KNX DALI Gateway

User Manual

(Applicable model: M/DALI.1)

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Content

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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	Feb.24, 2020

1 Introduction

This user manual offers the information on the configuration of KNX DALI Gateway (Model: M/DALI.1, hereinafter referred to as DALI Gateway). The following tools might be included:

- KNX DALI Gateway (Model: M/DALI.1)
- 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)

Note:

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 Import Data

1.1.1 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.

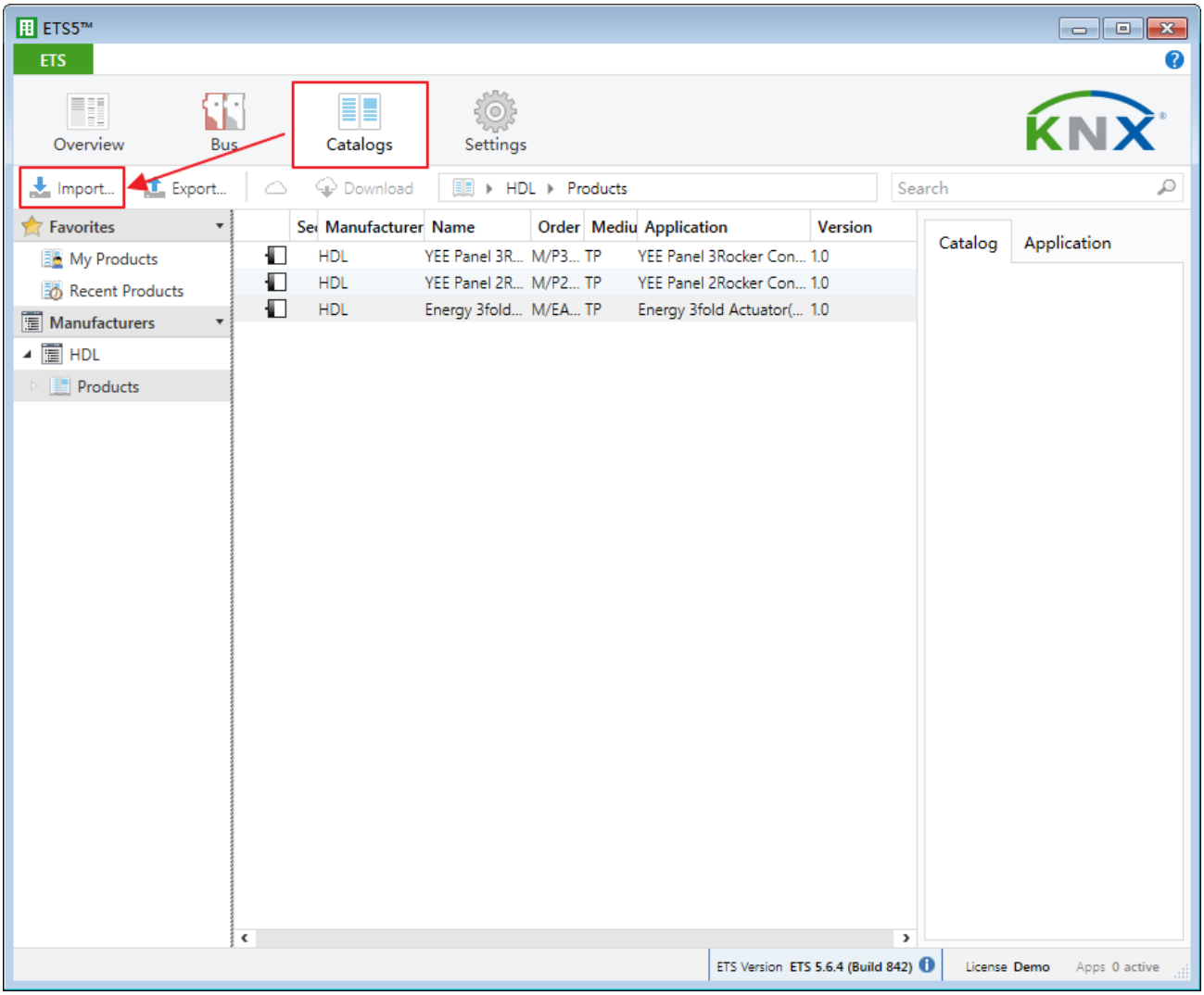


Figure 1-1 Import catalog

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 default setting items.

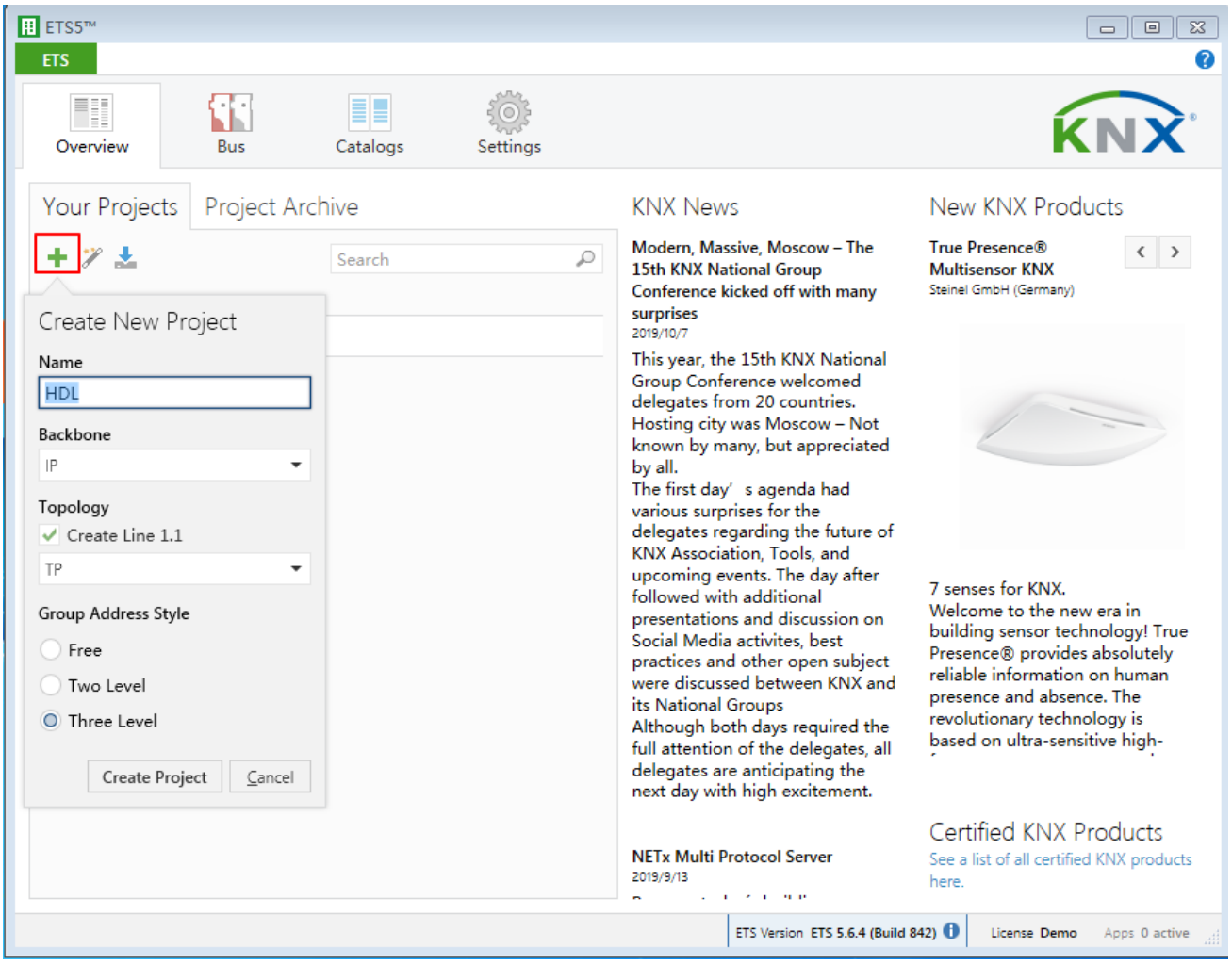


Figure 1-2 Create projects

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.

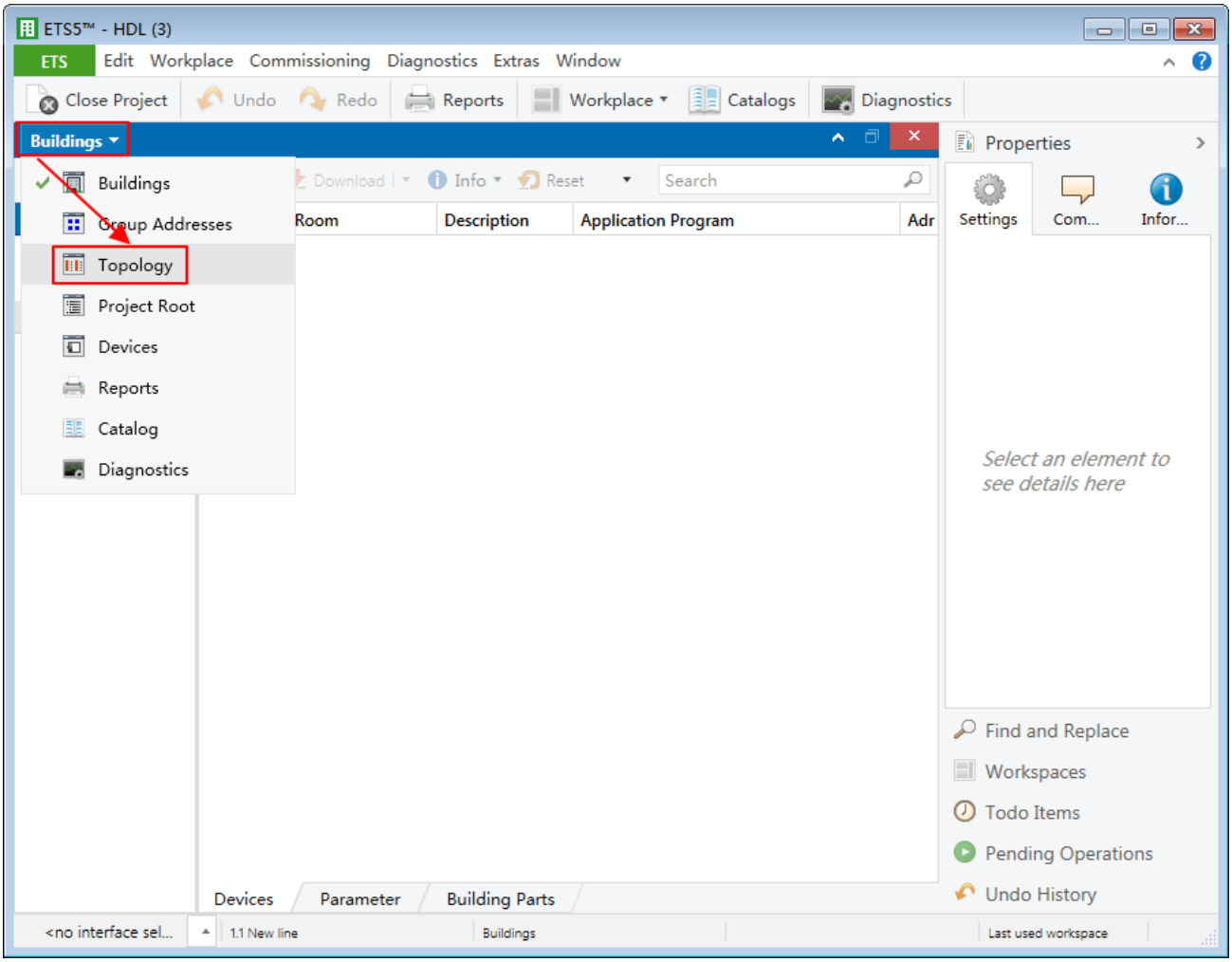


Figure 1-3 Add devices to projects (1)

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

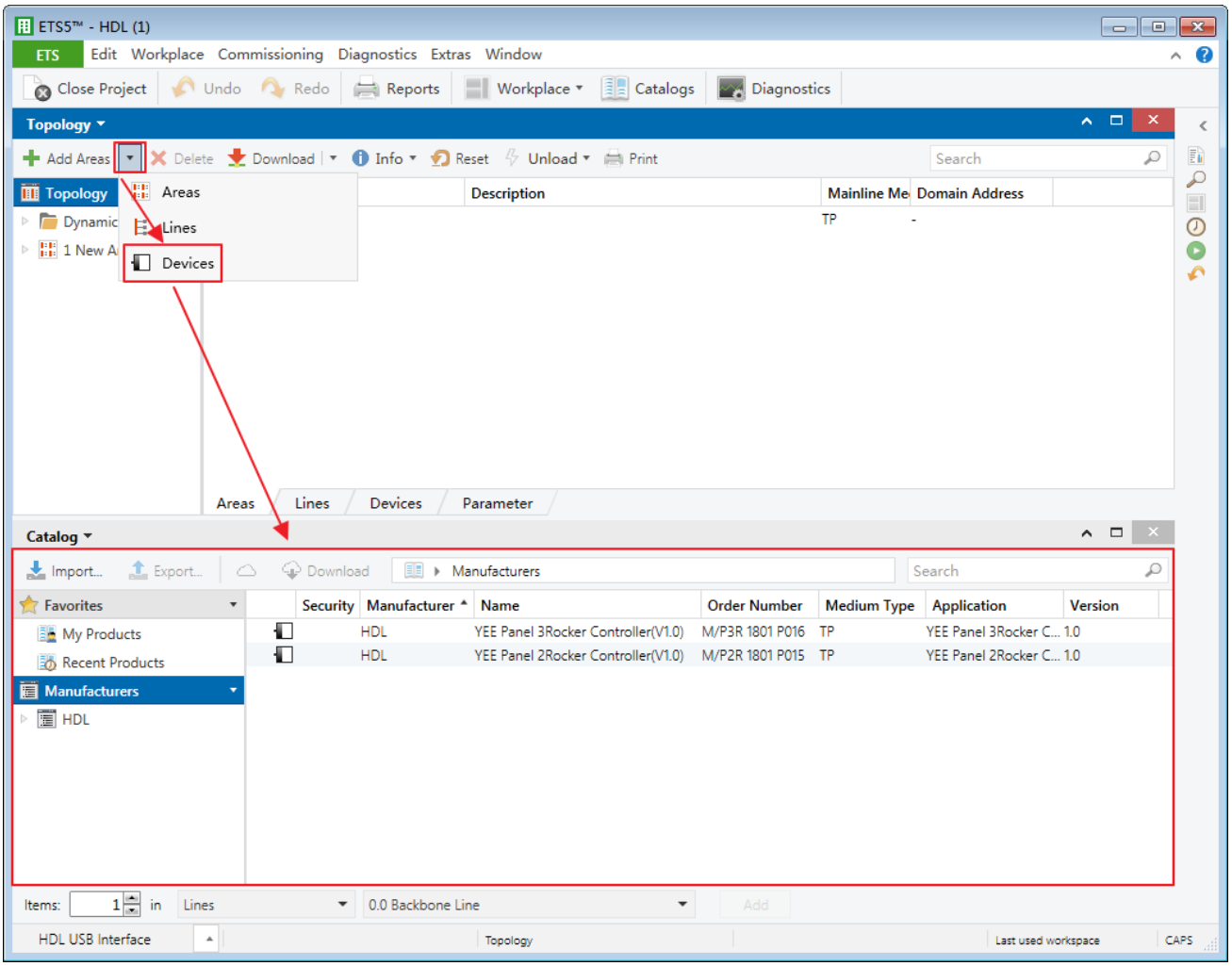


Figure 1-4 Add devices to projects (2)

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).

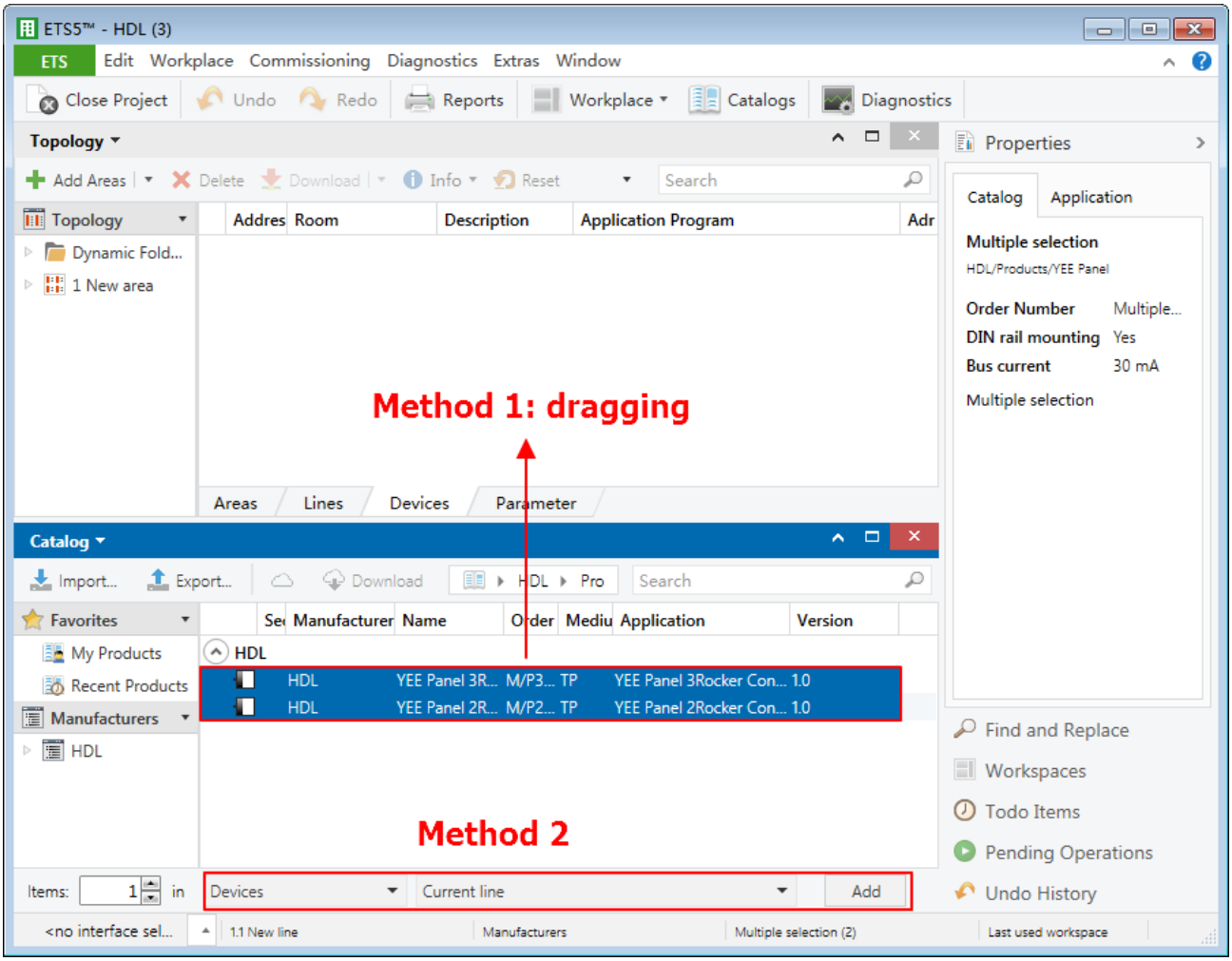


Figure 1-5 Add devices to projects (3)

1.1.2 Import Projects (.knxproj)

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. After importing projects, added/created projects will be listed below. Double click to edit.

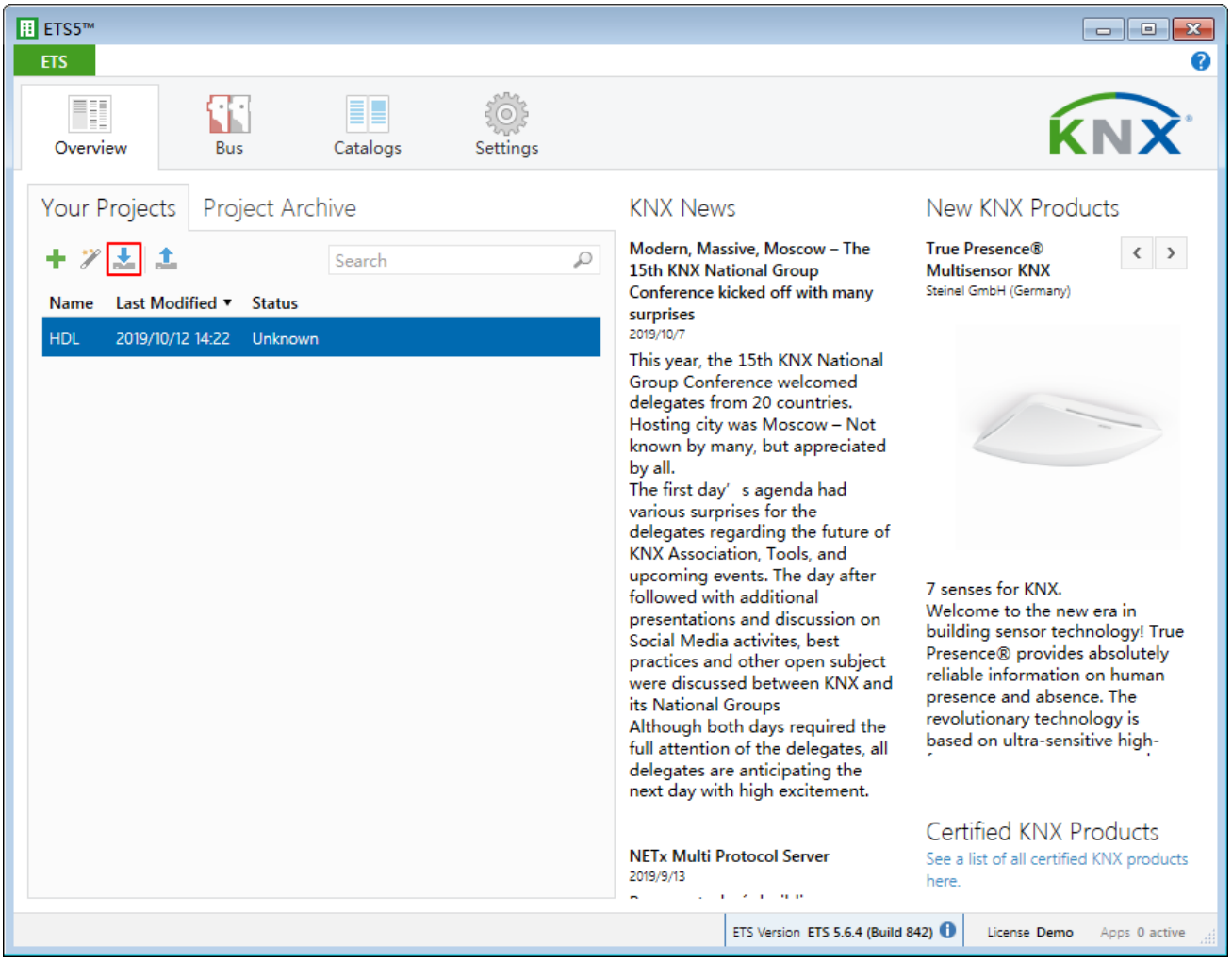


Figure 1-6 Import projects

1.2 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.

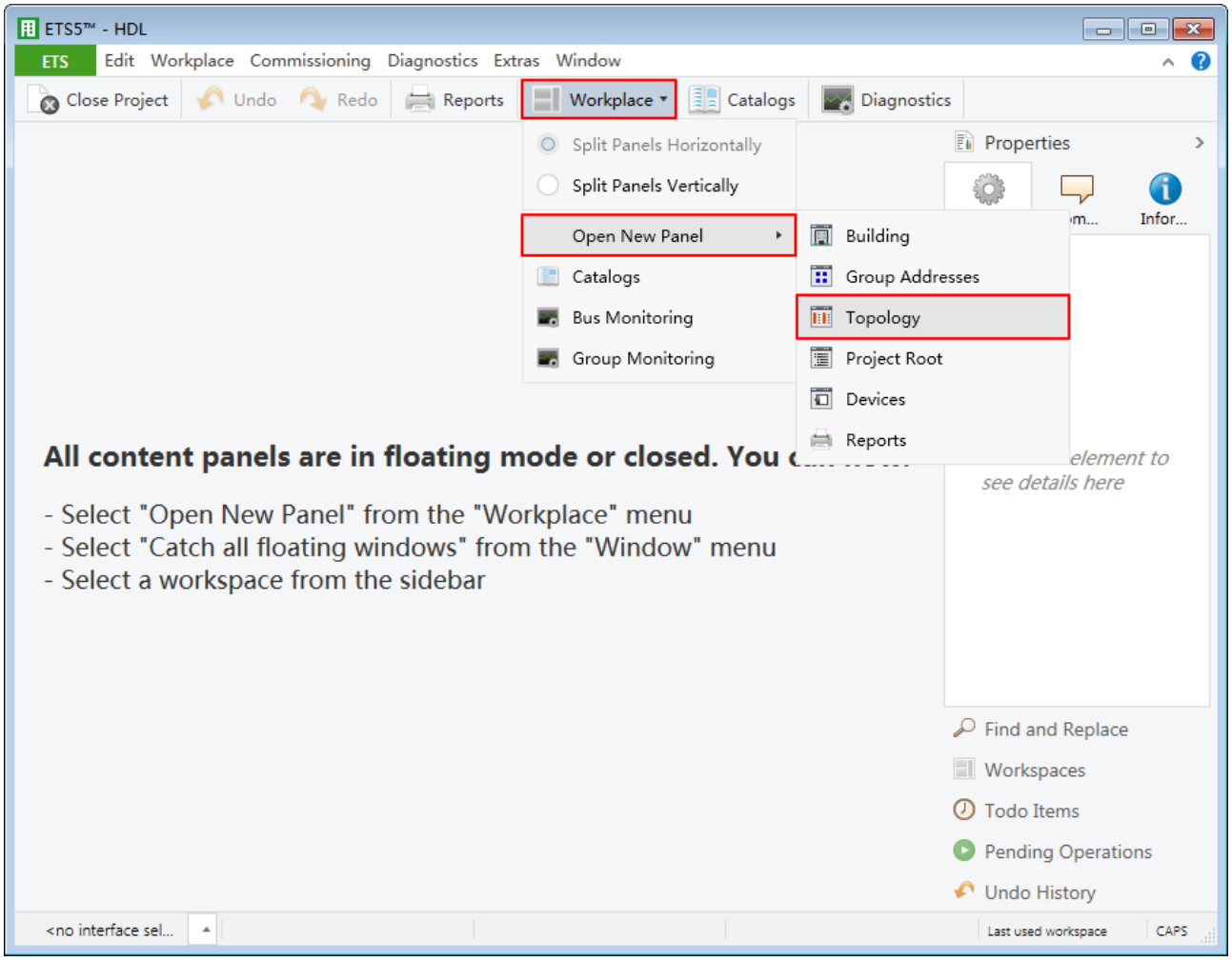


Figure 1-7 Open configuration window

2 General

2.1 General Setting

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

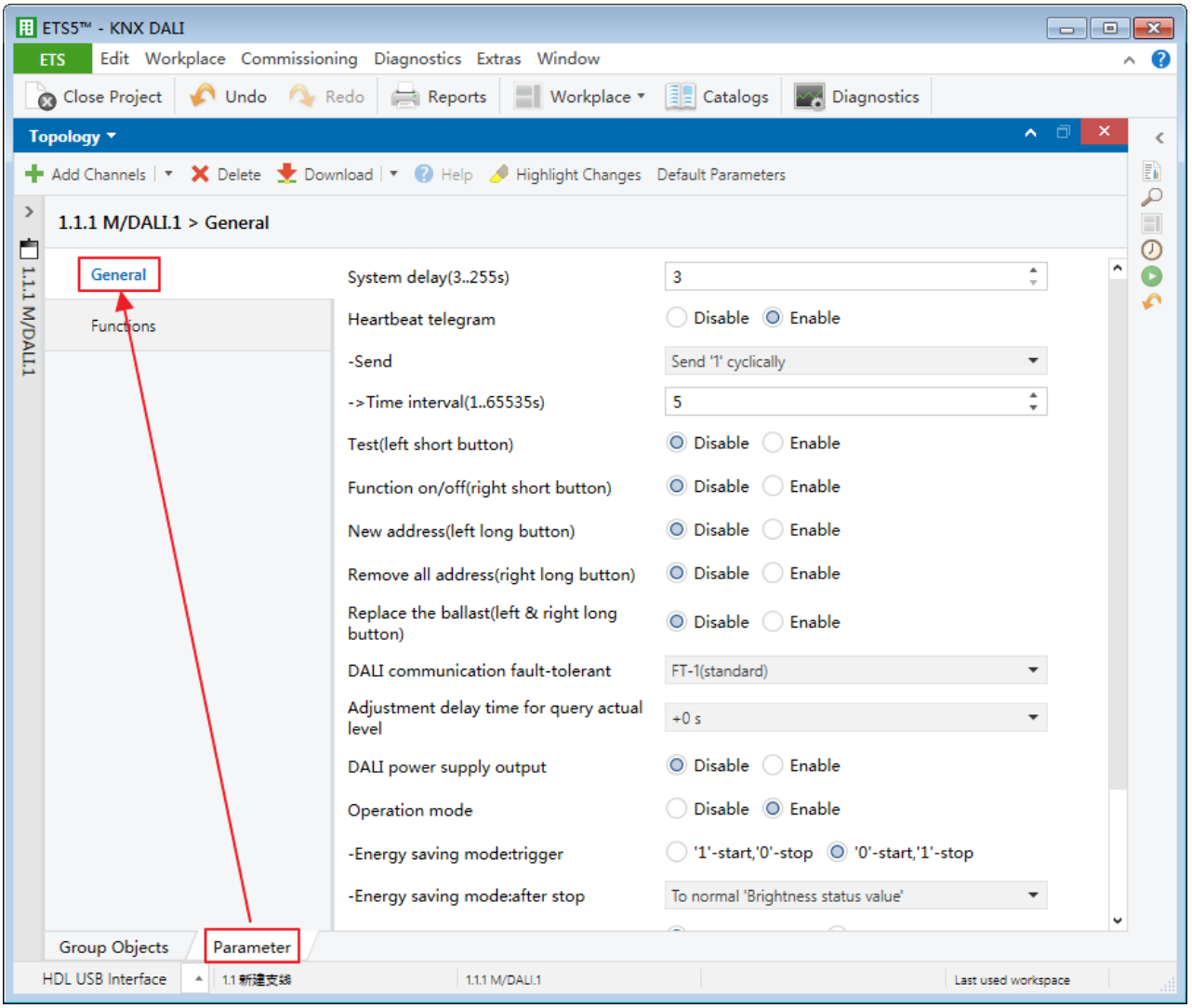


Figure 2-1 General setting

The setting items are explained below:

1. System delay (3..255s): time-delay function, namely a delay time between powering on the device and activating the system, which ranges from 3 to 255s. The default value is 3s.

2. Heartbeat telegram: after “Enable” is selected, the setting items are as follows:

1) Send: to select heartbeat telegram type.

① If “Send ‘0’ cyclically” is selected, the device will send “0” on the KNX bus at a set time interval.

② If “Send ‘1’ cyclically” is selected, the device will send “1” on the KNX bus at a set time interval.

③ If “Send ‘1/0’ inverted cyclically” is selected, the device will send “0” and “1” alternately and cyclically on the KNX bus at a set time interval.

④ If “Send ‘1’ after request” is selected, “Read target” operation is required to send requests. So that the device can send “1” on the KNX bus.

⑤ If “Send ‘0’ after request” is selected, “Read target” operation is required to send requests. So that the device can send “0” on the KNX bus.

2) Time interval: to set the time interval of sending heartbeat telegram, which ranges from 1 to 65535s. The default value is 5s.

3. Test (left short button): test function.

➢ If “Enable” is selected, DALI Gateway will enter test mode after “Test” button (in the left side of the panel) is pressed.

a) In test mode, every ballast will start a process of “the maximum brightness → brightness 0”, which is controlled by DALI Gateway. If ballasts belong to Device Type 8, every ballast will start a process of “the maximum brightness → the maximum color temperature (the coldest color temperature) → brightness 0”, which is controlled by DALI Gateway.

b) When a ballast is being tested, “Status” indicator will be green. After a device is tested, “Status” indicator will go out. In the process, “DALI” indicator will flash in red and green alternately, quickly and transiently.

c) According to ballast addresses in a sequence from small to large, test mode will work until the last ballast test is completed.

➢ If “Disable” is selected, the test function of “Test” button (in the left side of the panel) will be invalid.

Test time interval: after “Enable” is selected in the third point “Test (left short button)”, the time interval of testing ballasts can be set, which ranges from 2 to 255s. The default value is 2s.

4. Function on/off (right short button): broadcast control function.

➢ If “Enable” is selected, DALI Gateway will enter broadcast mode after “FUN” button (in the right side of the panel) is pressed. DALI Gateway will enable broadcast function according to the configuration of broadcast function (“Status” indicator is red).

Broadcast function will be disabled by pressing “FUN” button again (“Status” indicator goes out). In the process, “DALI” indicator will flash in red and green alternately, quickly and transiently. If ballasts belong to Device Type 8 and “Colour Control Type=Colour Temperature” has been configured in the broadcast function of DALI Gateway, DALI Gateway will regulate ballasts to the set color temperature. If ballasts do not belong to Device Type 8, this configuration will not work.

- If “Disable” is selected, the broadcast function of “FUN” button (in the right side of the panel) will be invalid.

5. New address (left long button): reassigning ballast address function. This function can remove original ballast addresses, so please pay attention.

   - If “Enable” is selected, users keep pressing “Test” button (on the left of the panel) for 30s until DALI Gateway starts to flash, and DALI Gateway will enter reassigning ballast address mode.

     a) In reassigning ballast address mode, “Status” indicator will flash in green at the frequency of 1s on and 1s off. After all addresses are reassigned, “Status” indicator stops flashing.

     b) After all addresses are reassigned, DALI Gateway will reread all ballast parameters. “DALI” indicator will stop flashing in green and flash in red and green alternately and quickly, which lasts until all parameters are reread.

   - If “Disable” is selected, the reassigning ballast address function of “Test” button (in the left side of the panel) will be invalid.

6. Remove all address (right long button): removing ballast address function. This function can clear all ballast addresses, so please pay attention.

   - If “Enable” is selected, users keep pressing “FUN” button (in the right side of the panel) for 30s until DALI indicator starts to flash, and DALI Gateway will enter removing ballast address mode. “Status” indicator will flash in red for 3 times at the frequency of 1s on and 1s off.

   - If “Disable” is selected, the removing ballast address function of “FUN” button (in the right side of the panel) will be invalid.

7. Replace the ballast (left & right long button): replacing ballast function.

   - If “Enable” is selected, users keep pressing “Test” button (in the left side of the panel) and “FUN” button (in the right side of the panel) for 15s until “DALI” indicator starts to flash, and DALI Gateway will enter replacing ballast mode.

     a) If there are ballasts to restore, “Status” indicator will flash 6 times at the frequency of 1s red and 1s green and goes out. In the process, DALI Gateway will flash in red and green alternately and quickly.

b) If fault ballasts have not been recorded or ballasts to be restored have not been found, “Status” indicator will be red for 3s and go out.

c) DALI module needs to be refreshed before fault ballasts are recorded. Refresh methods are as follows:

Method 1: to automatically refresh DALI Gateway via restarting.

Method 2: to automatically refresh DALI Gateway via powering down and restoring DALI bus voltage (powering down and restoring 220V power).

Method 3: to manually refresh DALI Gateway via auxiliary software.

d) If the ballast for replacement already has an address, this ballast address may conflict with existing ballast addresses and can’t be found in replacing ballast mode.

e) Every time replacing ballast function is enabled, only one fault ballast can be restored. If several fault ballasts need to be replaced, this function should be enabled several times.

f) Replacing ballast mode works according to ballast addresses in a sequence from small to large, but replaced ballast addresses may not match with original addresses. For example, when ballast addresses to be replaced are A0, A1, and A2. After replacement, the ballast addresses of original positions may turn to be A1, A2 and A0.

g) In replacing ballast mode, what can be restored are the addresses and group information of ballasts. The scene information stored in ballasts can’t be restored.

- If “Disable” is selected, there will be no response after users keep pressing “Test” button (in the left side of the panel) and “FUN” button (in the right side of the panel).

8. DALI communication fault-tolerant: to select DALI communication fault-tolerant levels (a total of 10 levels). DALI communication fault-tolerant controls the transmission interval of DALI commands, to solve the signal conflict of several devices on the bus. Higher fault-tolerant level means greater transmission interval. Default level FT-1 usually is selected.

9. Adjustment delay time for query actual level: after DALI Gateway changes ballast brightness, DALI Gateway will automatically query the actual brightness of ballasts. Delay time works from the last operation of changing ballast brightness. And DALI Gateway will send the actual brightness of ballasts to the KNX bus, which is based on the configuration of status feedback function.

10. DALI power supply output: DALI bus power output function, the default status is “enabled”.

- If “Enable” is selected, DALI Gateway will generate voltage output compliant with DALI bus standard between D+ and D- port.

- If “Disable” is selected, DALI Gateway will not generate voltage output compliant with DALI bus standard. Meanwhile, “DALI” indicator will be red and green (shown as brownish red), which indicates fault bus voltage.

11. Operation mode: after “Enable” is selected, working mode can be selected below. Specific working mode can be set in corresponding “Broadcast/Group/Channel” function setting page.

    1) Energy saving mode: trigger: to set the control method of energy saving mode.

        ① If “‘1’-start, ‘0’-stop” is selected, energy saving mode will be enabled after “1” is written to objects, while energy saving mode will be disabled after “0” is written to objects.

        ② If “‘0’-start, ‘1’-stop” is selected, energy saving mode will be enabled after “0” is written to objects, while energy saving mode will be disabled after “1” is written to objects.

    2) Energy saving mode: after stop: to set the light brightness after exiting energy saving mode.

        ① If “Switch ON” is selected, light brightness will be the initial brightness.

        ② If “Switch OFF” is selected, lights will be turned off.

        ③ If “To normal ‘Brightness status value’” is selected, light brightness will be the brightness before entering energy saving mode.

    3) Night mode: trigger: to set the control method of night mode.

        ① If “‘1’-start, ‘0’-stop” is selected, night mode will be enabled after “1” is written to objects, while night mode will be disabled after “0” is written to objects.

        ② If “‘0’-start, ‘1’-stop” is selected, night mode will be enabled after “0” is written to objects, while night mode will be disabled after “1” is written to objects.

    4) Night mode: after stop: to set the light brightness after exiting night mode.

        ① If “Switch ON” is selected, light brightness will be the initial brightness.

        ② If “Switch OFF” is selected, lights will be turned off.

        ③ If “To normal ‘Brightness status value’” is selected, light brightness will be the brightness before entering night mode.

12. Fault detection: after “Enable” is selected, click “Fault” label in the parameter list on the left and setting items will appear in the open page.

2.2 Fault Detection

After “Enable” is selected at the bottom of general setting page, click “Fault” label in the parameter list on the left, as shown in Figure 2-2.

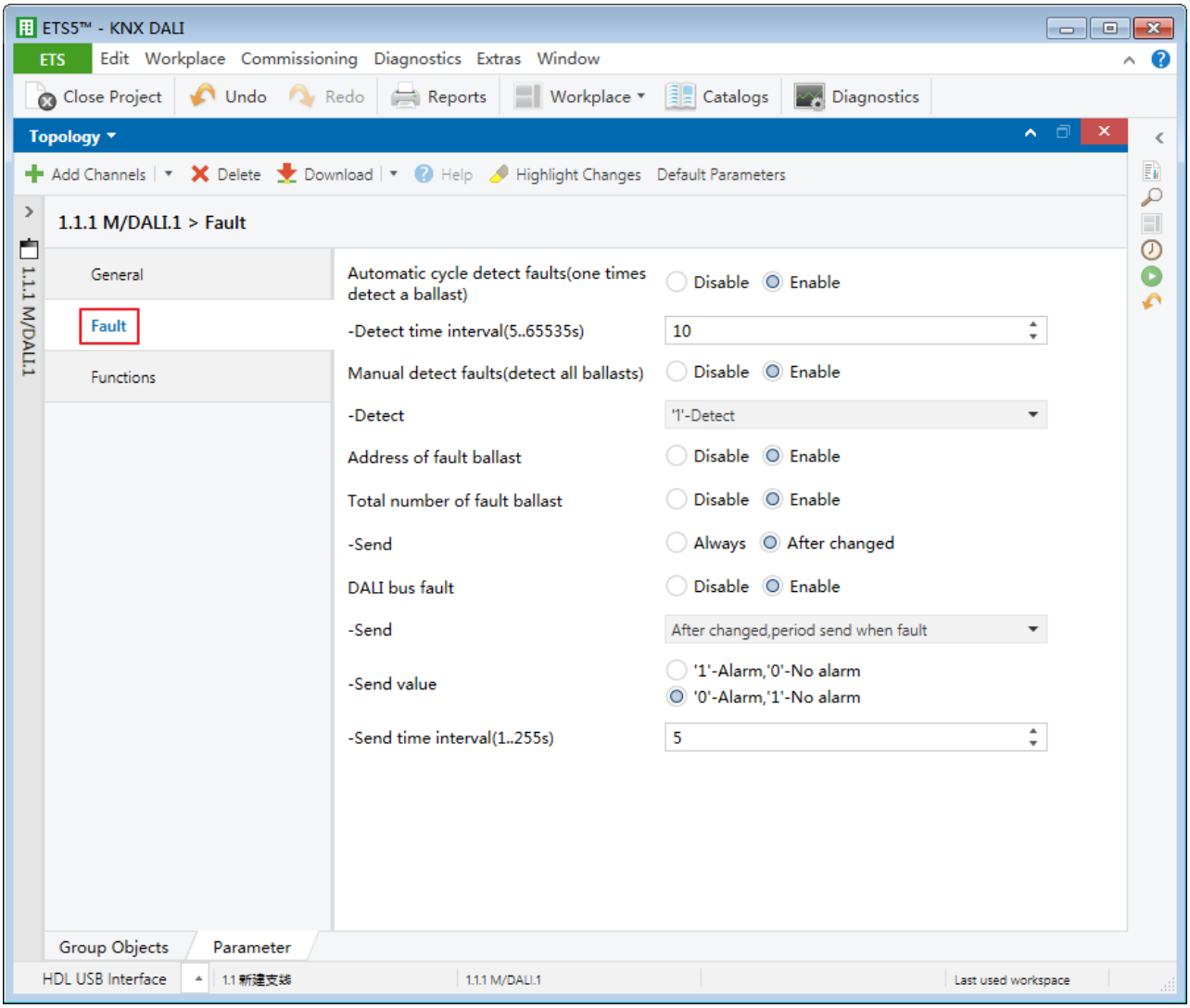


Figure 2-2 Fault detection

The setting items are explained below:

1. Automatic cycle detect faults: to enable/disable automatic cycle fault detection function.
   - ➢ Detect time interval: after “Enable” is selected in “Automatic cycle detect faults”, the time interval of detecting faults can be set, which ranges from 5 to 65535s. The default value is 10s.
2. Manual detect faults: manual fault detection function. This function can detect all faults, including ballast fault, light fault and DALI bus fault in broadcast, group or channel. If “Disable” is selected, manual fault detection function will be invalid.

- Detect: after “Enable” is selected in “Manual detect fault”, users can select the control method of manual fault detection.

  ① If “‘0’-Detect” is selected, detection will be started after “0” is sent.

  ② If “‘1’-Detect” is selected, detection will be started after “1” is sent.

  ③ If “‘1’/‘0’-Detect” is selected, detection will be started after “1” or “0” is sent.

3. Address of fault ballast: to send fault ballast addresses (0-63 respectively responds to A0-A63).

4. Total number of fault ballast: to enable sending the number of fault ballasts.

   - Send: after “Enable” is selected in “Total number of fault ballast”, the sending type can be set.

     ① If “Always” is selected, the number of fault ballasts will be sent after detection.

     ② If “After changed” is selected, the number of fault ballasts will be sent after the number changes.

5. DALI bus fault: to enable/disable DALI bus fault detection function.

   1) Send: after “Enable” is selected in “DALI bus fault”, users can set the sending type after detection.

      ① If “After detected (alarm 1 times)” is selected, the fault signal will be sent once after bus fault is detected.

      ② If “After detected & changed” is selected, the fault signal will be sent once after bus status changes, namely the fault signal will be sent when faults happen on the bus, and the fault signal will be sent again when the bus turns to be normal.

      ③ After “After changed, period send when fault” is selected, the fault signal will be sent after bus status changes. Namely the fault signal will be sent periodically (the period is set in “Send time interval”) when faults happen on the bus, and the fault signal will be sent once when the bus turns to be normal.

   2) Send value: after “Enable” is selected in “DALI bus fault”, the type of value to be sent can be selected.

      ① If “‘1’-Alarm, ‘0’-No alarm” is selected, “1” will be sent after faults are detected, while “0” will be sent after no fault is detected.

      ② If “‘0’-Alarm, ‘1’-No alarm” is selected, “0” will be sent after faults are detected, while “1” will be sent after no fault is detected.

   3) Send time interval: after “After changed, period send when fault” is selected in the fifth point “Send”, users can set the time interval of sending fault status. Time interval ranges from 1 to 255s. The default value is 5s.

3 Functions Selection

Click “Functions” label in parameter list to enable gateway functions in the open page, as shown in Figure 3-1.

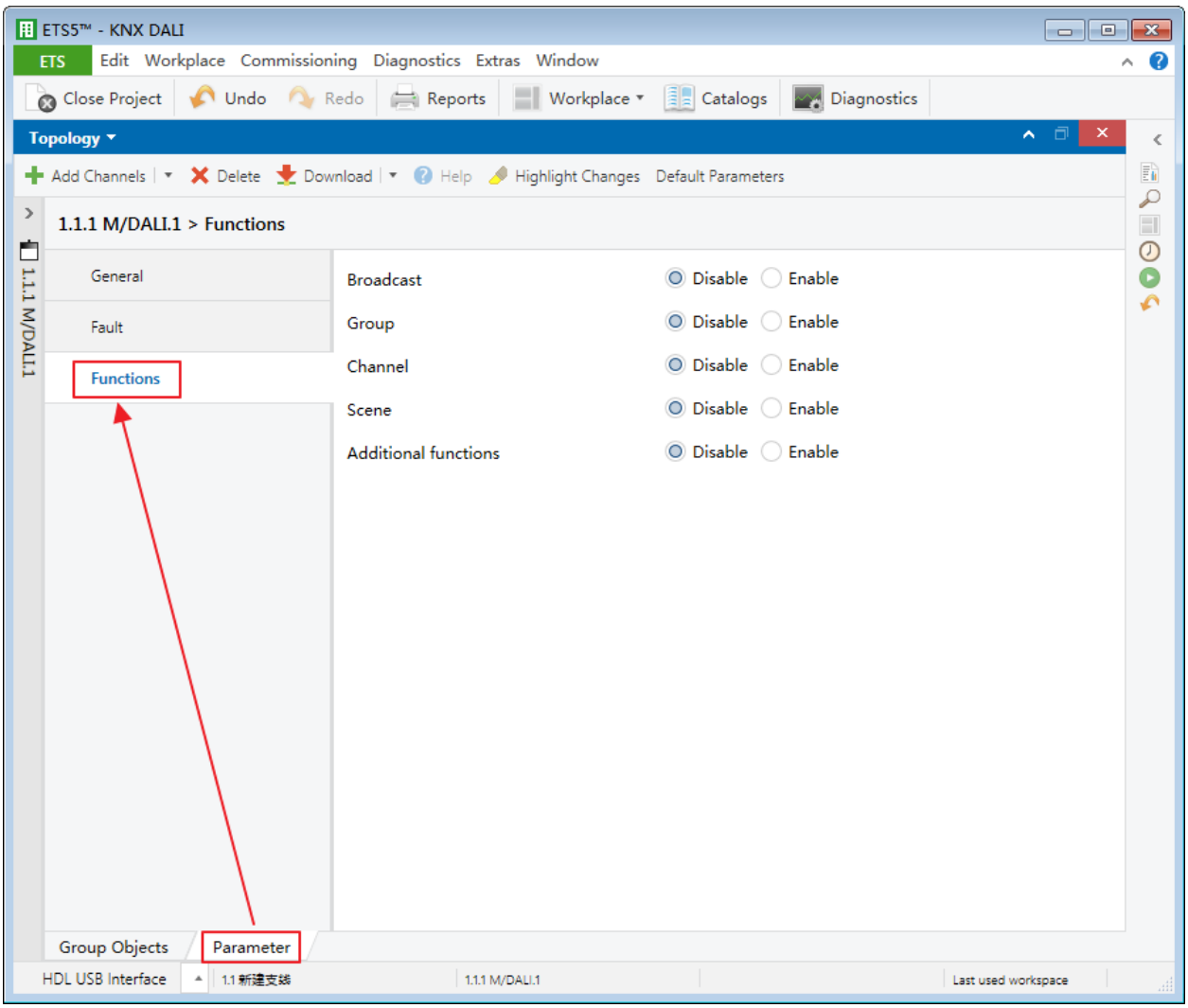


Figure 3-1 Select function

DALI Gateway supports:

1. Broadcast
2. Group: up to 16 groups can be configured.
3. Channel: up to 64 channels can be configured.
4. Scene: up to 16 scenes can be configured.
5. Additional functions: including staircase light, sequence and emergency light function.

4 Broadcast

4.1 General Setting

After “Broadcast” is enabled in function selection page, click “Broadcast” label in the parameter list on the left, as shown in Figure 4-1.

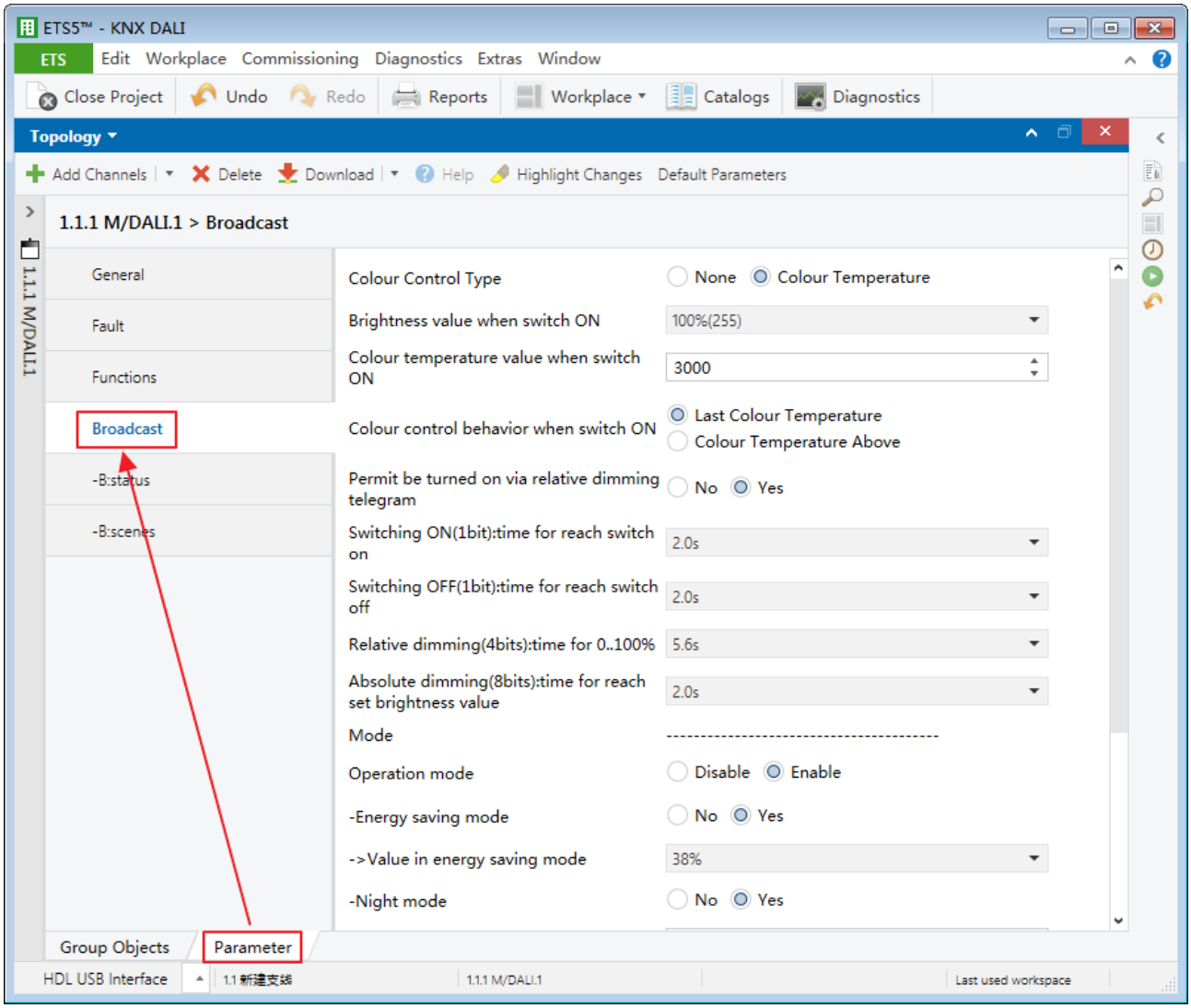


Figure 4-1 General setting

The setting items are explained below:

1. Colour control type: to enable color temperature control function. If light brightness is 0 when broadcast is enabled, color temperature settings do not work.

   ➢ If “None” is selected, color temperature control function will be disabled.

- If “Colour Temperature” is selected, color temperature control function will be enabled.

  1) Colour temperature value when switch ON: to set the initial color temperature value of light, which ranges from 1000 to 10000K. The default value is 3000K. This parameter needs to work with the settings in “Colour control behavior when switch ON” (adjustable color temperature of ballasts universally ranges from 2700 to 6500K. If set color temperature is beyond this range, the effect depends on ballasts. Generally, ballasts will take the upper color temperature value when set color temperature values are above the upper limit. While ballasts will take the lower color temperature value when set color temperature values are below the lower limit).

  2) Colour control behavior when switch ON: to set color temperature operation when broadcast is enabled.

     ① If “Last Colour Temperature” is selected, color temperature will be the last recorded color temperature value when broadcast is enabled.

     ② If “Colour Temperature Above” is selected, color temperature takes the value set in “Colour temperature value when switch ON”.

2. Brightness value when switch on: to set the initial brightness of lights.
3. Permit be turned on via relative dimming telegram:
   - If “Yes” is selected, lights can be turned on by relative dimming telegram.
   - If “No” is selected, lights can’t be turned on by relative dimming telegram.
4. Switching ON (1bit): time for reach switch on: to set the fade time for lights to reach preset initial brightness, the default value is 2s.
5. Switching OFF (1bit): time for reach switch off: to set the fade time for lights to go out, the default value is 2s.
6. Relative dimming (4bits): time for 0.100%: to set the fade time of relative dimming. The default value is 5.6s. This fade time corresponds to fade rate, which indicates dimming speed instead of the time when light brightness turns from 0 to 100%. If relative dimming is not stopped, light brightness will be regulated to the maximum brightness or the minimum brightness. The relative dimming command can’t turn off lights.
7. Absolute dimming (8bits): time for reach set brightness value: to set the fade time of absolute dimming. The default value is 2s. Color temperature regulation uses the same fade time as absolute dimming.
8. Operation mode: after “Enable” is selected, working mode can be selected below.

1) Energy saving mode: to enable/disable energy saving mode. The following items can be set after “Yes” is selected.

   Value in energy saving mode: to set the light brightness in energy saving mode.

2) Night mode: to enable/disable night mode. The following items can be set after “Yes” is selected.

   ① Delay in night mode: to set the delay time of entering night mode.

   ② Value in night mode: to set the light brightness in night mode.

9. Broadcast scenes: to enable controlling scenes via broadcast.

➢ Broadcast scenes for recovery: after “Enable” is selected in “Broadcast scenes”, scene restoration type can be selected after voltage recovery.

① If “Disable” is selected, scene restoration function will be disabled after voltage recovery.

② If “Last Scene” is selected, the last recorded scene can be restored.

③ If “Scene No.N (N=1, …, 16)”, scene 1-16 can be selected to restore.

4.2 Status Feedback

After “Broadcast” is enabled in function selection page, click “-B: status” label in the parameter list on the left, as shown in Figure 4-2.

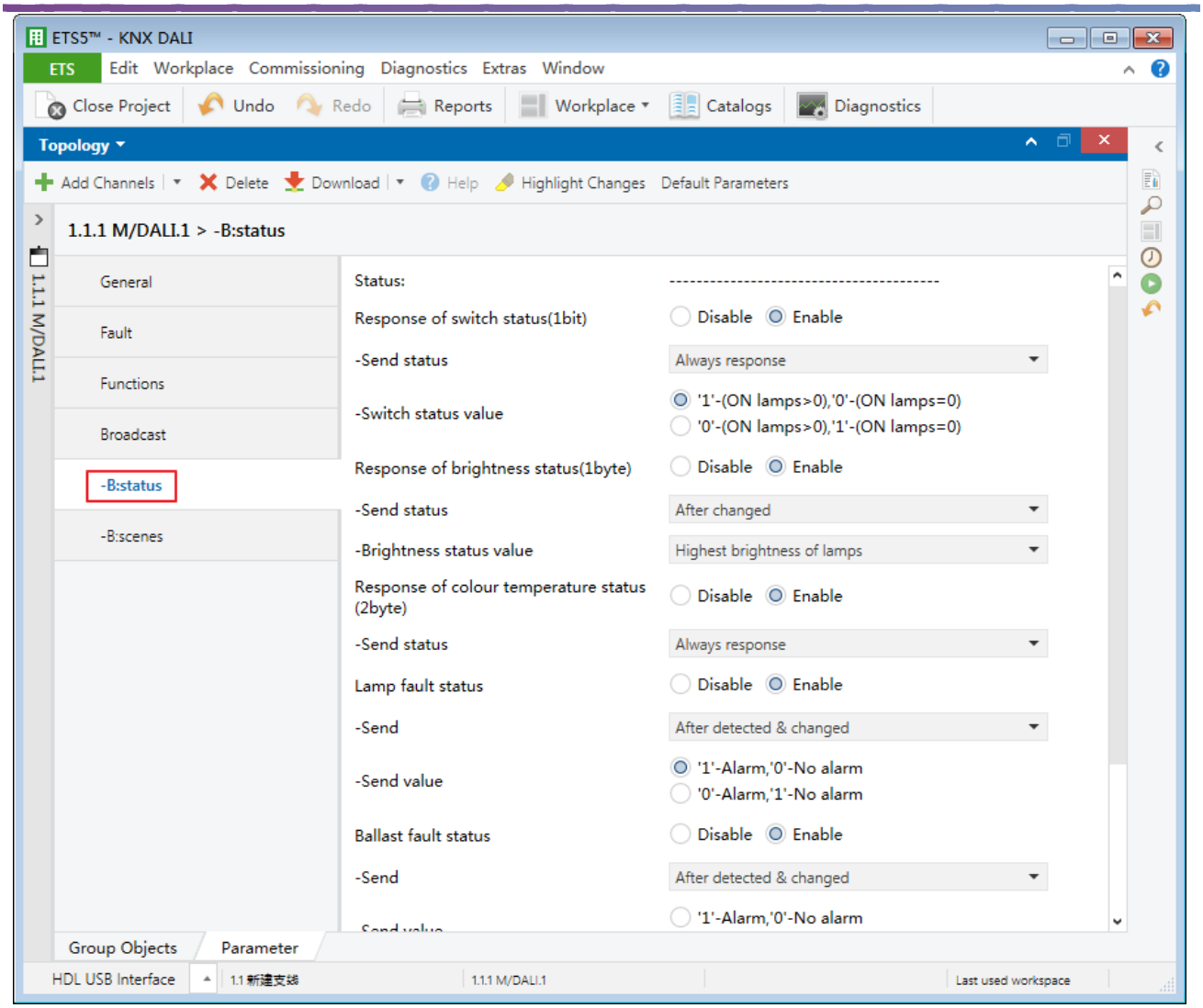


Figure 4-2 Status feedback

The setting items are explained below:

1. Response of switch status (1 bit): to enable/disable switch status feedback function (with 1-bit object). The following items can be set after “Enable” is selected:

   1) Send status: to select feedback type.

      ① If “Always response” is selected:

      a) After any operation changing broadcast switch status (including broadcast switch and broadcast absolute dimming), the status will be sent to the bus. And the status will be sent to the bus again after the delay time. The delay time is based on the settings in “Adjustment delay time for query actual level”.

      b) When lights are turned on via broadcast relative dimming, the status will be compulsorily sent to the bus once.

c) Broadcast switch status can also be changed by any operation changing light brightness via DALI bus. After such operations, the status will be compulsorily sent to the bus once after the delay time. The delay time is based on the settings in “Adjustment delay time for query actual level”. DALI Gateway calculates broadcast brightness according to the settings in “Brightness status value”. If this setting is not enabled, DALI Gateway will take the maximum brightness as broadcast brightness.

d) The value sent to the bus depends on the configuration of “Switch status value”.

② If “After changed” is selected, the status will be sent to the bus when broadcast switch status changes. The rule for predicting status is the same as above rule. Every time the status changes, the status will be sent to the bus.

③ If “After requested” is selected, the status will be sent to the bus after this object is read. The rule for predicting status is the same as above rule.

2) Switch status value: to select feedback data type.

① If “‘1’-ON lamps > 0, ‘0’-ON lamps=0” is selected, “1” will be sent when the number of lighted lights is above 0, while “0” will be sent when the number of lighted lights is equal to 0.

② If “‘0’-ON lamps > 0, ‘1’-ON lamps=0” is selected, “0” will be sent when the number of lighted lights is above 0, while “1” will be sent when the number of lighted lights is equal to 0.

③ The number of lighted lights depends on broadcast brightness. DALI Gateway calculates broadcast lightness according to the settings in “Brightness status value”. When broadcast brightness is greater than 0, it indicates that the number of lighted lights is above 0. When broadcast brightness is equal to 0, it indicates that the number of lighted lights is equal to 0.

2. Response of brightness status (1 byte): to enable/disable light brightness feedback function (with 1-byte object). The following items can be set after “Enable” is selected:

1) Send status: to select feedback type.

① If “Always response” is selected, light brightness will be sent to the bus after any operation.

② If “After changed” is selected, light brightness will be sent to the bus after the status changes.

③ If “After requested” is selected, light brightness will be sent to the bus after requests are sent.

2) Brightness status value: to select data feedback type.

① If “Average brightness of lamps” is selected, the average brightness of lights will be sent to the bus.

② If “Highest brightness of lamps” is selected, the maximum brightness of lights will be sent to the bus.

③ If “Lowest brightness of lamps” is selected, the minimum brightness of lights will be sent to the bus.

Note: the feedback rule of “Response of brightness status (1 byte)” is the same as that of “Response of switch status (1 bit)”. The difference is that, in “Response of brightness status (1 byte)”, when lights are turned on via broadcast relative dimming, the status will not be compulsorily sent to the bus once.

3. Response of colour temperature status (2 bytes): to enable color temperature status feedback function.

   ➢ Send status: to select color temperature feedback type after “Enable” is selected in “Response of colour temperature status (2 bytes)”.

   ① If “Always response” is selected, the status will be sent to the bus after any operation.

   ② If “After changed” is selected, the status will be sent to the bus after the status changes.

   ③ If “After requested” is selected, the status will be sent to the bus after requests are sent.

Note: every time color temperature control function is enabled, the status will be sent at once to the bus. So far, feedback telegram represents color temperature value. For example, 3000K is represented as 014D (333 Mirek). The formula is “Mirek=1000000/T” (T represents color temperature value).

4. Lamp fault status: to enable/disable fault light feedback function. The following items can be set after “Enable” is selected:

   1) Send: to select light status feedback type.

   ① If “After detected (alarm, no alarm)” is selected, feedback telegram will be sent after detection.

   ② If “After detected (only alarm)” is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).

   ③ If “After detected & changed” is selected, after detection, feedback telegram will be sent after fault status changes.

   2) Send value: to select telegram value feedback type.

① If “1-Alarm, 0-No alarm” is selected, “1” will be sent when there is an alarm (fault), while “0” will be sent when there is no alarm (no fault).

② If “0-Alarm, 1-No alarm” is selected, “0” will be sent when there is an alarm (fault), while “1” will be sent when there is no alarm (no fault).

5. Ballast fault status: to enable/disable fault ballast feedback function. The following items can be set after “Enable” is selected:

1) Send: to select ballast status feedback type.

① If “After detected (alarm, no alarm)” is selected, feedback telegram will be sent after detection.

② If “After detected (only alarm)” is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).

③ If “After detected & changed” is selected, after detection, telegram will be sent after fault status changes.

2) Send value: to select telegram value feedback type.

① If “1-Alarm, 0-No alarm” is selected, “1” will be sent when there is an alarm (fault), while “0” will be sent when there is no alarm (no fault).

② If “0-Alarm, 1-No alarm” is selected, “0” will be sent when there is an alarm (fault), while “1” will be sent when there is no alarm (no fault).

6. Brightness recovery: to set the light brightness after voltage recovery.

- If “Disable” is selected, light brightness restoration function will be disabled after voltage recovery.
- If “Last brightness” is selected, the light brightness before power down will be restored.
- If “Switch ON brightness” is selected, the initial light brightness when broadcast is enabled will be restored.
- If “0-100%” is selected, light brightness can be restored to 0-100%.

7. Colour temperature recovery: this option will appear after “Colour temperature” is selected in the first point “Colour control type” of broadcast general setting.

- If “Disable” is selected, color temperature restoration function will be disabled.
- If “Last Colour Temperature” is selected, the color temperature value before power down will be restored.
- If “Switch ON colour temperature” is selected, the color temperature value is the value

when broadcast is enabled. Please refer to the settings in “Colour temperature value when switch ON” and “Colour control behavior when switch ON” of broadcast general setting.

- If “Colour temperature below” is selected, color temperature value can be selected, which is set in the 8th point “Colour temperature for recovery” below.

8. Colour temperature for recovery: this parameter works after “Colour temperature below” is selected in the above 7th point “Colour temperature recovery”. Color temperature can be set from 1000 to 10000K. The default value is 3000K.

4.3 Scene Setting

After “Broadcast scenes” is enabled in broadcast setting page, click “-B: scenes” label in the parameter list on the left, as shown in Figure 4-3.

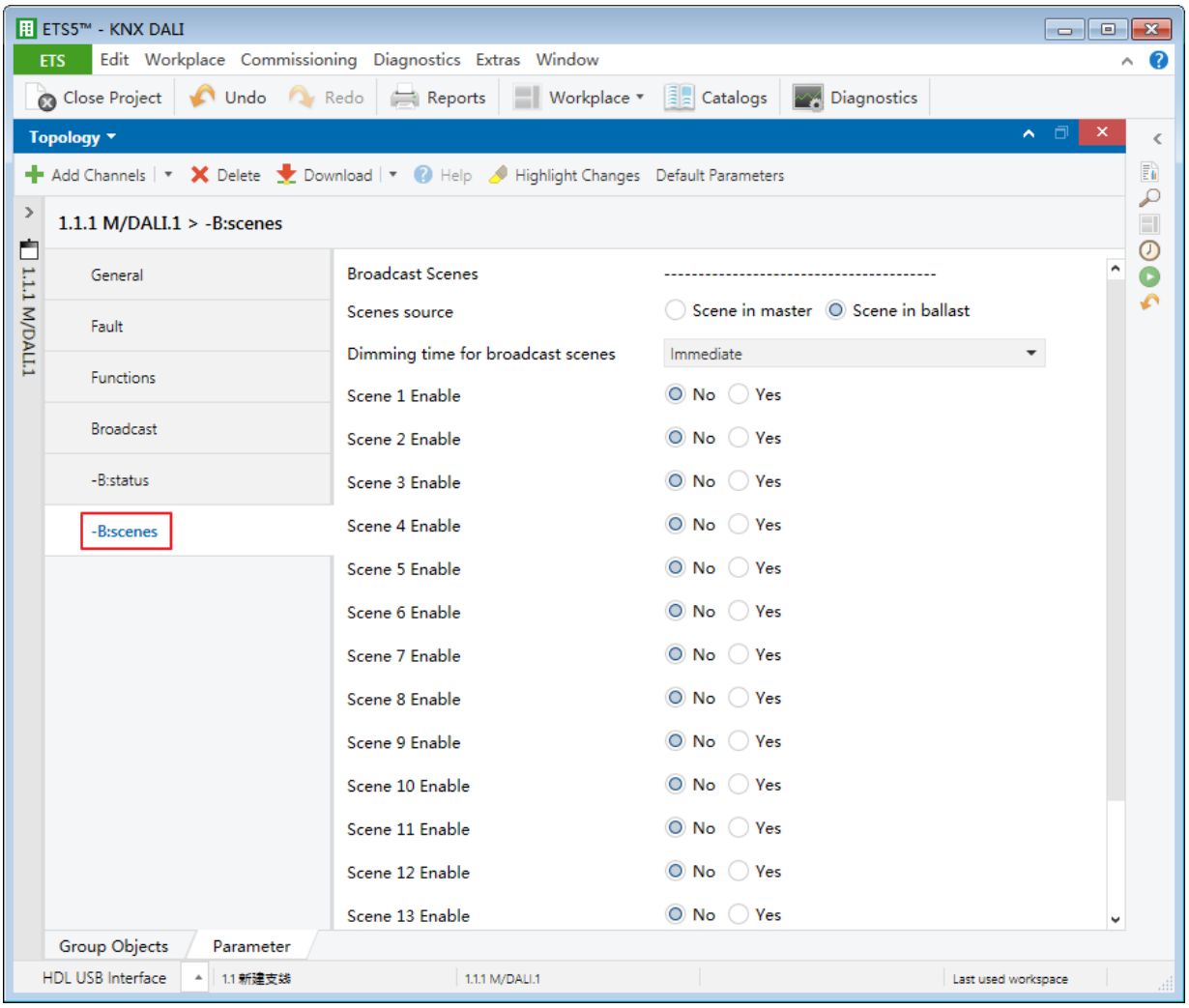


Figure 4-3 Scene setting

The setting items are explained below:

1. Scenes source: to select “Scene in master” or “Scene in ballast” (only one scene is available at one time).

   Scene in master: the scenes saved in DALI master, which can be downloaded to DALI Gateway.

   Scene in ballast: the scenes saved in ballast. Each ballast can configure 16 scenes, which can be called via ETS software.

2. Dimming time for broadcast scenes: to set the fade time of scene dimming. If “Same as absolute dimming time” is selected, the fade time of scene dimming is the same as that of broadcast absolute dimming.

- If “Scene in master” is selected in “Scenes source”, the following items can be set:

  1) Broadcast scene N colour control type: to select the control type of light brightness in this scene. If “None” is selected, color temperature control function will be disabled. If “Colour Temperature” is selected, color temperature control function will be enabled.

  2) Broadcast scene N brightness value: to set the light brightness in this scene, including “Inactive” and “0-100%”.

     Broadcast scene N colour temperature: to set the color temperature value of light in this scene, after “Colour temperature” is selected in “Broadcast scene N colour control type”. Color temperature settings only work for the ballasts which support color temperature regulation. If “Inactive” or “0%” is selected in “Broadcast scene N brightness value”, color temperature settings do not work.

- If “Scene in ballast” is selected in “Scenes source”, the following items can be set:

  Scene N enable: to call the scenes saved in ballast (up to 16). If ballasts have not set corresponding scenes, scenes will not be called after “Enable” is selected. After scenes are set, scenes can be called via the object “20: Call Broadcast Scene (1 byte)”.

5 Group

5.1 Group Selection

After “Group” is enabled in function selection page, click “Groups” label in the parameter list on the left, as shown in Figure 5-1.

Note: up to 16 groups can be configured in DALI Gateway, including single group control and corresponding group scene.

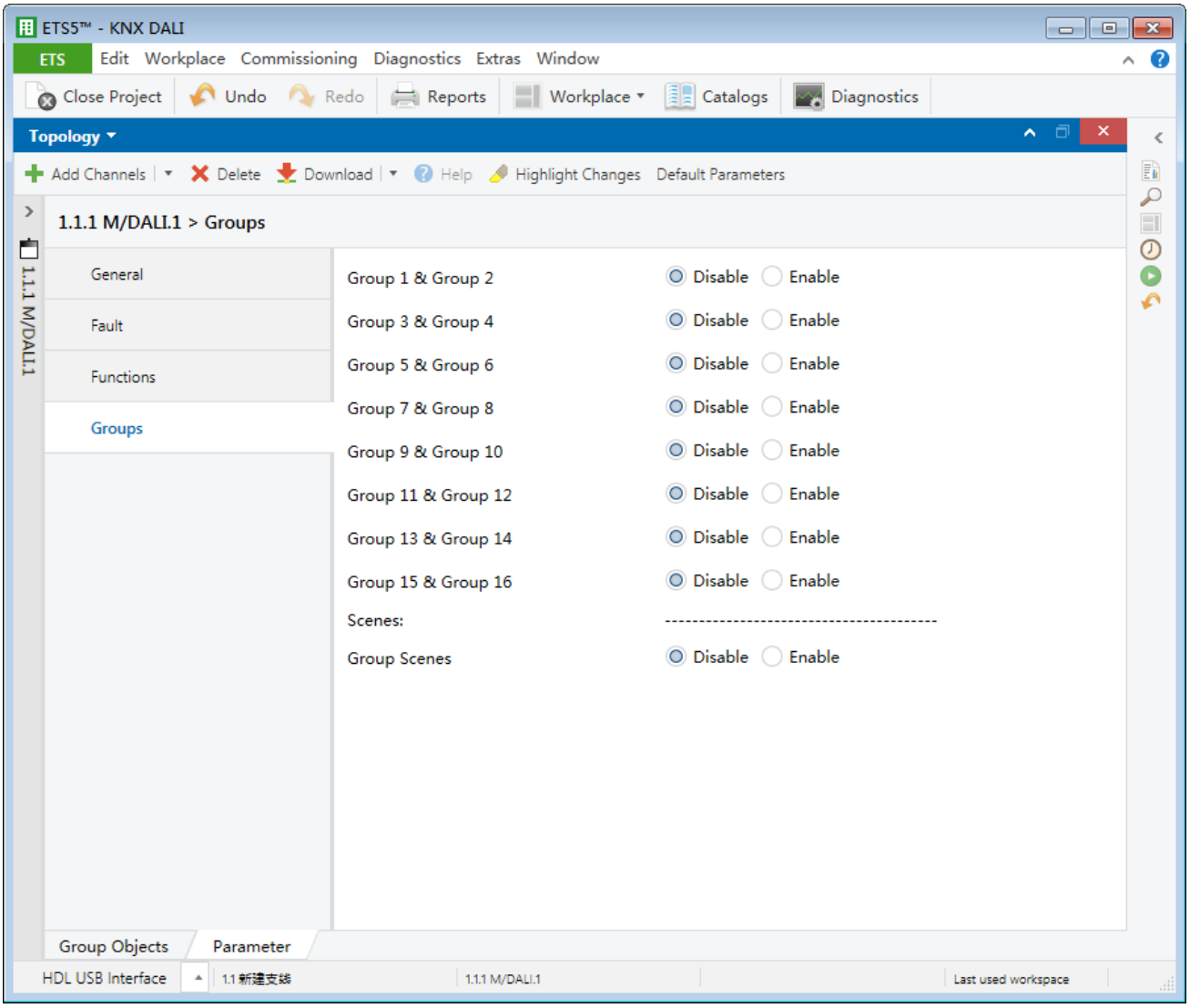


Figure 5-1 Select group

The setting items are explained below:

1. Group N & N+1 (N=1, …, 15): to enable/disable the selected group.

2. Group scenes: to enable scene. If “Disable” is selected, all group scene function configured singly will not work.

   ➢ Group scenes recovery: to enable restoring scene. If “Disable” is selected, all group scene restoring function configured singly will not work.

5.2 Group Setting

After groups are enabled in group selection page (“Group 1 & Group 2” is taken as an example), click “Group 1” label, as shown in Figure 5-2.

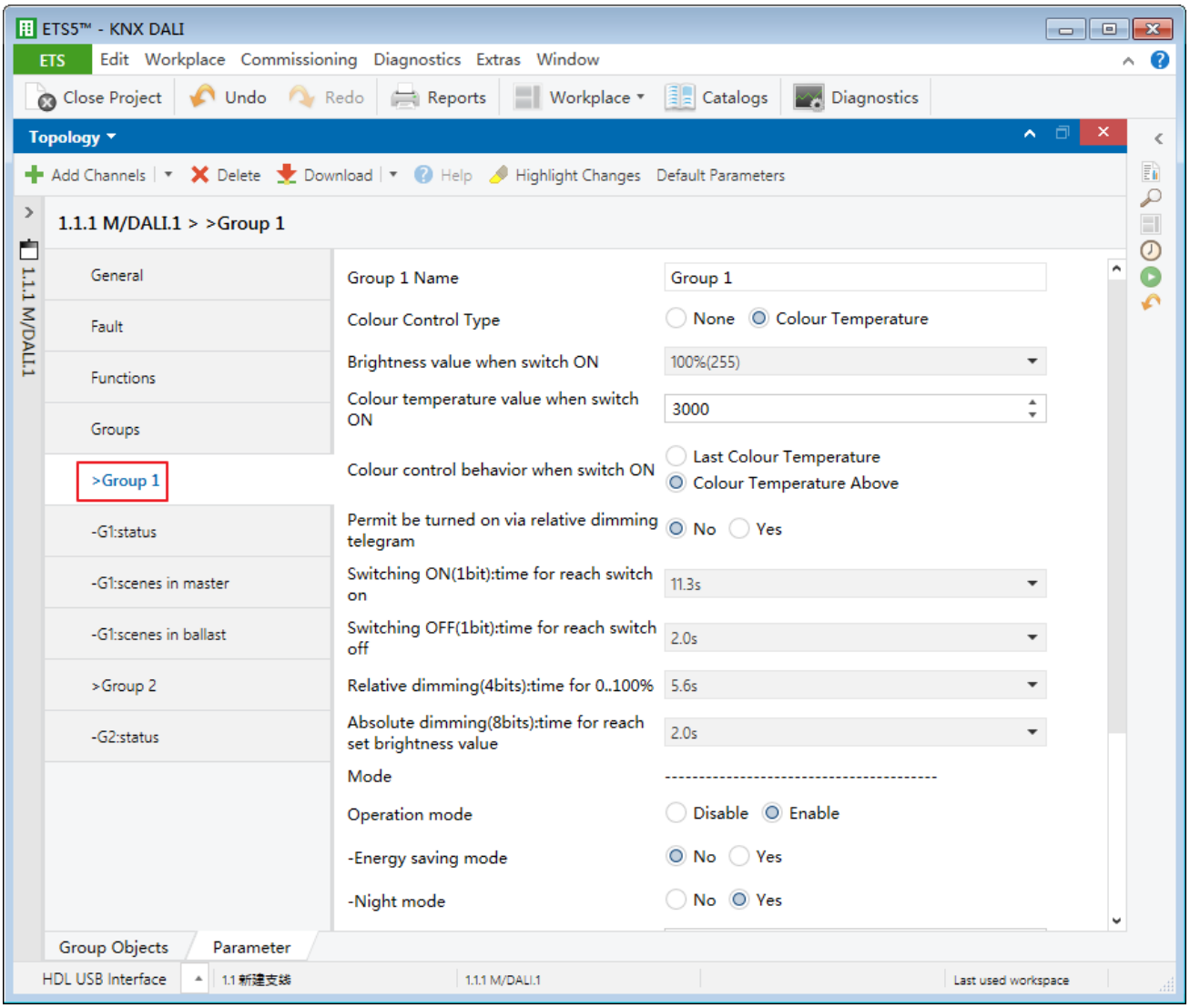


Figure 5-2 Group setting

The setting items are explained below:

1. Group N (N=1, …, 16) Name: to change group name.
2. Colour control type: color temperature control function. If light brightness is 0, color temperature settings do not work.
   - If “None” is selected, color temperature control function will be disabled.
   - If “Colour Temperature” is selected, color temperature control function will be enabled.
     1) Colour temperature value when switch ON: to set the initial color temperature value of light, which ranges from 1000 to 10000K. The default value is 3000K. This parameter needs to work with the settings in “Colour control behavior when switch ON”.
     2) Colour control behavior when switch ON: to set the color temperature operation when group is enabled.
        ① If “Last Colour Temperature” is selected, the color temperature value is the last recorded value when group is enabled.
        ② If “Colour Temperature Above” is selected, color temperature takes the value set in “Colour temperature value when switch ON” above.
3. Brightness value when switch on: to set the initial brightness of light.
4. Permit be turned on via relative dimming telegram:
   - If “Yes” is selected, lights can be turned on by relative dimming telegram.
   - If “No” is selected, lights can’t be turned on by relative dimming telegram.
5. Switching ON (1bit): time for reach switch on: to set the fade time for lights to reach preset initial brightness, the default value is 2s.
6. Switching OFF (1bit): time for reach switch off: to set the fade time for lights to go out.
7. Relative dimming (4bits): time for 0.100%: to set the fade time of relative dimming. The default value is 5.6s.
8. Absolute dimming (8bits): time for reach set brightness value: to set the fade time of absolute dimming. The default value is 2s. Color temperature regulation uses the same fade time as absolute dimming.
9. Operation mode: after “Enable” is selected, working mode can be selected below, including energy saving mode and night mode.
   1) Energy saving mode: to enable/disable energy saving mode. The following items can be set after “Yes” is selected.
      - Value in energy saving mode: to set the light brightness in energy saving mode.

2) Night mode: to enable/disable night mode. The following items can be set after “Yes” is selected.

① Delay in night mode: to set the delay time of entering night mode.

② Value in night mode: to set the light brightness in night mode.

10. Group N scenes: to enable controlling scenes via group. If “Disable” is selected, none of the following options will appear.

1) Group N scenes recovery: after “Enable” is selected in “Group N scenes”, scenes can be selected after voltage recovery.

① If “Last Scene” is selected, the recorded scene before power down can be restored.

② If “Scene In Master, Use Scene below” is selected, scenes in master will be called. Scene number can be selected in “Group N scene for recovery” below.

③ If “Scene In Ballast, Use Scene below” is selected, scenes in ballast will be called. Scene number can be selected in “Group N scene for recovery” below.

2) Group N scene for recovery: after “Enable” is selected in “Group N scenes”, scenes can be selected from 1 to 16. If “Disable” is selected in “Group scenes recovery” of group selection page, none of the following settings will work.

① If “Last Scene” is selected in “Group N scenes recovery”, this option will not work. DALI Gateway will automatically record the last scene.

② If “Scene In Master, Use Scene below” is selected in “Group N scenes recovery”, user can select the scenes saved in master to restore.

③ If “Scene In Ballast, Use Scene below” is selected in “Group N scenes recovery”, user can select the scenes saved in ballast to restore.

5.3 Status Feedback

After groups are enabled in group selection page (“Group 1 & Group 2” is taken as an example), click “G1: status” label, as shown in Figure 5-3.

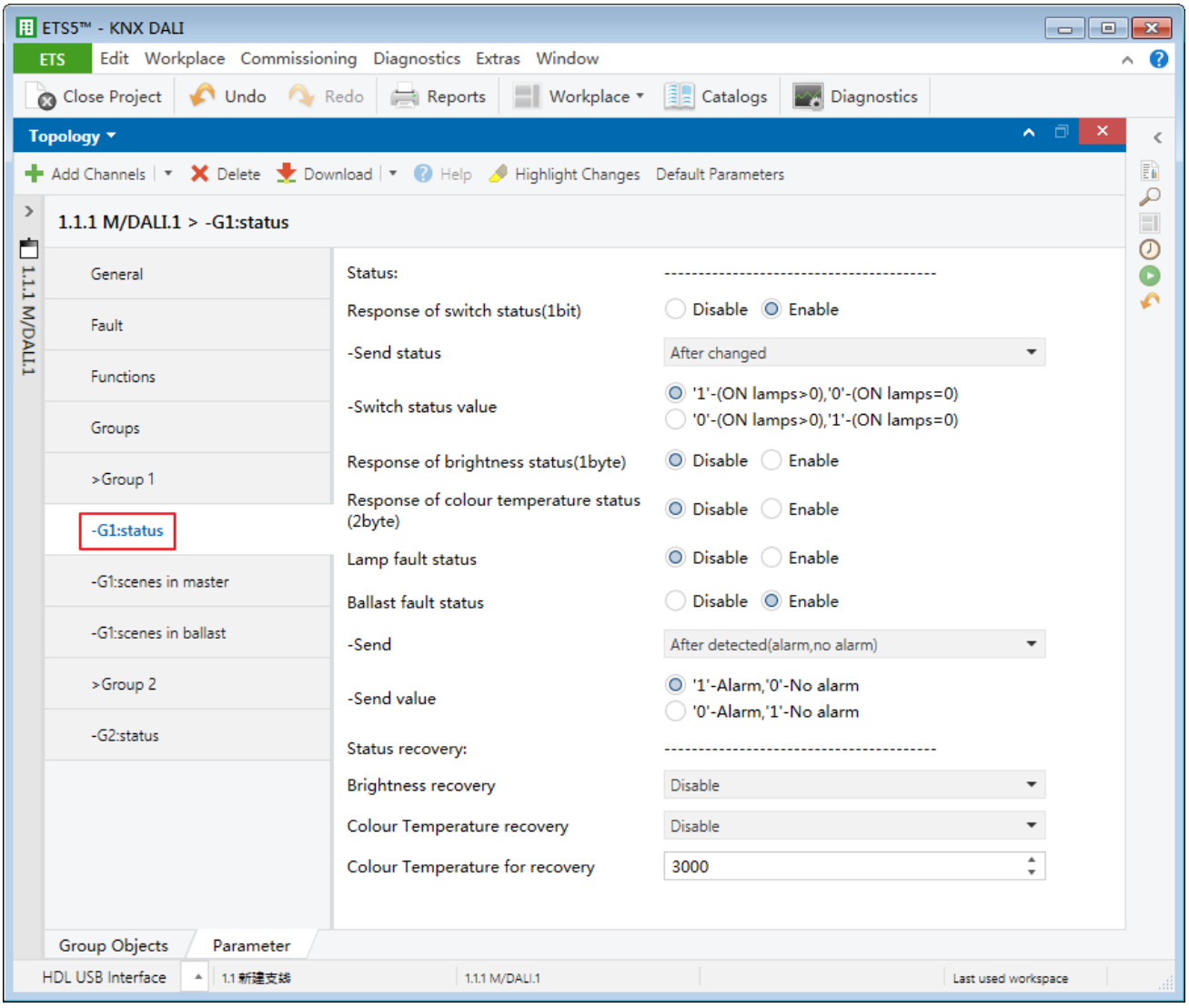


Figure 5-3 Status feedback

The setting items are explained below:

1. Response of switch status (1 bit): to enable/disable group switch status feedback function (with 1-bit object). The following items can be selected after “Enable” is selected:

   1) Send status: to select feedback type.

      ① If “Always response” is selected:

      a) After any operation changing group switch status (including group switch and group absolute dimming), the status will be sent to the bus. And the status will be sent to the bus again after the delay time. The delay time is based on the settings in “Adjustment delay time for query actual level”.

      b) When lights are turned on via group relative dimming, the status will be

compulsorily sent to the bus once.

c) Group switch status can also be changed by any operation changing light brightness via DALI bus. After such operations, the status will be compulsorily sent to the bus once after the delay time. The delay time is based on the settings in “Adjustment delay time for query actual level”. DALI Gateway calculates group brightness according to the settings in “Brightness status value”. If this setting is not enabled, DALI Gateway will take the maximum brightness as group brightness.

d) The value sent to the bus depends on the configuration of “Switch status value”.

② If “After changed” is selected, the status will be sent to the bus when group switch status changes. The rule for predicting status is the same as above rule. Every time the status changes, the status will be sent to the bus.

③ If “After requested” is selected, the status will be sent to the bus after this object is read. The rule for predicting status is the same as above rule.

2) Switch status value: to select data feedback type.

① If “‘1’-ON lamps > 0, ‘0’-ON lamps=0” is selected, “1” will be sent when the number of lighted lights is above 0, while “0” will be sent when the number of lighted lights is equal to 0.

② If “‘0’-ON lamps > 0, ‘1’-ON lamps=0” is selected, “0” will be sent when the number of lighted lights is above 0, while “1” will be sent when the number of lighted lights is equal to 0.

③ The number of lighted lights depends on group brightness. DALI Gateway calculates group lightness according to the settings in “Brightness status value”. When broadcast brightness is greater than 0, it indicates that the number of lighted lights is above 0. When broadcast brightness is equal to 0, it indicates that the number of lighted lights is equal to 0.

2. Response of brightness status (1 byte): to enable/disable light brightness feedback function (with 1-byte object). The following items can be set after “Enable” is selected:

1) Send status: to select feedback type.

① If “Always response” is selected, light brightness will be sent to the bus after any operation.

② If “After changed” is selected, light brightness will be sent to the bus after the status changes.

③ If “After requested” is selected, light brightness will be sent to the bus after requests are sent.

2) Brightness status value: to select data feedback type.

① If “Average brightness of lamps” is selected, the average brightness of lights will be sent to the bus.

② If “Highest brightness of lamps” is selected, the maximum brightness of lights will be sent to the bus.

③ If “Lowest brightness of lamps” is selected, the minimum brightness of lights will be sent to the bus.

Note: the feedback rule of “Response of brightness status (1 byte)” is the same as that of “Response of switch status (1 bit)”. The difference is that, in “Response of brightness status (1 byte)”, when lights are turned on via group relative dimming, the status will not be compulsorily sent to the bus once.

3. Lamp fault status: to enable/disable fault light feedback function. The following items can be set after “Enable” is selected:

1) Send: to select light status feedback type.

① If “After detected (alarm, no alarm)” is selected, feedback telegram will be sent after detection.

② If “After detected (only alarm)” is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).

③ If “After detected & changed” is selected, after detection, telegram will be sent after fault status changes.

2) Send value: to select feedback value type.

① If “1-Alarm, 0-No alarm” is selected, “1” will be sent when there is an alarm (fault), while “0” will be sent when there is no alarm (no fault).

② If “0-Alarm, 1-No alarm” is selected, “0” will be sent when there is an alarm (fault), while “1” will be sent when there is no alarm (no fault).

4. Ballast fault status: to enable/disable fault ballast feedback function. The following items can be set after “Enable” is selected:

1) Send: to select ballast status feedback type.

① If “After detected (alarm, no alarm)” is selected, feedback telegram will be sent after detection.

② If “After detected (only alarm)” is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).

③ If “After detected & changed” is selected, after detection, feedback telegram will be sent after fault status changes.

2) Send value: to select telegram value feedback type.

① If “1-Alarm, 0-No alarm” is selected, “1” will be sent when there is an alarm (fault), while “0” will be sent when there is no alarm (no fault).

② If “0-Alarm, 1-No alarm” is selected, “0” will be sent when there is an alarm (fault), while “1” will be sent when there is no alarm (no fault).

5. Brightness recovery: to set the light brightness after voltage recovery.

- If “Disable” is selected, light brightness restoration function will be disabled after voltage recovery.
- If “Last brightness” is selected, the light brightness before power down will be restored.
- If “Switch ON brightness” is selected, the initial brightness of light will be restored.
- If “0-100%” is selected, light brightness can be restored to 0-100%.

5.4 Scene Setting

In group scene, scenes in master and in ballast can be used at the same time.

5.4.1 Scenes in Master

After “Enable” is selected in “Group N scenes” at the bottom of group setting page (“Group 1 scenes” is taken as an example), click “G1: scenes in master” label on the left, as shown in Figure 5-4.

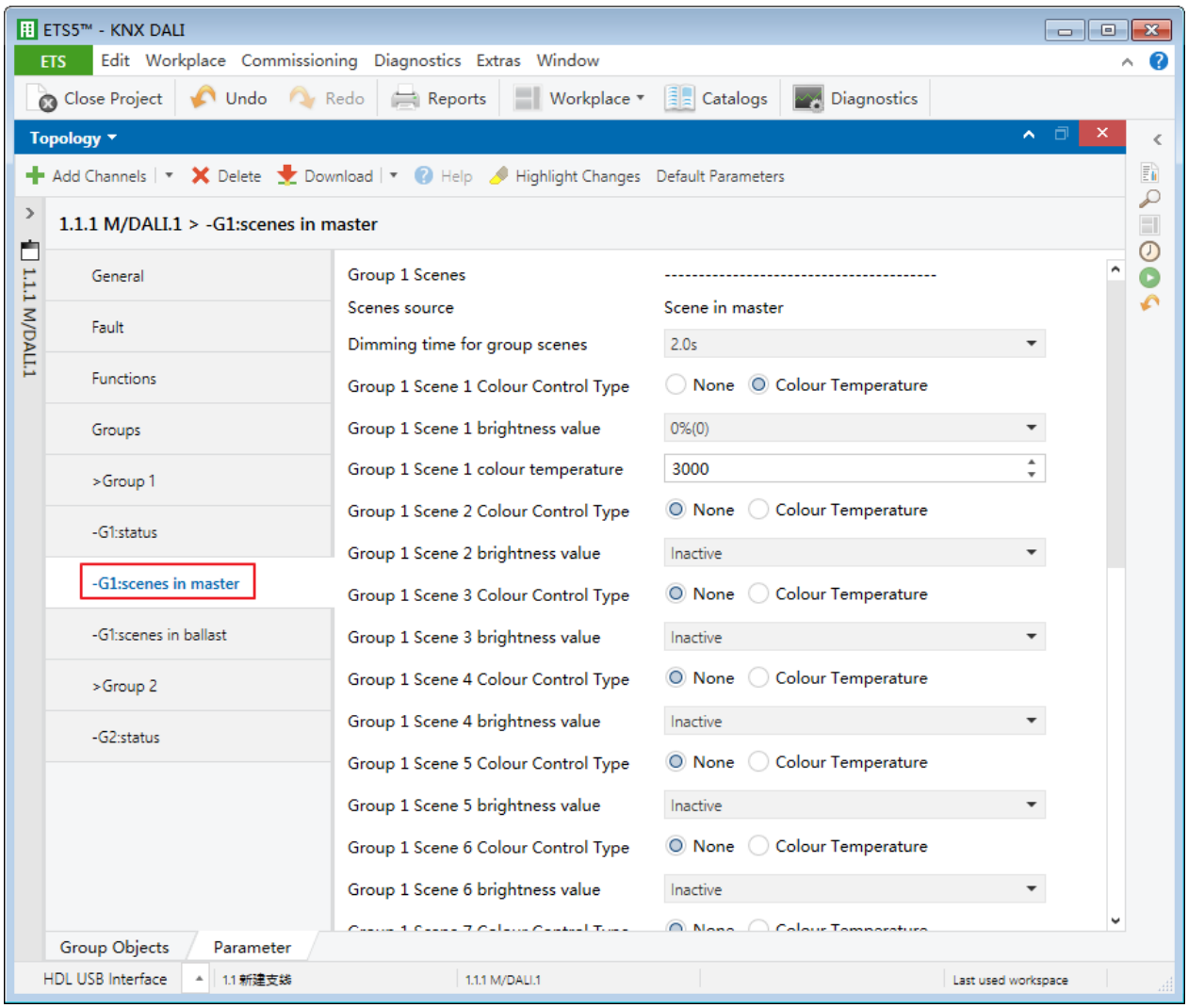


Figure 5-4 Scene in master

The setting items are explained below:

1. Scenes source: Scene in master, which indicates scenes in master are being configured.
2. Dimming time for group scenes: to set the fade time of scene dimming. If “Same as absolute dimming time” is selected, the fade time of scene dimming is the same as that of group absolute dimming.
3. Group N scene M colour control type: to select the control type of light brightness in this scene.
    1) If “None” is selected, color temperature control function will be disabled.
    2) If “Colour Temperature” is selected, color temperature control function will be enabled.

4. Group N scene M brightness value: to set the light brightness in this scene, including “Inactive” and “0-100%”.

   - Group N scene M colour temperature: to set the color temperature value of light in this scene, after “Colour temperature” is selected in “Group N scene M colour control type”. The color temperature value ranges from 1000-10000K, the default value is 3000K. Color temperature settings only work for the ballasts which support color temperature regulation. If “Inactive” or “0%” is selected in “Group N scene M brightness value”, color temperature settings do not work.

5.4.2 Scenes in Ballast

After “Enable” is selected in “Group N scenes” at the bottom of group setting page (“Group 1 scenes” is taken as an example), click “G1: scenes in ballast” label, as shown in Figure 5-5.

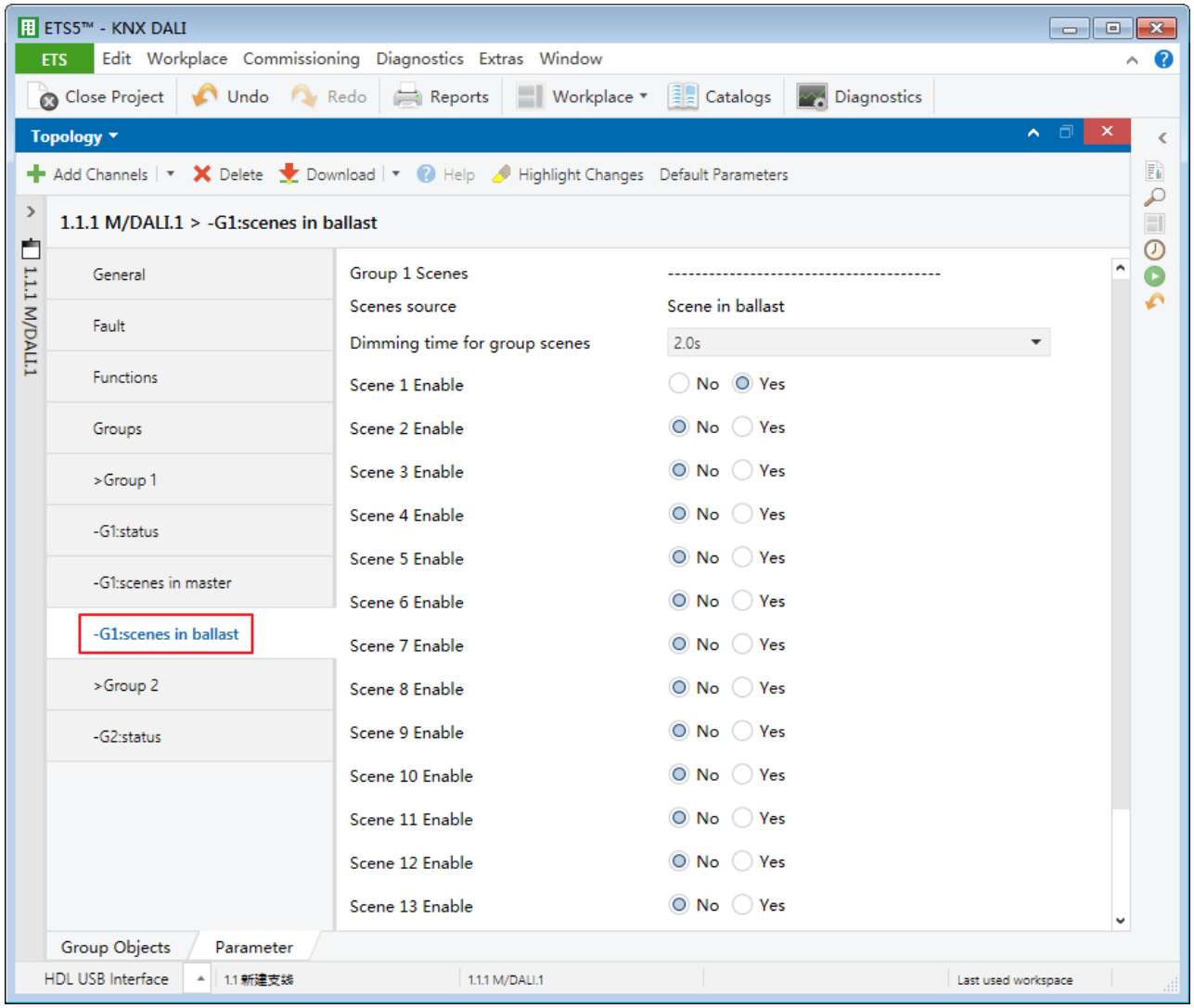


Figure 5-5 Scenes in ballast

The setting items are explained below:

1. Scenes source: Scene in ballast, which indicates that scenes in ballast are being configured.
2. Dimming time for group scenes: If “Same as absolute dimming time” is selected, the fade time of scene dimming is the same as that of group absolute dimming.
3. Scene M enable: to call the scene saved in ballast (up to 16). If ballasts have not set corresponding scenes, scenes will not be called after “Enable” is selected.

6 Channel

6.1 Channel Selection

After “Channel” is enabled in function selection page, click “Channels” label on the left, as shown in Figure 6-1.

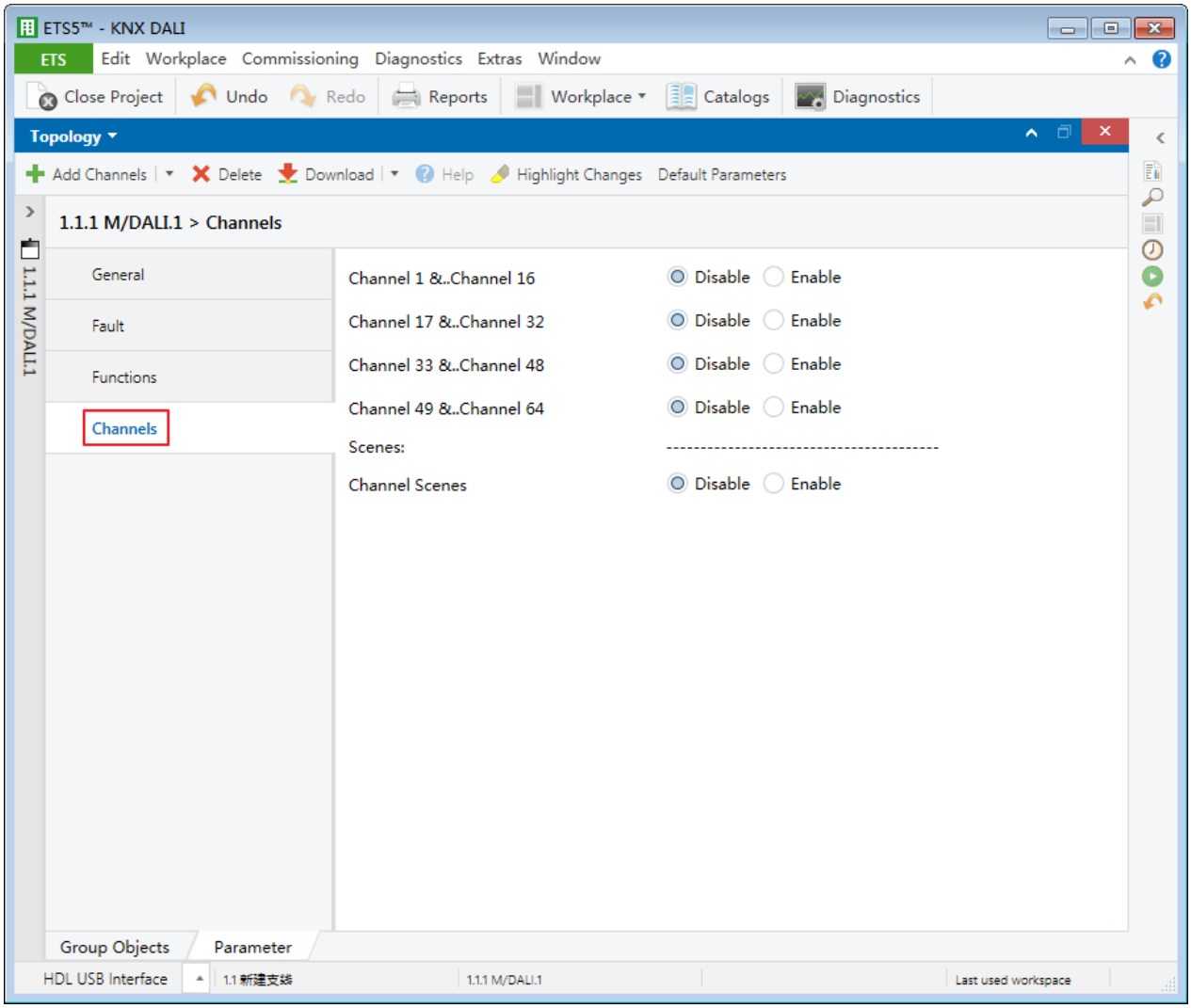


Figure 6-1 Select channel

The setting items are explained below:

1. Channel N & Channel N+15 (N=1, 17, 33, 49): to enable/disable the selected channel.
2. Channel scenes: to enable scene. If “Disable” is selected, all channel scene function configured singly will not work.

- Channel scenes recovery: after “Enable” is selected in “Channel scenes”, scene restoration function can be enabled. If “Disable” is selected, all channel scene restoration function configured singly will not work.

6.2 Channel Setting

After channels are enabled in channel selection page (“Channel 1” is taken as an example), click “>Channel 1” label in parameter list, as shown in Figure 6-1.

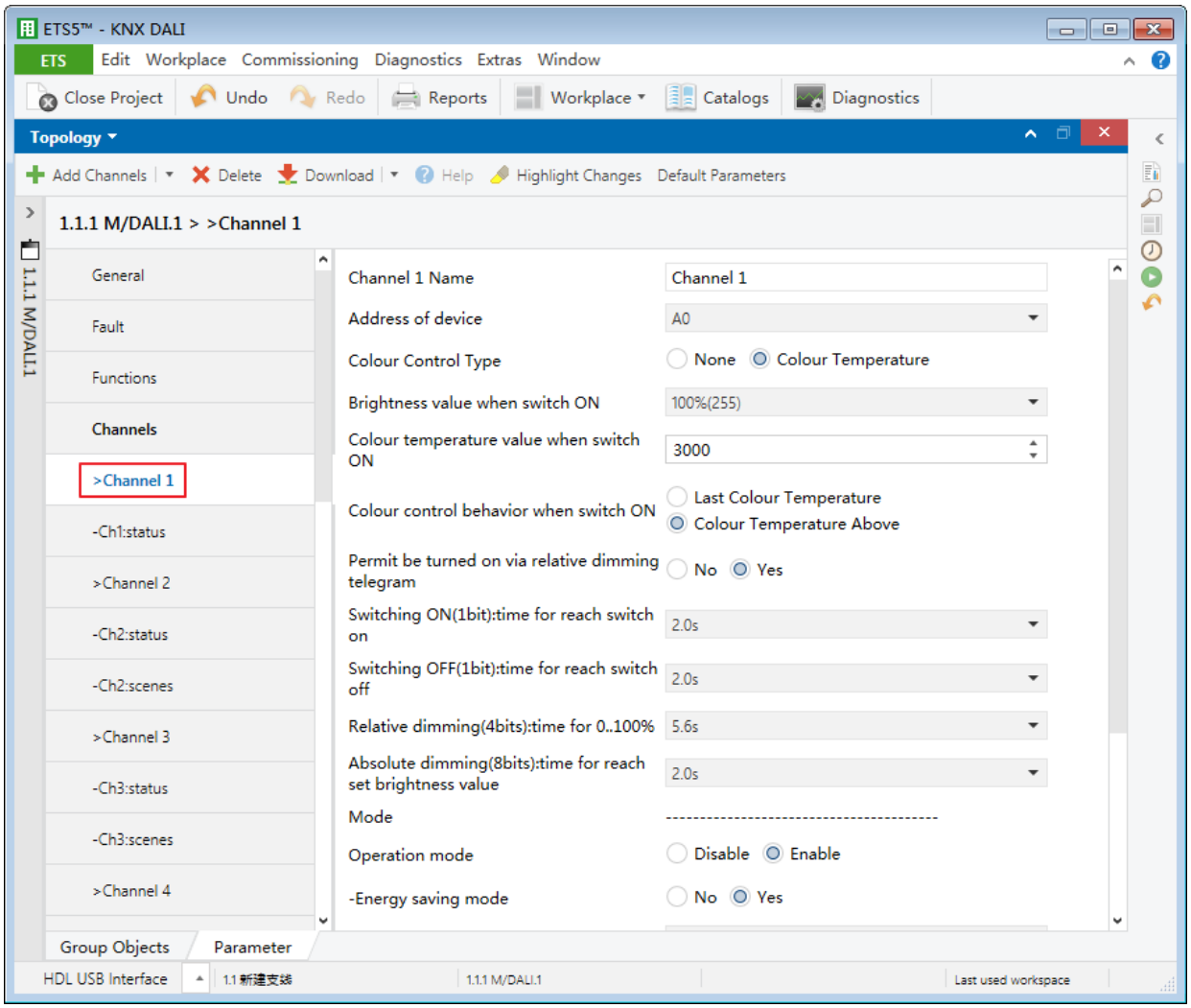


Figure 6-1 Channel setting

The setting items are explained below:

1. Channel N (N=1, …, 64) Name: to change channel name.
2. Address of device: to select corresponding device address.

3. Colour control type: to enable color temperature control function. If light brightness is 0 when channel is enabled, color temperature settings do not work.
   - If “None” is selected, color temperature control function will be disabled.
   - If “Colour Temperature” is selected, color temperature control function will be enabled.
     1) Colour temperature value when switch ON: to set the initial color temperature value of light, which ranges from 1000 to 10000K. The default value is 3000K. This parameter needs to work with the settings in “Colour control behavior when switch ON”.
     2) Colour control behavior when switch ON: to set color temperature operation when channel is enabled.
        ① “Last Colour Temperature” is selected: to take the last recorded value when channel is enabled.
        ② Colour Temperature Above: to take the value set in “Colour temperature value when switch ON”.
4. Brightness value when switch on: to set the initial brightness of light.
5. Permit be turned on via relative dimming telegram:
   - If “Yes” is selected, lights can be turned on via relative dimming telegram.
   - If “No” is selected, lights can’t be turned on via by relative dimming telegram.
6. Switching ON (1bit): time for reach switch on: to set the fade time for lights to reach preset initial brightness, the default value is 2s.
7. Switching OFF (1bit): time for reach switch off: to set the fade time for lights to go out, the default value is 2s.
8. Relative dimming (4bits): time for 0.100%: to set the fade time of relative dimming. The default value is 5.6s.
9. Absolute dimming (8bits): time for reach set brightness value: to set the fade time of absolute dimming. The default value is 2s. Color temperature regulation uses the same fade time as absolute dimming.
10. Operation mode: after “Enable” is selected, working mode can be selected below, including energy saving mode and night mode.
    1) Energy saving mode: to enable/disable energy saving mode. The following items can be set after “Yes” is selected.
       - Value in energy saving mode: to set the light brightness in energy saving mode.

2) Night mode: to enable/disable night mode. The following items can be set after "Yes" is selected.

① Delay in night mode: to set the delay time of entering night mode.

② Value in night mode: to set the light brightness in night mode.

11. Channel N Scenes: to enable controlling scene by channel.

12. Channel N Scenes For Recovery: to select the scenes called after voltage recovery.

- If "Disable" is selected, scene calling function will be disabled after voltage recovery.
- If "Last Scene" is selected, the last recorded scene before power down can be called.
- If "Scene No.N (N=1, …, 16)", scene 1-16 can be selected to call.

6.3 Status Feedback

After channels are enabled in channel selection page ("Channel 1" is taken as an example), click ">Ch1: status" label in parameter list, as shown in Figure 6-2.

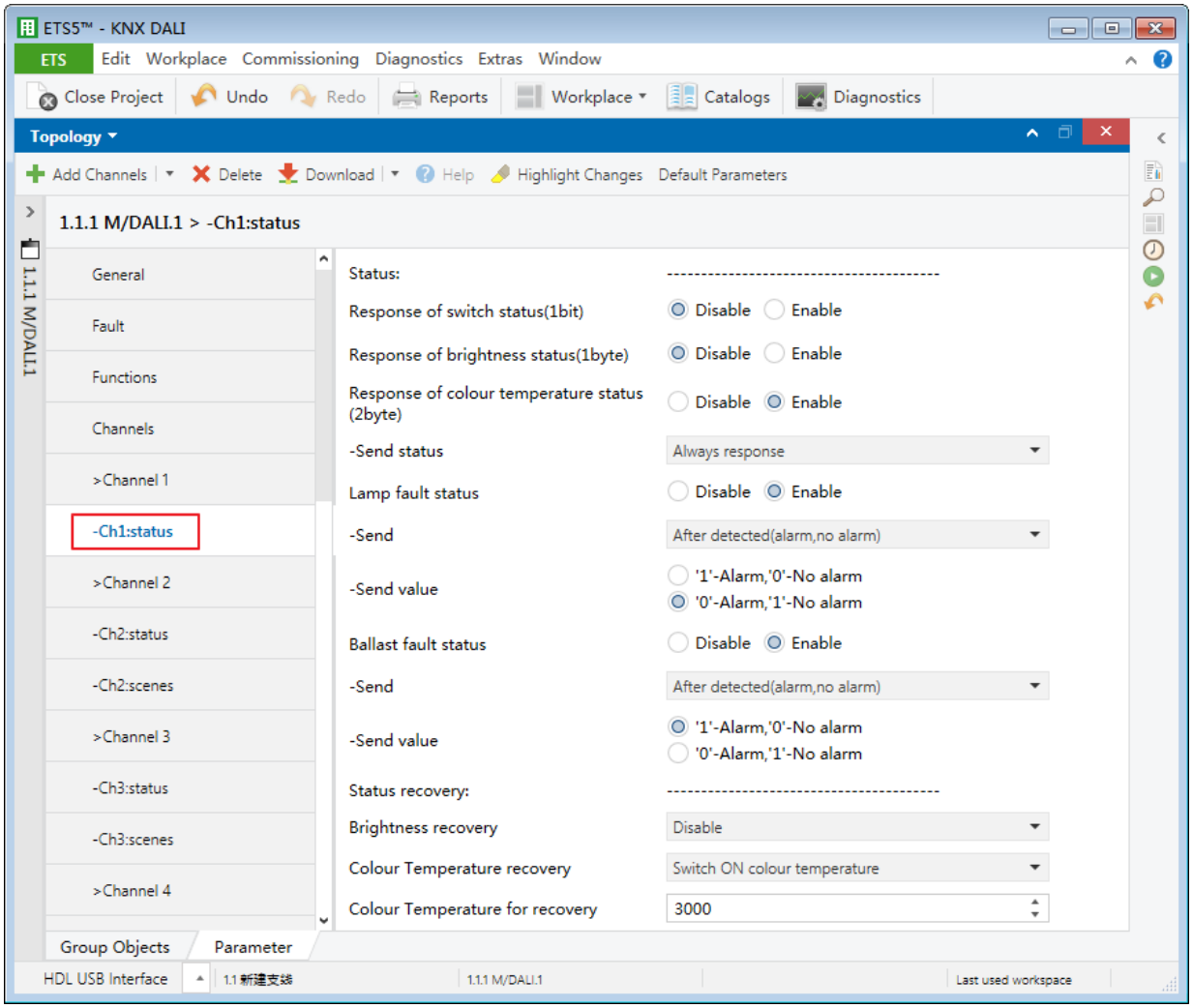


Figure 6-2 Status feedback

The setting items are explained below:

1. Response of switch status (1 bit): to enable/disable switch status feedback function (with 1-bit object). The following items can be set after “Enable” is selected:

   1) Send status: to select feedback type.

      ① If “Always response” is selected:

         a) After any operation changing channel switch status (including channel switch and channel absolute dimming), the status will be sent to the bus. And the status will be sent to the bus again after the delay time. The delay time is based on the settings in “Adjustment delay time for query actual level”.

         b) When lights are turned on via channel relative dimming, the status will be compulsorily sent to the bus once.

         c) Channel switch status can also be changed by any operation changing light

brightness via DALI bus. After such operations, the status will be compulsorily sent to the bus once after the delay time. The delay time is based on the settings in “Adjustment delay time for query actual level”. DALI Gateway calculates channel brightness according to the settings in “Brightness status value”. If this setting is not enabled, DALI Gateway will take the maximum brightness as channel brightness.

d) The value sent to the bus depends on the configuration of “Switch status value”.

② If “After changed” is selected, the status will be sent to the bus when channel switch status changes. The rule for predicting status is the same as above rule. Every time the status changes, the status will be sent to the bus.

③ If “After requested” is selected, the status will be sent to the bus after this object is read. The rule for predicting status is the same as above rule.

2) Switch status value: to select data feedback type.

① If “‘1’-ON, ‘0’-OFF” is selected, “1” will be sent when lights are turned on, while “0” will be sent when lights are turned off.

② If “‘0’-ON, ‘1’-OFF” is selected, “0” will be sent when lights are turned on, while “1” will be sent when lights are turned off.

2. Response of brightness status (1 byte): to enable/disable light brightness feedback function (with 1-byte object). The following items can be set after “Enable” is selected:

1) Send status: to select feedback type.

① If “Always response” is selected, light brightness will be sent to the bus after any operation.

② If “After changed” is selected, light brightness will be sent to the bus after the status changes.

③ If “After requested” is selected, light brightness will be sent to the bus after requests are sent.

2) Brightness status value: to select data feedback type.

① If “Average brightness of lamps” is selected, the average brightness of lights will be sent to the bus.

② If “Highest brightness of lamps” is selected, the maximum brightness of lights will be sent to the bus.

③ If “Lowest brightness of lamps” is selected, the minimum brightness of lights will be sent to the bus.

Note: the feedback rule of “Response of brightness status (1 byte)” is the same as that of “Response of switch status (1 bit)”. The difference is that, in “Response of brightness status (1 byte)”, when lights are turned on via channel relative dimming, the status will not be compulsorily sent to the bus once.

3. Response of colour temperature status: to enable color temperature status feedback function.

   - Send status: to select color temperature feedback type after “Enable” is selected in “Response of colour temperature status”.

     ① If “Always response” is selected, the status will be sent to the bus after any operation.

     ② If “After changed” is selected, the status will be sent to the bus after the status changes.

     ③ If “After requested” is selected, the status will be sent to the bus after requests are sent.

Note: every time color temperature control function is enabled, the status will be at once sent to the bus. So far, feedback telegram represents color temperature value. For example, 3000K is represented as 014D (333 Mirek). The formula is “Mirek=1000000/T” (T represents color temperature value).

4. Lamp fault status: to enable/disable fault light feedback function. The following items can be set after “Enable” is selected:

   1) Send: to select light status feedback type.

      ① If “After detected (alarm, no alarm)” is selected, feedback telegram will be sent after detection.

      ② If “After detected (only alarm)” is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).

      ③ If “After detected & changed” is selected, after detection, telegram will be sent after fault status changes.

   2) Send value: to select feedback value type.

      ① If “1-Alarm, 0-No alarm” is selected, “1” will be sent when there is an alarm (fault), while “0” will be sent when there is no alarm (no fault).

      ② If “0-Alarm, 1-No alarm” is selected, “0” will be sent when there is an alarm (fault), while “1” will be sent when there is no alarm (no fault).

5. Ballast fault status: to enable/disable fault ballast feedback function. The following items can be set after “Enable” is selected:

1) Send: to select ballast status feedback type.

① If “After detected (alarm, no alarm)” is selected, feedback telegram will be sent after detection.

② If “After detected (only alarm)” is selected, after detection, feedback telegram will be sent when there is an alarm (fault). Feedback telegram will not be sent when there is no alarm (no fault).

③ If “After detected & changed” is selected, after detection, feedback telegram will be sent after fault status changes.

2) Send value: to select telegram value feedback type.

① If “1-alarm, 0-No alarm” is selected, “1” will be sent when there is an alarm (fault), while “0” will be sent when there is no alarm (no fault).

② If “0-alarm, 1-No alarm” is selected, “0” will be sent when there is an alarm (fault), while “1” will be sent when there is no alarm (no fault).

6. Brightness recovery: to set the light brightness after voltage recovery.

- If “Disable” is selected, light brightness restoration function will be disabled after voltage recovery.
- If “Last brightness” is selected, the light brightness before power down will be restored.
- If “Switch ON brightness” is selected, the initial brightness of light when channel is enabled will be restored.
- If “0-100%” is selected, light brightness can be restored to 0-100%.

7. Colour temperature recovery: this option appears after “Colour Temperature” is selected in “Colour control type”.

- If “Disable” is selected, color temperature restoration function will be disabled.
- If “Last Colour Temperature” is selected, the color temperature value before power down will be restored.
- If “Switch ON colour temperature” is selected, the color temperature value is the value when channel is enabled. Please refer to settings in “Colour temperature value when switch ON” and “Colour control behavior when switch ON” of channel general setting.
- If “Colour Temperature below” is selected, color temperature value can be selected, which is set in the 8th point “Colour temperature for recovery” below.

8. Colour temperature for recovery: this parameter works after “Colour temperature below” is selected in the above 7th point “Colour temperature recovery”. Color temperature can be set from 1000 to 10000K. The default value is 3000K.

6.4 Scene Setting

After “Channel N Scenes” is enabled in channel setting page (“Channel 1 Scenes” is taken as an example), click “-Ch1: scenes” label in the parameter list on the left, as shown in Figure 6-3.

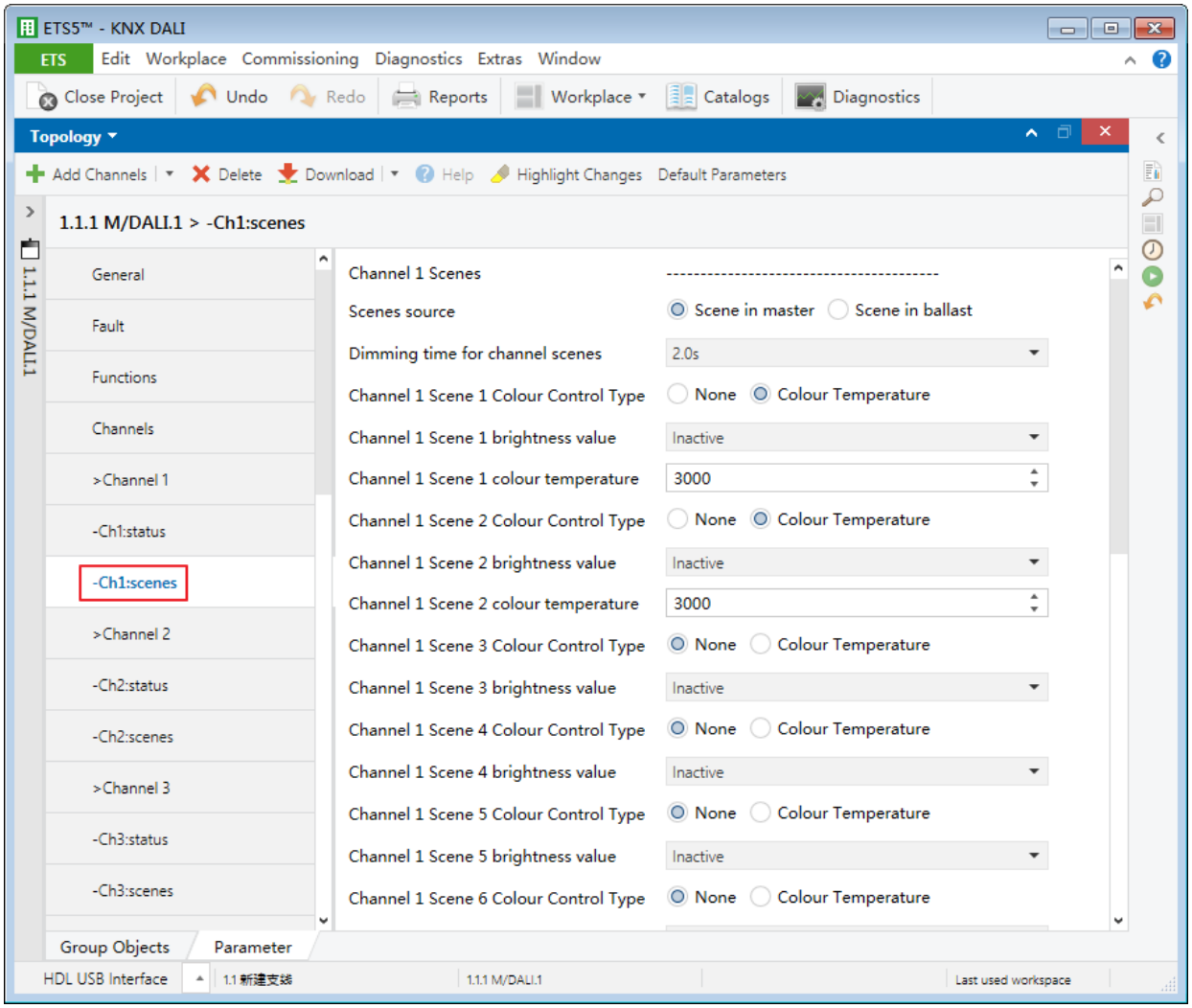


Figure 6-3 Scene setting

The setting items are explained below:

1. Scenes source: to select “Scene in master” or “Scene in ballast” (only one kind of scene is available at one time).

   Scene in master: the scenes saved in DALI master, which can be downloaded to DALI Gateway after the configuration of ETS.

   Scene in ballast: the scenes saved in ballast. Each ballast can configure 16 scenes, which can be called via ETS software.

2. Dimming time for channel scenes: to set the fade time of scene dimming. If “Same as absolute dimming time” is selected, the fade time of scene dimming is the same as that of channel absolute dimming.

➢ If “Scene in master” is selected in “Scenes source”, the following items can be set:

1) Channel N scene M colour control type: to select the control type of light brightness in this scene.

① If “None” is selected, color temperature control function will be disabled.

② If “Colour Temperature” is selected, color temperature control function will be enabled.

2) Channel N scene M brightness value: to set the light brightness in this scene, including “Inactive” and “0-100%”.

3) Channel N scene M colour temperature: to set the color temperature value of light in this scene, after “Colour temperature” is selected in “Colour control type”. Color temperature settings only work for the ballasts which support color temperature regulation. If “Inactive” or “0%” is selected in “Channel N scene M brightness value”, color temperature settings do not work.

➢ If “Scene in ballast” is selected in “Scenes source”, the following items can be set:

Scene M enable: to call the scenes saved in ballast (up to 16). If ballasts have not set corresponding scenes, scenes will not be called after “Enable” is selected.

7 Scenes

7.1 Scene Selection

After “Scene” is enabled in function selection page, click “Scenes” label on the left, as shown in Figure 7-1.

Note: this function is the combination of scenes, which can control broadcast, 16 groups and 64 channels at the same time.

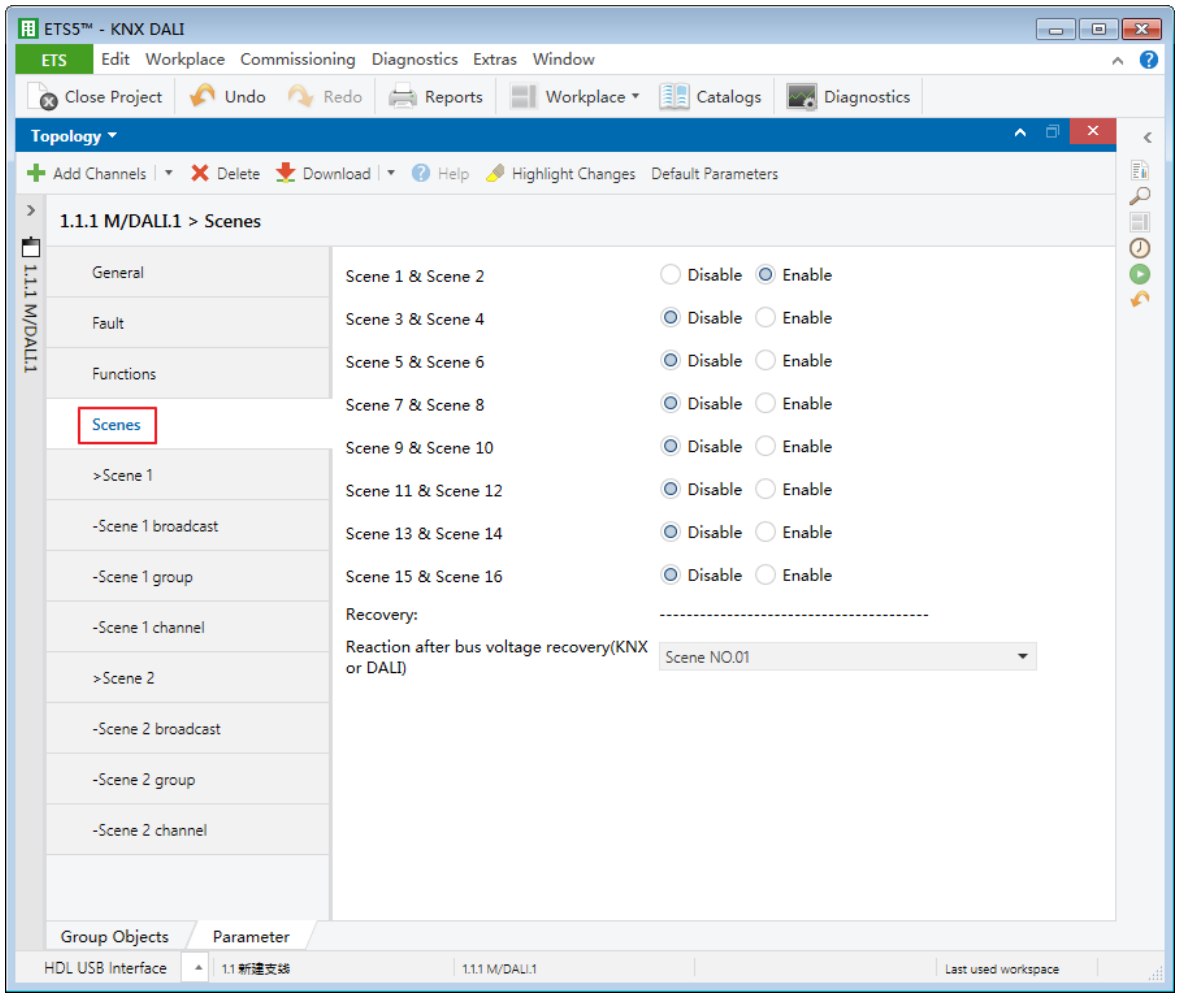


Figure 7-1 Select scene

The setting items are explained below:

1. Scene N & N+1 (N=1, …, 15): to enable/disable the selected scene.
2. Reaction after bus voltage recovery (KNX or DALI): to set the scene called after voltage recovery.

- If “Disable” is selected, scene restoration function will be disabled.
- If “Last Scene” is selected, the last recorded scene before power down can be restored.
- If “Scene No.N (N=1, …, 16)”, scene 1-16 can be selected to restore.

7.2 Enable Scenes

After scenes are enabled in scene selection page (“Scene 1” is taken as an example), click “Scene 1” label, as shown in Figure 7-2.

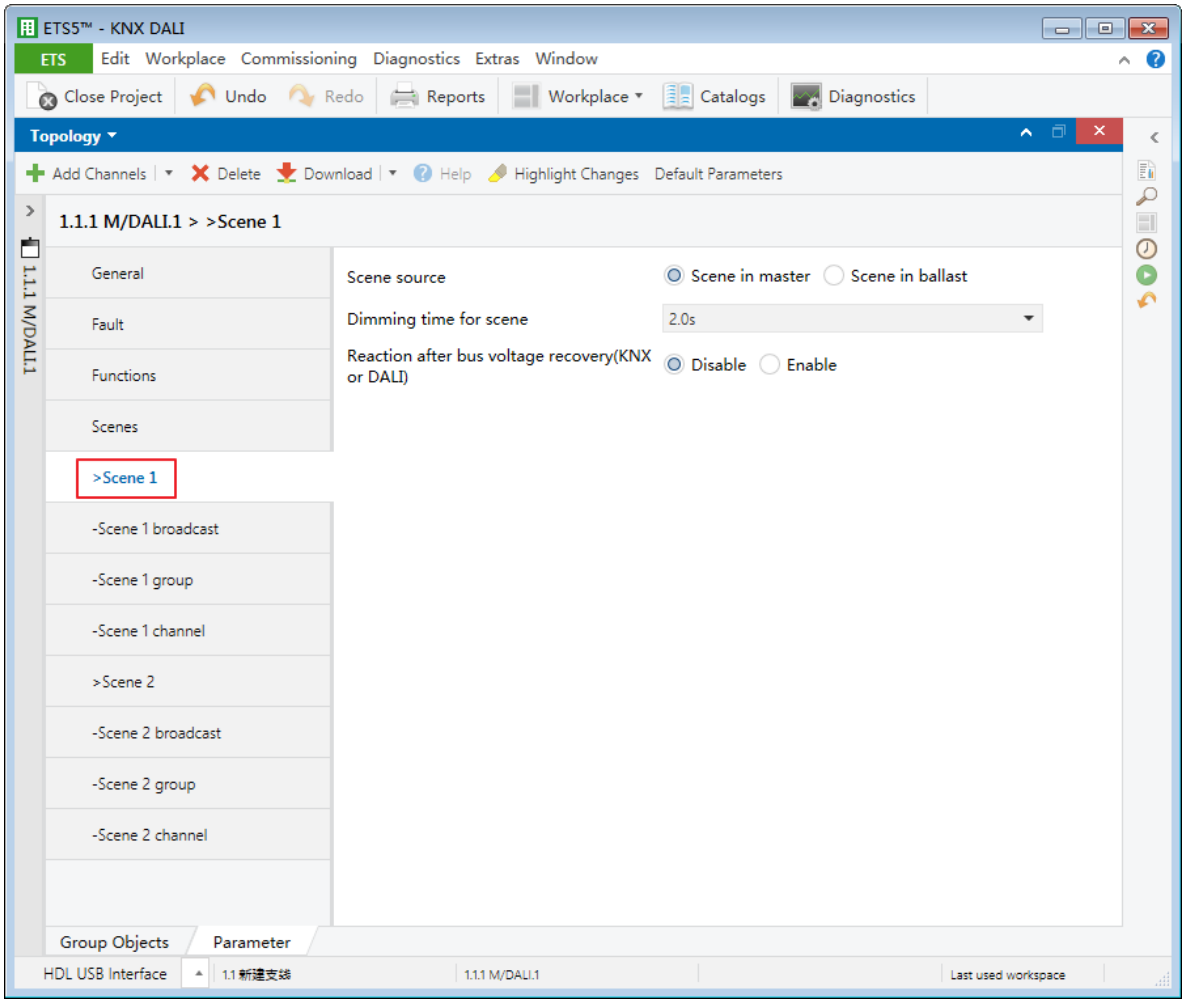


Figure 7-2 Enable scene

The setting items are explained below:

1. Scenes source: to select “Scene in master” or “Scene in ballast” (only one kind of scene are available at one time).

Scene in master: the scenes saved in DALI master, which can be downloaded to DALI Gateway after the configuration of ETS software.

Scene in ballast: the scenes saved in ballast. Each ballast can configure 16 scenes, which can be called via ETS software.

2. Dimming time for scene: to set the fade time of scene dimming. If “Same as absolute dimming time” is selected, the fade time of scene dimming is the same as that of scene absolute dimming.

3. Reaction after bus voltage recovery (KNX or DALI): choose whether to restore this scene after voltage recovery.

7.3 Scene Control Broadcast

After scenes are enabled in scene selection page (“Scene 1” is taken as an example), click “Scene 1 broadcast” label on the left, as shown in Figure 7-3.

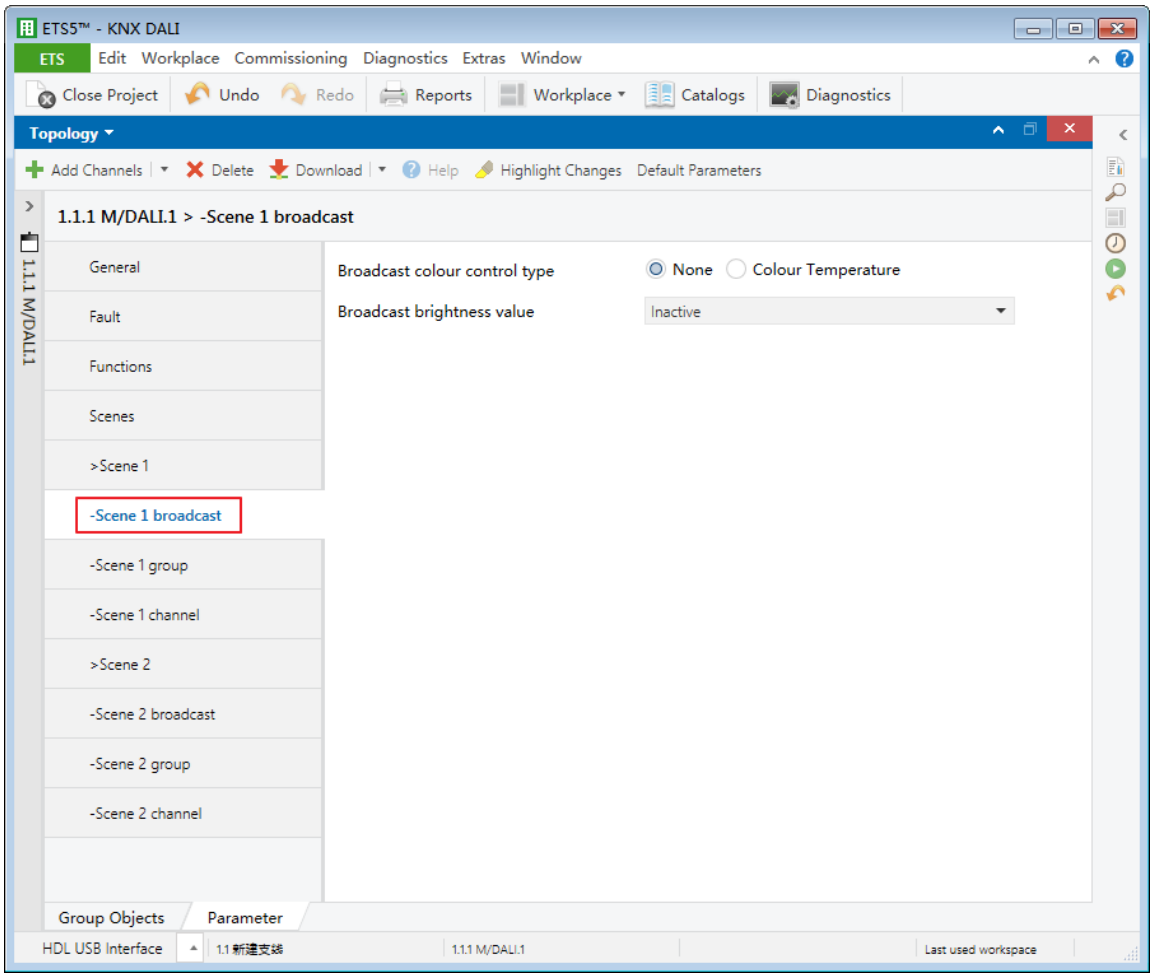


Figure 7-3 Scene control broadcast

The setting items are explained below:

- If “Scene in master” is selected in the first point “Scenes source” of scene general setting page:

1. Broadcast colour control type: to select the control type of light brightness in broadcast.

   If “None” is selected, color temperature control function will be disabled.

   If “Colour Temperature” is selected, color temperature control function will be enabled.

2. Broadcast brightness value: to set the light brightness in broadcast, including “Inactive” and “0-100%”.

   Broadcast colour temperature: to set the color temperature value of light in broadcast, after “Colour temperature” is selected in “Broadcast colour control type”. Color temperature value ranges from 1000 to 10000K, the default value is 3000K. Color temperature settings only work for the ballasts which support color temperature regulation. If “Inactive” or “0%” is selected in “Broadcast brightness value”, color temperature settings do not work.

- If “Scene in ballast” is selected in the first point “Scenes source” of scene general setting page, the following items can be set:

  Broadcast enable: to enable/disable calling scenes in ballasts.

7.4 Scene Control Group

Scenes are enabled in scene selection page (“Scene 1” is taken as an example), click “Scene 1 group” label, as shown in Figure 7-4.

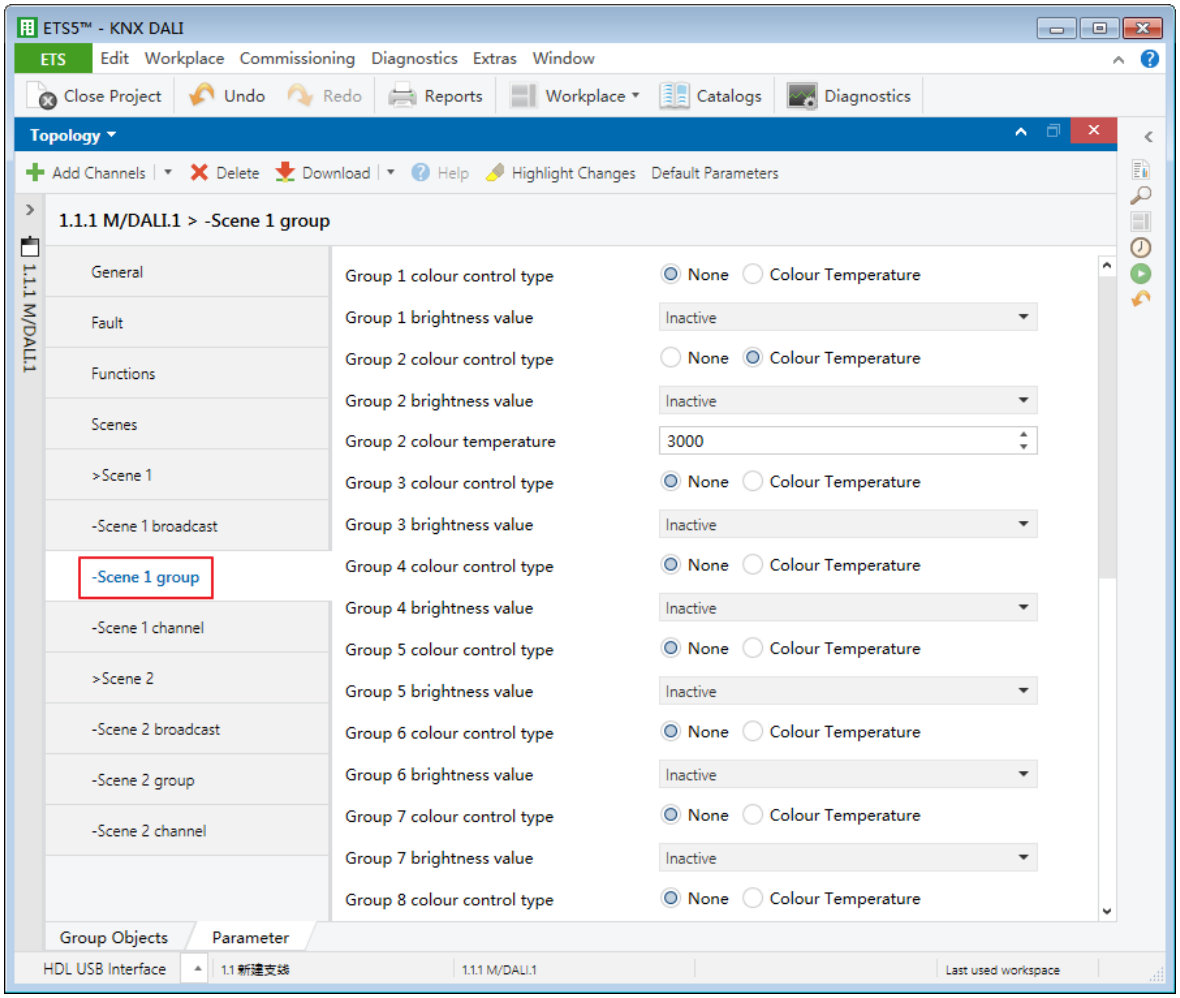


Figure 7-4 Scene control group

The setting items are explained below:

➢ If “Scene in master” is selected in the first point “Scenes source” of scene general setting page:

1. Group N colour control type: to select the control type of light brightness in this group.

   If “None” is selected, color temperature control function will be disabled.

   If “Colour Temperature” is selected, color temperature control function will be enabled.

2. Group N brightness value: to set the light brightness in this group, including “Inactive” and “0-100%”.

3. Group N colour temperature: to set the color temperature value of light in this group, after “Colour temperature” is selected in “Group N colour control type”. Color temperature settings only work for the ballasts which support color temperature regulation. If “Inactive” or “0%” is selected in “Group N brightness value”, color temperature settings do not work.

➢ If “Scene in ballast” is selected in the first point “Scenes source” of scene general setting page, the following items can be set:

Group enable: to enable/disable calling scenes in ballast.

7.5 Scene Control Channel

After scenes are enabled in scene selection page (“Scene 1” is taken as an example), click “Scene 1 channel” label, as shown in Figure 7-5.

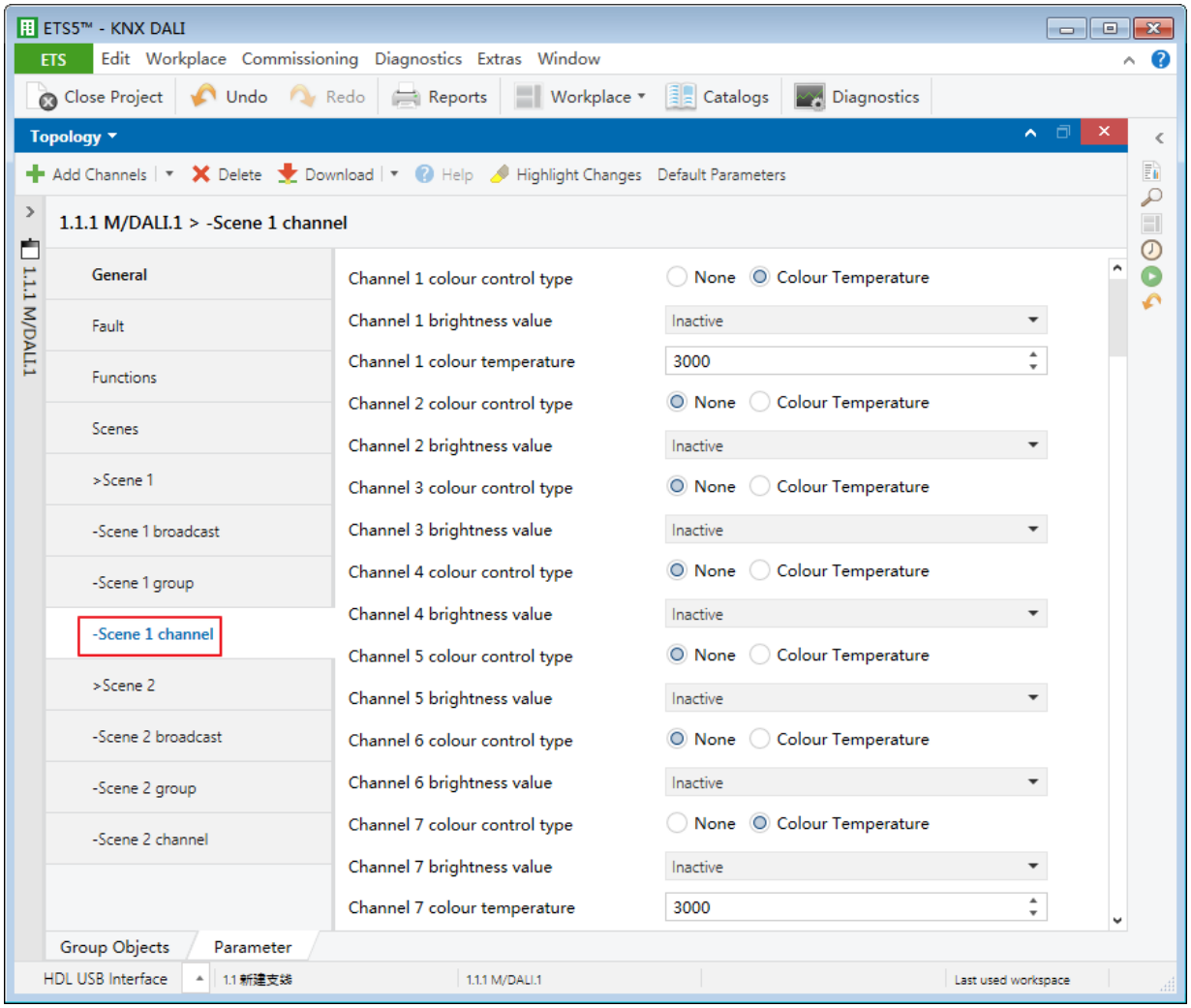


Figure 7-5 Scene control channel

The setting items are explained below:

➢ If “Scene in master” is selected in the first point “Scenes source” of scene general setting page:

1. Channel N colour control type: to select the control type of light brightness in this channel.

   If “None” is selected, color temperature control function will be disabled.

   If “Colour Temperature” is selected, color temperature control function will be enabled.

2. Channel N brightness value: to set the light brightness in this channel, including “Inactive” and “0-100%”.

3. Channel N colour temperature: to set the color temperature value of light in this channel, after “Colour temperature” is selected in “Channel N colour control type”. Color temperature settings only work for the ballasts which support color temperature regulation. If “Inactive” or “0%” is selected in “Channel N brightness value”, color temperature settings do not work.

- If “Scene in ballast” is selected in the first point “Scenes source” of scene general setting page, the following items can be set:

  Channel N enable: to enable/disable calling the scene saved in ballast.

8 Additional Function

After “Additional functions” is enabled in function selection page, click “Additional functions” label on the left, as shown in Figure 8-1.

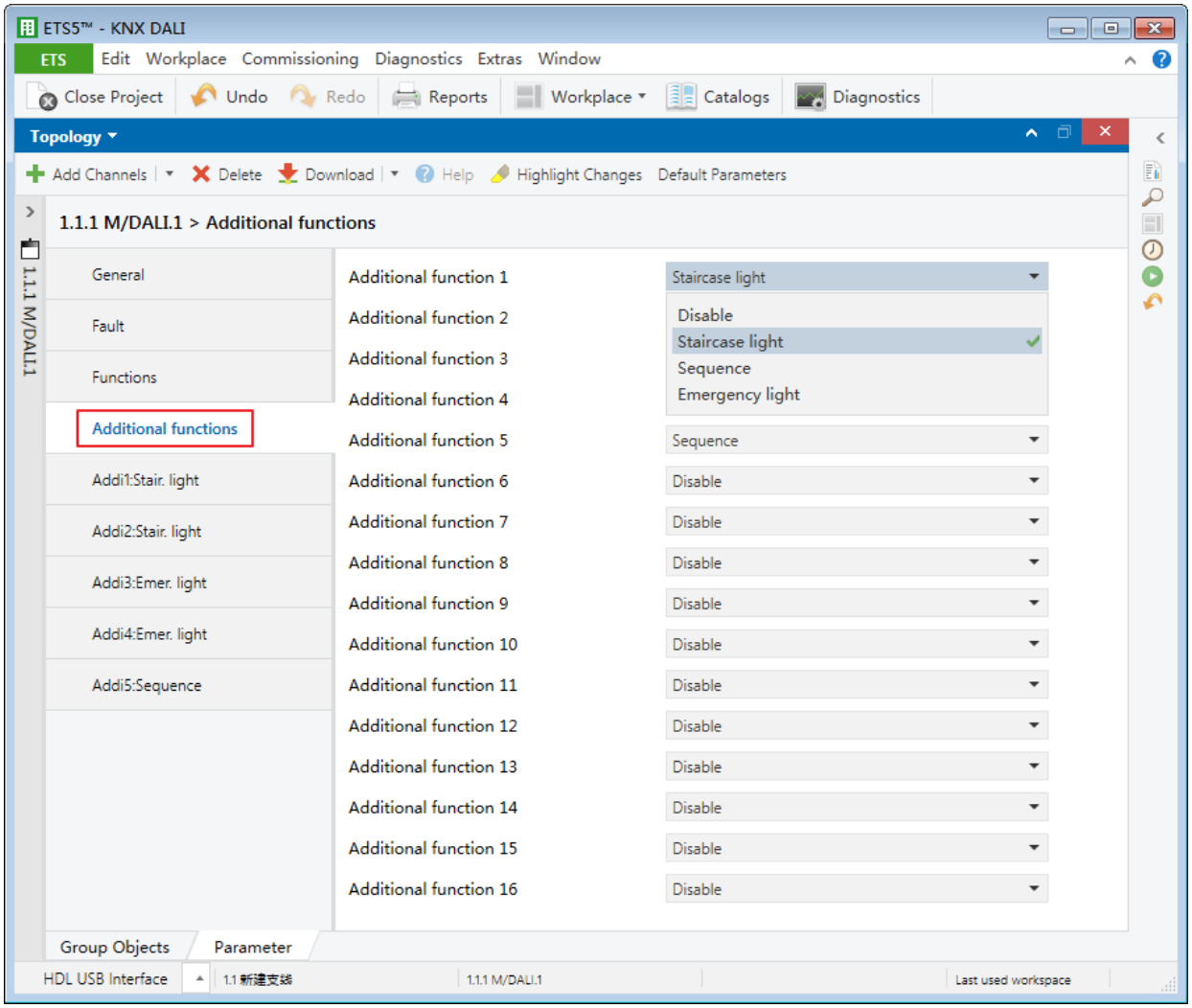


Figure 8-1 Select additional function

The setting items are explained below:

Additional function N (N=1, …, 16): to select additional function.

1. Staircase light
2. Sequence
3. Emergency light

8.1 Staircase Light Setting

After “Staircase light” is selected in the additional function option of additional function page (“Additional function 1” is taken as an example), click “Addi 1: Stair. Light” label on the left, as shown in Figure 8-2.

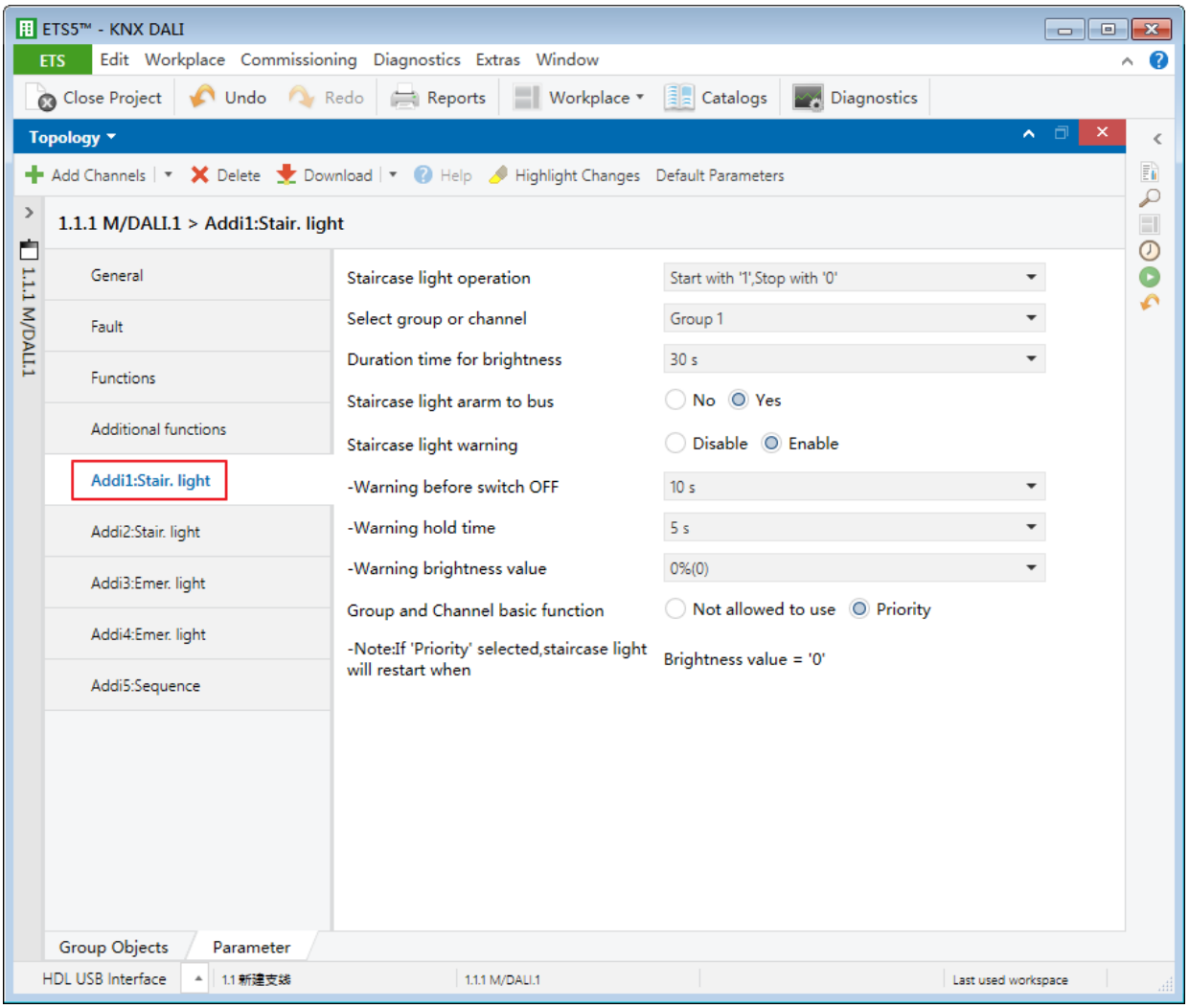


Figure 8-2 Staircase light setting

The setting items are explained below:

1. Staircase light operation: to select staircase control type.

   - If “Start with ‘1’, Stop with ‘0’” is selected, staircase light will be turned on after “1” is written to objects, and staircase light will be turned off after “0” is written to objects.
   - If “Start with ‘0’, Stop with ‘1’” is selected, staircase light will be turned on after “0” is written to objects, and staircase light will be turned off after “1” is written to objects.
   - If “Start with “1/0”, Can’t stop” is selected, staircase light will be turned on after “1” or

"0" is written to objects. If this option is selected, staircase light will not automatically go out until the end of duration.

2. Select group or channel: to select group/channel for staircase light. The default group depends on the selected additional function number.
3. Duration time for brightness: to set the duration of staircase light. The default value is 30s.
4. Staircase light alarm to bus: to enable sending alarms to the bus when staircase light is turned on/off.
5. Staircase light warning: to enable sending warning before staircase light goes out. The following items can be set after "Yes" is selected.
    1) Warn before switch OFF: to set time interval between warning signal is sent and staircase light goes out. The default value is 10s. For example, if "1 minute" is set, warning will be sent 1 minutes before staircase light goes out. Time interval should be within staircase light duration.
    2) Warning hold time: to set the duration of warning. The default value is 5s.
    3) Warning brightness value: to set staircase light brightness while warning is working.
6. Group and Channel basic function: to set the priority of group/channel function, including disabling group/channel function ("Not allowed to use") and prior group/channel function ("Priority").

Note: if "Priority" is selected, staircase light will be turned on again when group/channel brightness is 0. Group brightness is calculated according to the settings in "Brightness status value" (the maximum/average/minimum brightness of lights).

8.2 Sequence Setting

After "Sequence" is selected in the additional function option of additional function page ("Additional function 1" is taken as an example), click "Addi 1: Sequence" label, as shown in Figure 8-3.

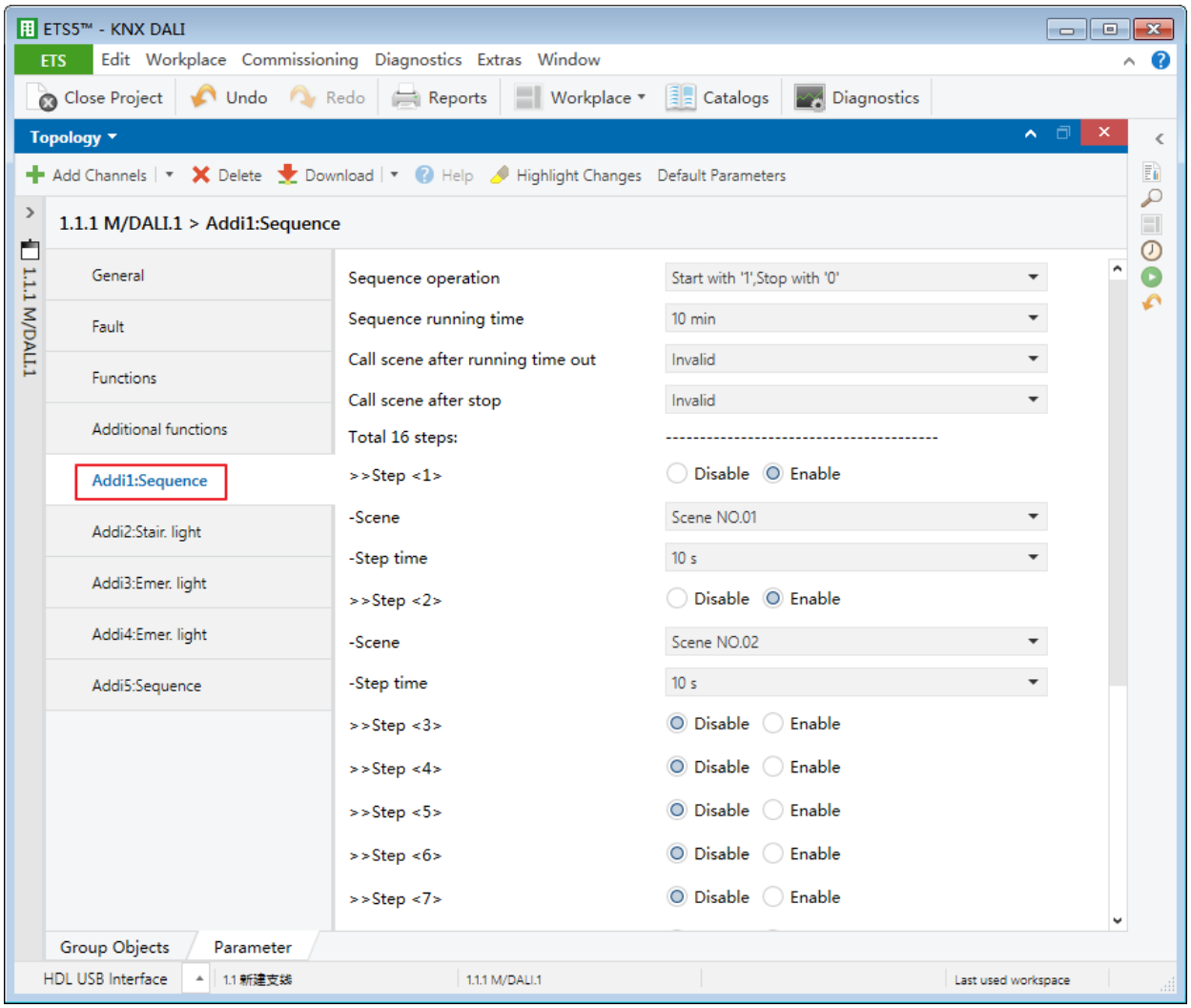


Figure 8-3 Sequence setting

The setting items are explained below:

1. Sequence operation: to select sequence control type.
   - If “Start with ‘1’, Stop with ‘0’” is selected, sequence will be booted after “1” is written to objects, and sequence will be closed after “0” is written to objects.
   - If “Start with ‘0’, Stop with ‘1’” is selected, sequence will be booted after “0” is written to objects, and sequence will be closed after “1” is written to objects.
   - If “Start with “1/0”, Can’t stop” is selected, sequence will be booted after “1” or “0” is written to objects. If this option is selected, sequence will not automatically stop running until the end of duration.
2. Sequence running time: to set sequence running time. The default value is 10 minutes.
3. Call scene after running time out: to set the scene called after the end of sequence

duration (all scenes called in sequence are combined scenes).

4. Call scene after stop: to set the scene called after sequence stops running.
5. Step <N> (N=1, …, 16): to set the step of sequence. The following items can be set after “Enable” is selected:
   1) Scene: to select the scene to output.
   2) Step time: to set the running time of every step. The default value is 10s.

8.3 Emergency Light Setting

After “Emergency light” is selected in the additional function option of additional function page (“Additional function 1” is taken as an example), click “Addi 1: Emer. Light” label on the left, as shown in Figure 8-1.

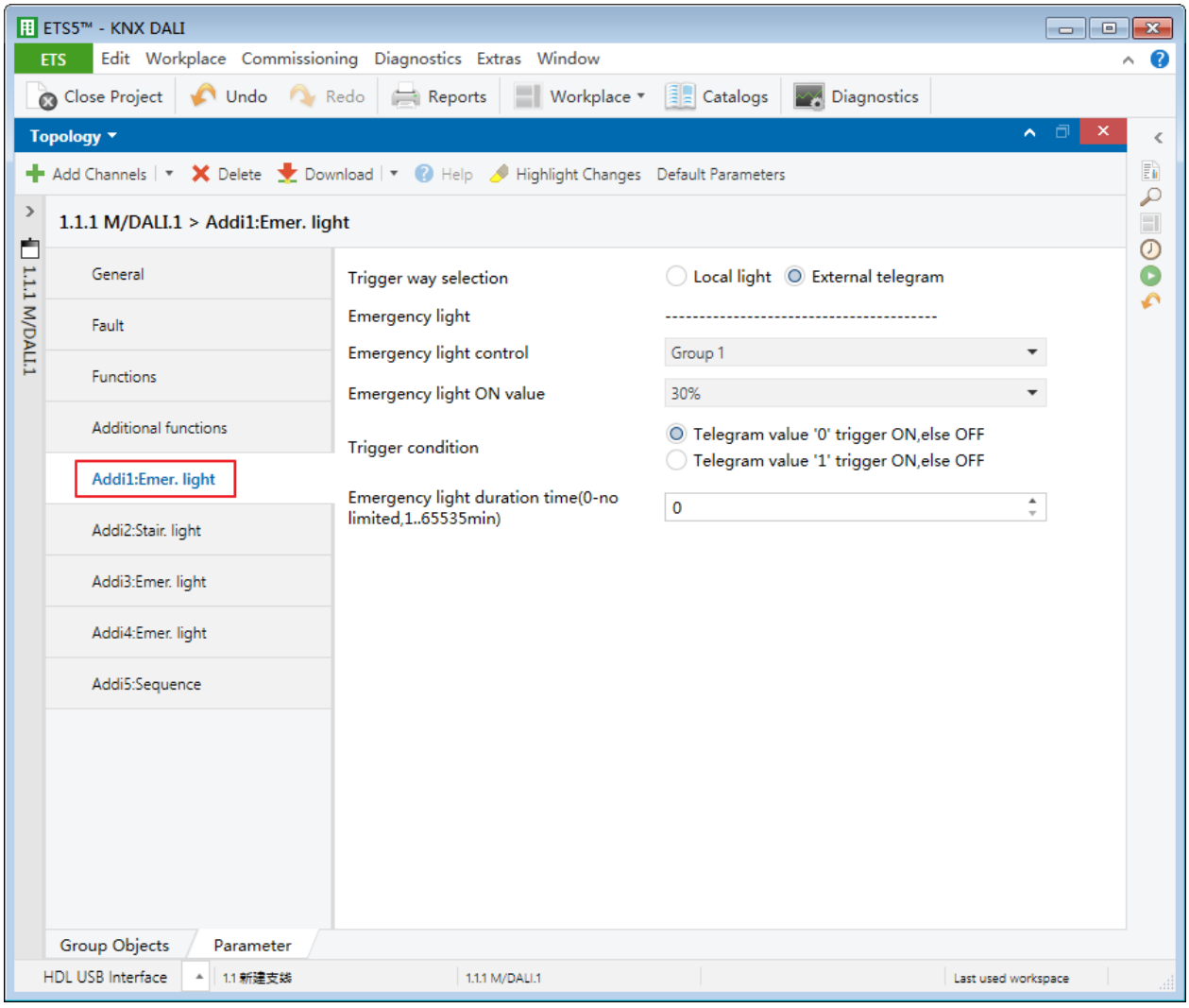


Figure 8-1 Emergency light setting

The setting items are explained below:

Trigger way selection: to select trigger way. Local light or external telegram can be selected to trigger emergency light.

➢ If “Local light” is selected in “Trigger way selection”:

1. Group/Channel checked for ‘emergency light control’: to select group/channel as trigger source. DALI Gateway will start trigger operation according to the settings in the fourth point “Trigger condition”. When the light for group/channel is turned on/off, emergency light will be turned on. For example, if “Group 1” is selected, emergency light will be turned on when the light for Group 1 is turned on/off.
2. Emergency light control: to select group/channel for emergency light. The default group is Group 2.
3. Emergency light ON value: to select the initial brightness of emergency light. The default value is 30%.
4. Trigger condition: to select trigger type.
   1) If “Brightness is ‘0’ trigger ON, else OFF” is selected, emergency light will be turned on when the brightness of group/channel selected in “Group/Channel checked for ‘emergency light control’” is 0. While emergency light will be turned off under other circumstances.
   2) If “Brightness is ‘>0’ trigger ON, else OFF” is selected, emergency light will be turned on when the brightness of group/channel selected in “Group/Channel checked for ‘emergency light control’” is above 0. While emergency light will be turned off under other circumstances.

   Group brightness is calculated according to the settings in “Brightness status value” (the maximum/average/minimum brightness of lights).
5. Emergency light duration time: to set the duration emergency light, which ranges from 1 to 65535 minutes. If “0” is set, emergency light has unlimited duration.

➢ If “External telegram” is selected in “Trigger way selection”:

1. Emergency light control: to select group/channel for emergency light. The default group is Group 2.
2. Emergency light ON value: to select the initial brightness of emergency light. The default value is 30%.
3. Trigger condition: to select trigger type.
   1) If “Telegram value ‘0’ trigger ON, else OFF” is selected, emergency light will be turned on after receiving telegram “0” and turned off after receiving other telegrams.

2) If “Telegram value ‘1’ trigger ON, else OFF” is selected, emergency light will be turned on after receiving telegram “1” and turned off after receiving other telegrams.

4. Emergency light duration time: to set the duration of emergency light, which ranges from 1 to 65535 minutes. If “0” is set, emergency light has unlimited duration.

9 Download Data

9.1 Interface Setting

If users need to download data to DALI Gateway, 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 Interface”. Double click to add and the interface will show up in “Current Interface”, as shown in Figure 9-1.

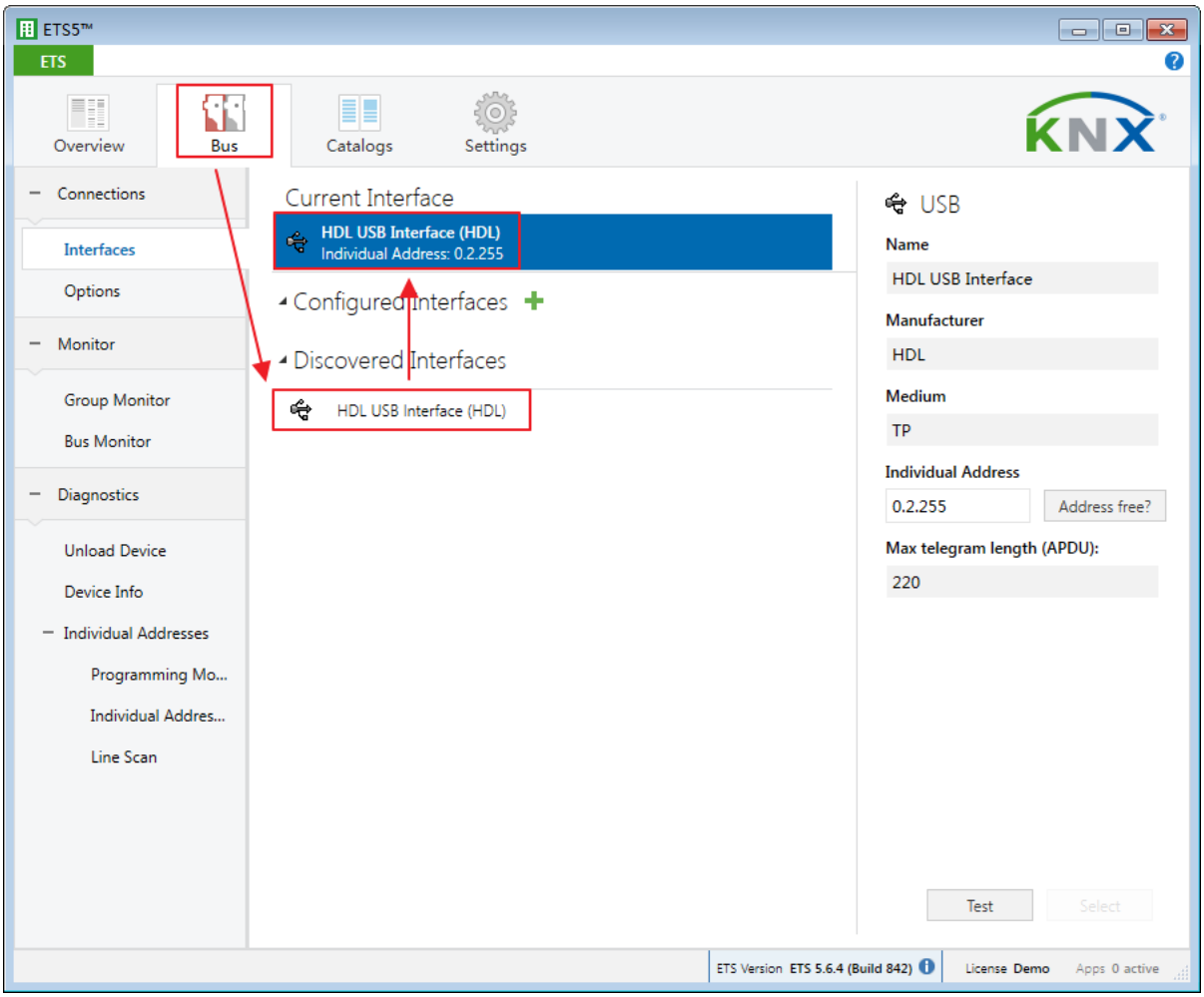


Figure 9-1 Interface setting

9.2 Download Data

Press the programming button of DALI Gateway, and the red indicator keeps on. Right click the database to be downloaded to DALI Gateway and select “Download”. The information indicates the end of the process on the right side of ETS, as shown in Figure 9-2.

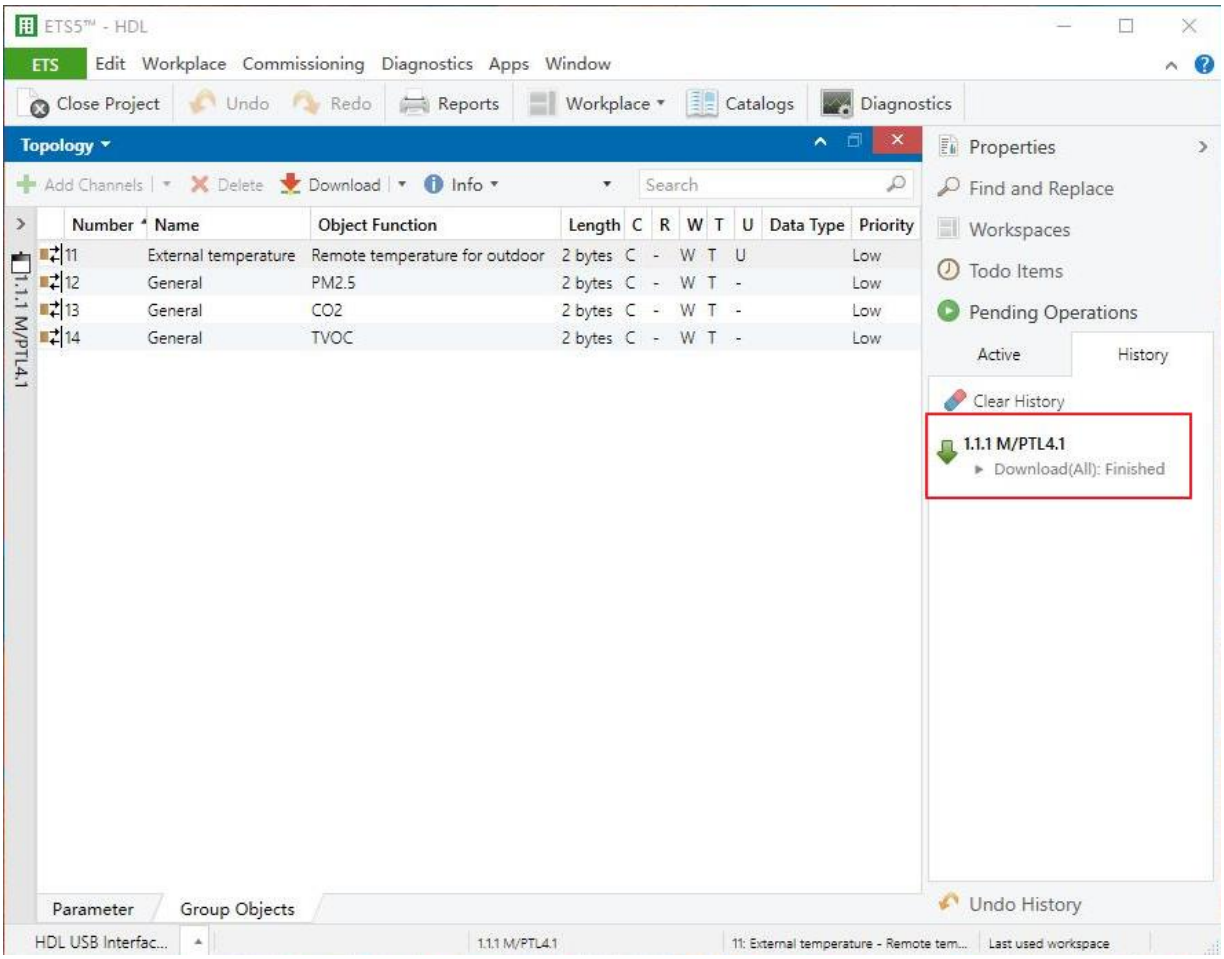


Figure 9-2 Download data

10 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.

10.1 Objects “General”

Object “General”

序号	名称	对象功能	长度	C	R	W	T	U	数据类型	优先级
1	General	Heartbeat telegram	1 bit	C	R	-	T	-	boolean	低

No.	Name	Function	Flag	Data Type
1	General	Heartbeat telegram	C R T	DPT1.002 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.				

10.2 Objects “Operation mode”

Objects “Operation mode”

2	Operation mode	Energy saving mode	1 bit	C	-	W	-	-	start/stop	低
3	Operation mode	Night mode	1 bit	C	-	W	-	-	start/stop	低

No.	Name	Function	Flag	Data Type
2, 3	Operation mode	Energy saving mode Night mode	C W	DPT1.010 1 bit
These objects are used for enabling/disabling energy saving mode and night mode.				

10.3 Objects “Fault”

Objects “Fault”

5	Fault	Manual detect all ball...	1 bit	C	-	W	-	-	start/stop	低
6	Fault	Address of fault ballast	1 byte	C	R	-	T	-	counter pu...	低
7	Fault	Number of fault ballast	1 byte	C	R	-	T	-	counter pu...	低
8	Fault	DALI bus fault	1 bit	C	R	-	T	-	alarm	低

No.	Name	Function	Flag	Data Type
5	Fault	Manual detect all ballasts	C W	DPT1.010 1 bit
This object is used for enabling/disabling manual fault detection function.				
6	Fault	Address of fault ballast	C R T	DPT5.010 1 byte
This object is used for sending fault ballast addresses.				
7	Fault	Number of fault ballast	C R T	DPT5.010 1 byte
This object is used for sending the number of fault ballasts.				
8	Fault	DALI bus fault	C R T	DPT1.005 1 bit
This object is used for enabling/disabling DALI bus fault detection function.				

10.4 Objects “Broadcast”

Objects “Broadcast”

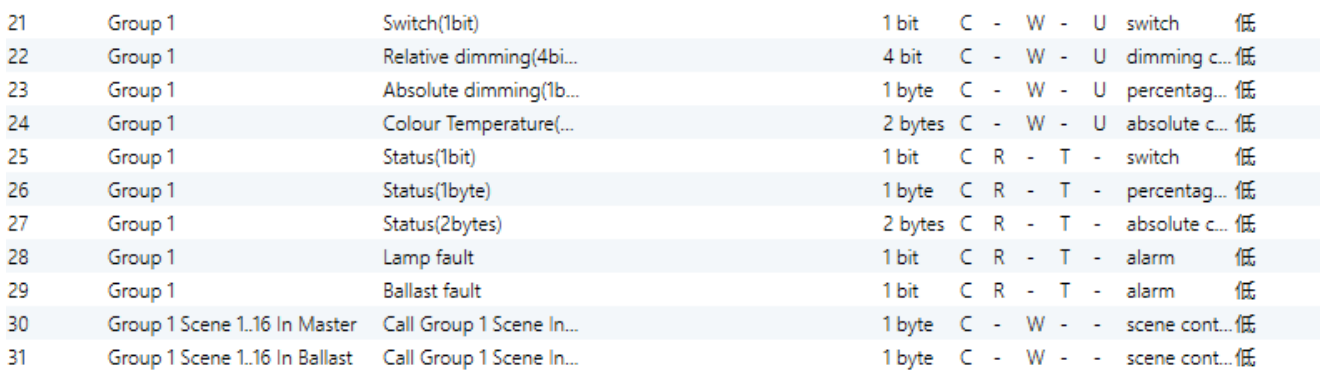
11	Broadcast	Switch(1bit)	1 bit	C	-	W	-	U	switch	低
12	Broadcast	Relative dimming(4bi...	4 bit	C	-	W	-	U	dimming c...	低
13	Broadcast	Absolute dimming(1b...	1 byte	C	-	W	-	U	percentag...	低
14	Broadcast	Colour Temperature(...	2 bytes	C	-	W	-	U	absolute c...	低
15	Broadcast	Status(1bit)	1 bit	C	R	-	T	-	switch	低
16	Broadcast	Status(1byte)	1 byte	C	R	-	T	-	percentag...	低
17	Broadcast	Status(2bytes)	2 bytes	C	R	-	T	-	absolute c...	低
18	Broadcast	Lamp fault	1 bit	C	R	-	T	-	alarm	低
19	Broadcast	Ballast fault	1 bit	C	R	-	T	-	alarm	低
20	Broadcast Scene 1..16	Call Broadcast Scene(...	1 byte	C	-	W	-	-	scene cont...	低

No.	Name	Function	Flag	Data Type
11	Broadcast	Switch (1 bit)	C W U	DPT1.001 1 bit
This object is used for enabling/disabling broadcast control function.				
12, 13	Broadcast	Relative dimming (4 bits) Absolute dimming (1 byte)	C W U	DPT3.007 4 bits DPT5.001

				1 byte
These objects are used for enabling/disabling relative/absolute dimming.				
14	Broadcast	Colour Temperature (2 bytes)	C W U	DPT7.001 2 bytes
This object is used for enabling/disabling color temperature function.				
15-17	Broadcast	Status (1 bit) Status (1 byte) Status (2 bytes)	C R T	DPT1.001 1 bit DPT5.001 1 byte DPT7.001 2 bytes
These objects are used for selecting status feedback types, including 1-bit object feedback, 1-byte object feedback and 2-byte object feedback.				
18, 19	Broadcast	Lamp fault Ballast fault	C R T	DPT1.005 1 bit
These objects are used for enabling/disabling light/ballast fault detection function.				
20	Broadcast Scene 1-16	Call Broadcast Scene (1 byte)	C R T	DPT18.001 1 byte
This object is used for calling scenes via broadcast.				

10.5 Objects “Group”

Objects “Group”
(Take “Group 1” as an example)



21	Group 1	Switch(1bit)	1 bit	C	-	W	-	U	switch	低
22	Group 1	Relative dimming(4bi...	4 bit	C	-	W	-	U	dimming c...	低
23	Group 1	Absolute dimming(1b...	1 byte	C	-	W	-	U	percentag...	低
24	Group 1	Colour Temperature(...	2 bytes	C	-	W	-	U	absolute c...	低
25	Group 1	Status(1bit)	1 bit	C	R	-	T	-	switch	低
26	Group 1	Status(1byte)	1 byte	C	R	-	T	-	percentag...	低
27	Group 1	Status(2bytes)	2 bytes	C	R	-	T	-	absolute c...	低
28	Group 1	Lamp fault	1 bit	C	R	-	T	-	alarm	低
29	Group 1	Ballast fault	1 bit	C	R	-	T	-	alarm	低
30	Group 1 Scene 1..16 In Master	Call Group 1 Scene In...	1 byte	C	-	W	-	-	scene cont...	低
31	Group 1 Scene 1..16 In Ballast	Call Group 1 Scene In...	1 byte	C	-	W	-	-	scene cont...	低

No.	Name	Function	Flag	Data Type
21, 32, 43, 54, 65, 76, 87, 98, 109, 120, 31, 142, 153, 164, 175, 186	Group n (n=1, 2, …, 16)	Switch (1 bit)	C W U	DPT1.001 1 bit
These objects are used for enabling/disabling group control function.				
22, 23, 33, 34,	Group n	Relative dimming (4 bits)	C W U	DPT3.007

44, 45, 55, 56, 66, 67, 77, 78, 88, 89, 99, 100, 110, 111, 121, 122, 132, 133, 143,144, 154,155, 165,166, 176,177,187, 188	(n=1, 2, …, 16)	Absolute dimming (1 byte)		4 bits DPT5.001 1 byte
These objects are used for enabling/disabling relative/absolute dimming.				
24, 35, 46, 57, 68, 79, 90, 101, 112, 123, 134, 145, 156, 167,178, 189	Group n (n=1, 2, …, 16)	Colour Temperature (2 bytes)	C W U	DPT7.001 2 bytes
These objects are used for enabling/disabling color temperature function.				
25-27, 36-38, 47-49, 58-60, 69-71, 80-82, 91-93, 102-104, 113-115, 124-126, 135-137, 146-148, 157-159, 168-170, 179-181, 190-192	Group n (n=1, 2, …, 16)	Status (1 bit) Status (1 byte) Status (2 bytes)	C R T	DPT1.001 1 bit DPT5.001 1 byte DPT7.001 2 bytes
These objects are used for selecting status feedback types, including 1-bit object feedback, 1-byte object feedback and 2-byte object feedback.				
28, 29, 39, 40, 50, 51, 61, 62, 72, 73, 83, 84, 94, 95, 105,106, 116, 117, 127, 128, 138, 139, 149, 150, 160, 161, 171, 172, 182, 183, 193, 194	Group n (n=1, 2, …, 16)	Lamp fault Ballast fault	C R T	DPT1.005 1 bit
These objects are used for enabling/disabling light/ballast fault detection function.				
30, 41, 52, 63, 74, 85, 96, 107, 118, 129, 140, 151, 162, 173, 184, 195,	Group n Scene 1-16 In Master (n=1, 2, …, 16)	Call Group n Scene In Master	C W	DPT18.001 1 byte
These objects are used for calling the scenes on DALI master.				
31, 42, 53, 64, 75, 86, 97, 108, 119, 130, 141, 152, 163, 174, 185, 196	Group n Scene 1-16 In Ballast (n=1, 2, …, 16)	Call Group n Scene In Ballast	C W	DPT18.001 1 byte
These objects are used for calling the scenes on ballasts.				

10.6 Objects “Channel”

Objects “Channel”
(Take “Channel 1” as an example)

197	Channel 1	Switch(1bit)	1 bit	C	-	W	-	U	switch	低
198	Channel 1	Relative dimming(4bi...	4 bit	C	-	W	-	U	dimming c...	低
199	Channel 1	Absolute dimming(1b...	1 byte	C	-	W	-	U	percentag...	低
200	Channel 1	Colour Temperature(...	2 bytes	C	-	W	-	U	absolute c...	低
201	Channel 1	Status(1bit)	1 bit	C	R	-	T	-	switch	低
202	Channel 1	Status(1byte)	1 byte	C	R	-	T	-	percentag...	低
203	Channel 1	Status(2bytes)	2 bytes	C	R	-	T	-	absolute c...	低
204	Channel 1	Lamp fault	1 bit	C	R	-	T	-	alarm	低
205	Channel 1	Ballast fault	1 bit	C	R	-	T	-	alarm	低
206	Channel 1 Scene 1..16	Call Channel 1 Scene	1 byte	C	-	W	-	-	scene cont...	低

No.	Name	Function	Flag	Data Type
197, 207, 217, 227, 237, 247, 257, 267, 277, 287, 297, 307, 317, 327, 337, 347, 357, 367, 377, 387, 397, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497, 507, 517, 527, 537, 547, 557, 567, 577, 587, 597, 607, 617, 627, 637, 647, 657, 667, 677, 687, 697, 707, 717, 727, 737, 747, 757, 767, 777, 787, 797, 807, 817, 827	Channel n (n=1, 2, …, 64)	Switch (1 bit)	C W U	DPT1.001 1 bit
These objects are used for enabling/disabling channel control function.				
198, 199, 208, 209, 218, 219, 228, 229, 238, 239, 248, 249, 258, 259, 268, 269, 278, 279, 288, 289, 298, 299, 308, 309, 318, 319, 328, 329, 338, 339, 348, 349, 358, 359, 368, 369, 378, 379, 388, 389, 398, 399, 408, 409, 418, 419, 428, 429, 438, 439, 448, 449, 458, 459, 468, 469, 478, 479, 488, 489, 498, 499, 508, 509, 518, 519, 528, 529, 538, 539, 548, 549, 558, 559, 568, 569, 578, 579, 588, 589, 598, 599, 608, 609, 618, 619, 628, 629, 638, 639, 648, 649, 658, 659, 668, 669, 678, 679, 688, 689, 698, 699, 708, 709, 718, 719, 728, 729, 738, 739, 748, 749, 758, 759, 768, 769, 778, 779, 788, 789, 798, 799, 808, 809, 818, 819, 828, 829	Channel n (n=1, 2, …, 64)	Relative dimming (4 bits) Absolute dimming (1 byte)	C W U	DPT3.007 4 bits DPT5.001 1 byte
These objects are used for relative/absolute dimming.				
200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350,	Channel n (n=1, 2, …, 64)	Colour Temperature (2 bytes)	C W U	DPT7.001 2 bytes

360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830				
These objects are used for color temperature function.				
201, 202, 203, 211, 212, 213, 221, 222, 223, 231, 232, 233, 241, 242, 243, 251, 252, 253, 261, 262, 263, 271, 272, 273, 281, 282, 283, 291, 292, 293, 301, 302, 303, 311, 312, 313, 321, 322, 323, 331, 332, 333, 341, 342, 343, 351, 352, 353, 361, 362, 363, 371, 372, 373, 381, 382, 383, 391, 392, 393, 401, 402, 403, 411, 412, 413, 421, 422, 423, 431, 432, 433, 441, 442, 443, 451, 452, 453, 461, 462, 463, 471, 472, 473, 481, 482, 483, 491, 492, 493, 501, 502, 503, 511, 512, 513, 521, 522, 523, 531, 532, 533, 541, 542, 543, 551, 552, 553, 561, 562, 563, 571, 572, 573, 581, 582, 583, 591, 592, 593, 601, 602, 603, 611, 612, 613, 621, 622, 623, 631, 632, 633, 641, 642, 643, 651, 652, 653, 661, 662, 663, 671, 672, 673, 681, 682, 683, 691, 692, 693, 701, 702, 703, 711, 712, 713, 721, 722, 723, 731, 732, 733, 741, 742, 743, 751, 752, 753, 761, 762, 763, 771, 772, 773, 781, 782, 783, 791, 792, 793, 801, 802, 803, 811, 812, 813, 821, 822, 823, 831, 832, 833	Channel n (n=1, 2, …, 64)	Status (1 bit) Status (1 byte) Status (2 bytes)	C R T	DPT1.001 1 bit DPT5.001 1 byte DPT7.001 2 bytes
These objects are used for selecting status feedback type, including 1-bit object feedback, 1-byte object feedback and 2-byte object feedback.				
204, 205, 214, 215, 224, 225, 234, 235, 244, 245, 254, 255, 264, 265, 274, 275, 284, 285, 294, 295, 304, 305, 314, 315, 324, 325, 334, 335, 344, 345, 354, 355, 364, 365, 374, 375, 384, 385, 394, 395, 404, 405, 414, 415, 424, 425, 434, 435, 444, 445, 454, 455, 464, 465, 474, 475, 484, 485, 494, 495, 504, 505, 514, 515, 524, 525, 534, 535, 544, 545, 554, 555,	Channel n (n=1, 2, …, 64)	Lamp fault Ballast fault	C R T	DPT1.005 1 bit

564, 565, 574, 575, 584, 585, 594, 595, 604, 605, 614, 615, 624, 625, 634, 635, 644, 645, 654, 655, 664, 665, 674, 675, 684, 685, 694, 695, 704, 705, 714, 715, 724, 725, 734, 735, 744, 745, 754, 755, 764, 765, 774, 775, 784, 785, 794, 795, 804, 805, 814, 815, 824, 825, 834, 835				
These objects are used for light/ballast fault detection function.				
206, 216, 226, 236, 246, 256, 266, 276, 286, 296, 306, 316, 326, 336, 346, 356, 366, 376, 386, 396, 406, 416, 426, 436, 446, 456, 466, 476, 486, 496, 506, 516, 526, 536, 546, 556, 566, 576, 586, 596, 606, 616, 626, 636, 646, 656, 666, 676, 686, 696, 706, 716, 726, 736, 746, 756, 766, 776, 786, 796, 806, 816, 826, 836	Channel n Scene 1-16 (n=1, 2, …, 64)	Call Channel 1-64 Scene	C W	DPT18.001 1 byte
These objects are used for calling scenes, whose number ranges from 1 to 64.				

10.7 Objects “Scene”

Objects “Scene”

837	Scene 1..16	Call scene(1byte)	1 byte	C	-	W	-	-	scene cont...	低
838	Scene 1/2	'0'-Scene 1 / '1'-Scene...	1 bit	C	-	W	-	-	switch	低
839	Scene 3/4	'0'-Scene 3 / '1'-Scen...	1 bit	C	-	W	-	-	switch	低
840	Scene 5/6	'0'-Scene 5 / '1'-Scen...	1 bit	C	-	W	-	-	switch	低
841	Scene 7/8	'0'-Scene 7 / '1'-Scen...	1 bit	C	-	W	-	-	switch	低
842	Scene 9/10	'0'-Scene 9 / '1'-Scen...	1 bit	C	-	W	-	-	switch	低
843	Scene 11/12	'0'-Scene 11 / '1'-Scen...	1 bit	C	-	W	-	-	switch	低
844	Scene 13/14	'0'-Scene 13 / '1'-Scen...	1 bit	C	-	W	-	-	switch	低
845	Scene 15/16	'0'-Scene 15 / '1'-Scen...	1 bit	C	-	W	-	-	switch	低

No.	Name	Function	Flag	Data Type
837	Scene n (n=1, 2, …, 16)	Call scene (1 byte)	C W	DPT18.001 1 byte
This object is used for calling 16 scenes.				
838-845	Scene m/ (m+1) (m=1, 2, …, 15)	Call scene (1 byte) ‘0’-Scene m/ ‘1’-Scene (m+1) (m=1, 2, …, 15)	C W	DPT1.001 1 bit
These objects are used for calling 2 scenes. Object “838” is taken as an example, scene 1 will be called by “0”, while scene 2 will be called by “1”.				

10.8 Objects “Additional function”

Objects “Additional function”
(Take “Additional function 1” as an example)

846	Additional funtion 1	Emer. External telegram	1 bit	C	-	W	-	-	switch	低
846	Additional funtion 1	Sequence	1 bit	C	-	W	-	-	start/stop	低
846	Additional funtion 1	Staircase light	1 bit	C	-	W	-	-	switch	低
847	Additional funtion 1	Staircase light alarm	1 bit	C	R	-	T	-	alarm	低

No.	Name	Function	Flag	Data Type
846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876	Addition function n (n=1, 2, …, 16)	Staircase light Sequence Emer. External telegram	C W	DPT1.001 1 bit DPT1.010 1 bit
These objects are used for additional functions, including staircase light, sequence and emergency light function.				
847, 849, 851, 853, 855, 857, 859, 861, 863, 865, 867, 869, 871, 873, 875, 877	Addition function n (n=1, 2, …, 16)	Staircase light alarm	C R T	DPT1.005 1 bit
These objects are used for sending alarms when staircase light is turned on/off.				

10.9 Objects “DALI Manage”

Objects “DALI Manage”

890	DALI Manage	Request string	14 bytes	C	-	W	-	-	Character...	低
891	DALI Manage	Response string	14 bytes	C	-	-	T	-	Character...	低

No.	Name	Function	Flag	Data Type
890, 891	DALI Manage	Request string Response string	C W	DPT16.000 14 bytes
These objects are used for communicating with auxiliary software.				