

User Manual

DALI Gateway Configuration App_V1.2

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Chapter 1 Overview

Device Configuration APP(Hereinafter referred to as DCA) is a plugin of the ETS software for configuring DALI gateway, embedded in the application of DALI gateway, to conveniently debug and configure function of DALI gateway, and address DALI device.

The manual mainly introduce about the overall framework, usage and functions of DCA.

1.1 Function Overview

DCA is able to debug such as switch, dim, group and scene controlling, etc. to the DALI device connecting on the channel through the DALI gateway. In addition, it can also address and modify the address of the DALI device. Therefore, after configuring function to the KNX/DALI gateway through the ETS software, DCA needs to be further configured to complete the functions. For example, group control and scene control, DCA is required to perform group assignment and scene assignment for the DALI device, and DALI address is required to be modified through DCA to make DALI device location more compliant with the layout.

Function overview of DALI system configuration software are summarized as follows:

- ♦ **Import/Export configuration**
- ♦ **Initialize the DALI bus, assign address to DALI device**
- ♦ **Query device status on the DALI bus, read DALI device configuration**
- ♦ **Supporting switch operation for 64 DALI devices of the two channels**
- ♦ **Supporting group assignment and read all configuration of the DALI device**
- ♦ **Supporting switch operation for the group**
- ♦ **Read the lamp or ballast failure status of the DALI device**
- ♦ **Assign scenes and set scene brightness values for each DALI device**
- ♦ **Address adjustment for devices with DALI addresses programmed**

1.2 Software download and installation overview

DCA's .etsapp file is obtained from the manufacturer or the shop of the myknx account(search "DALI Gateway Configuration APP"). Then, add APP in the lower right corner of ETS5. If there is an old version before, delete it and restart ETS5 to add a new version of APP. In the project configuration of DALI device, you can see that the editing interface of the database has a DCA menu after the APP is added successfully. Click to see the configuration interface of DCA.

Note: This function only supports to the version with ETS license, that is ETS dongle needs to be installed on the computer, including ETS5Lite, ETS5 Supplementary, ETS5 Professional.

Chapter 2 Software Interface

Open the device database, click the [DCA] option in the database edit menu, DCA main interface (Initial interface) as shown in Fig. 2.1.

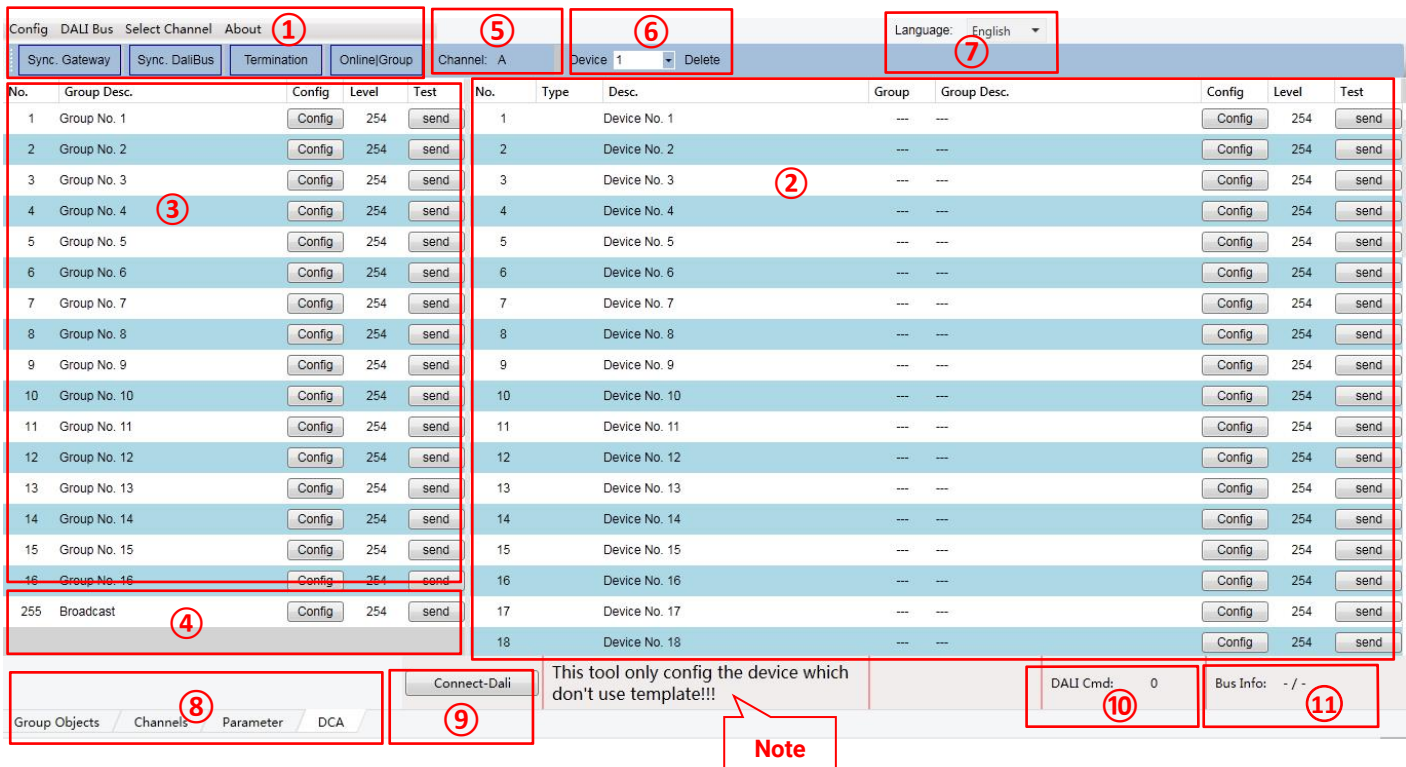




Fig. 2.1 DCA main interface

①Main menu: Including [Config], [DALI Bus], [Select Channel], [About], [Sync.Gateway], [Sync.DaliBus], [Termination], [Online|Group]. The first line is the menu, the second line is the shortcut button, their functions and usage will be introduced in detail in Chapter 2.1.

②Device list: All DALI devices on the selected channel are displayed in the device list. Device icon  is for general DALI ballast, icon  is for DALI ballast with color temperature controlling.

As shown below, click right button [Config] to enter the parameter configuration interface of corresponding device, this interface is described in Chapter 2.2.1. Click button [Send] to send the brightness value, to test whether the DALI device works normally, the brightness value of the test can be modified in the [Level] column. The device description can be modified in the [Device.Desc] column, while [Group] and [Group.Desc] display the group to which the device belongs and the description of the group to which it belongs.

No.	Type	Desc.	Group	Group Desc.	Config	Level	Test
1		Device No. 1	2	Group No. 2	Config	254	send
2		Device No. 2	2	Group No. 2	Config	254	send
3		Device No. 3	2	Group No. 2	Config	254	send
4		Device No. 4	---	---	Config	254	send
5		Device No. 5	---	---	Config	254	send

③**Group list:** All groups on the selected channel are displayed in the group list. Click button [Config] to enter the parameter configuration interface of corresponding group, this interface is described in Chapter 2.2.2. Click button [Send] to send the brightness value, to test whether the DALI device works normally, the brightness value of the test can be modified in the [Level] column. The group description can be modified in the [Device.Desc] column, as shown below.

No.	Group Desc.	Config	Level	Test
1	Group 1	Config	254	send
2	Group 2	Config	254	send
3	Group No. 3	Config	254	send
4	Group No. 4	Config	254	send
5	Group No. 5	Config	254	send
6	Group No. 6	Config	254	send

④**Broadcast control:** At the bottom of the group list, as shown below, interface operation is similar to group list. parameter configuration interface is described in Chapter 2.2.3.

No.	Group Desc.	Config	Level	Test
13	Group No. 13	Config	254	send
14	Group No. 14	Config	254	send
15	Group No. 15	Config	254	send
16	Group No. 16	Config	254	send
255	Broadcast_all devices	Config	254	send

⑤**Show the current channel.**

⑥**Delete device address.**

⑦**Switch the interface display language.** After switching, you need to refresh the interface to completely update the display, such as click other devices in the project, and then return to the DCA editing interface.

⑧**Show the database edit menu of DALI device.**

⑨**Show the connection state of DALI bus.**

⑩ Show the command waiting for the execution on the DALI bus.

⑪ Show the bus voltage/current/ Dali Master version.

Note 1: This tool only config the device which don't use template!!!

Tips: If parameter configuration of device or group uses template in ETS, the relevant parameter setting in the DCA is invalid. Even if it is modified, it finds that the device status information is inconsistent with the ETS configuration when the gateway reads the device, and will be restored to the ETS parameter setting. Only when the default setting are used in the ETS parameter configuration, can the setting be modified via DCA.

2.1 Main menu

2.1.1 [Config]

Select [Config] on the main menu bar to get the drop-down menu in Fig. 2.2 [Config] .



Fig. 2.2 [Config] drop-down menu

[Import Config]: Import the configuration of a DALI gateway. After imported, user can apply and modify the configuration in DCA. Click [ApplyUserConfig] in the device interface (as Fig. 2.8 below) to apply the configuration, then click [StoreDevice] to save the configuration in the device.

[Export Config]: After setting the configuration of a DALI gateway, user can export and save it.

2.1.2 [DALI Bus]

Select [DALI Bus] on the main menu bar to get the drop-down menu in Fig.2.3 [DALI Bus].

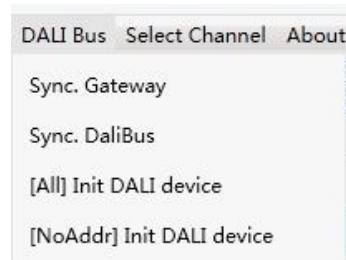


Fig. 2.3 [DALI Bus] drop-down menu

[Sync.Gateway]: Read the devices configuration saved on the gateway, including configuration of the DALI devices and configurations of groups, etc. This option has a shortcut button at the bottom of the menu bar.

[Sync.DALI Bus]: Read the configuration of DALI devices on the DALI bus directly (if there are numbers of devices on the channel, this operation will take a long time). This option has a shortcut button at the bottom of the menu bar.

[[All] Init DALI device]: Assign DALI addresses to all DALI devices on the current channel.

[[NoAddr] Init DALI device]: Only assign DALI address to the devices that have no address, this operation will not change the DALI address that has already assigned.

Note: During address assignment, if incomplete address assignment occurs, please start the initialization operation of assigning address to the devices without address. If no-address assignment fails exceed 2 times, start the initialization operation of assigning address to all devices.

2.1.3 [Select Channel]

Select [Select Channel] on the main menu bar to get the drop-down menu in Fig. 2.4 [Select Channel].

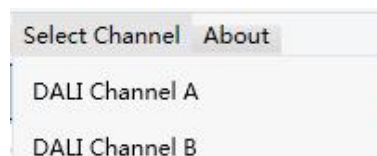


Fig. 2.4 [Select Channel] drop-down menu

DALI output channels has 2 channels can be selected in all, each channel can be configured with 64 devices.

[DALI Channel A]: Select DALI output channel A to configure.

[DALI Channel B]: Select DALI output channel B to configure.

2.1.4 [Termination]

Click the shortcut button [Termination] at the bottom of the menu bar to terminate the operation of the DALI gateway and DALI device, such as terminating operation during the process of reading the device status, this process will be interrupted; if terminating operation during the initialization of the bus, the initialization may fail. If there are too much data on the DALI bus or being too busy, terminating the operation should be taken into consideration.

2.1.5 [Online|Group]

Click the shortcut button [Online|Group] at the bottom of the menu bar to pop up the window as shown in Fig. 2.5, prompting "The device brightness status maybe not same to the dali bus! This is only for test!". Click sure to enter Online|Group test interface, as shown in Fig. 2.6.

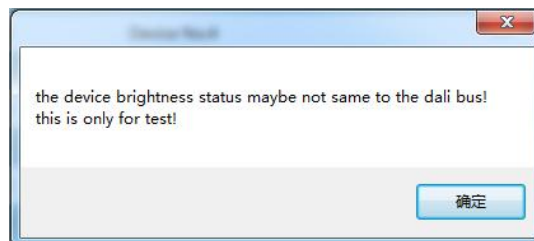


Fig. 2.5 [Online|Group] pop-up windows



Fig. 2.6 Online|Group test interface


Online|Group test interface can check all the connected DALI devices on the DALI bus, including ballasts, lamp failure status, grouping, etc. Switch operation of each lamp and each group, modification of DALI device address and group assignment of DALI device can be operated.

Single lamp test: Click the DALI device icon in [Device], DALI gateway will be on or off. The group assigned by the DALI device can be viewed in the DALI icon. If it is not assigned to any group, the group number Gx will not be displayed, and a DALI device can only be assigned to one group.

Group test: Click the group icon in [Group], DALI gateway will on or off all DALI devices belonging to the group.

Replace the address: After initializing the DALI bus, all DALI devices will get a DALI address. If the address does not match the expected, we can adjust it on this interface. For example, modify the device address to an unused address. Drag the device icon for the modified address to the unused address icon. If the device address needs to be modified to an already used address, an unused address is required as an intermediary to temporarily store the device to be removed, and the device can be modified by vacating the address. **Therefore, it is recommended to connect with no more than 63 devices on the DALI bus to facilitate changing the DALI address via software.**

For devices that are newly connected to the DALI bus, an initial no address operation can be performed, and these new devices will also be assigned addresses.

Group assignment: Click the DALI device icon and drag directly to the right group control icon to assign the device to the group. If drag to the icon  on the right of the group list, that is to delete group.

Status of the DALI device: Analysis is as follows:



: The address is not used and there is no DALI device on the icon.



: The DALI device at this address is working normally and is on.



: The DALI device at this address is working normally and is on, and has been assigned to group G2.



: Indicates that the DALI lamp has failed or is not connected.



: Indicates that the DALI ballast has failed or is not connected.



: Group control icon, indicates that the DALI group is off.



: Group control icon, indicates that the DALI group is on.

2.1.6 [About]

Clicked [About] on the main menu bar to pop up the window as shown in Fig. 2.7, here is the basic information of DCA.

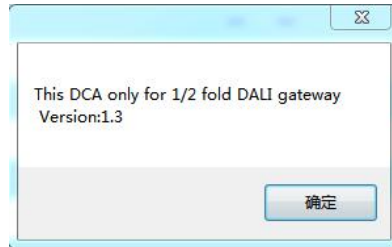


Fig. 2.7 [About] pop-up windows

2.2 Configuration Window Interface

In the main interface(Fig. 2.1), click the button [Config] in each function list to enter the parameter configuration interface of each group, each device and broadcast control, as follows.

2.2.1 Device Configuration

Device configuration interface as shown in Fig. 2.8, for group editing, scene assignment, parameters editing and testing for the device, etc.

Id	parameter	Config	Command
1	Addr.	1	
2	Desc.	Device No. 1	
3	Device type	-	
4	Group	Not Join	
5	Fade time	<0.7s	
6	Fade rate	358 Steps/s	
7	Max.level	100%	
8	Min.level	0.100%	
9	Power on level	100%	
10	System failure level	100%	
11	Phys.Min. Level	0%	
12	Scene No.1	MASK	
13	Scene No.2	MASK	
14	Scene No.3	MASK	
15	Scene No.4	MASK	
16	Scene No.5	MASK	
17	Scene No.6	MASK	
18	Scene No.7	MASK	
19	Scene No.8	MASK	
20	Scene No.9	MASK	

Cmd will put into queue and exectue DALI Cmd: 0 - / - V19

Fig. 2.8(1) Device configuration interface

Id	parameter	Config	Command
11	Phys.Min. Level	0%	
12	Scene No.1	MASK	
13	Scene No.2	MASK	
14	Scene No.3	MASK	
15	Scene No.4	MASK	
16	Scene No.5	MASK	
17	Scene No.6	MASK	
18	Scene No.7	MASK	
19	Scene No.8	MASK	
20	Scene No.9	MASK	
21	Scene No.10	MASK	
22	Scene No.11	MASK	
23	Scene No.12	MASK	
24	Scene No.13	MASK	
25	Scene No.14	MASK	
26	Scene No.15	MASK	
27	Scene No.16	MASK	
28	test level(0%~100%)	100%	send
29	recall scene	sceneNo. 1	Go to
30	test temperature(1000~9000)	3000	send

Cmd will put into queue and exectue DALI Cmd: 0 - / - V19

Fig. 2.8(2) Device configuration interface

①[StoreDevice]: Save the modified configuration of the device. After saving, the device on the DALI bus can apply directly the saved configuration.

②[ReadDevice]: All information of the device can be read from DALI bus, and display to DCA synchronously, such as device type, parameter setting, scene setting.

③[ApplyUserConfig]: After importing configuration, if you want some devices to use this configuration, then click this button, and it can apply user configuration to device and display to parameter interface synchronously. If you want to save to the device, you also need to click the button [StoreDevice].

④[Addr.]: Display the DALI address of the selected DALI device, users can modify DALI address in the Online|Group test interface, as shown in the Fig. 2.6.

⑤[Desc.]: Click the configuration of this parameter to modify description of DALI device.

⑥[DeviceType]: Display DALI device type, such as DT6 for displaying 6 in the column.

⑦[Group]: Display the group that DALI device belongs to. "NotJoin" means not assigning to any group. Click the configuration of this parameter to get the drop-down menu, it can assign groups to DALI devices.

⑧Parameter setting: Parameter setting of the DALI device including fade time, fade rate, max.level brightness, min.level brightness, power on level, system failure level and Phys.Min.level brightness, in which Phys. Min.level brightness is the characteristic of the DALI device and cannot be modified.

⑨Scene setting: Scene assignment of this device can be checked in the device list, up to 16 DALI scenes can be configured, users can modify the preset brightness value of each scene. After finishing the modification, click [StoreDevice] button on the upper of the window. KNX scene number of the corresponding scene can be configured through ETS parameters. "Mask" means the device has not assigned the scene, "Not change" means the brightness of this scene has no change.

Note: there are two modes of recalling scene: Global scene recall and Group scene recall, if the device is not assigned to the group, scene recall only support Global scene recall, if the device is assigned to a group, scene recall also supports Group scene recall.

⑩Operation test: The last three items in the configuration interface are used for brightness test, scene recall test and color temperature test for the selected DALI device.

2.2.3 Broadcast (Global) Configuration

Broadcast configuration interface as shown in Fig. 2.10, for global parameter setting, and for all online device testing of the entire channel.

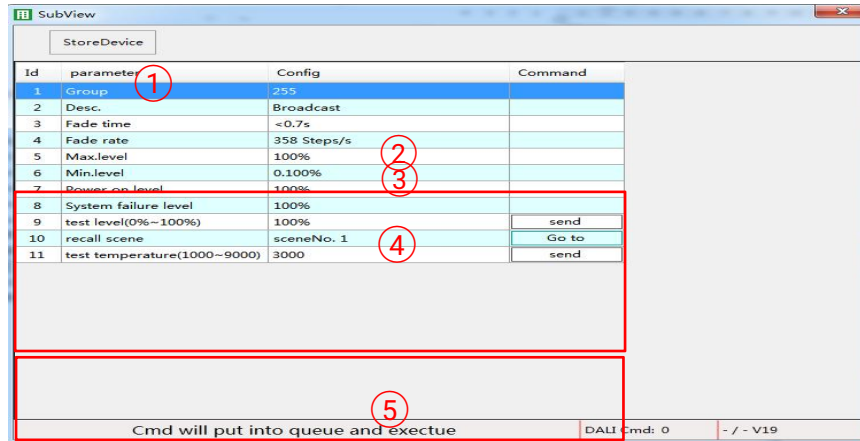


Fig. 2.10 Broadcast configuration interface

①[StoreDevice]: Save the modified configuration to all online DALI devices in the channel (the parameters of all online devices in the channel will be uniformly modified).

②[Group]: 255 for Multicast configuration.

③[Desc.]: Click the configuration of this parameter to modify description of broadcast.

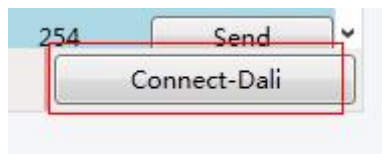
④Parameter setting: Parameter setting of global including fade time, fade rate, max.level brightness, min.level brightness, power on level, system failure level.

⑤Operation test: The last three items in the configuration interface are used for brightness test, scene recall test and color temperature test for the DALI device on the entire channel.

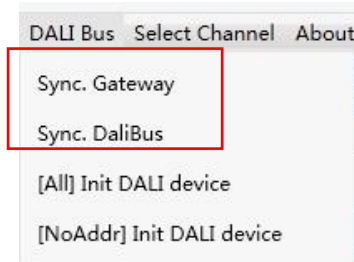
Chapter 3 DALI Bus Debugging steps

This chapter mainly introduces the operation flow and precautions of DALI bus debugging through DCA. For a newly installed project, the debugging steps are as follows:

1. **Ensure that the ETS running on the computer is the version with the license certificate (the available ETS dongle has been installed), and the DCA .etsapp file is correctly installed into the ETS.**
2. **Establish the DALI project in ETS, configure the parameters of the KNX/DALI gateway, and confirm the gateway operates normally.**
3. **Enter the DCA editing interface, select debug channel and connect DALI bus.** When the DCA is connected to the DALI bus, the read request message sent by DCA to DALI gateway can be saw in group monitoring windows of ETS.



4. **Perform the operation of [Sync.Gateway]** (If the DALI device is installed in the first time, usually it will automatically initial after DALI bus is power on). Synchronize gateway can read all devices configuration saved at local gateway, including single device configuration, group configuration and scene assignment, etc. After the read operation is completed, check out whether the number of DALI devices is correct. If it is correct, directly perform the lamp test and modify the DALI address. If the number of devices is incorrect, perform the operation of **[[All] Init DALI device]** to initialize DALI device, and the DALI address need to be reassigned, then perform the lamp test and **modify the DALI address**. In addition, a single device state can be read on the device configuration interface, as shown in Fig. 2.8(1), or perform the operation of [Sync.DaliBus]. In general,using [Sync.Gateway] to read configuration of devices, when the device on the DALI bus has changed, or when the number of local read device configuration is abnormal, you can synchronize DALI bus(read device configuration remotely will take a long time).



Note: Add DALI device to a configured project, if the added DALI device is installed for the first time, you can directly add it to the project. After adding the project, adjust its DALI address. If the device with DALI address is added and the address is multiplexed with the DALI device in the project, it needs to perform the operation of **[[All] Init DALI device]**, which will cause the previous adjusted DALI address to change. Therefore, it is recommended that the newly added DALI device should be added to the project after it is separately allocated the unused address or delete the original address .

5. After completing step 4, configuration of DALI device such as scene configuration, parameter configuration and group assignment, etc. can be modified. After completing the modification, save it to device.

6. Export configuration, save the configuration of the gateway.