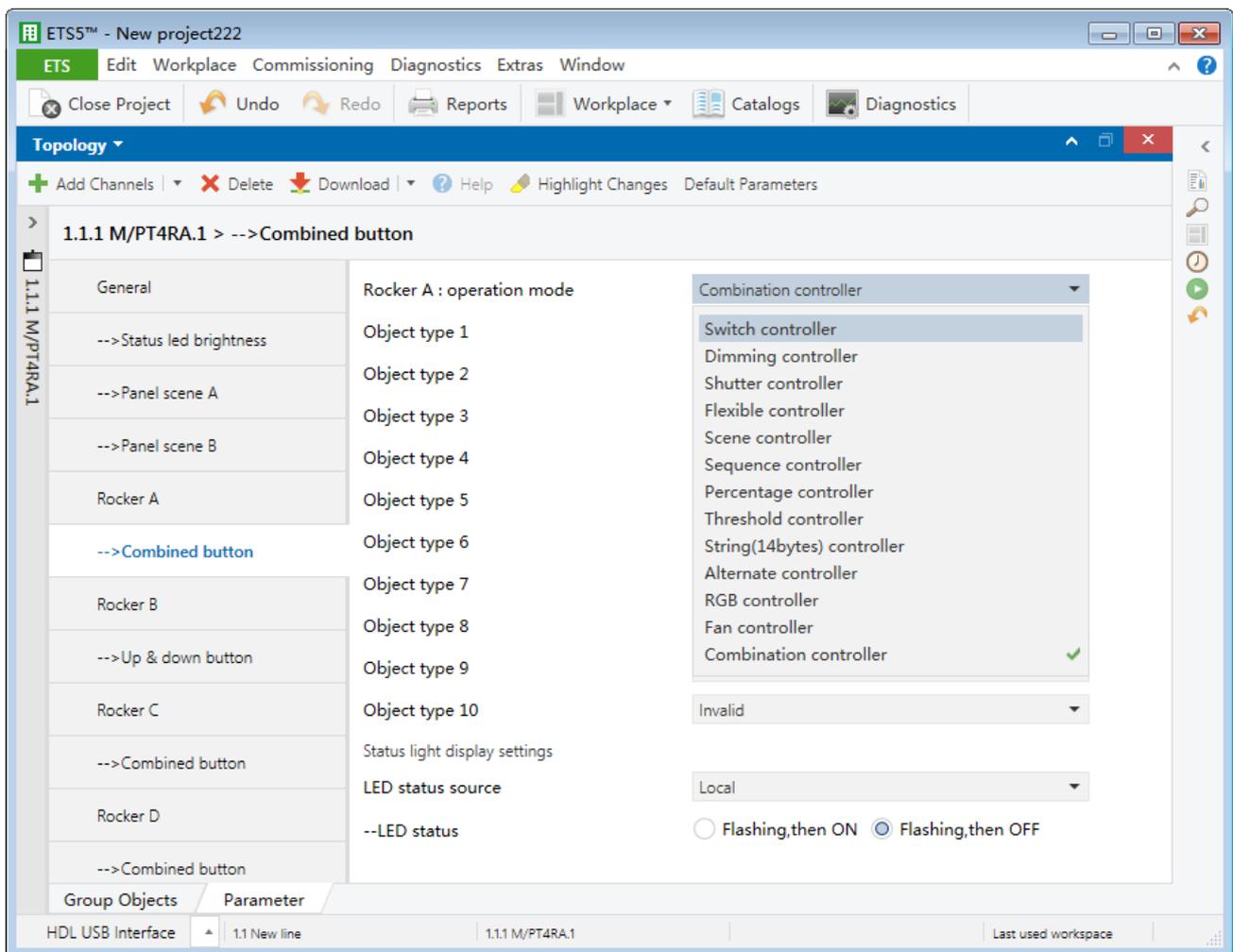


Figure 3-2 Select operation mode

3.1.2 Switch Controller Setting

Figure 3-3 shows switch controller setting page.

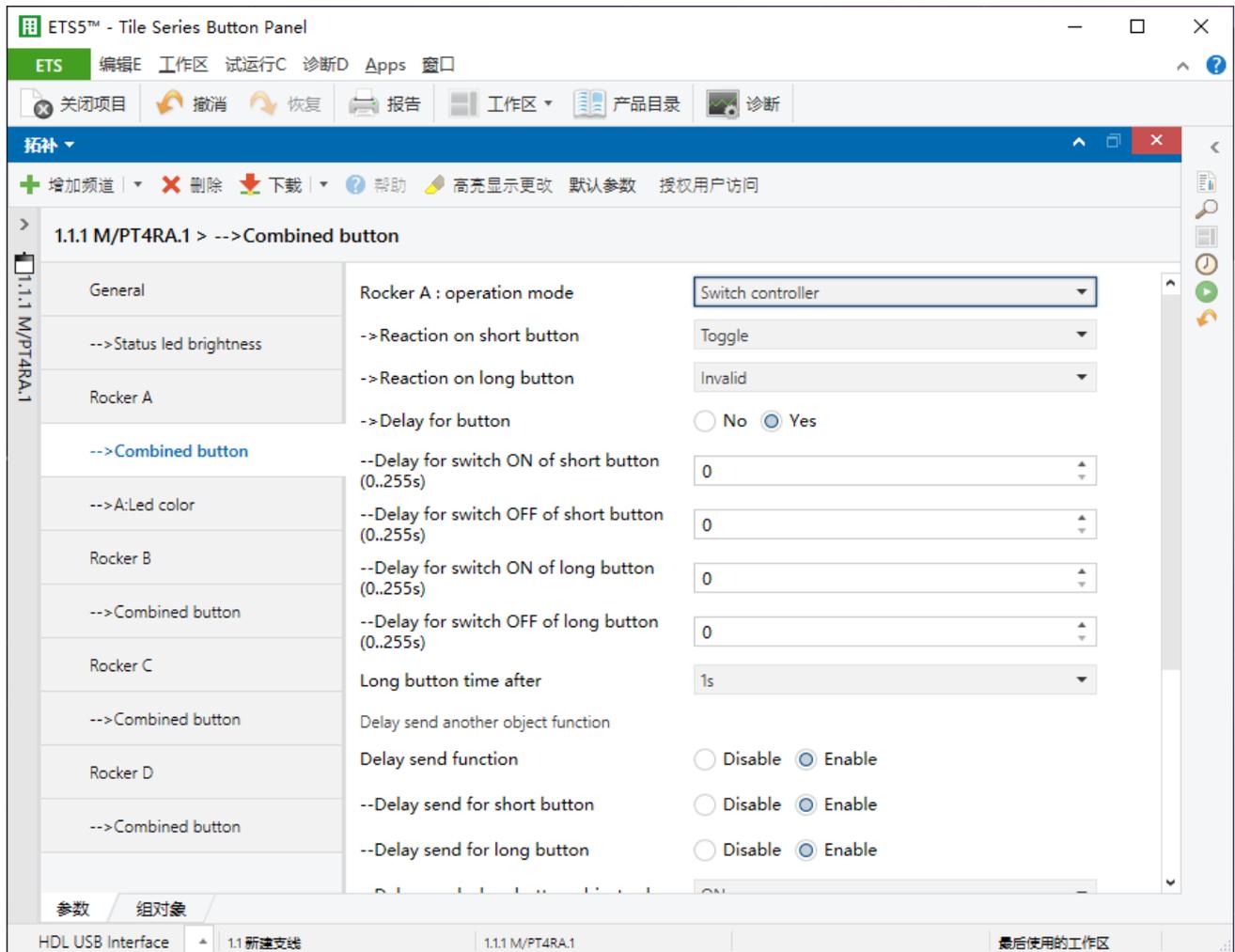


Figure 3-3 Switch controller setting

1. Reaction on short/long button: to set the control type of “short/long press”. The up and down button can be set independently, including:
 - Invalid: buttons have no response.
 - Toggle: to select buttons to turn on closed objects, and vice versa.
 - ON: to turn on objects.
 - OFF: to turn off objects.
2. Delay for button: to enable activating buttons after the delay time.

Delay for switch ON/OFF of short/long button: to set the delay time between “short/long

press” and turning on/off objects, range from 0 to 255s.

3. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.

4. Delay send function: to enable “Delay send function”.

Delay send for short/long button: to enable “Delay send for short/long button”.

Delay send when button object value: to enable “Delay send function” when button object is on/off/on or off.

Delay send value: to set the value sent after the delay time.

Send after a delay: to set the delay time of sending, range from 0 to 255s.

5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.3 Dimming Controller Setting

Figure 3-4 shows dimming controller setting page.

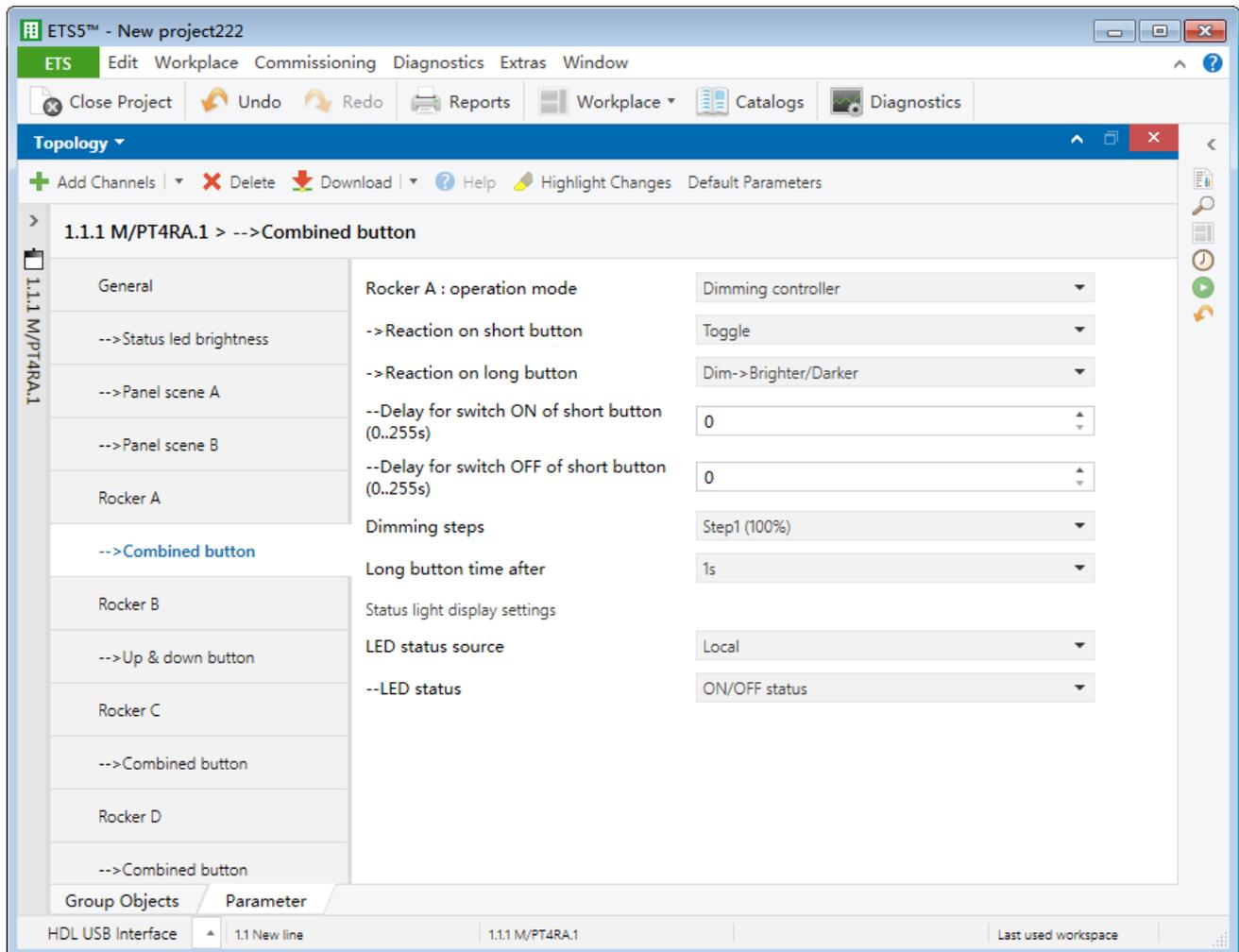


Figure 3-4 Dimming controller setting

The setting items are explained below:

1. Reaction on short/long button: to select the operation of “short/long press” (“short press” only controls turning on/off, “long press” controls dimming).

Delay for switch ON/OFF of short button: to set the delay time between short pressing and turning on/off objects, range from 0 to 255s.

2. Dimming steps: there are 7 dimming steps. For example, if selecting Step3 (25%), objects will be up to 25% brighter (The maximum object brightness is 100%).
3. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while

less than 3s will be identified as “short press”.

4. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.4 Shutter Controller Setting

Figure 3-5 shows shutter controller setting page.

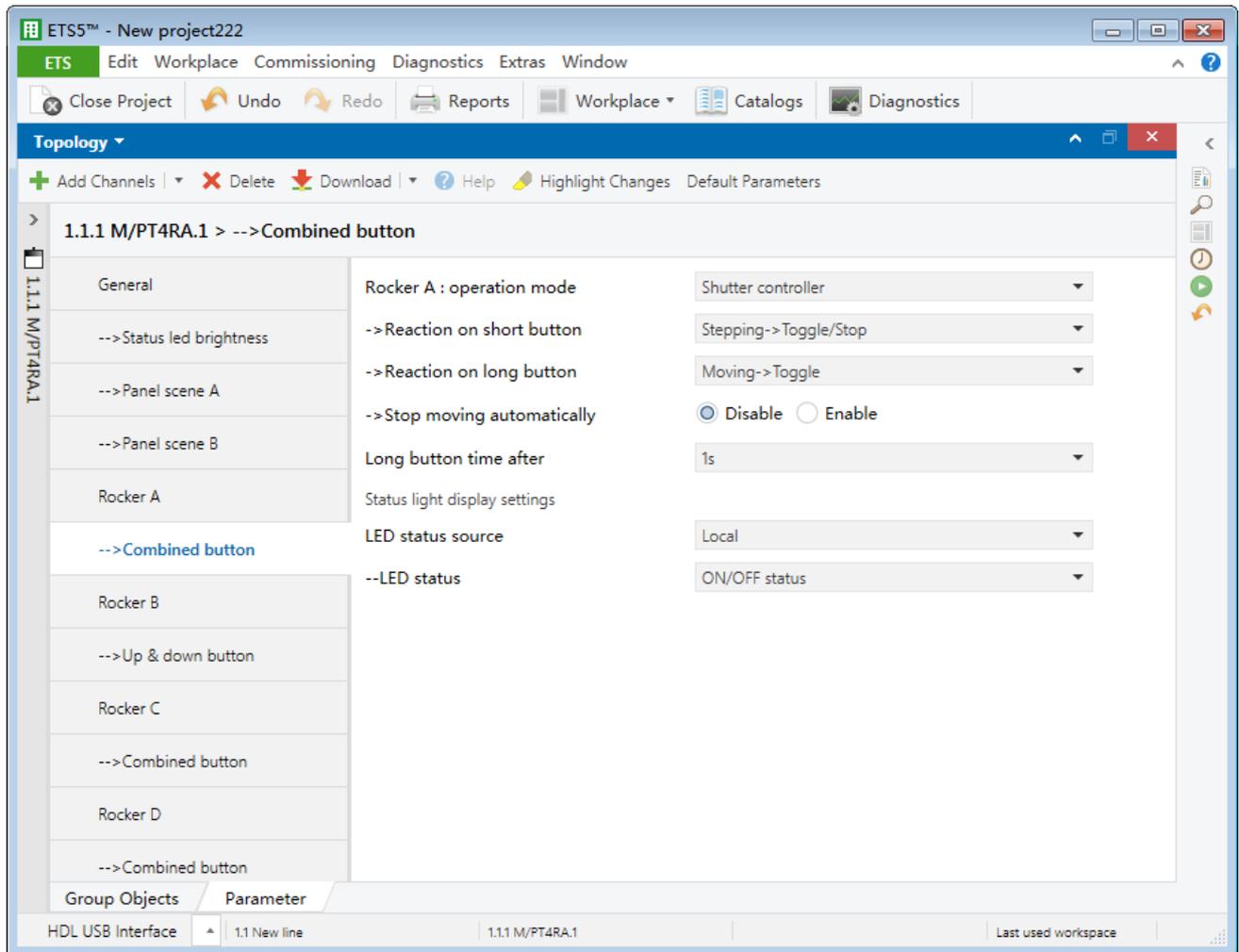


Figure 3-5 Shutter controller setting

The setting items are explained below:

1. Reaction on short button: to select the operation of “short press” on the panel, including:
 - Stepping → Toggle/Stop: to switch between rolling up/down via short pressing the up/down button and stop via short pressing again.
 - Stepping → Increase/Decrease/Stop: to open/close curtain via short pressing the up/down button and stop via short pressing again.
 - Moving → Toggle: to switch between rolling up/down via short pressing the up/down button.
 - Moving → Up/Down: to switch between rolling up/down roller shutter via short pressing the up/down button.
2. Reaction on long button: to select the operation of “long press” on the panel, including:

- Stepping → Increase/Decrease/Stop: to open/close curtain constantly via long pressing the up/down button and stop via releasing.
 - Stepping → Toggle/Stop: to switch between rolling up/down via long pressing the up/down button and stop via pressing again.
 - Moving → Up/Down: to rolling up/down via long pressing the up/down button.
 - Moving → Toggle: to switch between rolling up/down via long pressing the up/down button.
 - Press: Move → Up/Down; Release: Stop: to roll up/down via long pressing the up/down button and stop via releasing.
 - Press: Move → Toggle; Release: Stop: to switch between rolling up/down via long pressing the up/down button and stop via pressing again.
3. Stop moving automatically: to enable opening/closing curtain automatically.
4. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
- If “Local” is selected:
LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.
 - If “From bus” is selected:
LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.
Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.
Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.
 - If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.5 Flexible Controller Setting

Figure 3-6 shows flexible controller setting page.

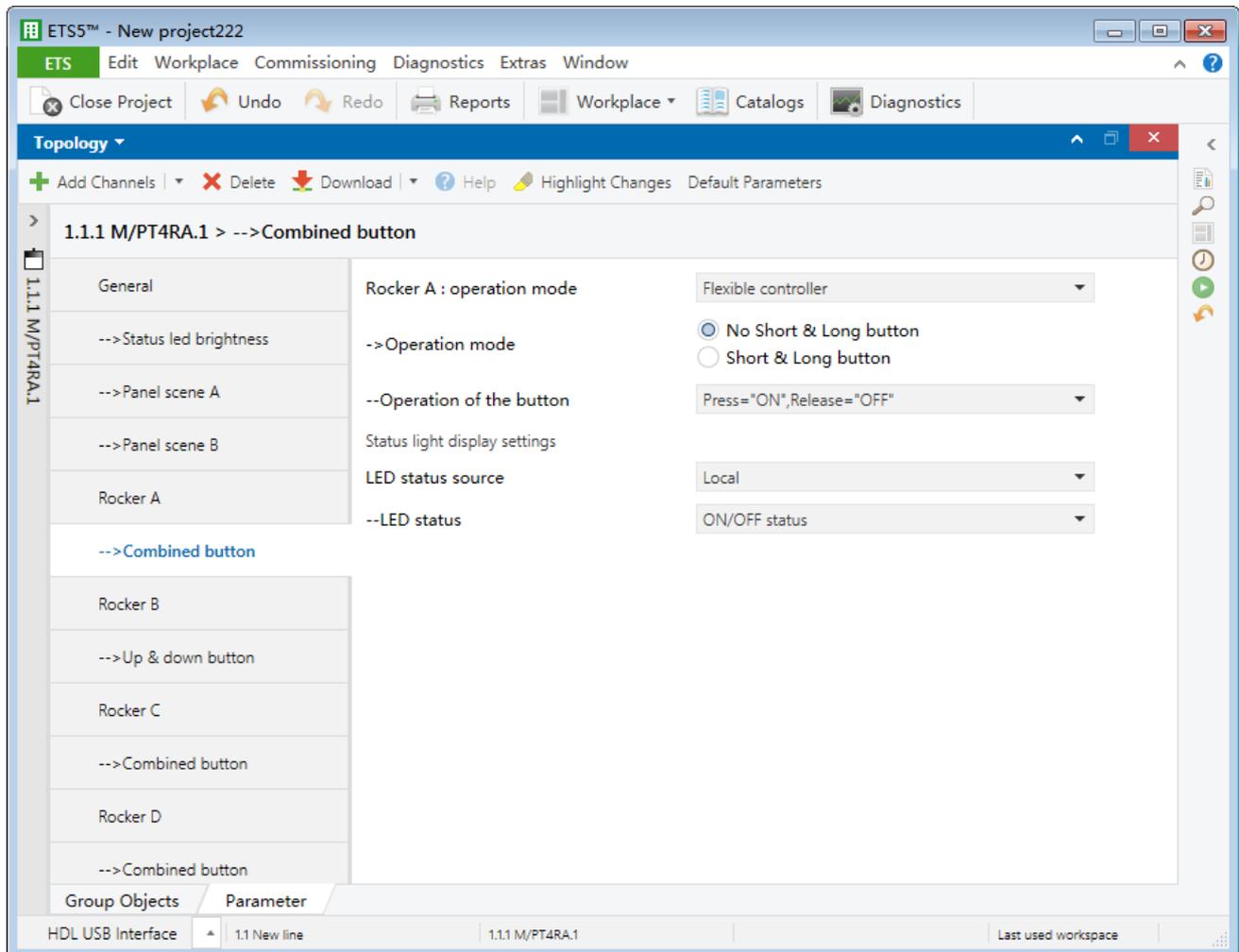


Figure 3-6 Flexible controller setting

The setting items are explained below:

1. Operation mode: to select the operation mode of flexible controller, including “No Short & Long button” and “Short & Long button”.
2. (“No Short & Long button” is selected) Operation of the button: to select the operation of the up/down button, including:

Press/Release=ON/OFF: to send ON/OFF after long pressing/releasing.

3. (“Short & Long button” is selected) Operation of short button: to select the operation of “short press”.

Operation of long button: to select the operation of “long press”.

4. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
- If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.
 - If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.
 - If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.6 Scene Controller Setting

Figure 3-7 shows scene controller setting page.

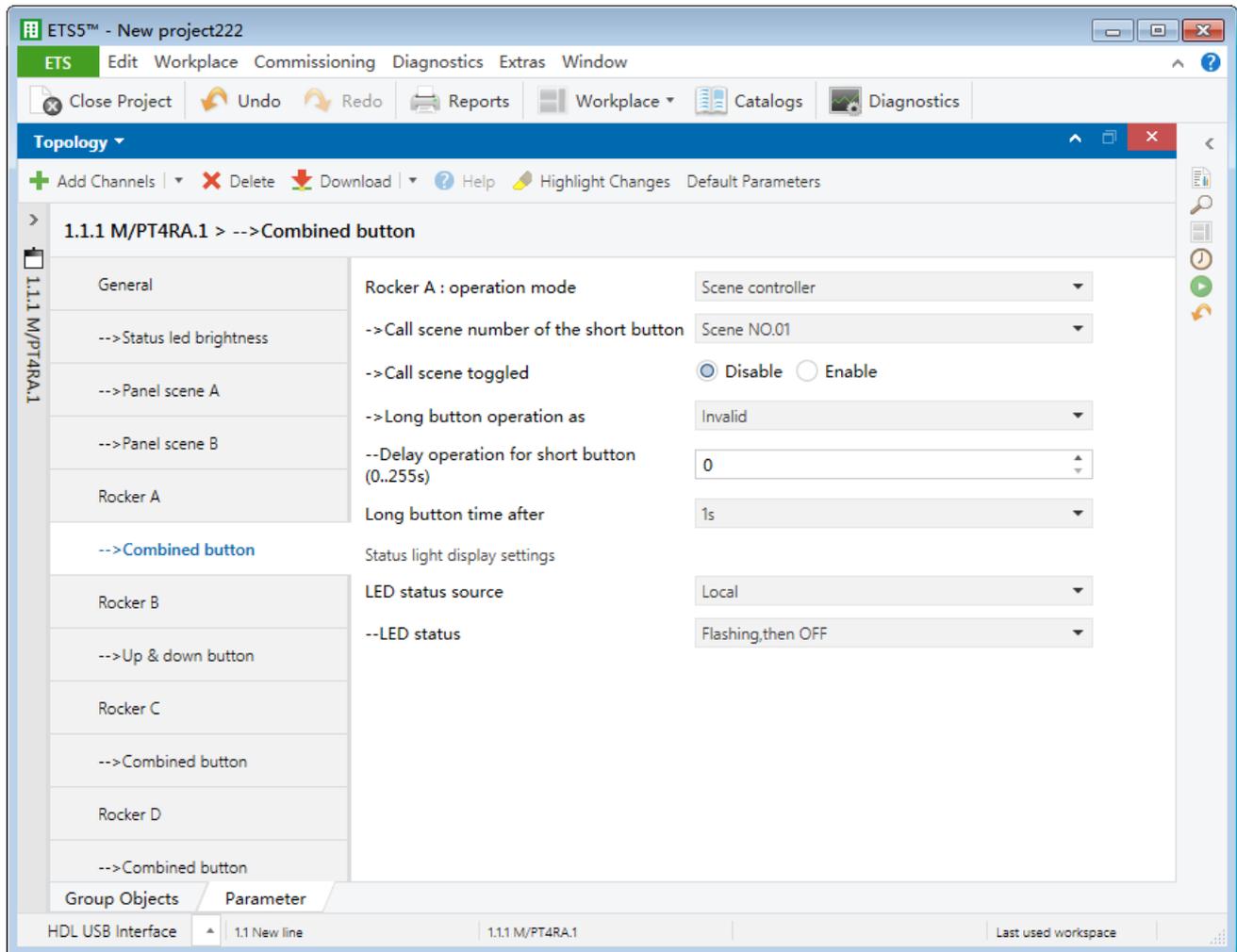


Figure 3-7 Scene controller setting

The setting items are explained below:

1. Call scene number of the short button: to select corresponding scene number of short pressing (Up to 64 scene numbers available).
2. Call scene toggled: to enable toggling scenes. After enabled, the number of scenes to be toggled can be selected in "Toggled scene number" below.
3. Long button operation as: to select the operation of "long press", including:
 - Scene dimming
 - Scene saving: to save current scene to overwrite scene setting when current scene changes.
4. Delay operation for short button: to set the delay time of "short press", range from 0 to 255s.

5. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
6. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
 - If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.
 - If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.
 - If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.7 Sequence Controller Setting

Figure 3-8 shows sequence controller setting page.

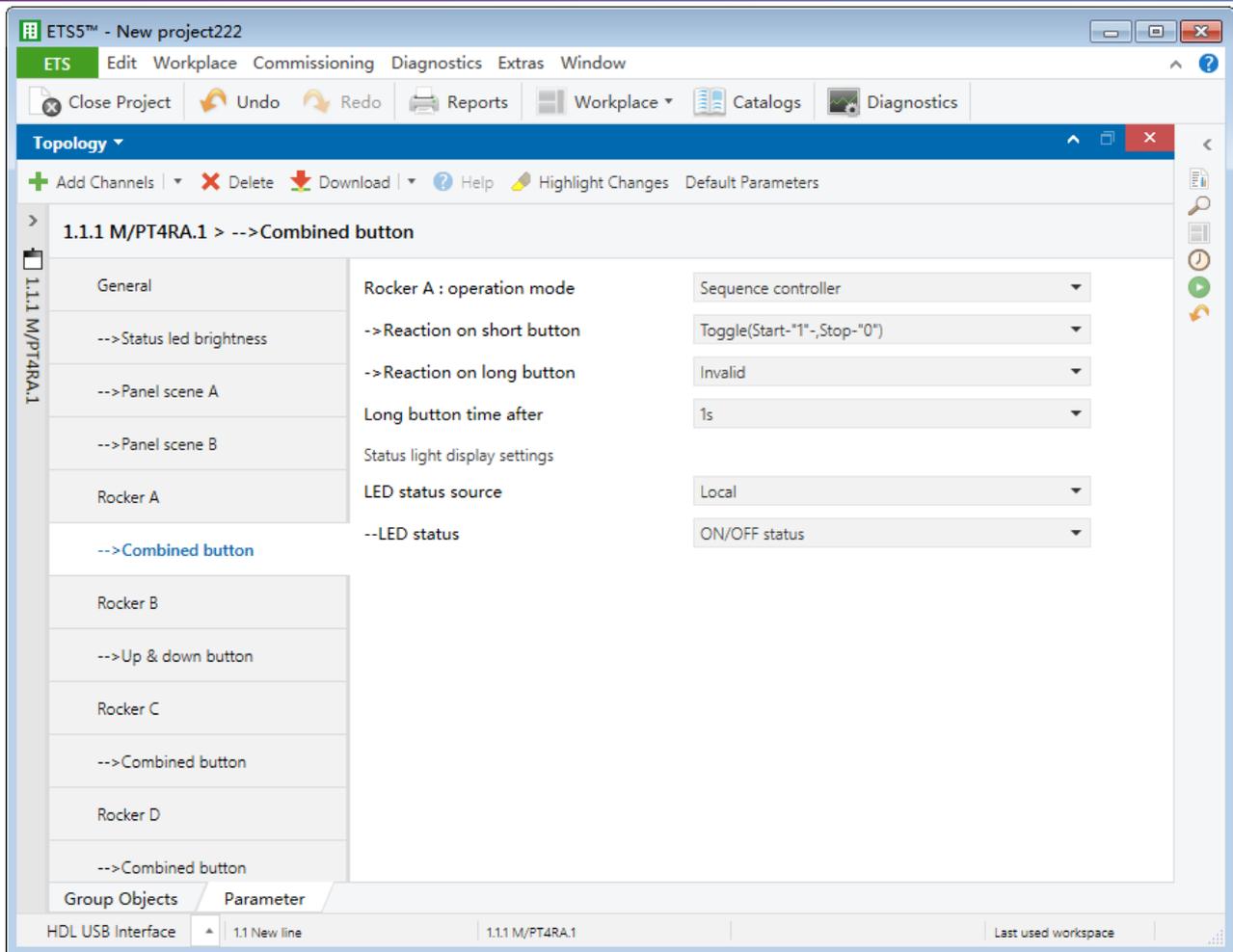


Figure 3-8 Sequence controller setting

The setting items are explained below:

- Reaction on short/long button: to select the operation of “short/long press”, including:
 - Toggle (Start-1, Stop-0): to toggle the up/down button.
 - Start/Stop with 0/1: the up/down button starts/ends with 0 or 1.
- Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
- LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
 - If “Local” is selected:
LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

- If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

- If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.8 Percentage Controller Setting

Figure 3-9 shows percentage controller setting page.

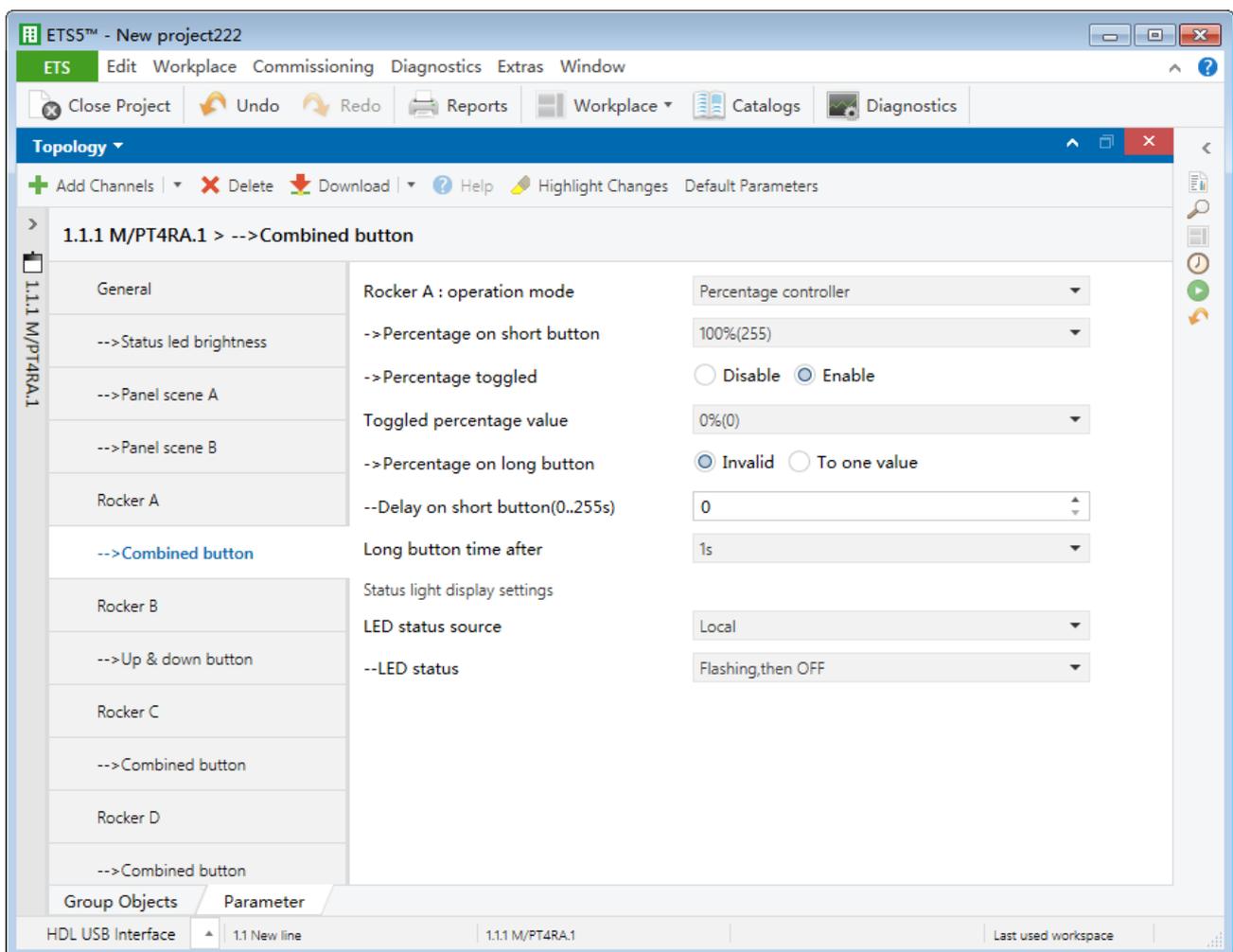


Figure 3-9 Percentage controller setting

The setting items are explained below:

1. Percentage on short/long button: to select the percentage operation of “short press”.
2. Percentage toggled: to enable toggling percentage. After enabled, the percentage value to be toggled can be selected in “Toggled percentage value”.
3. Delay on short/long button: to set the delay time of “short/long press”, range from 0 to 255s.
4. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.9 Threshold Controller Setting

Figure 3-10 shows threshold controller setting page.

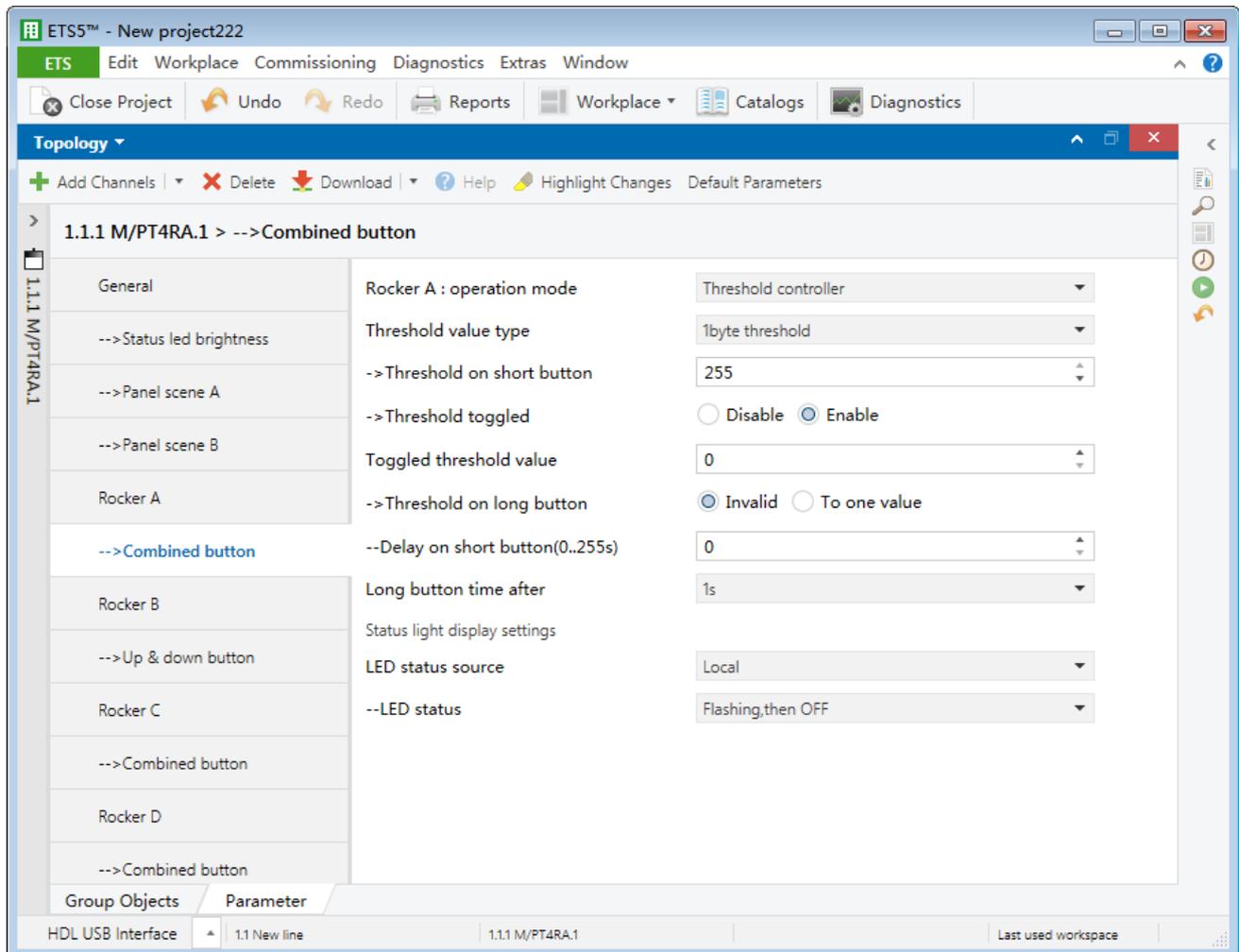


Figure 3-10 Threshold controller setting

The setting items are explained below:

1. Threshold value type: to select threshold type, including 1-byte threshold, 2-byte threshold and 2-byte floating threshold.
2. Threshold on short/long button: to set the threshold sent via short/long pressing, which depends on the type selected in the first point.
3. Threshold toggled: to enable toggling threshold. After enabled, the threshold value to be toggled can be set in "Toggled threshold value" below.
4. Delay on short button: to set the delay time of "long press", range from 0 to 255s.
5. Long button time after: the time for system to identify "long press". For example, if the

time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.

6. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.10 14-byte String Controller Setting

Figure 3-11 shows 14-byte string controller setting page.

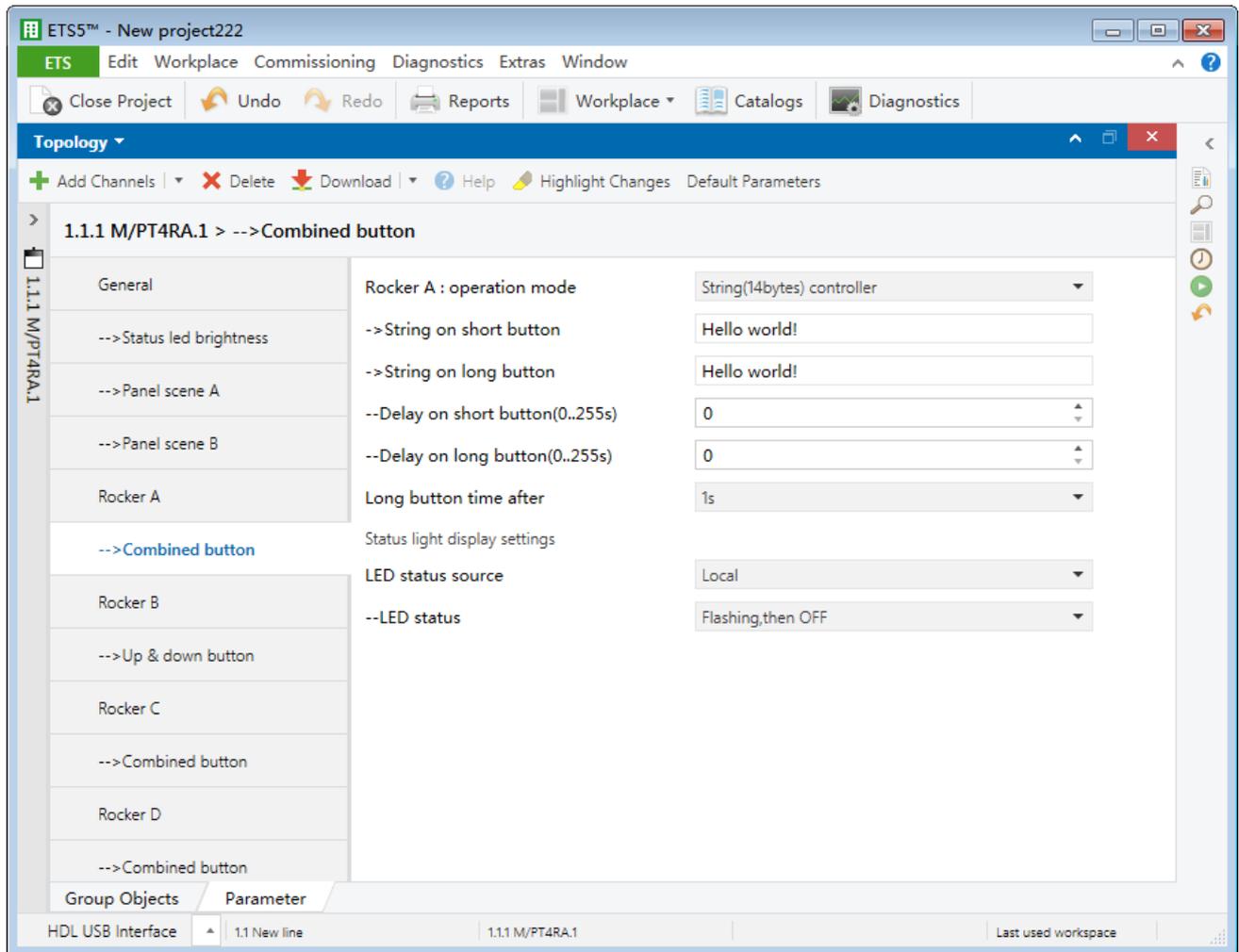


Figure 3-11 14-byte string controller setting

The setting items are explained below:

1. String on short/long button: to set the string sent via short/long pressing.
2. Delay on short/long button: to set the delay time of “short/long press”, range from 0 to 255s.
3. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
4. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
 - If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

- If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

- If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.11 Alternate Controller Setting

Figure 3-12 shows alternate controller setting page.

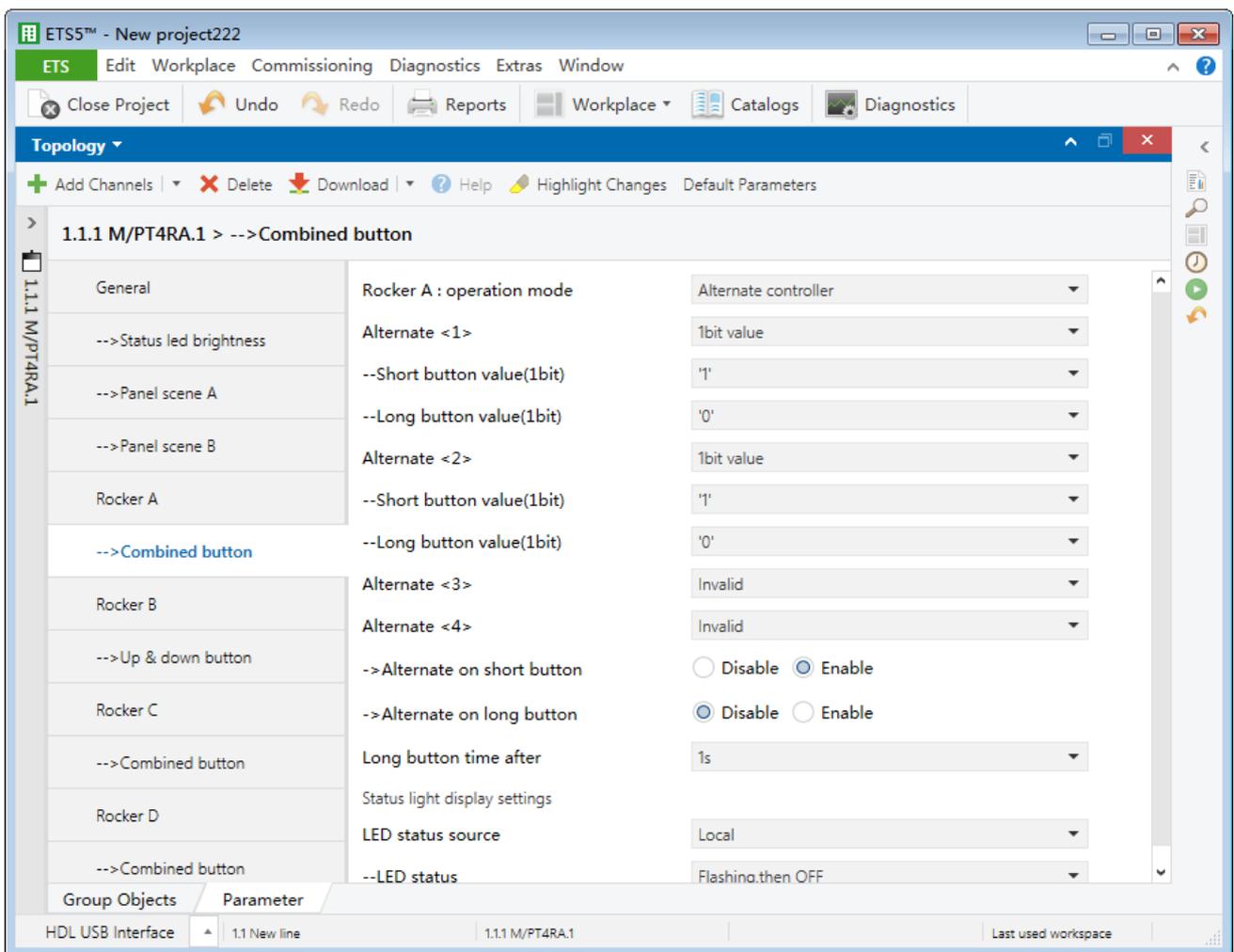


Figure 3-12 Alternate controller setting

The setting items are explained below:

1. Alternate <1/2/3/4>: to select the control type of “Alternate <1/2/3/4>”.
2. Short/long button value: to set the data sent via short/long pressing, whose length depends on the type selected in the first point.
3. Alternate on short/long button: to enable the alternate function of “short/long press”.
4. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.12 RGB Controller Setting

Figure 3-13 shows RGB controller setting page.

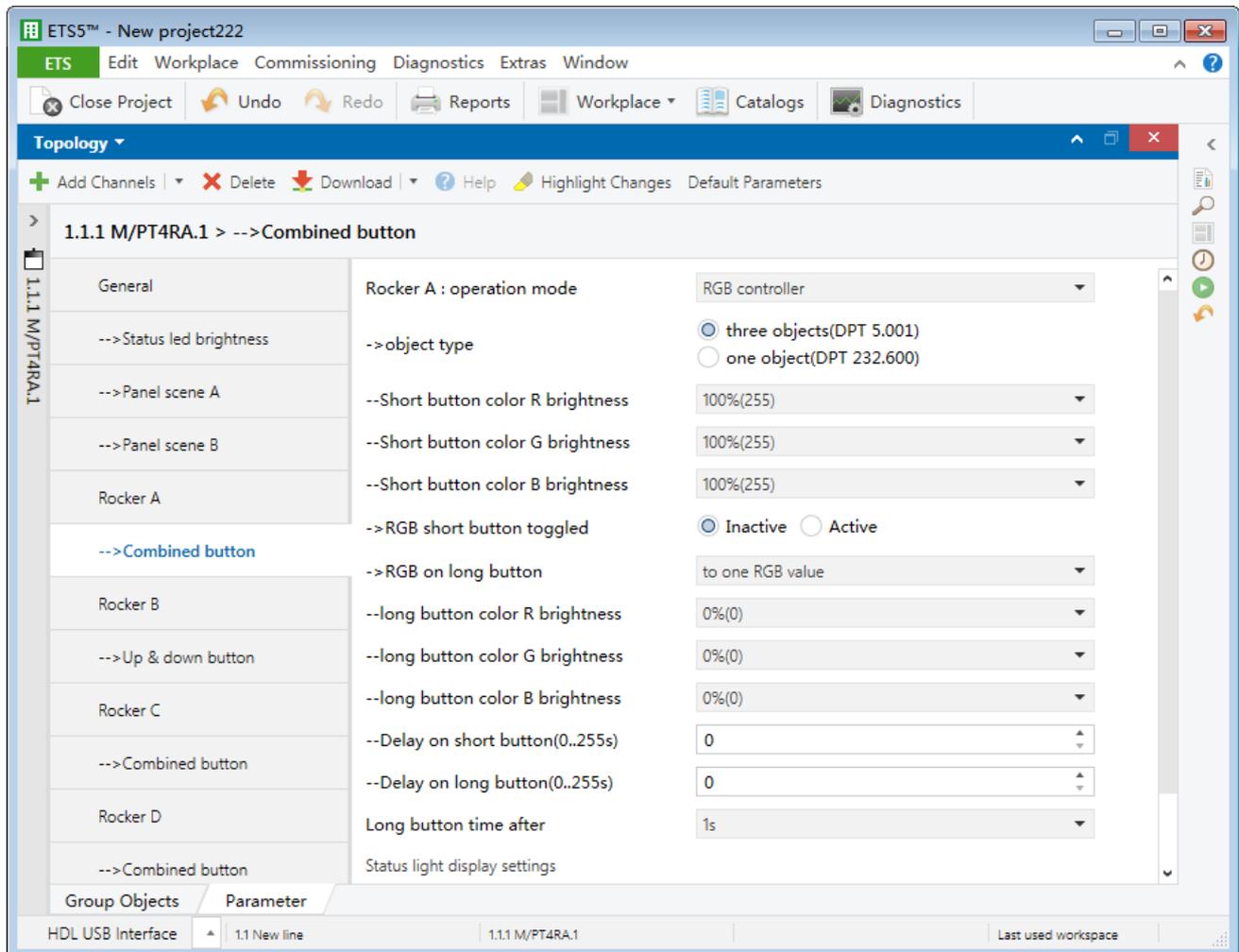


Figure 3-13 RGB controller setting

The setting items are explained below:

1. Object type: to select dimming object type. “3 objects” is to control dimming via R, G, and B independently, while “1 object” is to control dimming via RGB.
2. Short button color R/G/B brightness: to set the dimming value of short pressing.
3. RGB short button toggled: to enable toggling RGB dimming via short pressing. After enabled, RGB to be toggled can be set in “Short button toggled color R/G/B brightness”.
4. RGB on long button: to select the dimming operation of long pressing, including “to one RGB value” and “adjust short button color”.

If the former is selected, the RGB value of long pressing can be set in “long button color

R/G/B brightness” below. If the latter is selected, the minimum, maximum and increment value can be set below.

5. Delay on short/long button: to set the delay time of “short/long press”, range from 0 to 255s.
6. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
7. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.13 Fan Controller Setting

Figure 3-14 shows fan controller setting page.

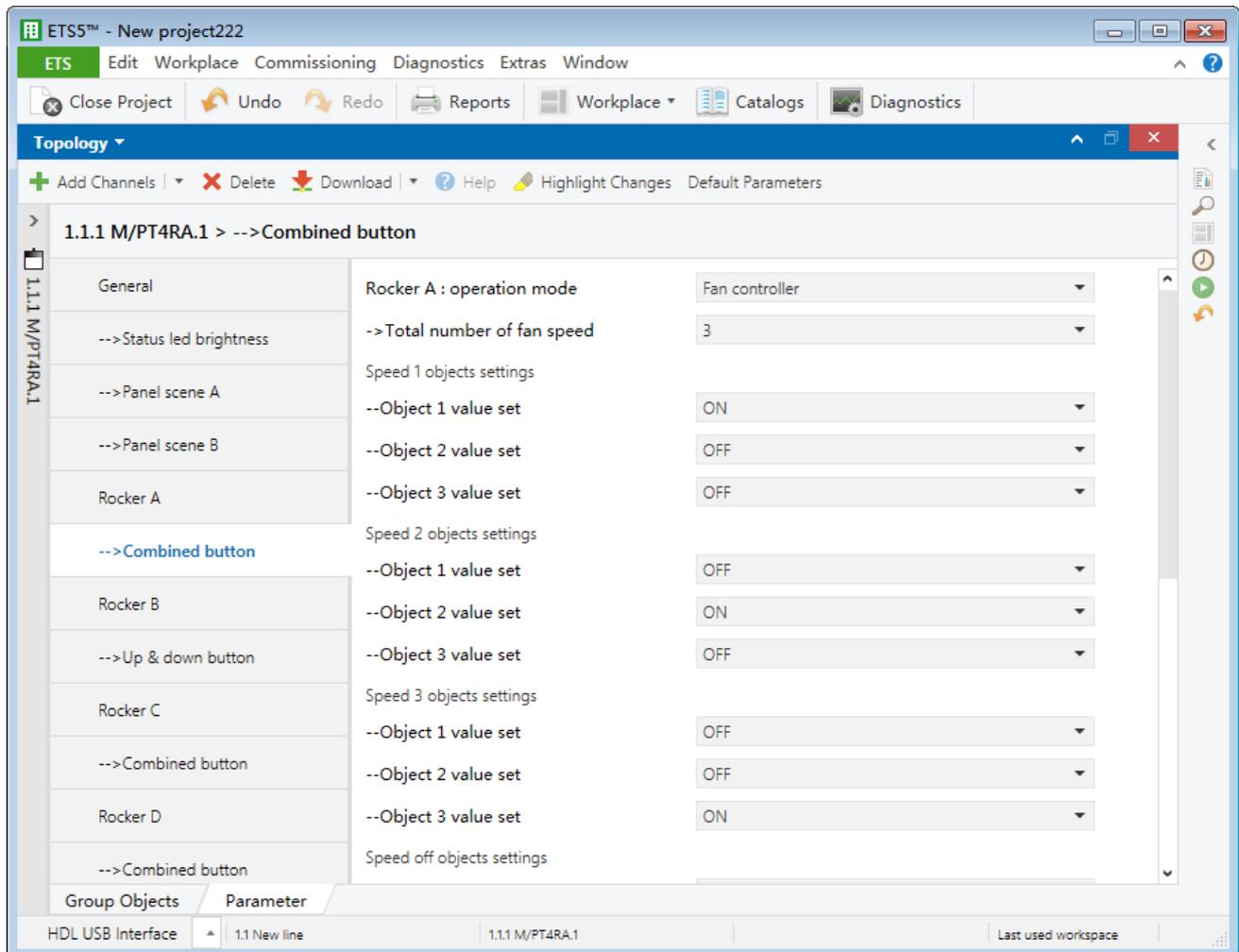


Figure 3-14 Fan controller setting

The setting items are explained below:

1. Total number of fan speed: select the number of fan speed levels, range from 2 to 4.
2. Speed 1/2/3/4 object settings: the details of fan speed levels can be set. "Object1/2/3/4 value set" corresponds to the value of object 1/2/3/4.
3. Speed off objects settings: to set object value when fan is off.
4. Reaction on short button: to enabling adjusting fan speed via short/long pressing. After enabled, the details can be set below:
 - Switch speed direction: to adjust wind direction, "FWD" means forward wind while "RWD" means backward wind.

- Speed 1/2/3/4: to enable the fan speed of correspond level.
 - Turn off fan
5. Delay to send ON after OFF: to set the delay time between sending OFF command and sending ON command again, range from 0 to 255s.
6. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
7. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
- If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.
 - If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.
 - If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.1.14 Combination Controller Setting

Figure 3-15 shows combination controller setting page.

Notice: because combination controller only supports up to 10 objects, “n” in this part is a positive integer less than 11.

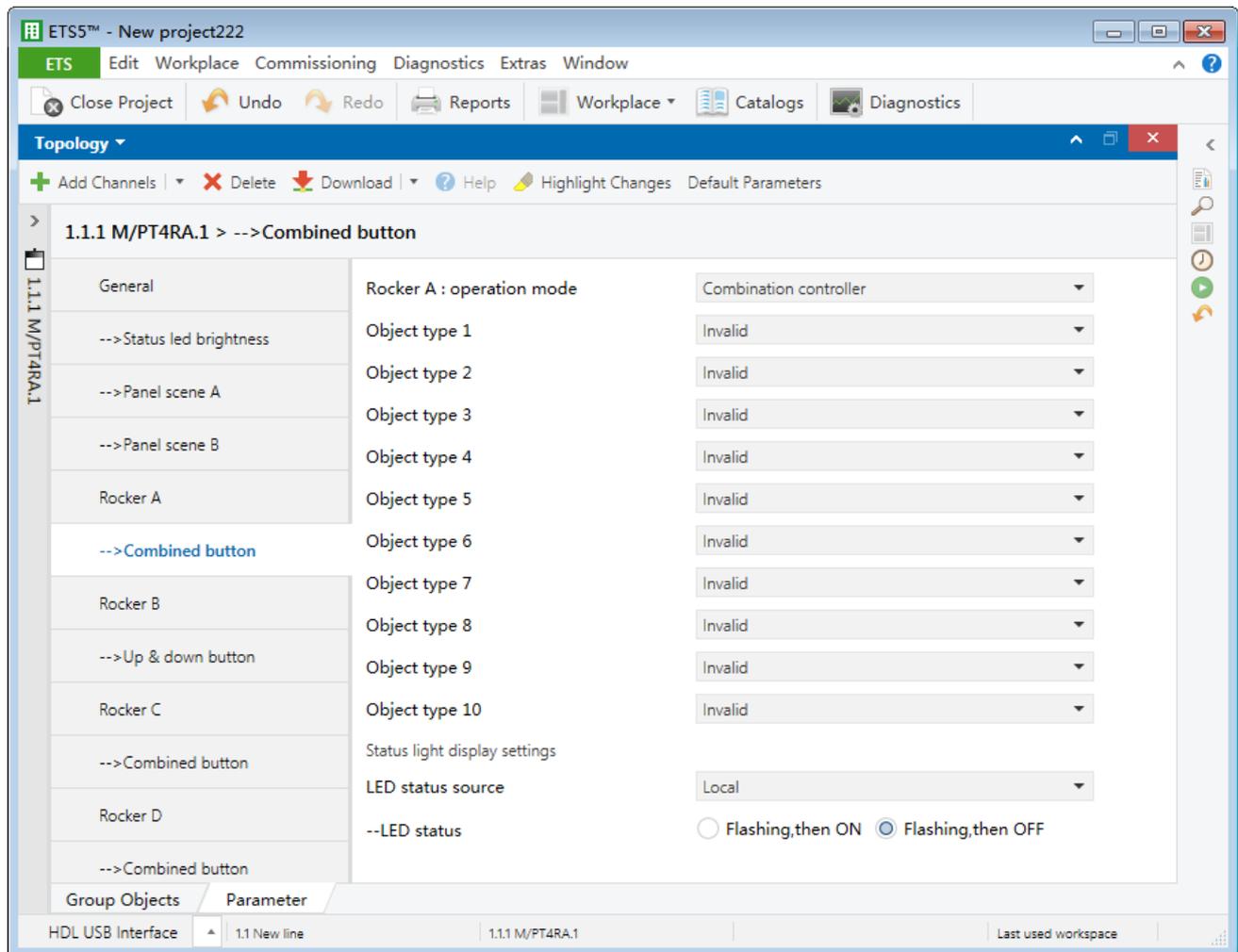


Figure 3-15 Combination controller setting

3.1.14.1 Switch Controller Setting

Switch value: to select switch controller value, including “ON/OFF” and “Toggle”.

3.1.14.2 Shutter Controller Setting

Shutter value: to select shutter controller value, including “UP/DOWN” and “Toggle”.

3.1.14.3 Scene Controller Setting

1. Scene value: to select to output corresponding scene number (Up to 64 scene numbers available).
2. Scene toggled: to enable exchanging scenes. After enabled, the number of scenes to be exchanged can be selected in "Toggled scene No. is".

3.1.14.4 Sequence Controller Setting

Sequence value: to select sequence value, including "Start/Stop" and "Toggle".

3.1.14.5 Percentage Controller Setting

1. Percentage value: to select percentage controller value.
2. Percentage toggled: to enable exchanging percentage. After enabled, the percentage to be exchanged can be selected in "Toggled percentage is" below.

3.1.14.6 Threshold Controller Setting

1. Threshold value type: to select threshold type, including 1-byte/2-byte threshold.
2. Threshold value: to select threshold value, whose range depends on the threshold type selected in the first point.
3. Threshold toggled: to enable exchanging threshold. After enabled, the threshold to be exchanged can be selected in "Toggled threshold is" below.

3.1.14.7 14-byte String Controller Setting

String (14 bytes) value: to edit items controlled by 14 bytes.

3.2 Independent Button Mode

This chapter takes "Up button" of "Rocker A" as an example to introduce the way of configuring dependent button mode.

3.2.1 Select Operation Mode

The operation mode of combined buttons can be selected at the top of “Up & down button” tab, as shown in Figure 3-16.

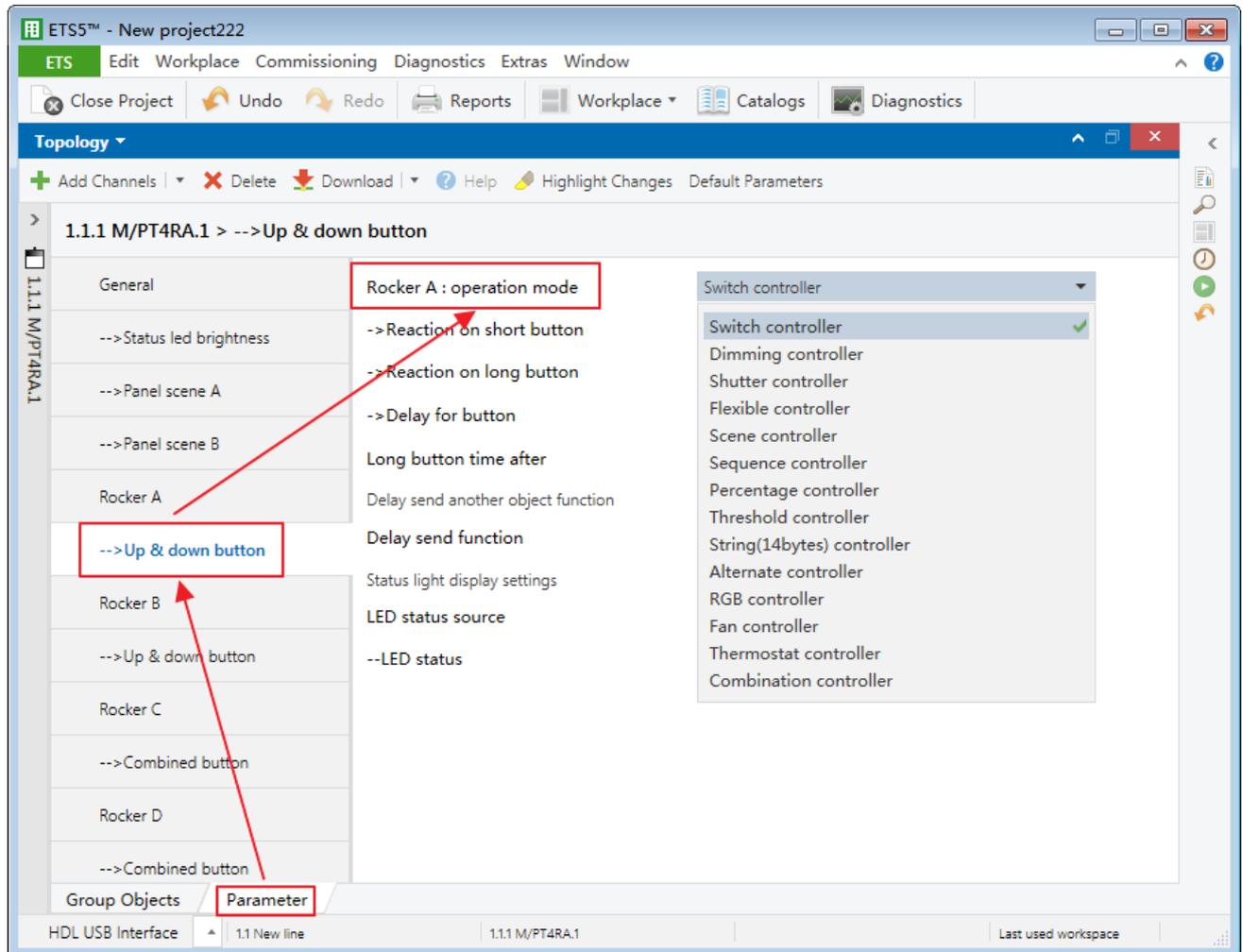


Figure 3-16 Select operation mode

3.2.2 Switch Controller Setting

Figure 3-17 shows switch controller setting page.

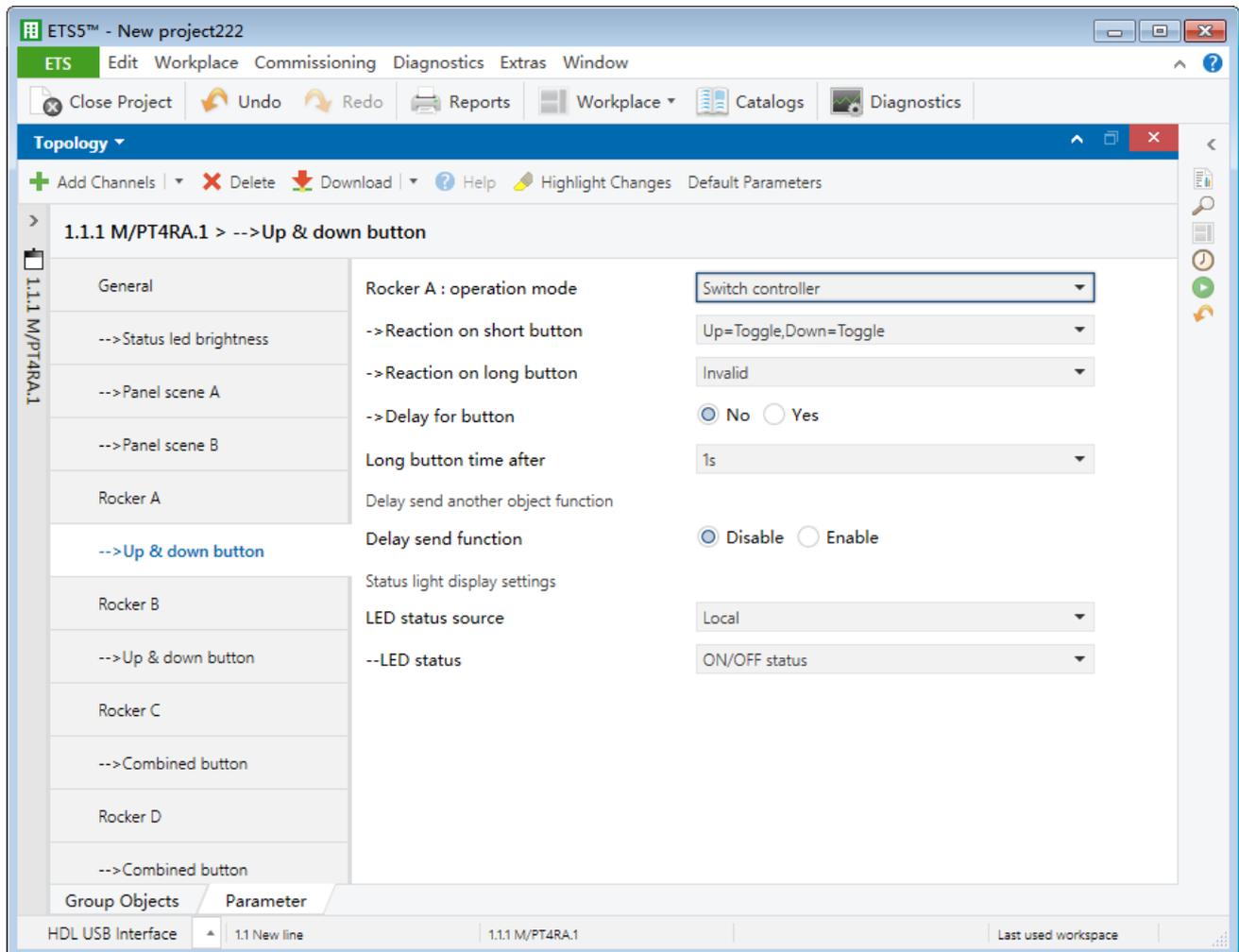


Figure 3-17 Switch controller setting

1. Reaction on up/down button: to set the control type of “short/long press”, including:
 - Invalid: buttons have no response.
 - Toggle: to select buttons to turn on closed objects, and vice versa.
 - ON: to turn on objects.
 - OFF: to turn off objects.
2. Delay for button: to enable activating buttons after the delay time.

Delay for switch ON/OFF of short/long button: to set the delay time between “short/long press” and turning on/off objects, range from 0 to 255s.

3. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.

4. Delay send function: to enable “Delay send function”.

Delay send for short/long button: to enable “Delay send for short/long button”.

Delay send when button object value: to enable “Delay send function” when button object is on/off/on or off.

Delay send value: to set the value sent after the delay time.

Send after a delay: to set the delay time of sending, range from 0 to 255s.

5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.3 Dimming Controller Setting

Figure 3-18 shows dimming controller setting page.

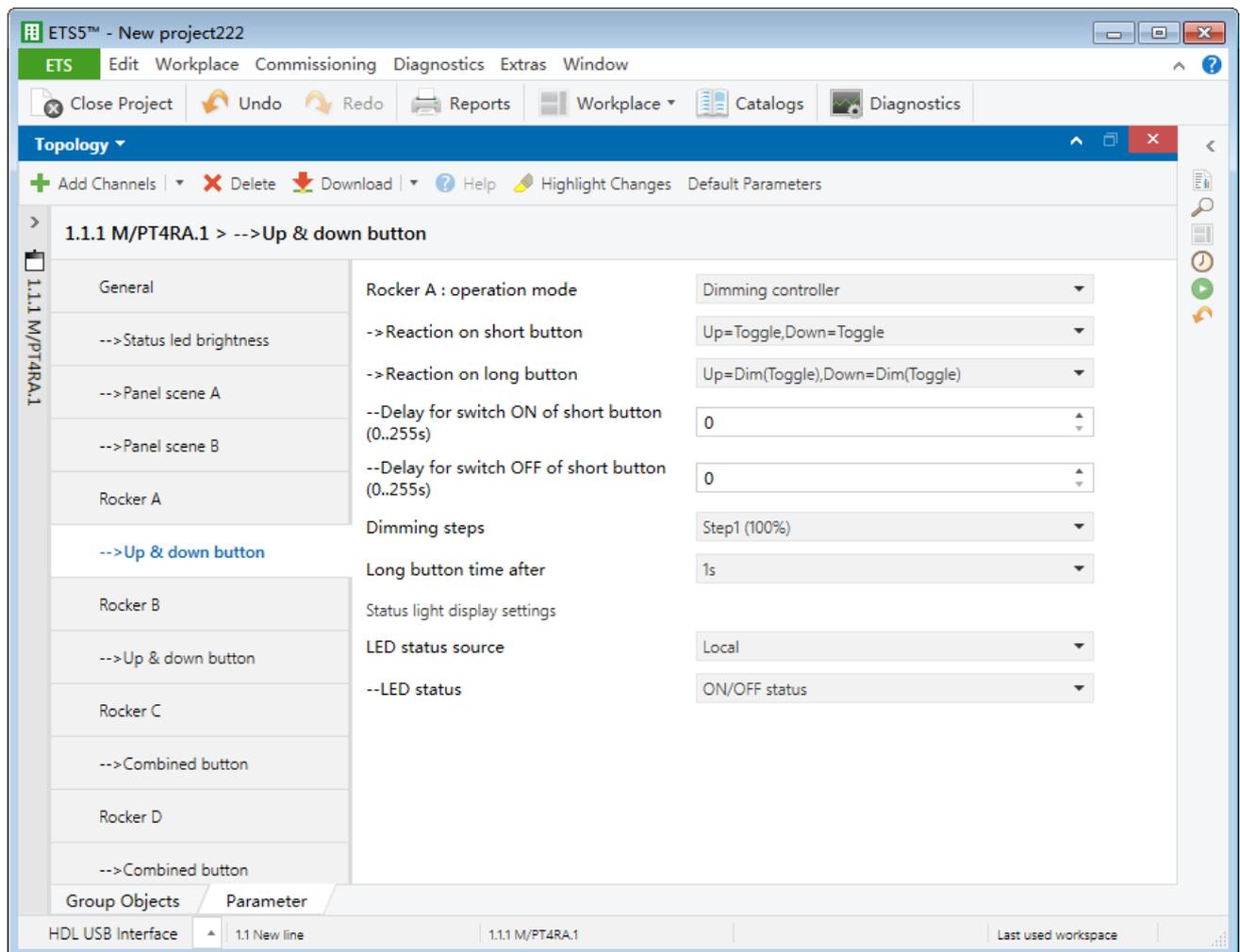


Figure 3-18 Dimming controller setting

The setting items are explained below:

1. Reaction on short button: to select the operation of “short press”, including:
 - Toggle
 - On/Off: to turn on/off lights.
2. Reaction on long button: to select the operation of “long press” on the panel, including:
 - Dim (Toggle)
 - Brighter/Darker
 - Delay for switch ON/OFF of short/long button: to set the delay time between “short/long

press” and turning on/off objects, range from 0 to 255s.

3. Dimming steps: There are 7 dimming steps. For example, if selecting Step3 (25%), objects will be up to 25% brighter (The maximum object brightness is 100%).
4. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.4 Shutter Controller Setting

Figure 3-19 shows shutter controller setting page.

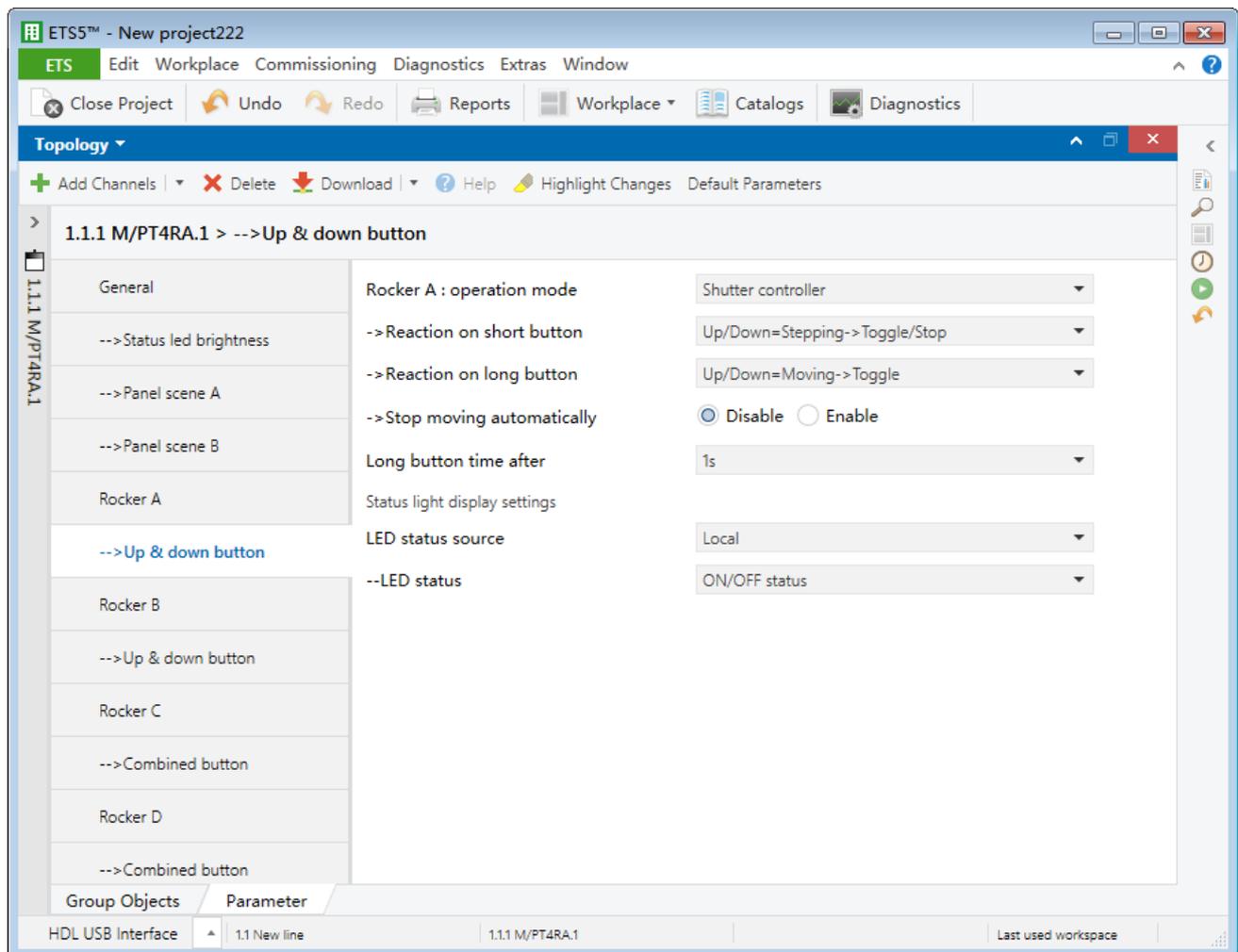


Figure 3-19 Shutter controller setting

The setting items are explained below:

1. Reaction on short button: to select the operation of “short press” on the panel, including:
 - Up/Down=Increase/Stop or Decrease/Stop: to roll up/down via short pressing and stop via pressing again.
 - Up/Down=Stepping → Toggle/Stop: to toggle via short pressing and stop via pressing again.
 - Up/Down=Up or Down: to roll up/down via short pressing.
 - Up/Down=Moving → Toggle: to switch between rolling up/down via short pressing.

- Up/Down=Up/Stop or Down/Stop: to roll up/down via short pressing and stop via pressing.
 - Up/Down=Moving → Toggle/Stop: to switch between rolling up/down via short pressing and stop via pressing again.
2. Reaction on long button: to select the operation of “long press” on the panel, including:
- Up/Down=Increase/Stop or Decrease/Stop: to roll up/down via long pressing and stop via pressing again.
 - Up/Down=Stepping → Toggle/Stop: to toggle via long pressing and stop via pressing again.
 - Up/Down=Up or Down: to roll up/down via long pressing.
 - Up/Down=Moving → Toggle: to switch between rolling up/down via long pressing.
 - Press: Up/Down=Move → Up/Down; Release: Stop: to roll up/down via pressing and stop via releasing.
 - Press: Up/Down=Move → Toggle; Release: Stop: to toggle via pressing and stop via releasing.
3. Stop moving automatically: to enable stopping curtain automatically.
4. Long button time after: to select the delay time of “long press”, range from 1 to 60s.
5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
- If “Local” is selected:
LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.
 - If “From bus” is selected:
LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.
Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.
Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.
 - If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.5 Flexible Controller Setting

Figure 3-20 shows flexible controller setting page.

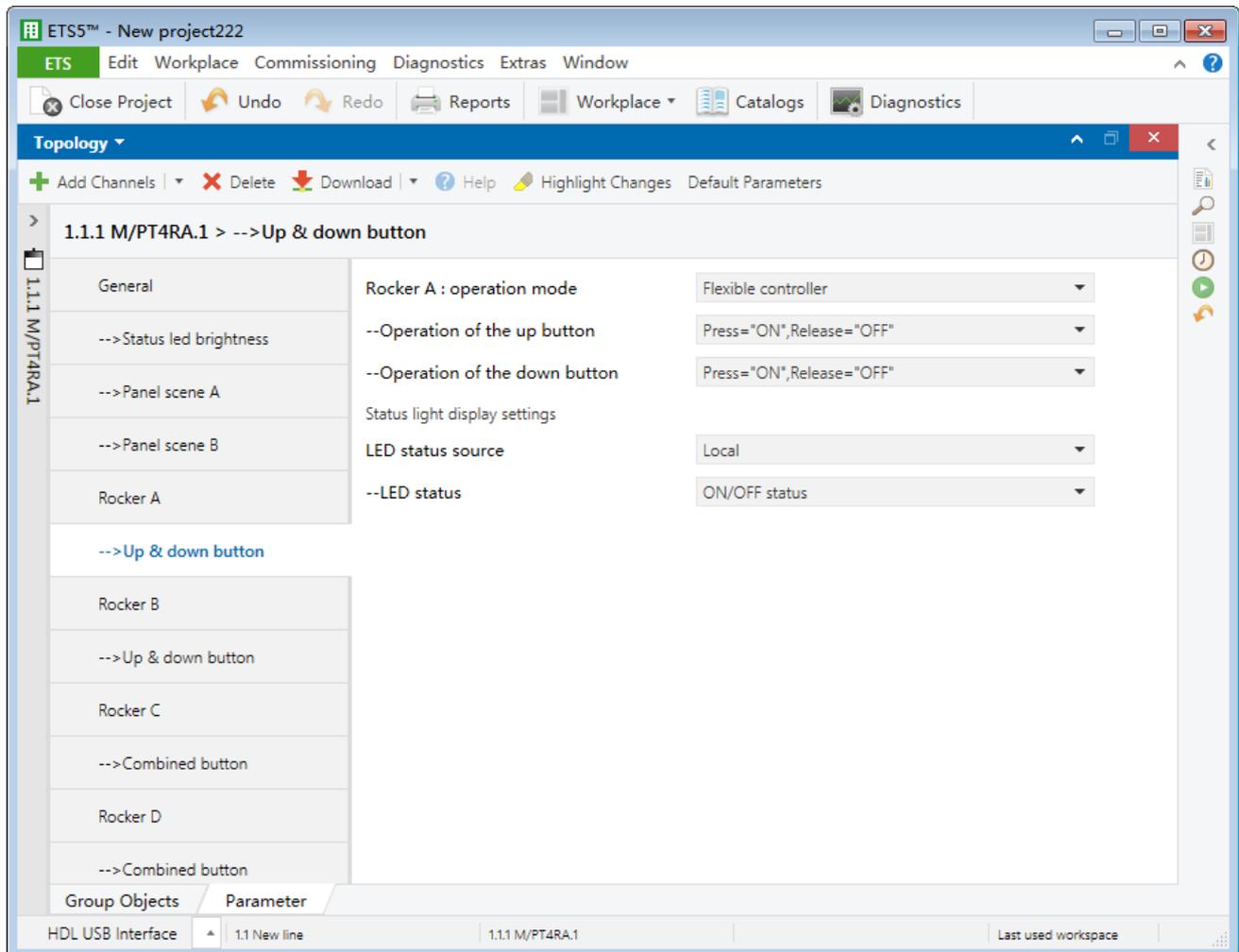


Figure 3-20 Flexible controller setting

The setting items are explained below:

1. Operation mode: to select the operation mode of flexible controller, including “No Short & Long button” and “Short & Long button”.
2. Operation of the up/down button: to select the operation of the up/down button, including:
Press/Release=ON/OFF: to send ON/OFF after pressing/releasing.
3. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
 - If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

- If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

- If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.6 Scene Controller Setting

Figure 3-21 shows scene controller setting page.

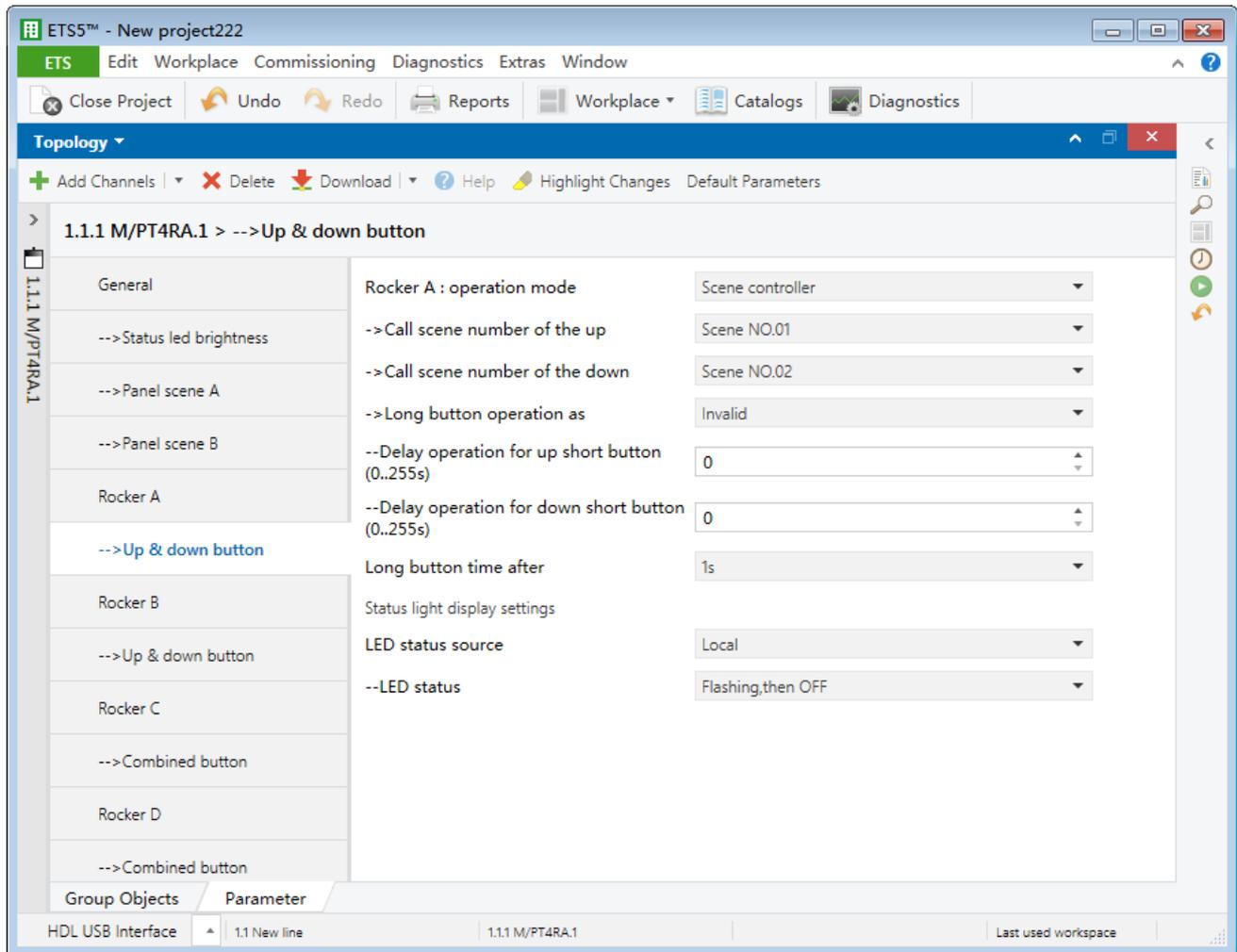


Figure 3-21 Scene controller setting

The setting items are explained below:

1. Call scene number of the up/down: to select corresponding scene number of short pressing the up/down button (Up to 64 scene numbers available).
2. Long button operation as: to select the operation of “long press”, including:
 - Scene dimming
 - Scene saving: to save current scene to overwrite scene setting when current scene changes.
3. Delay operation for up/down short button: to set the delay time of the up/down button, range from 0 to 255s.
4. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.

5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
- If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.
 - If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.
 - If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.7 Sequence Controller Setting

Figure 3-22 shows sequence controller setting page.

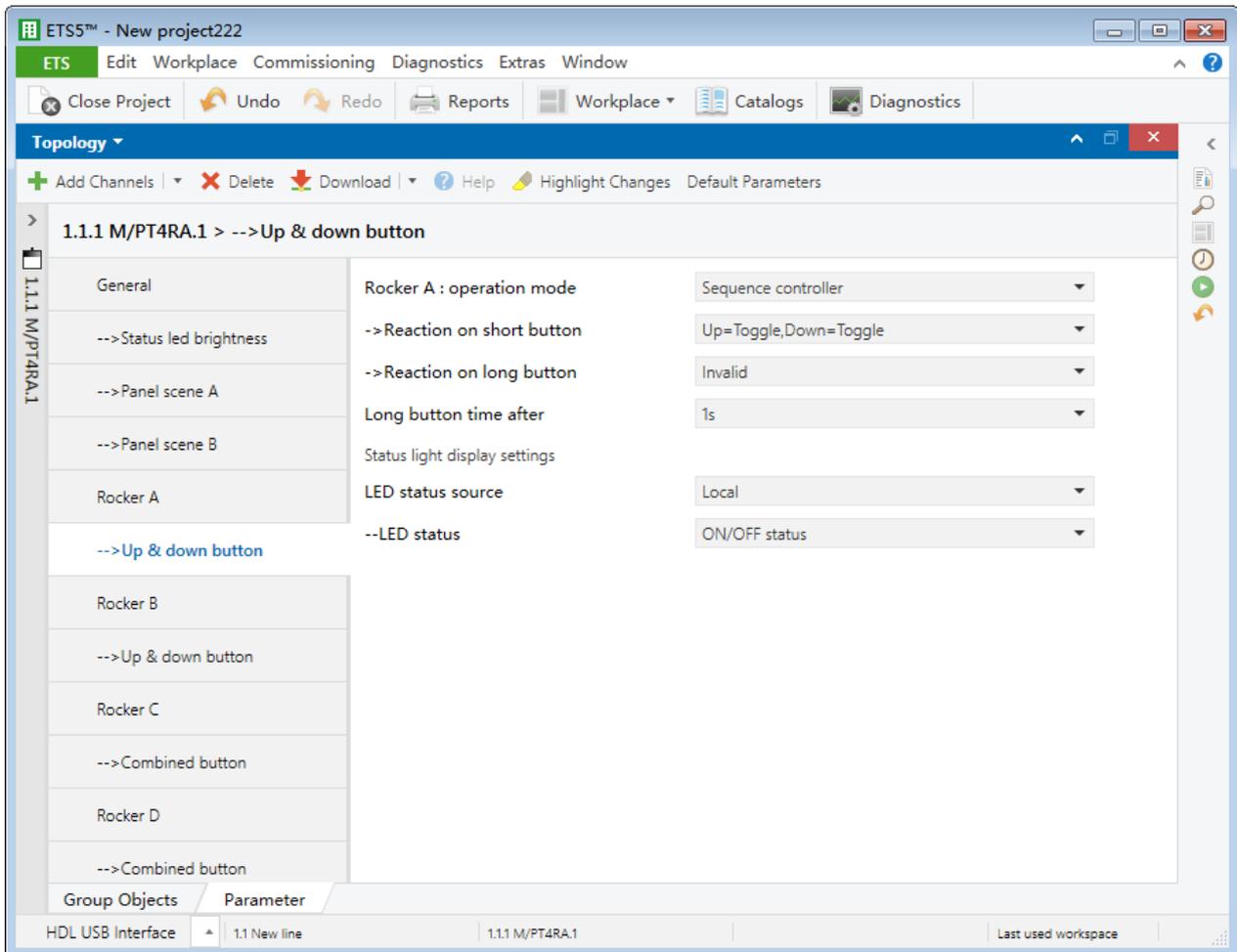


Figure 3-22 Sequence controller setting

The setting items are explained below:

1. Reaction on short/long button: to select the operation of “short/long press”, including:
 - Toggle
 - Start with 1/0
 - Stop with 1/0
2. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
3. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
 - If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”,

“Flashing, then status” and “ON/OFF status”.

- If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

- If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.8 Percentage Controller Setting

Figure 3-23 shows percentage controller setting page.

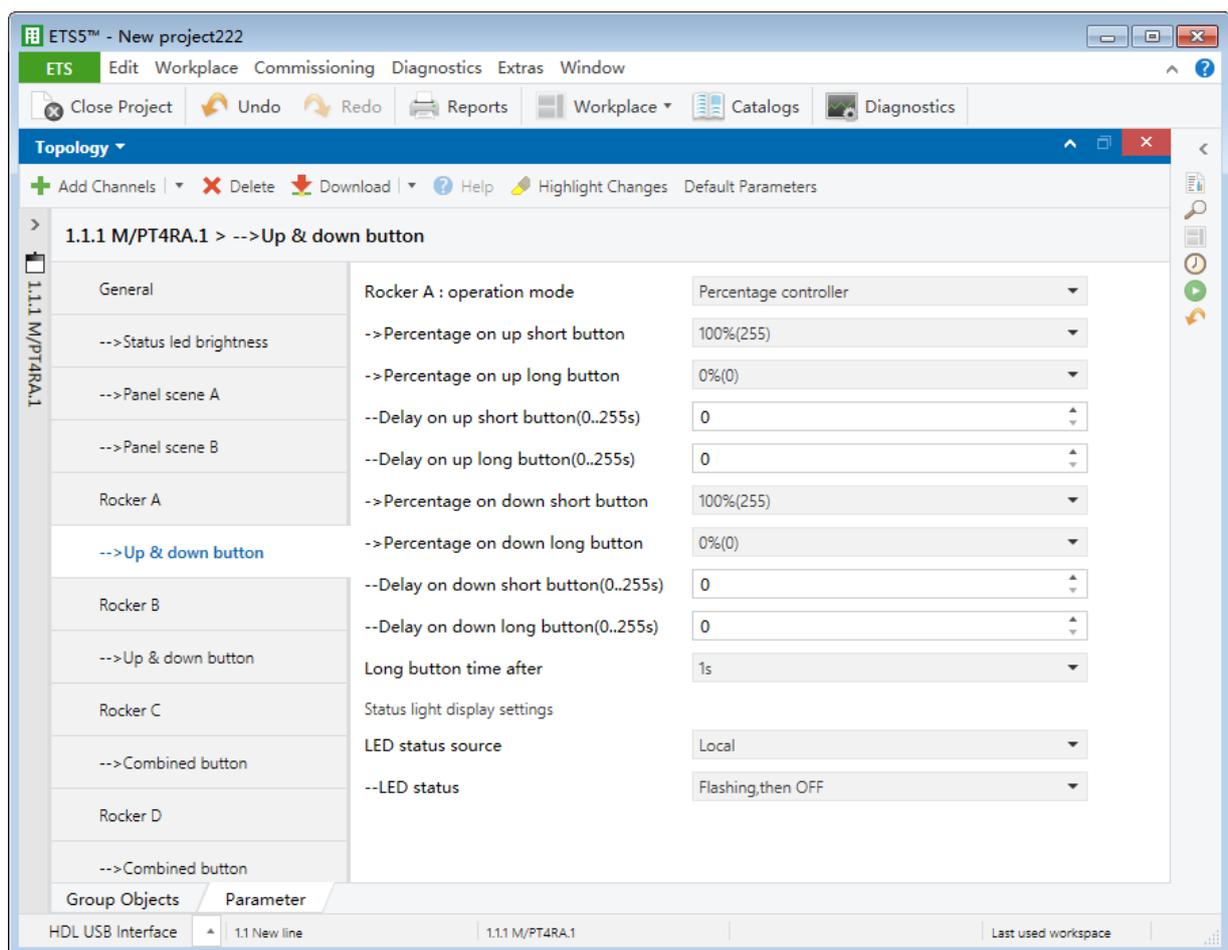


Figure 3-23 Percentage controller setting

The setting items are explained below:

1. Percentage on up/down short/long button: to select the percentage operation of “short press”.
2. Delay on up/down short/long button: to set the delay time of “short/long press”, range from 0 to 255s.
3. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
4. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.9 Threshold Controller Setting

Figure 3-24 shows threshold controller setting page.

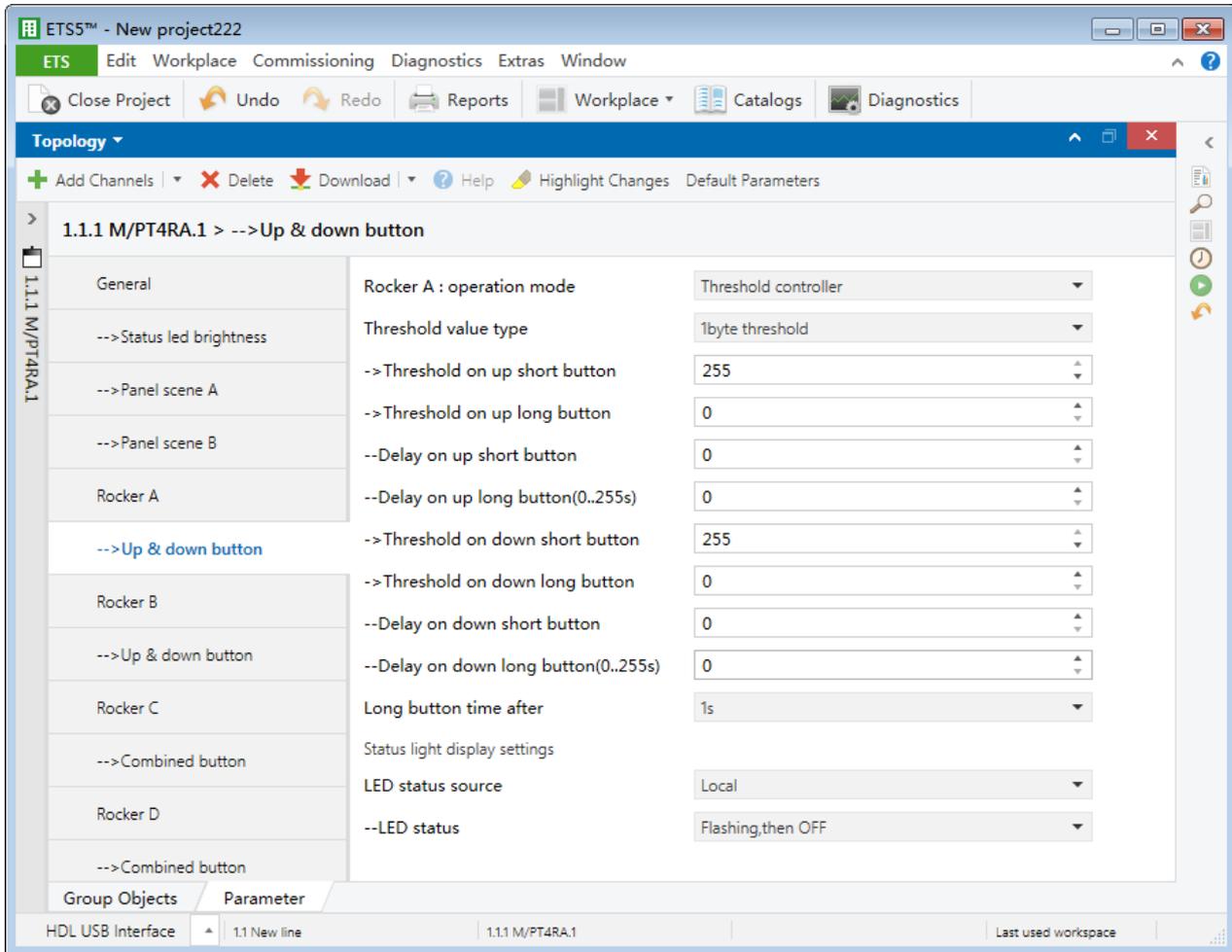


Figure 3-24 Threshold controller setting

The setting items are explained below:

1. Threshold value type: to select threshold type, including 1-byte threshold, 2-byte threshold and 2-byte floating threshold.
2. Threshold on up/down short/long button: to set the threshold sent by short/long pressing the up/down button, which depends on the type selected in the first point.
3. Delay on up/down short/long button: to set the delay time of short/long pressing the up/down button, range from 0 to 255s.
4. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.

5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

- If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

- If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

- If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.10 14-byte String Controller Setting

Figure 3-25 shows 14-byte string controller setting page.

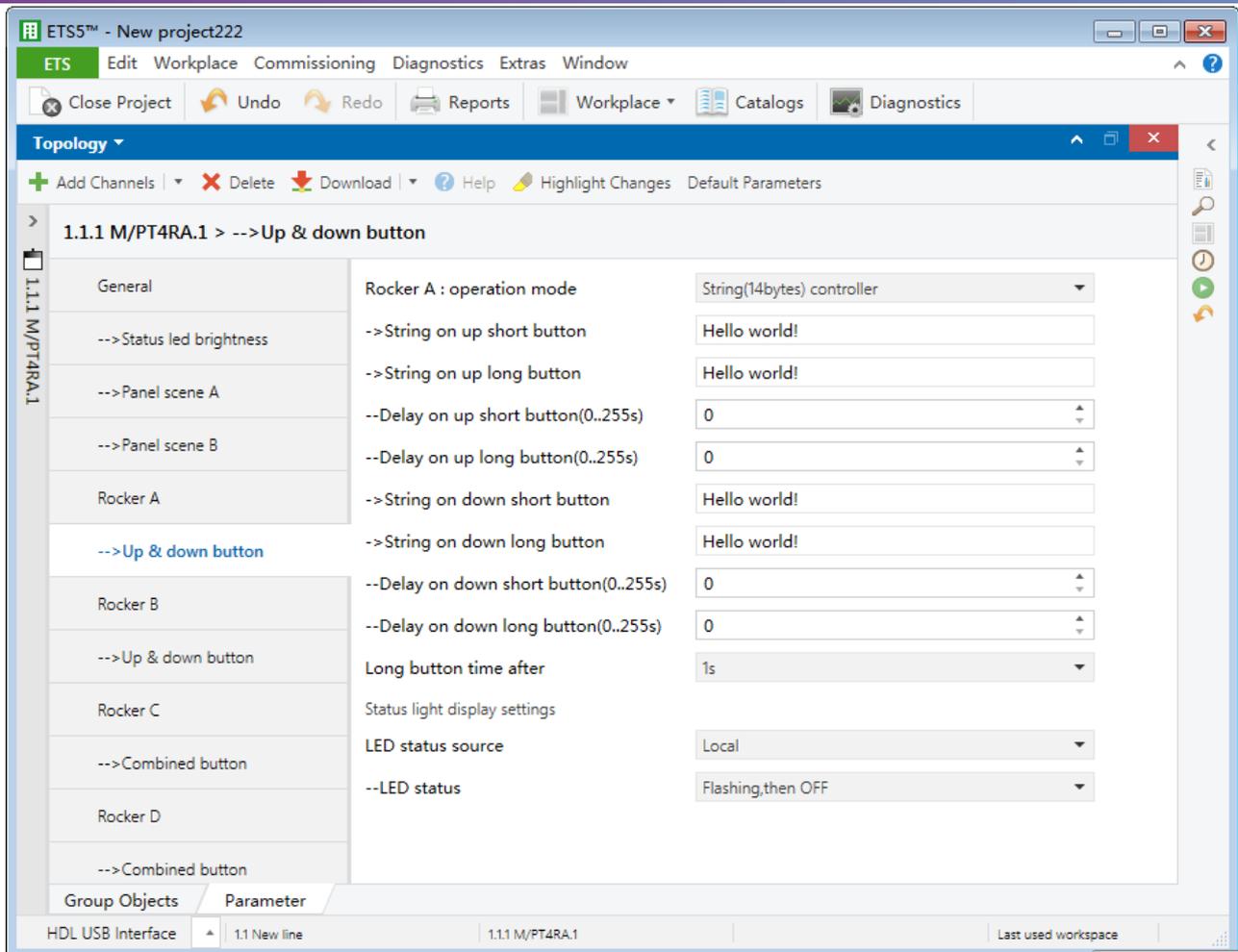


Figure 3-25 14-byte string controller setting

The setting items are explained below:

1. String on up/down short/long button: to set the string sent via short/long pressing the up/down button.
2. Delay on up/down short/long button: to set the delay time of short/long pressing the up/down button, range from 0 to 255s.
3. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
4. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
 - If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

- If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

- If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.11 Alternate Controller Setting

Figure 3-26 shows alternate controller setting page.

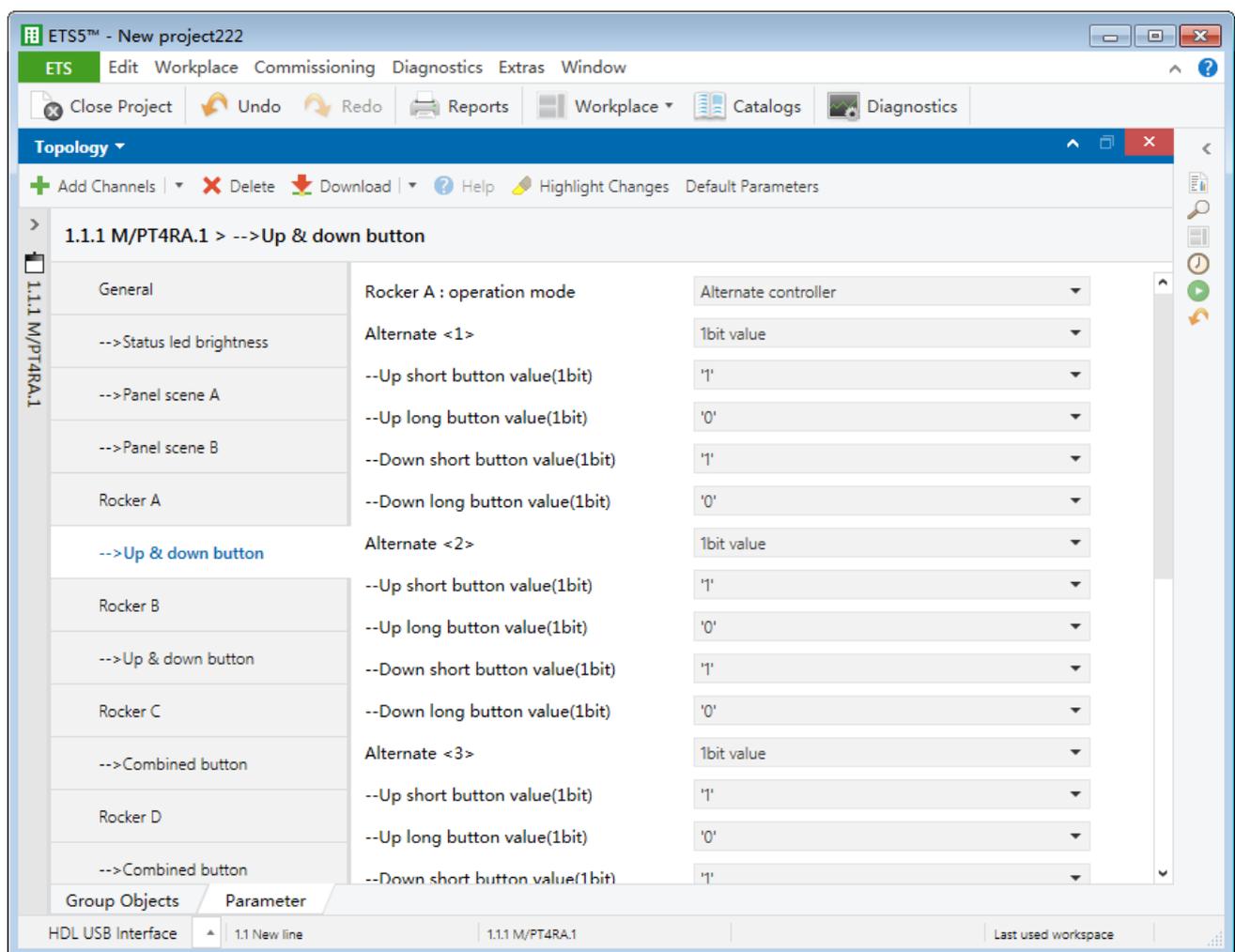


Figure 3-26 Alternate controller setting

The setting items are explained below:

1. Alternate <1/2/3/4>: to select the control type of “Alternate <1/2/3/4>”.
2. Up/Down short/long button value: to set the data of short/long pressing the up/down button, whose length depends on the type selected in the first point.
3. Alternate on up/down short/long button: to enable the alternate function of short/long pressing the up/down button.
4. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.12 RGB Controller Setting

Figure 3-27 shows RGB controller setting page.

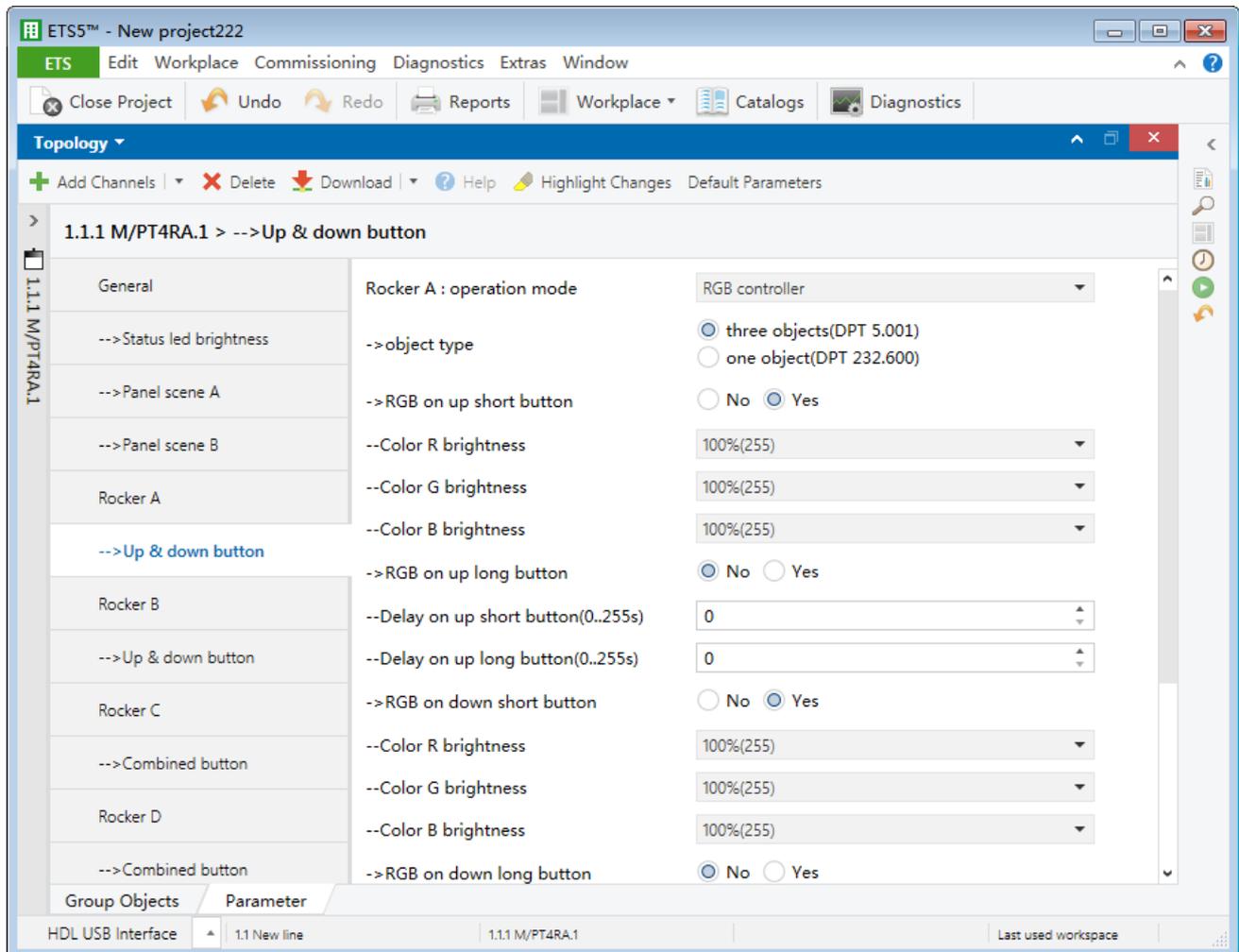


Figure 3-27 RGB controller setting

The setting items are explained below:

1. Object type: to select dimming object type. “3 objects” is to control dimming via R, G, and B independently, while “1 object” is to control dimming via RGB.
2. RGB on up/down short/long button: to enable RGB controller via short/long pressing the up/down button. After enabled, the RGB value can be set in “Color R/G/B brightness”.
3. Delay on up/down short/long button: to set the delay time of short/long pressing the up/down button, range from 0 to 255s.
4. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while

less than 3s will be identified as “short press”.

5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.

➤ If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.

➤ If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.

➤ If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.13 Fan Controller Setting

Figure 3-28 shows fan controller setting page.

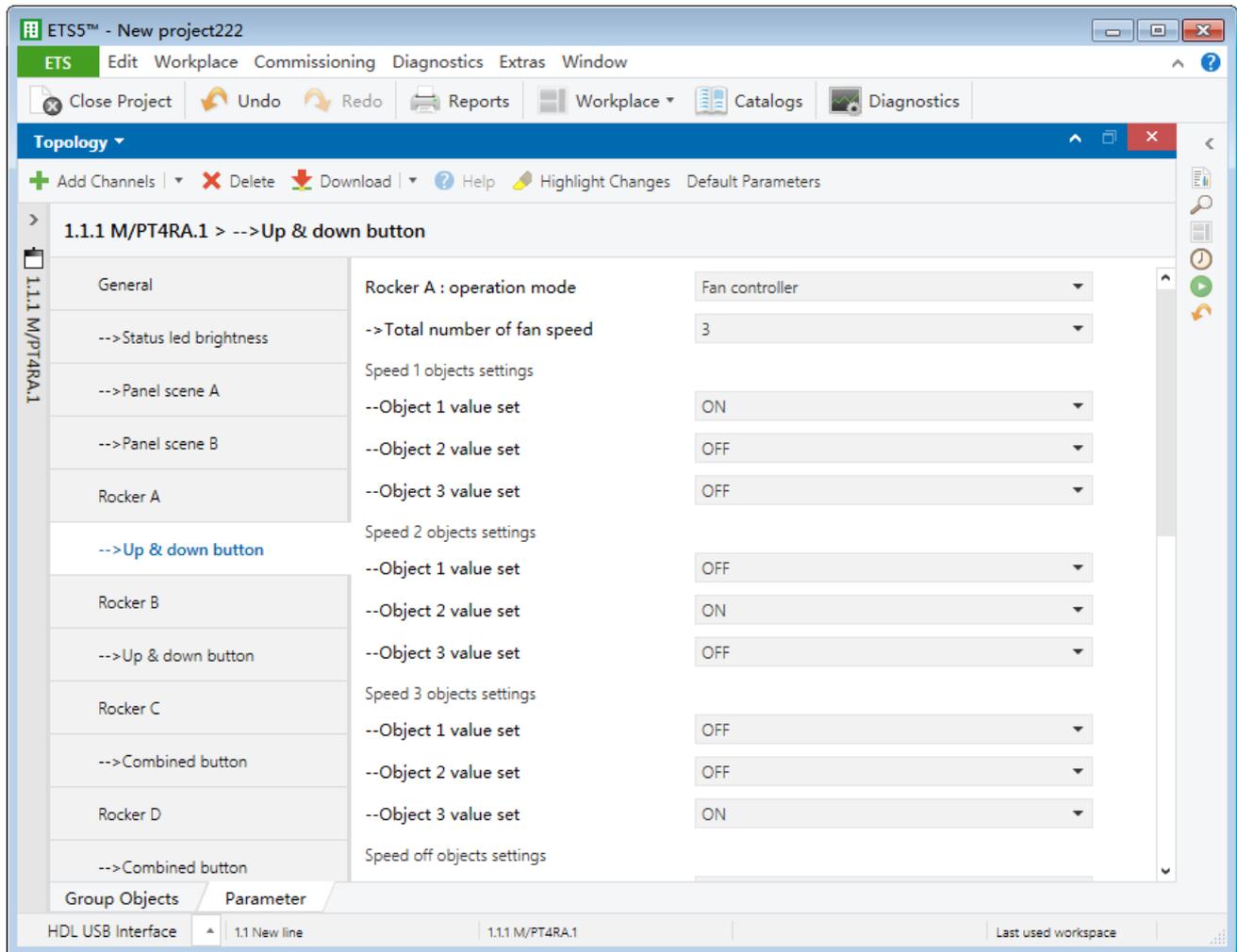


Figure 3-28 Fan controller setting

The setting items are explained below:

1. Total number of fan speed: select the number of fan speed levels, range from 2 to 4.
2. Speed 1/2/3/4 object settings: the details of fan speed levels can be set. “Object1/2/3/4 value set” corresponds to the value of object 1/2/3/4.
3. Speed off objects settings: to set object value when fan is off.
4. Reaction on up/down button: to enable adjusting fan speed via the up/down button. After enabled, the details can be set below:
 - Switch speed direction: to adjust wind direction, “FWD” means forward wind while “RWD” means backward wind.
 - Speed 1/2/3/4: to enable the fan speed of correspond level.
 - Turn off fan

5. Delay to send ON after OFF: to set the delay time between sending OFF command and sending ON command again, range from 0 to 255s.
6. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
7. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
 - If “Local” is selected:

LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.
 - If “From bus” is selected:

LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.

Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.

Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.
 - If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.14 Thermostat Controller Setting

Figure 3-29 shows thermostat controller setting page.

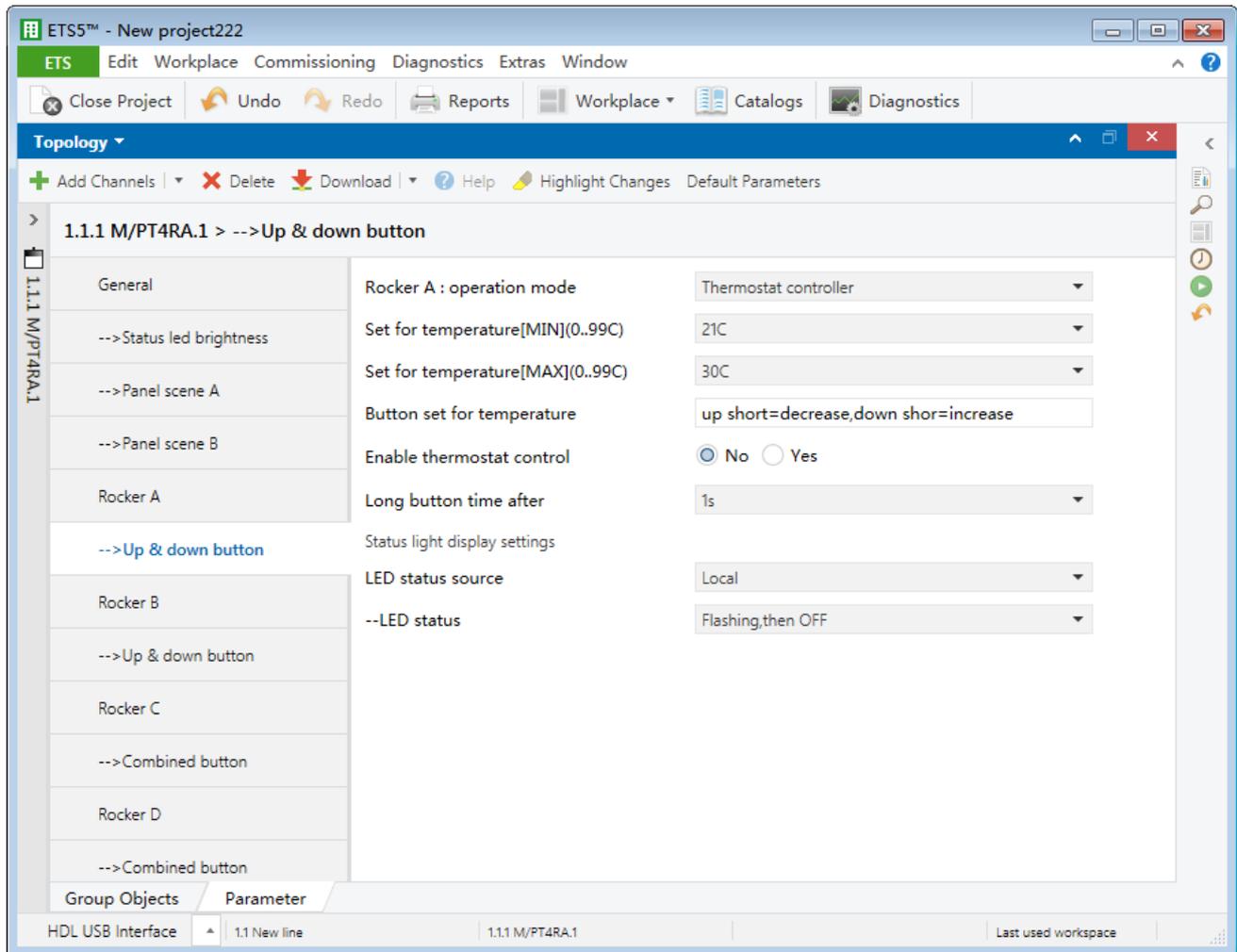


Figure 3-29 Thermostat controller setting

The setting items are explained below:

1. Set for temperature[MIN/MAX]: to set the upper/lower limit of temperature, which both range from 0 to 99°C.
2. Button set for temperature: for Tile, short pressing the up button is set to turn down the temperature, while short pressing the down button is set to turn up the temperature.
3. Enable thermostat control: to choose whether to activate thermostat controller function. After enabled, the details can be set below.
 - Actual temperature source: to obtain actual temperature from “Local sensor” or via EIB.
 - Control type: to select temperature control type, including “Heating” and “Cooling”.
 - Hysteresis: to select hysteresis value, range from 1 to 10°C.

- Button switch the thermostat: to set the way of turning on/off thermostat. Users may choose to turn on/off via long pressing the up/down button (Up/Down long=ON/OFF) or via long pressing any buttons (Toggle long button ON/OFF).
4. Long button time after: the time for system to identify “long press”. For example, if the time is set to 3s, keeping pressing for more than 3s will be identified as “long press” while less than 3s will be identified as “short press”.
5. LED status source: the source of LED status, including “Local”, “From bus” and “Mutually exclusive display”.
- If “Local” is selected:
LED status: to select LED status, including “Flashing, then ON”, “Flashing, then OFF”, “Flashing, then status” and “ON/OFF status”.
 - If “From bus” is selected:
LED status reaction: to select the reaction of LED when the bus information is received. For example, LED is on when receiving 1 and is off when receiving 0.
Button status reaction (1 bit): to toggle object value received from the bus and update the value to button value.
Delay read LED status after power on: to set the delay time between powering on the device and reading LED status, range from 1 to 255s. 0 is set to have no response.
 - If “Mutually exclusive display” is selected: to set that the selected button and other buttons are mutually exclusive.

3.2.15 Combination Controller Setting

Figure 3-30 shows combination controller setting page.

Notice: because combination controller only supports up to 5 objects, “n” in this part is a positive integer less than 6.

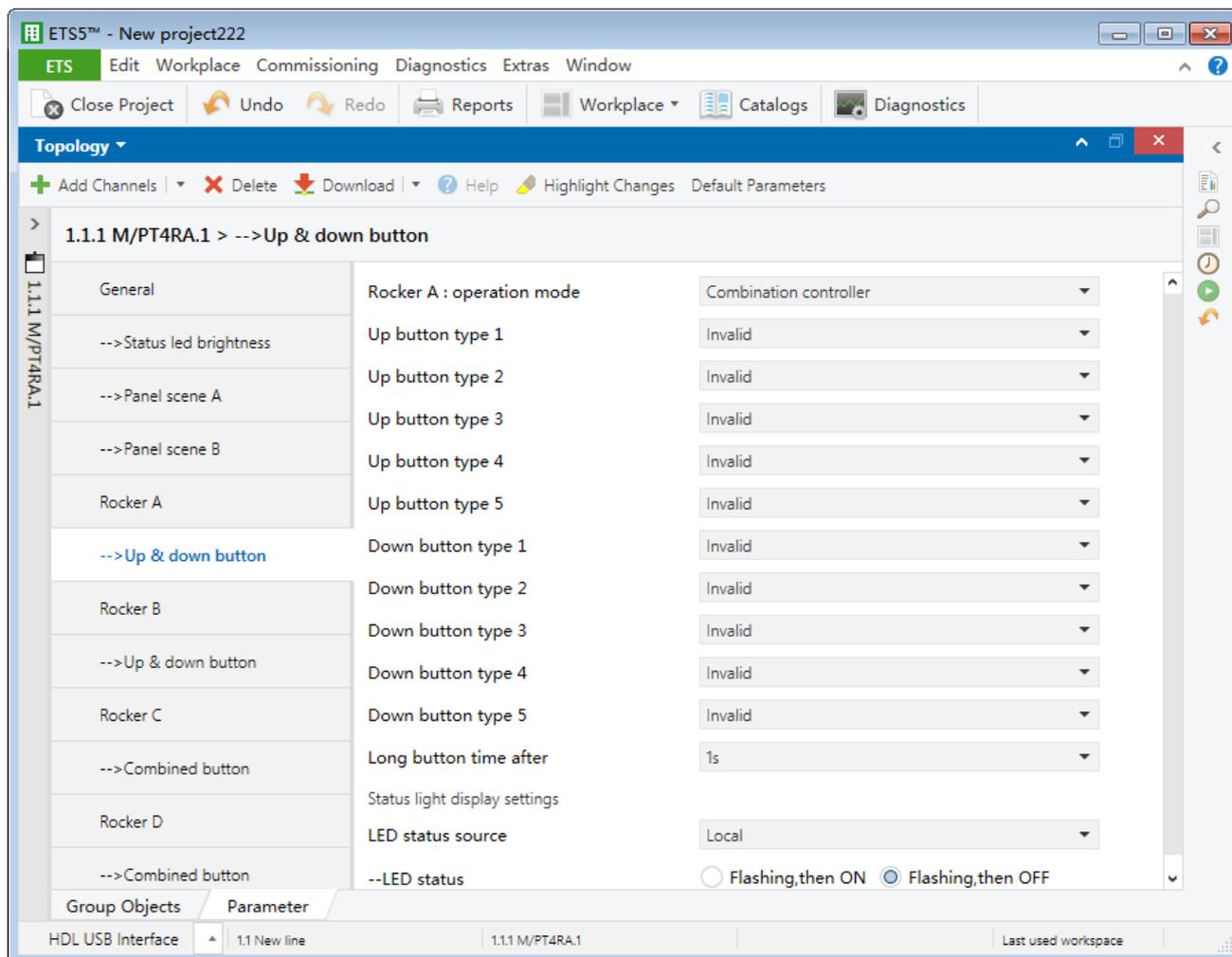


Figure 3-30 Combination controller setting

3.2.15.1 Switch Controller Setting

1. Switch value: to select switch controller value, including “ON/OFF” and “Toggle”.
2. Long enable: to choose whether to control via long pressing. After enabled, the switch controller value can be selected.

3.2.15.2 Shutter Controller Setting

1. Shutter value: to select shutter controller status, including “UP/DOWN” and “Toggle”.
2. Long enable: to choose whether to control via long pressing. After enabled, the shutter controller value can be selected.

3.2.15.3 Scene Controller Setting

3. Short scene NO. is: to choose to output corresponding scene number (Up to 64 scene numbers available).
4. Short scene toggled: to enable exchanging scenes. After enabled, the number of scenes to be exchanged can be selected in “Toggled scene No. is” below.
5. Long enable: to choose whether to control via long pressing. After enabled, the scene value of long pressing can be selected in “Long scene NO. is” below.

3.2.15.4 Dimming Controller Setting

1. Reaction on short button: to select the operation of “short press” on the panel, including:
Toggle
On/Off: to turn on/off lights.
2. Reaction on long button: to select the operation of “long press”, including:
Brighter
Darker
Brighter/Darker
3. Dimming steps: There are 7 dimming steps. For example, if selecting Step3 (25%), objects will be up to 25% brighter (The maximum object brightness is 100%).

3.2.15.5 Percentage Controller Setting

1. Short percentage value: to select the percentage controller value of short pressing.
2. Short percentage toggled: to enable exchanging percentage via short pressing. After enabled, the percentage to be exchanged can be selected in “Toggled percentage is” below.

3. Long enable: to choose whether to control via long pressing. After enabled, the percentage controller value can be selected.

3.2.15.6 Threshold Controller Setting

1. Threshold value type: to select threshold type, including 1-byte/2-byte threshold.
2. Short threshold value: to select the threshold value of short pressing, whose range depends on the threshold type selected in the first point.
3. Short threshold toggled: to enable exchanging threshold via short pressing. After enabled, the threshold to be exchanged can be selected in “Toggled threshold is” below.
4. Long enable: to choose whether to control via long pressing. After enabled, the threshold controller value can be selected.

3.2.15.7 14-byte String Controller Setting

String (14 bytes) value: to edit items controlled by 14 bytes.

3.2.15.8 Short-long Controller

Short/Long value type: to select the type of “long/short press”, including “Switch”, “Scene” and “1/2 byte”. After selecting the type, the short-long controller value can be selected in “Reaction on short/long button”.

4 Download Data to the Panel

4.1 Interface Setting

If users need to download data to the panel, KNX interface is necessary.

After connecting KNX interface to a computer via USB, click “Bus” tab in ETS’ main page, “HDL USB Interface” will show up in “Discovered Interfaces”. Double click to add and the interface will show up in “Current Interface”, as shown in Figure 4-1.

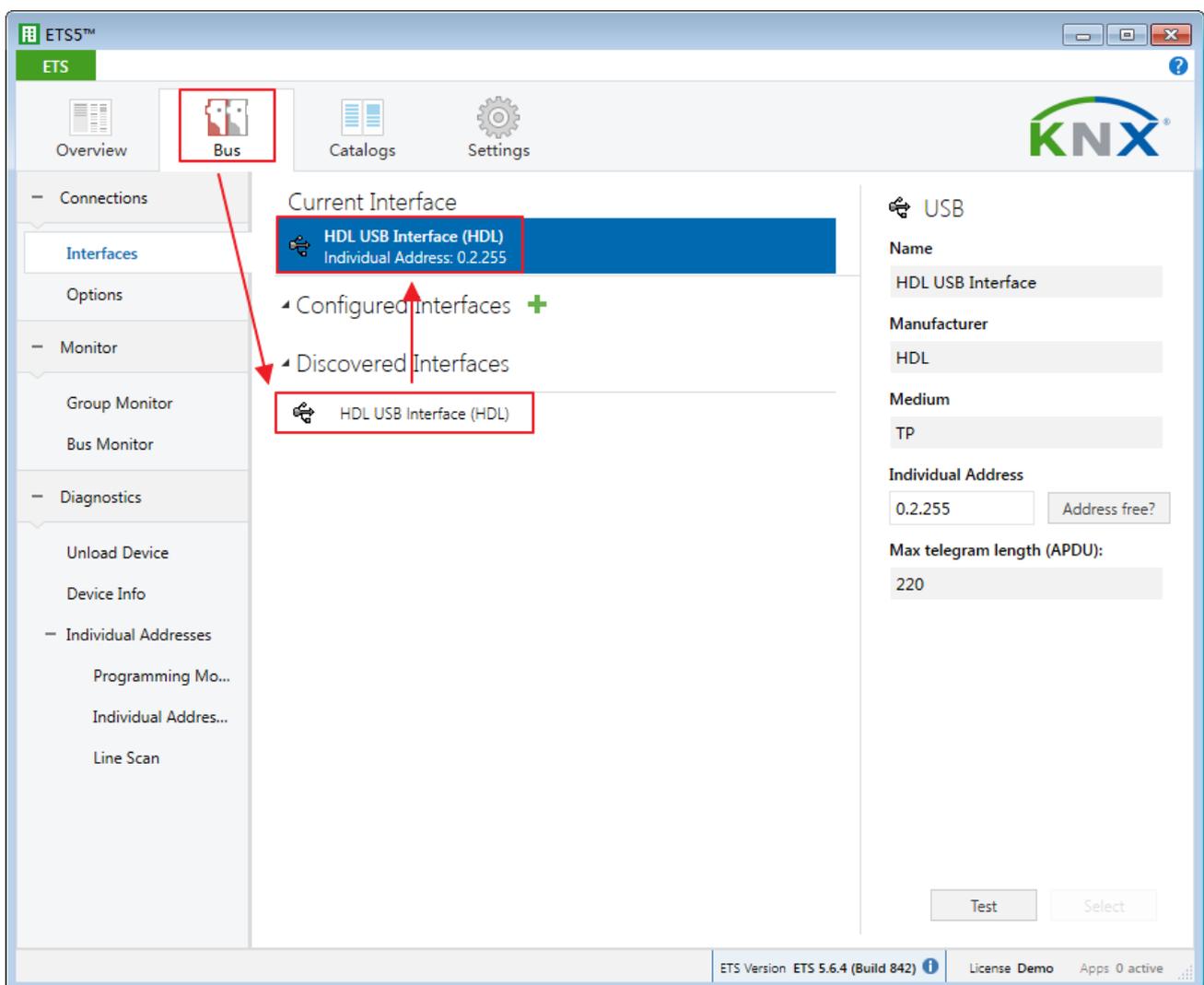


Figure 4-1 Interface setting

4.2 Download Data

Right click on the data to be downloaded to the panel and select “Download”. Keep pressing the top left button and bottom right button for about 2s to enable the programming mode of the panel. The information indicates the end of the process on the right side of ETS, as shown in Figure 4-2.

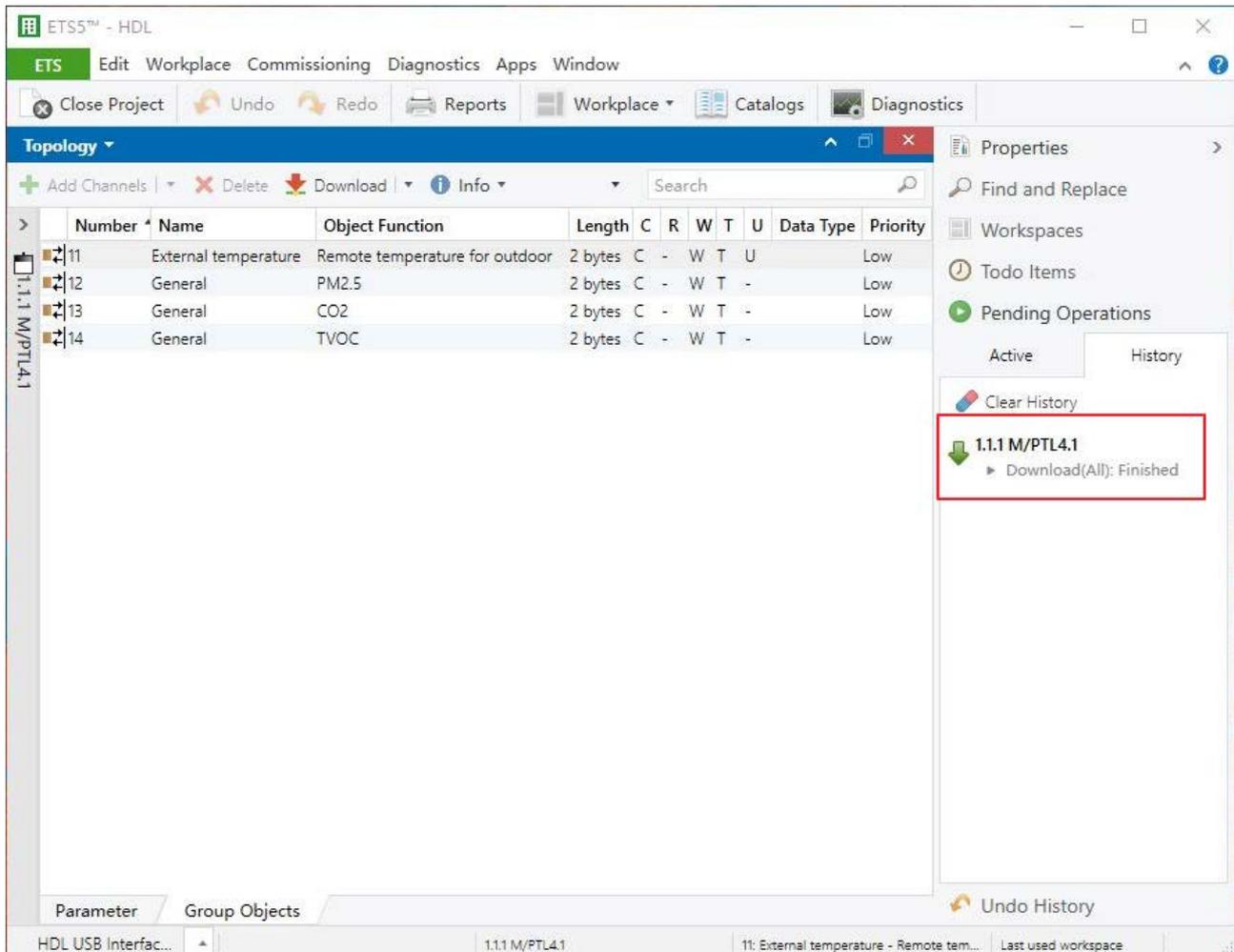


Figure 4-2 Download data

5 Object Instruction

KNX communication objects are used for receiving and sending data. The length of these objects is from 1 to 14 bits according to different function settings. Each object has a flag with communication property.

1. “C”-Communication, representing that communication objects are connected normally via the bus.
2. “R”-Read, representing that communication object value can be read via the bus.
3. “W”-Write, representing that communication object value can be rewritten via the bus.
4. “T”-Transmit, representing that communication objects have transmit function. When this object value is modified, send the message.
5. “U”-Update, representing that communication object value can be updated via the bus response message.

5.1 Objects “General”

| Objects “General” | | | | | |
|---|-------------------|-------------------------|---------|-------------------|----------------|
| 1 | General | Heartbeat telegram | 1 bit | C - - T - | enable 低 |
| 6 | General | Proximity sensor output | 1 bit | C R - T U | switch 低 |
| 8 | General | Trigger up of Rock A | 1 bit | C - W T U | up/down 低 |
| 9 | General | Trigger down of Rock A | 1 bit | C - W T U | up/down 低 |
| 10 | General | Trigger up of Rock B | 1 bit | C - W T U | up/down 低 |
| 11 | General | Trigger down of Rock B | 1 bit | C - W T U | up/down 低 |
| 12 | General | Trigger up of Rock C | 1 bit | C - W T U | up/down 低 |
| 13 | General | Trigger down of Rock C | 1 bit | C - W T U | up/down 低 |
| 14 | General | Trigger up of Rock D | 1 bit | C - W T U | up/down 低 |
| 15 | General | Trigger down of Rock D | 1 bit | C - W T U | up/down 低 |
| 20 | General | Lock button | 1 bit | C - W T U | enable 低 |
| 21 | Local temperature | Temperature report | 2 bytes | C R - T - | temperatu... 低 |
| No. | Name | Function | Flag | Data Type | |
| 1 | General | Heartbeat telegram | C T | DPT1.003 1 bit | |
| This object can be activated by selecting “Send value “0”cyclically, Send value“1”cyclically or Send value“1/0” inverted cyclically” in the parameter “Heartbeat Telegram”, which is used for checking if the device is connected to the system normally. | | | | | |
| 6 | General | Proximity sensor output | C R T U | DPT1.001 1 bit | |
| This object is used for controlling proximity sensor output. | | | | | |

| | | | | |
|---|-------------------|------------------------------------|---------|---------------------|
| 8-15 | General | Trigger up/down of Rock A/B/C/D | C W T U | DPT1.008 1 bit |
| These objects are used for triggering the up/down button of rocker A/B/C/D. | | | | |
| 20 | General | Lock button | C W T U | DPT1.003 1 bit |
| This object is used for locking the panel. | | | | |
| 21 | Local temperature | Temperature report | C R T | DPT9.001 2 bytes |
| This object is used for sending local temperature signal. | | | | |

5.2 Objects “Panel scene”

| |
|-----------------------|
| Objects “Panel scene” |
|-----------------------|

| 序号 ^ | 名称 | 对象功能 | 长度 | C | R | W | T | U | 数据类型 | 优先级 |
|------|---------------|-------------------------------|---------|---|---|---|---|---|---------------|-----|
| 41 | Panel scene A | Call scene (1byte) | 1 byte | C | - | W | T | U | scene cont... | 低 |
| 42 | Panel scene A | Call scene (1bit) | 1 bit | C | - | W | T | U | switch | 低 |
| 43 | Panel scene A | Save scene (1bit) | 1 bit | C | - | W | T | U | switch | 低 |
| 44 | Panel scene A | Object 1 value(1bit) | 1 bit | C | - | W | T | U | switch | 低 |
| 45 | Panel scene A | Object 2 value(1byte:scaling) | 1 byte | C | - | W | T | U | percentag... | 低 |
| 46 | Panel scene A | Object 3 value(0..255) | 1 byte | C | - | W | T | U | percentag... | 低 |
| 47 | Panel scene A | Object 4 value(2byte:float) | 2 bytes | C | - | W | T | U | temperatu... | 低 |
| 48 | Panel scene A | Object 5 value(0..65535) | 2 bytes | C | - | W | T | U | pulses | 低 |
| 49 | Panel scene A | Object 6 value(3byte:RGB) | 3 bytes | C | - | W | T | U | RGB value... | 低 |
| 50 | Panel scene A | Object 7 value(1bit) | 1 bit | C | - | W | T | U | switch | 低 |
| 51 | Panel scene A | Object 8 value(1byte:scaling) | 1 byte | C | - | W | T | U | percentag... | 低 |
| 52 | Panel scene A | Object 9 value(0..255) | 1 byte | C | - | W | T | U | percentag... | 低 |
| 53 | Panel scene A | Object 10 value(2byte:float) | 2 bytes | C | - | W | T | U | temperatu... | 低 |
| 61 | Panel scene B | Call scene (1byte) | 1 byte | C | - | W | T | U | scene cont... | 低 |
| 62 | Panel scene B | Call scene (1bit) | 1 bit | C | - | W | T | U | switch | 低 |
| 63 | Panel scene B | Save scene (1bit) | 1 bit | C | - | W | T | U | switch | 低 |
| 64 | Panel scene B | Object 1 value(1bit) | 1 bit | C | - | W | T | U | switch | 低 |
| 65 | Panel scene B | Object 2 value(1byte:scaling) | 1 byte | C | - | W | T | U | percentag... | 低 |
| 66 | Panel scene B | Object 3 value(0..255) | 1 byte | C | - | W | T | U | percentag... | 低 |
| 67 | Panel scene B | Object 4 value(2byte:float) | 2 bytes | C | - | W | T | U | temperatu... | 低 |
| 68 | Panel scene B | Object 5 value(0..65535) | 2 bytes | C | - | W | T | U | pulses | 低 |
| 69 | Panel scene B | Object 6 value(3byte:RGB) | 3 bytes | C | - | W | T | U | RGB value... | 低 |
| 70 | Panel scene B | Object 7 value(1byte:scaling) | 1 byte | C | - | W | T | U | percentag... | 低 |
| 71 | Panel scene B | Object 8 value(0..255) | 1 byte | C | - | W | T | U | percentag... | 低 |
| 72 | Panel scene B | Object 9 value(3byte:RGB) | 3 bytes | C | - | W | T | U | RGB value... | 低 |
| 73 | Panel scene B | Object 10 value(0..65535) | 2 bytes | C | - | W | T | U | pulses | 低 |

| No. | Name | Function | Flag | Data Type |
|-----------------|-----------------|--|---------|--|
| 41,61 | Panel scene A/B | Call scene(1byte) | C W T U | DPT18.001 1byte |
| 42,62 | Panel scene A/B | Call scene(1bit) | C W T U | DPT1.001 1bit |
| 43,63 | Panel scene A/B | Save scene(1bit) | C W T U | DPT1.001 1bit |
| 44~53, 64~73 | Panel scene A/B | Object 1~10 value (1bit,1byte: scaling, 0..255, 2byte:float,0..65535,3byt e:RGB) | C W T U | DPT1.001 1bit DPT5.001 1byte DPT5.004 1byte |

These objects are used for applying scenes (1 byte/1 bit) and saving scenes. Applied scene number ranges from 1 to 64 and the value ranges from 0 to 63.

| | | | | |
|---|--|--|--|--|
| | | | | DPT9.001 2bytes DPT7.001 2bytes DPT232.600 3bytes |
| These objects are used for setting object type value. | | | | |

5.3 Objects “Rocker A/B/C/D”

5.3.1 Objects “Rocker A/B/C/D” (Switch and Dimming Function)

| Objects function status--“Rocker A/B/C/D” | | | | |
|--|--|-------------------|---------|--|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A short | Switching | 1 bit | C - W T U switch 低 |
| 82 | Rocker A long | Switching | 1 bit | C - W T U switch 低 |
| 83 | Rocker A delay send | Switching | 1 bit | C - W T U switch 低 |
| No. | Name | Function | Flag | Data Type |
| 81-83, 111-113, 141-143, 171-173 | Rocker A/B/C/D short/long/delay send | Switching | C W T U | DPT1.001 1 bit |
| These objects are used for turning on/off objects via buttons. | | | | |
| 81,82 111,112, 141,142, 171,173 | Rocker A/B/C/D short/long | Switching/Dimming | C W T U | DPT1.001 1 bit DPT 3.007 4 bits |
| These objects are used for turning on/off lights and dimming. | | | | |

5.3.2 Objects “Rocker A/B/C” (LED Status)

| Objects function status--“Rocker A/B/C/D” | | | | |
|--|----------------|------------|-----------|--------------------|
| (Take Rocker A as an example) | | | | |
| 91 | Rocker A | LED status | 1 bit | C R W T U switch 低 |
| No. | Name | Function | Flag | Data Type |
| 91,111, 131,151 | Rocker A/B/C/D | LED status | C R W T U | DPT1.001 1bit |

These objects are used for indicating button status via LED.

5.3.3 Objects “Rocker A/B/C” (Curtain Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|---|----------------|---|---------|--|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | Adjust/Stop for shutter | 1 bit | C - W T U step 低 |
| 82 | Rocker A | Move for shutter | 1 bit | C - W T U up/down 低 |
| No. | Name | Function | Flag | Data Type |
| 81,82, 111,112, 141,142, 171,172 | Rocker A/B/C/D | Adjust/Stop for shutter Move for shutter | C W T U | DPT1.007 1 bit DPT1.008 1 bit |
| These objects are used for opening/closing or stopping curtain. | | | | |

5.3.4 Objects “Rocker A/B/C” (Flexible Controller)

| Objects function status--“Rocker A/B/C/D” (Flexible controller) | | | | |
|---|-------------------|----------|---------|--------------------|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | Flexible | 1 bit | C - W T U switch 低 |
| No. | Name | Function | Flag | Data Type |
| 81,111, 141,171 | Rocker A/B/C/D | Flexible | C W T U | DPT1.001 1bit |
| These objects are used for flexible controller. | | | | |

5.3.5 Objects “Rocker A/B/C” (Scene Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|---|---------------------------------|------------------------------|---------|---|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A short | Call scene | 1 byte | C - W T U scene cont...低 |
| 82 | Rocker A long | Scene dimming | 4 bit | C - W T U dimming c...低 |
| No. | Name | Function | Flag | Data Type |
| 81,82, 111,112, 141,142, 171,172 | Rocker A/B/C/D short/long | Call scene, Scene dimming | C W T U | DPT18.001 1 byte DPT3.007 4 bits |

These objects are used for applying scene number and controlling scene dimming.

5.3.6 Objects “Rocker A/B/C” (Sequence Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|---|------------------------------|----------|---------|------------------------|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A short | Sequence | 1 bit | C - W T U start/stop 低 |
| 82 | Rocker A long | Sequence | 1 bit | C - W T U start/stop 低 |
| No. | Name | Function | Flag | Data Type |
| 81,82, 111,112, 141,142, 171,172 | Rocker A/B/C/D short/long | Sequence | C W T U | DPT1.010 1bit |
| These objects are used for sequence controller. | | | | |

5.3.7 Objects “Rocker A/B/C” (Percentage Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|---|----------------|------------|---------|--------------------------|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | Percentage | 1 byte | C - W T U percentag... 低 |
| No. | Name | Function | Flag | Data Type |
| 81,111,141,171 | Rocker A/B/C/D | Percentage | C W T U | DPT5.001 1 byte |
| These objects are used for percentage controller. | | | | |

5.3.8 Objects “Rocker A/B/C” (Threshold Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|---|----------------|--|---------|--|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | Threshold(1byte) | 1 byte | C - W T U percentag... 低 |
| No. | Name | Function | Flag | Data Type |
| 81,111,141,171 | Rocker A/B/C/D | Threshold (1 byte/2 bytes/2 bytes float) | C W T U | DPT5.004 1 byte DPT7.001 2 bytes DPT9.001 2 bytes |

These objects are used for threshold controller.

5.3.9 Objects “Rocker A/B/C” (String (14 bytes) Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|--|----------------|------------------------|--------------------|-----------------------|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | String(14bytes) value | 14 bytes C - W T U | Character... 低 |
| No. | Name | Function | Flag | Data Type |
| 81,111,141,171 | Rocker A/B/C/D | String (14bytes) value | C W T U | DPT16.000 14 bytes |
| These objects are used for string (14 bytes) controller. | | | | |

5.3.10 Objects “Rocker A/B/C” (Alternate Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|--|----------------|---|-----------------|--|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | Alternate <1> (1bit) | 1 bit C - W T U | switch 低 |
| 82 | Rocker A | Alternate <2> (1bit) | 1 bit C - W T U | switch 低 |
| 83 | Rocker A | Alternate <3> (1bit) | 1 bit C - W T U | switch 低 |
| 84 | Rocker A | Alternate <4> (1bit) | 1 bit C - W T U | switch 低 |
| No. | Name | Function | Flag | Data Type |
| 81-84, 111-114, 141-144, 171-174 | Rocker A/B/C/D | Alternate <1/2/3/4> (1 bit/1 byte/2 bytes) | C W T U | DPT1.001 1 bit DPT5.004 1 byte DPT7.001 2 bytes |
| These objects are used for alternate controller. | | | | |

5.3.11 Objects “Rocker A/B/C” (RGB Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|---|----------|-------------------|------------------|----------------|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | RGB red channel | 1 byte C - W T U | percentag... 低 |
| 82 | Rocker A | RGB green channel | 1 byte C - W T U | percentag... 低 |
| 83 | Rocker A | RGB blue channel | 1 byte C - W T U | percentag... 低 |
| No. | Name | Function | Flag | Data Type |

| | | | | |
|--|----------------|----------------------------|---------|-----------------------|
| 81,111, 141,171 | Rocker A/B/C/D | RGB color | C W T U | DPT232.600 3 bytes |
| 81-83, 111-113, 141-143, 171-172 | Rocker A/B/C/D | RGB red/green/blue channel | C W T U | DPT5.001 1 byte |
| These objects are used for RGB controller. | | | | |

5.3.12 Objects “Rocker A/B/C” (Fan Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|--|----------------|--------------------|---------|--------------------|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | Fan object 1 | 1 bit | C - W T U switch 低 |
| 82 | Rocker A | Fan object 2 | 1 bit | C - W T U switch 低 |
| 83 | Rocker A | Fan object 3 | 1 bit | C - W T U switch 低 |
| 84 | Rocker A | Fan object 4 | 1 bit | C - W T U switch 低 |
| No. | Name | Function | Flag | Data Type |
| 81-84,111-114, 141-144,171-174 | Rocker A/B/C/D | Fan object 1/2/3/4 | C W T U | DPT1.001 1 bit |
| These objects are used for fan controller. | | | | |

5.3.13 Objects “Rocker A/B/C” (Thermostat Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|---|----------------|--|---|--|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | Thermostat switch ON/OFF | 1 bit | C R W T U switch 低 |
| 82 | Rocker A | Thermostat set temperature | 2 bytes | C R W T U temperatu... 低 |
| 83 | Rocker A | Thermostat actual temperature | 2 bytes | C R W T U temperatu... 低 |
| 84 | Rocker A | Thermostat output | 1 bit | C - W T U switch 低 |
| No. | Name | Function | Flag | Data Type |
| 81-84, 111-114, 141-144, 171-174 | Rocker A/B/C/D | Thermostat switch ON/OFF/ set temperature/ actual temperature/ output | C R W T U/ C R W T U/ C R W T U/ C W T U | DPT1.001 1 bit DPT9.001 2 bytes DPT9.001 2 bytes DPT1.001 1 bit |

These objects are used for thermostat controller.

5.3.14 Objects “Rocker A/B/C” (Combination Controller)

| Objects function status--“Rocker A/B/C/D” | | | | |
|--|----------|----------------------------|----------|---------------------------|
| (Take Rocker A as an example) | | | | |
| 81 | Rocker A | COMB OBJ1 switching | 1 bit | C - - T - switch 低 |
| 82 | Rocker A | COMB OBJ2 shutter | 1 bit | C - - T - up/down 低 |
| 83 | Rocker A | COMB OBJ3 scene | 1 byte | C - - T - scene cont... 低 |
| 84 | Rocker A | COMB OBJ4 sequence | 1 bit | C - - T - start/stop 低 |
| 85 | Rocker A | COMB OBJ5 percentage | 1 byte | C - - T - percentag... 低 |
| 86 | Rocker A | COMB OBJ6 threshold(1byte) | 1 byte | C - - T - percentag... 低 |
| 87 | Rocker A | COMB OBJ7 String(14bytes) | 14 bytes | C - - T - Character... 低 |
| 88 | Rocker A | COMB OBJ8 switching | 1 bit | C - - T - switch 低 |
| 89 | Rocker A | COMB OBJ9 scene | 1 byte | C - - T - scene cont... 低 |
| 90 | Rocker A | COMB OBJ10 scene | 1 byte | C - - T - scene cont... 低 |

| No. | Name | Function | Flag | Data Type |
|---|---|---|------|--|
| 81-90, 111-120, 141-150, 171-180 | Rocker A/B/C/D up/down long/short | COMB OBJ 1-10 switching / shutter / scene / sequence / percentage / threshold (1 byte) / threshold (2 bytes) / String (14 bytes)/ short / long (switch / scene / 1 byte / 2 byte) | C T | DPT1.001 1 bit DPT1.008 1 bit DPT18.001 1 byte DPT3.007 4 bits DPT1.010 1 bit DPT5.001 1 byte DPT5.004 1 byte DPT7.001 2 bytes DPT16.000 14 bytes |

These objects are used for combination controller. In independent button mode, OBJ1-5 corresponds to the up button while OBJ6-10 corresponds to the down button.