KNX M/DALI.1

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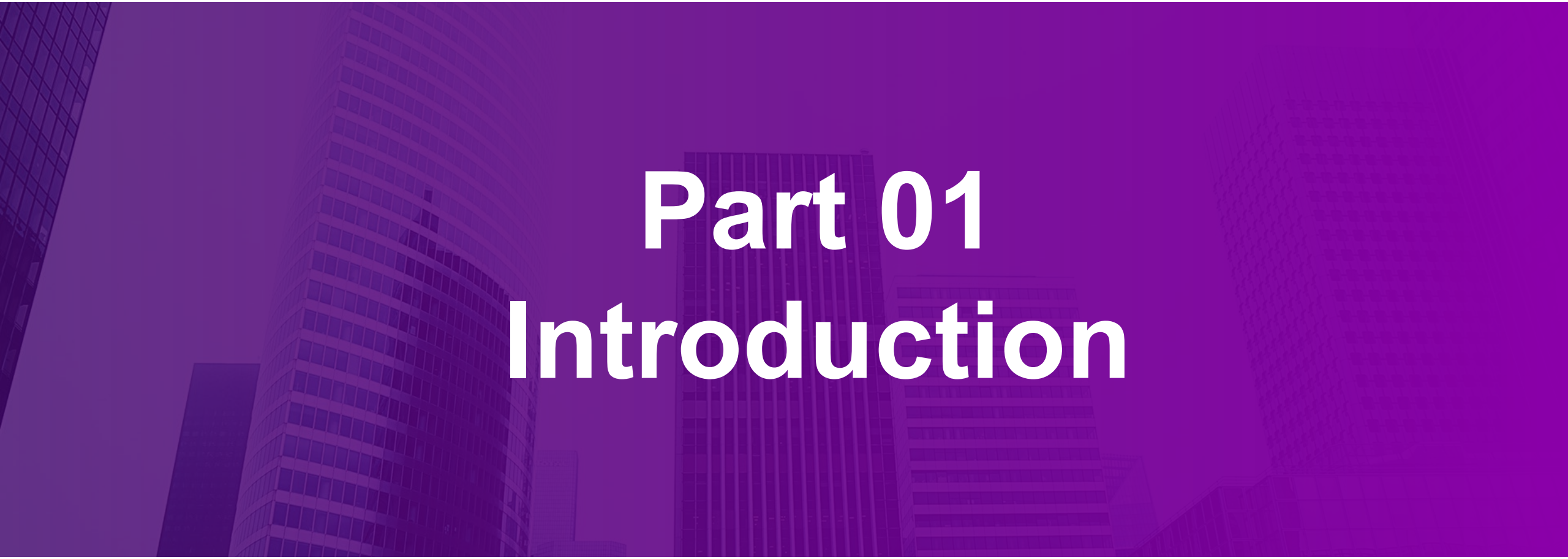
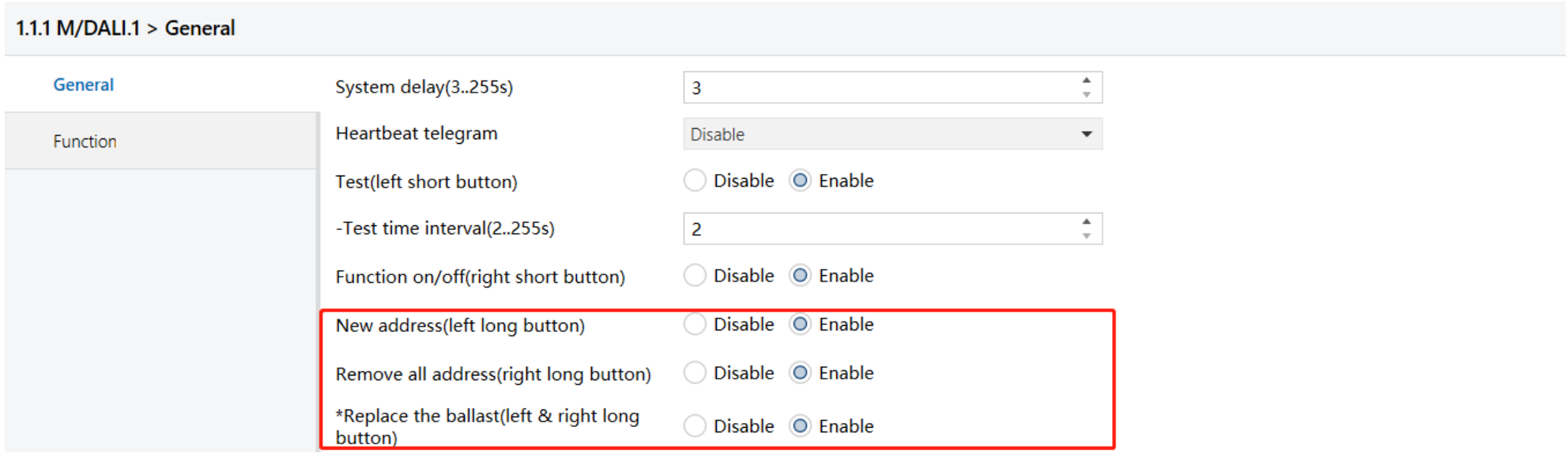


Part 01
Introduction

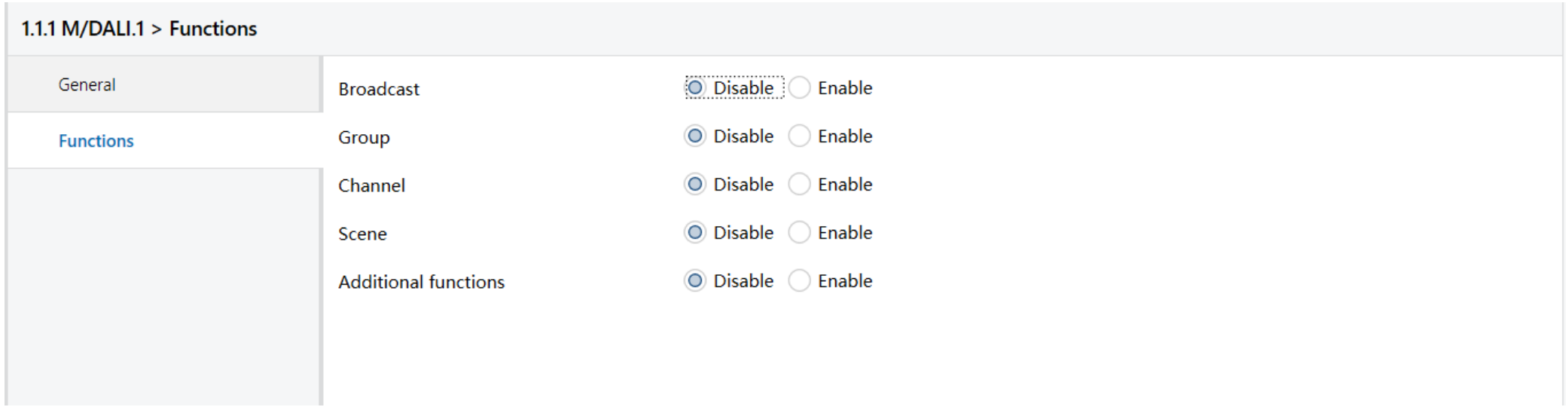
Introduction

With built-in DALI power supply and a single DALI Bus, KNX-DALI Gateway can be connectted to up to 64 DALI devices. Real-time failure detection enables the gateway to detect ballast failure and lamp failure etc.



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

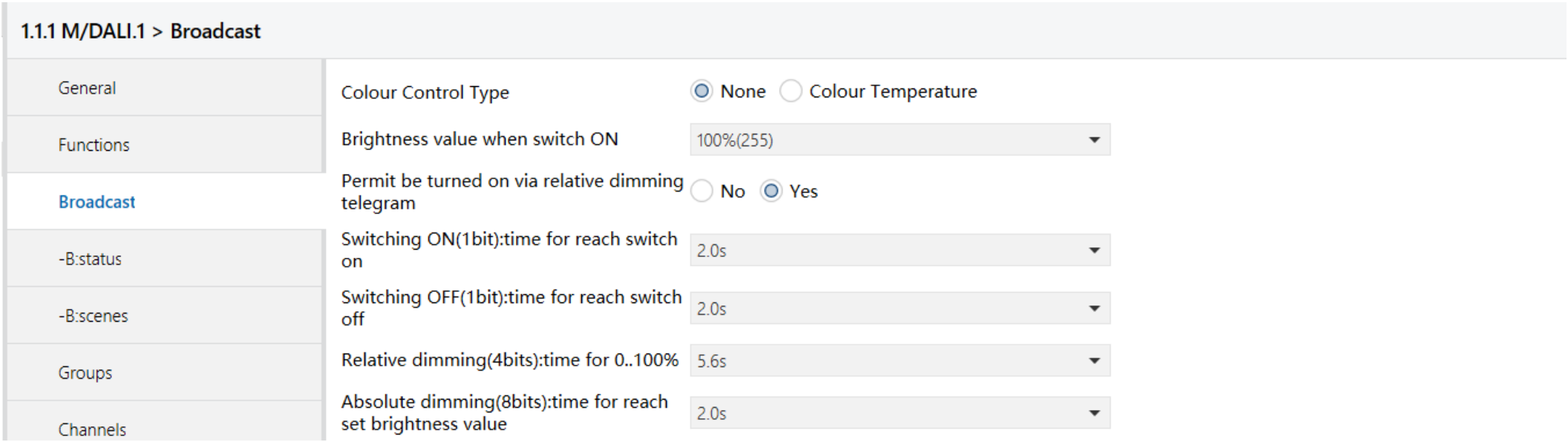
Remove all address (right long button): removing ballast address function. This function can clear all ballast addresses, so please pay attention.



Enable gateway functions in the fuction page.

DALI Gateway supports:

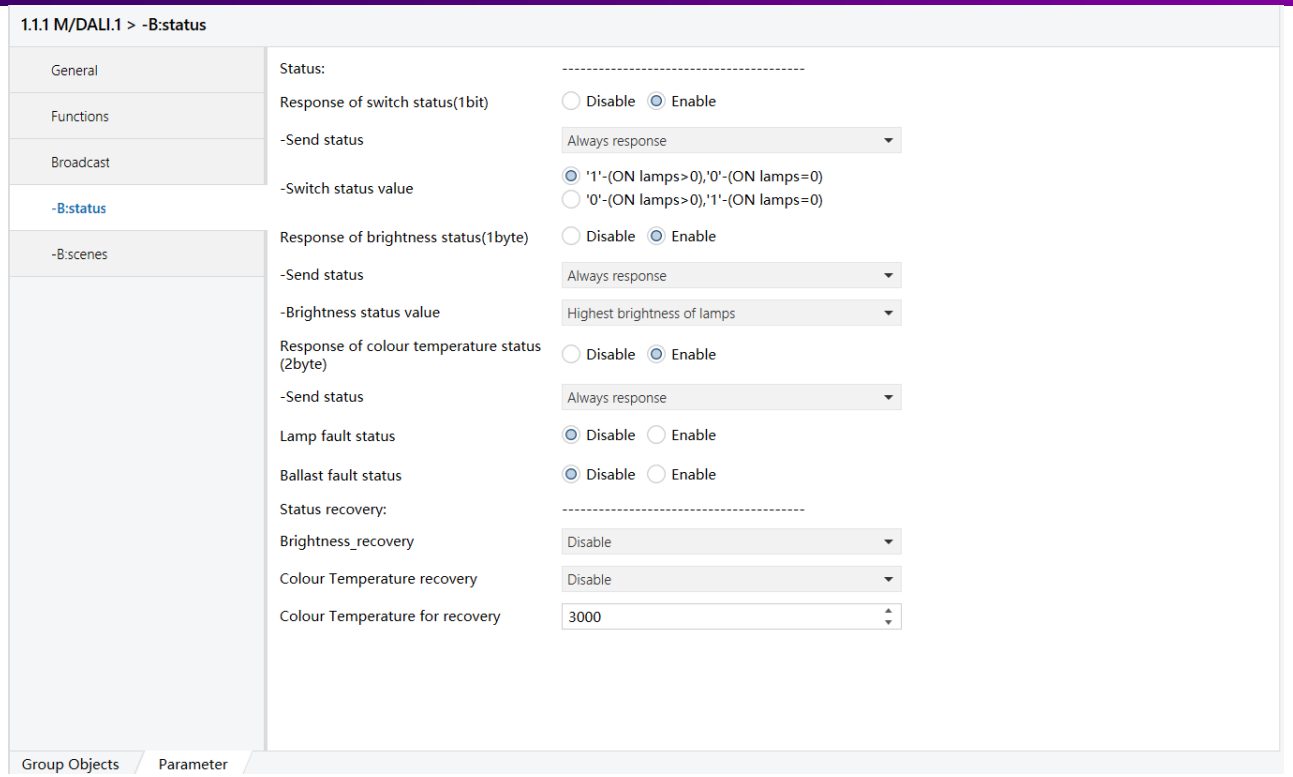
1. Broadcast
2. Group: up to 16 groups can be configured.
3. Channel: up to 64 channels can be configured.
4. Scene: up to 16 scenes can be configured.
5. Additional functions: including staircase light, sequence and emergency light function



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.

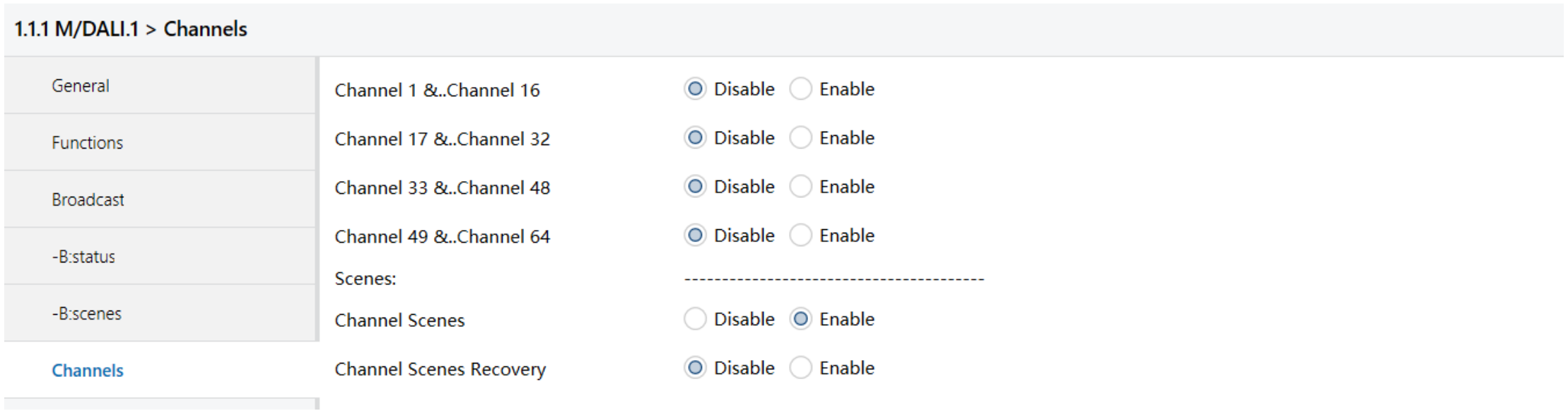
➢ If “Colour Temperature” is selected, color temperature control function will be enabled.



Response of switch status (1 bit): to enable/disable switch status feedback function (with 1-bit object).

Response of brightness status (1 byte): to enable/disable light brightness feedback function (with 1-byte object).

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

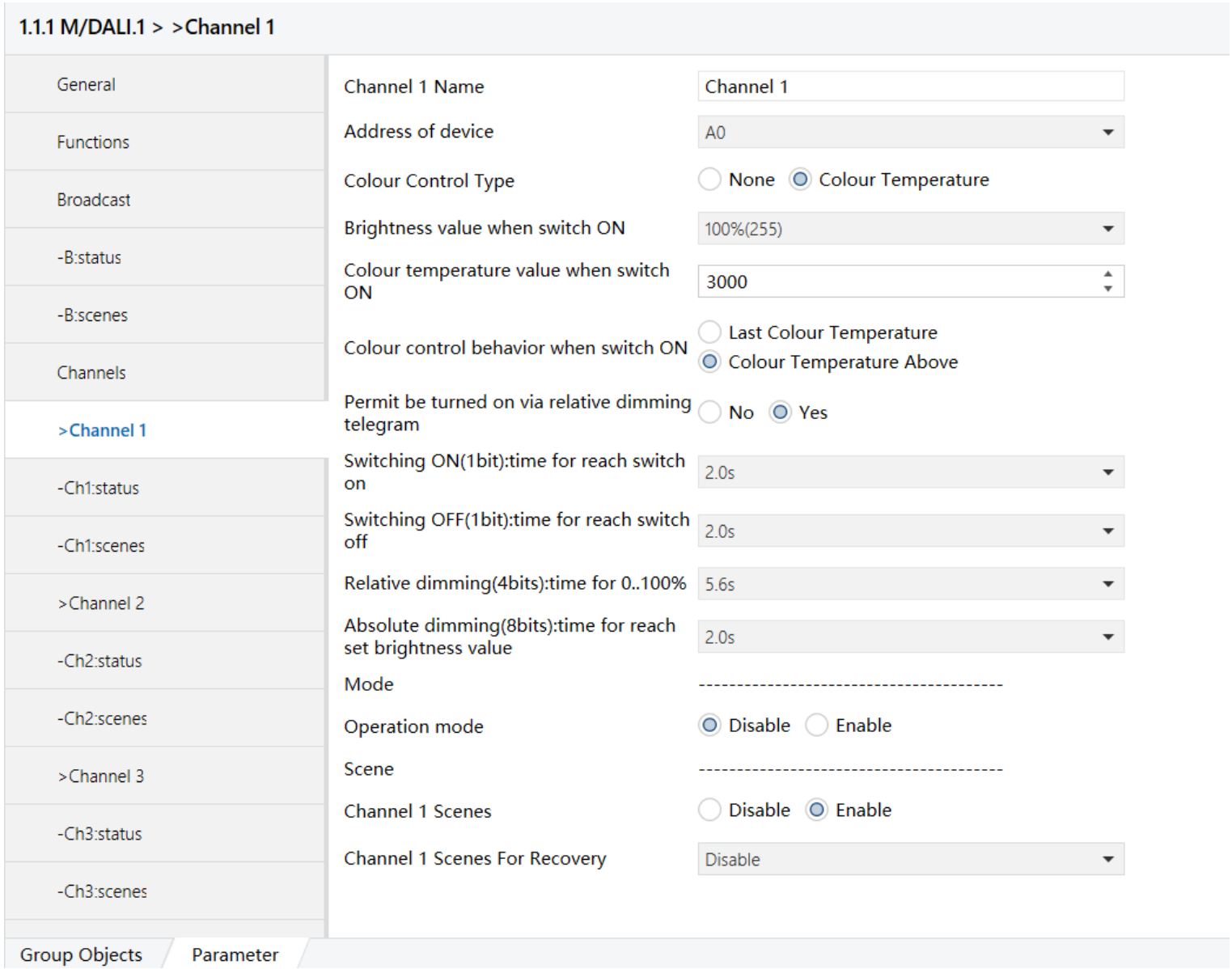


Enable “Channel” in function selection page

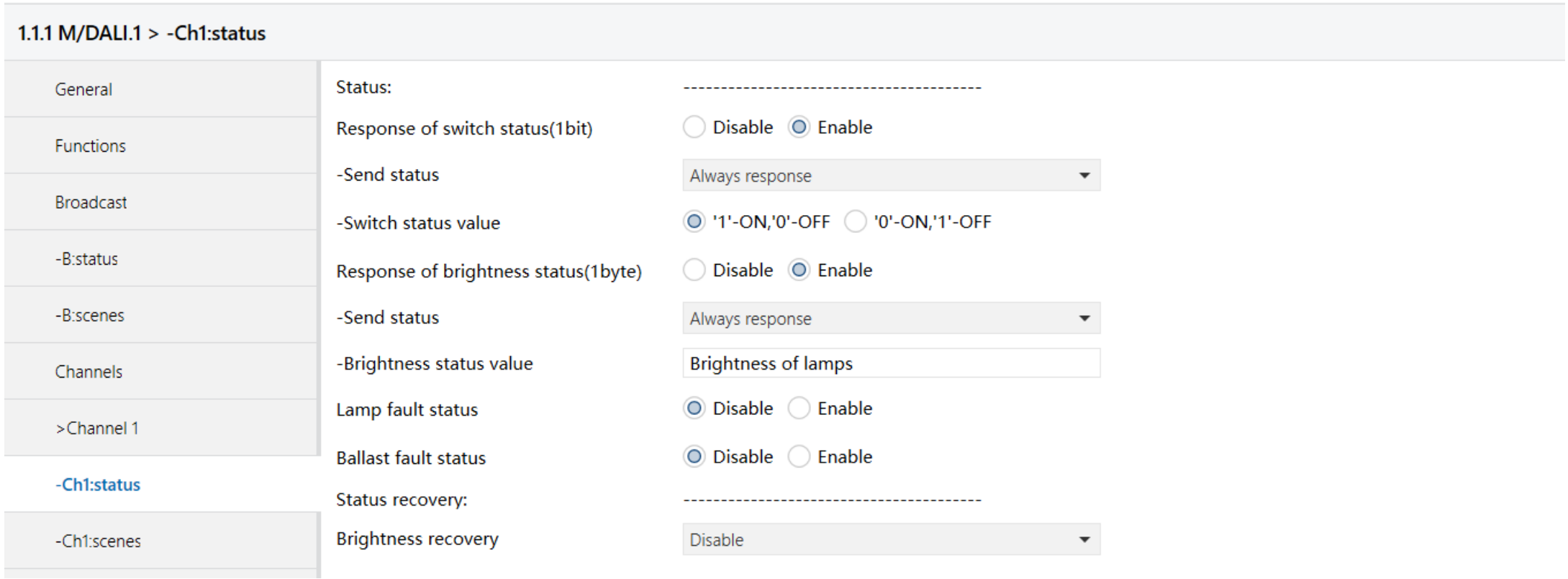
1.Channel N & Channel N+15 (N=1, 17, 33, 49): to enable/disable the selected channel.

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



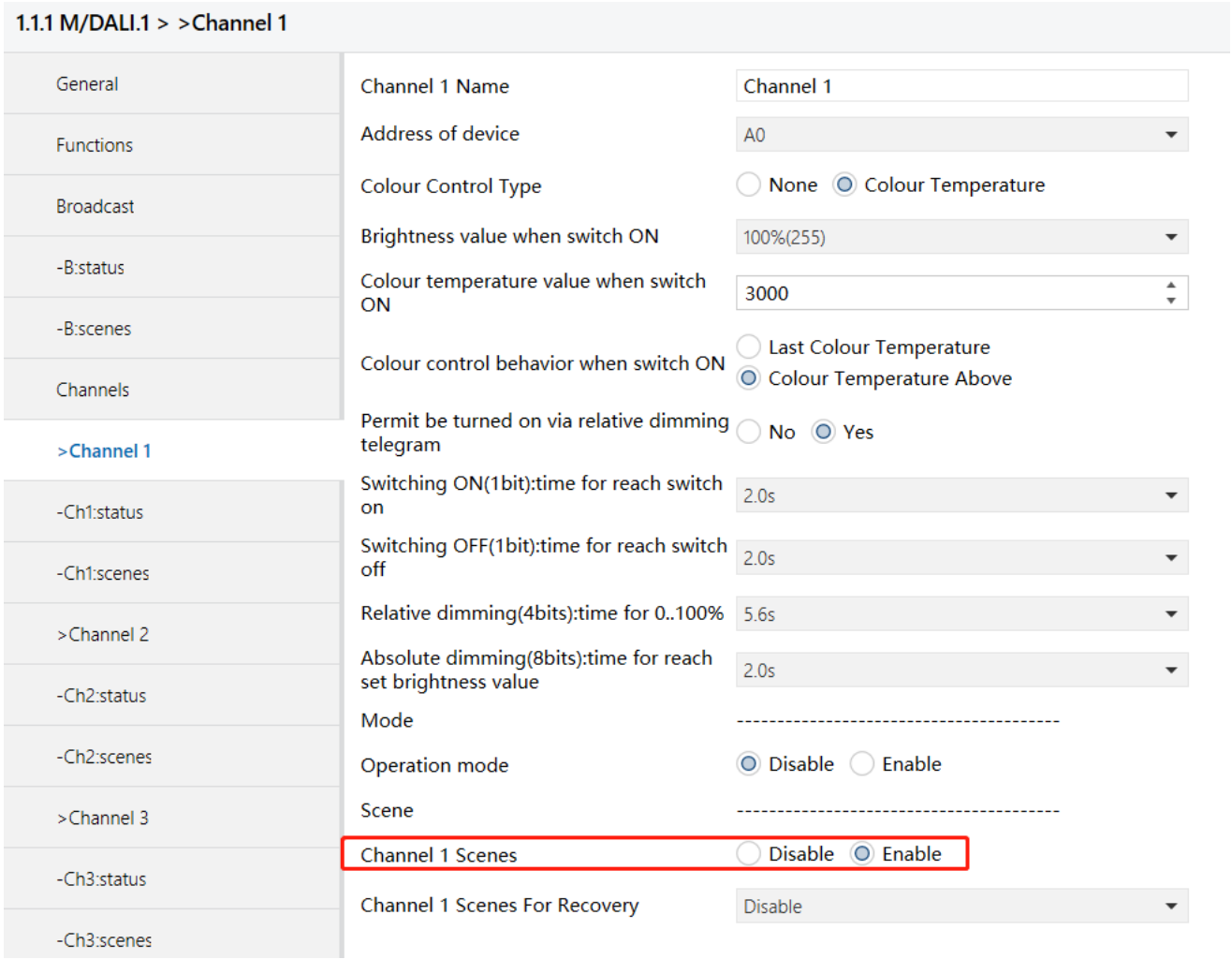
1. Channel N (N=1, …, 64) Name: to change channel name.
2. Address of device: to select corresponding device address.
3. Colour control type: to enable color temperature control function. If light brightness is 0 when channel is enabled, color temperature settings do not work

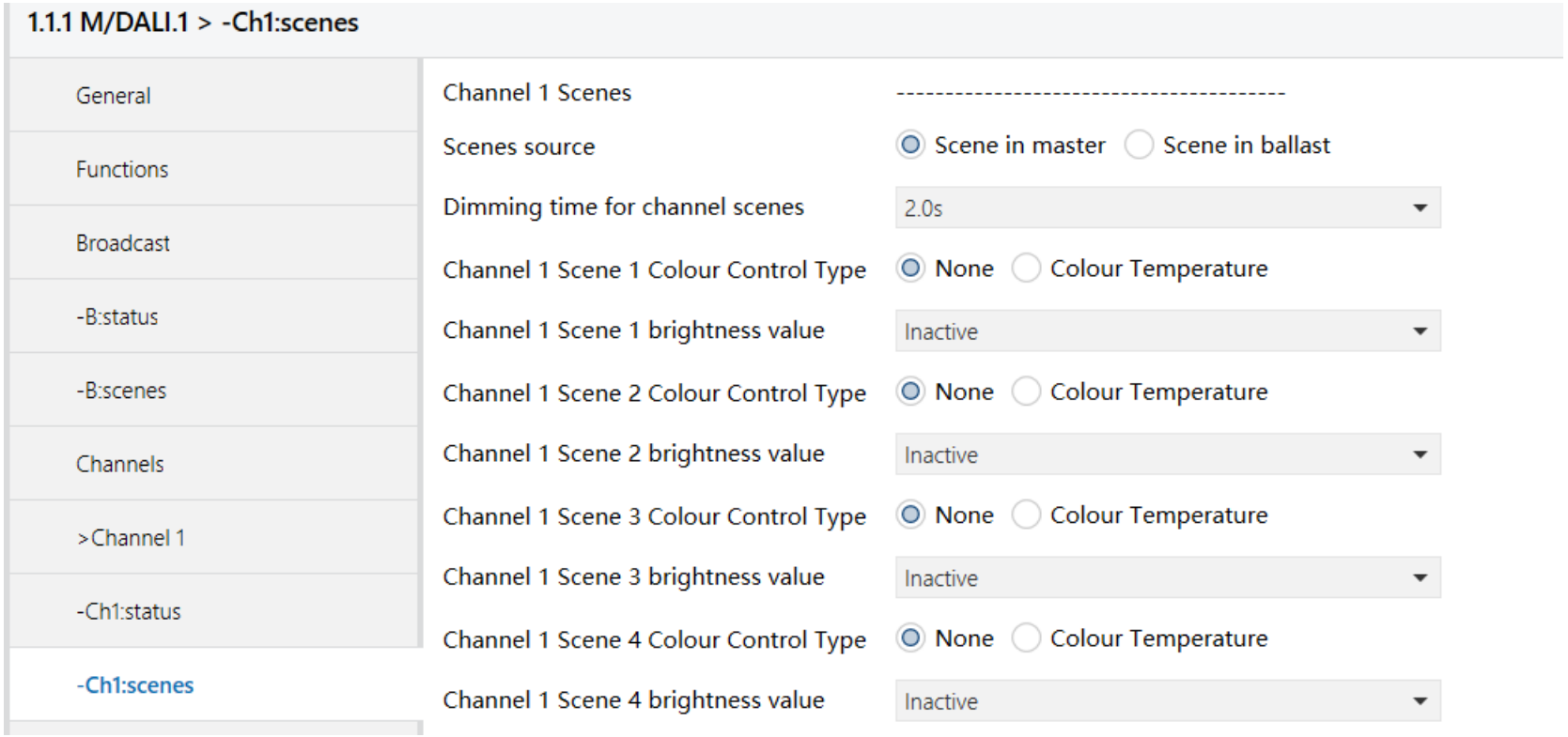


Response of switch status (1 bit): to enable/disable switch status feedback function (with 1-bit object).

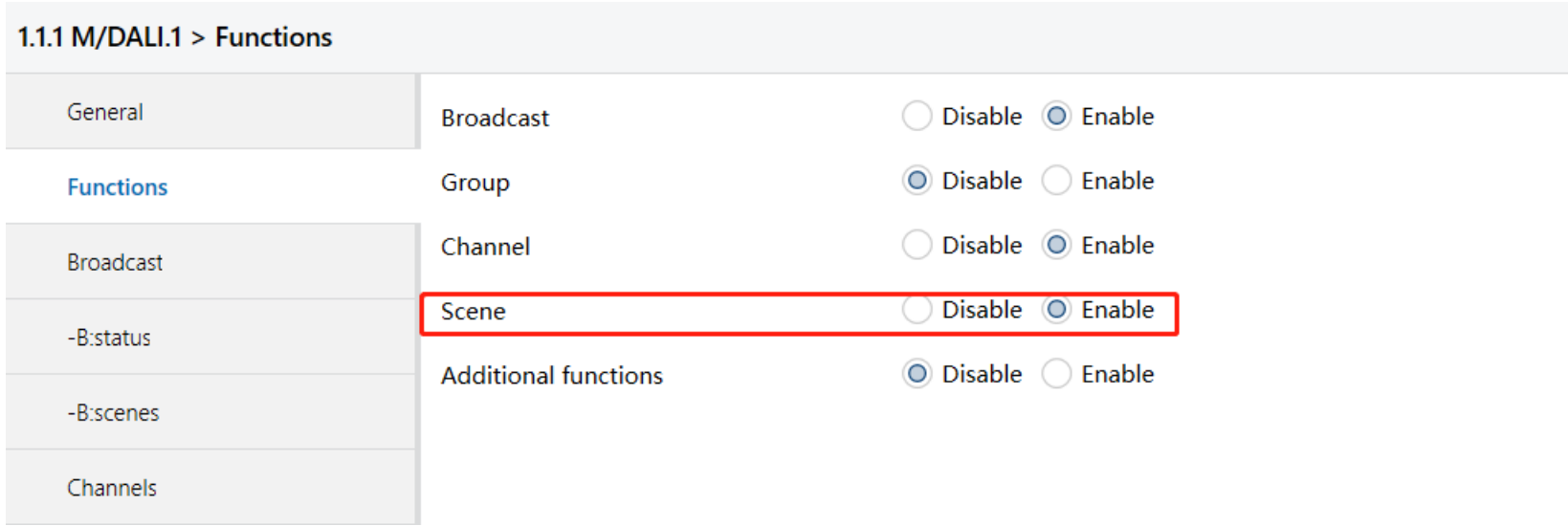
Response of brightness status (1 byte): to enable/disable light brightness feedback function (with 1-byte object).

Enable Channel 1 Scene



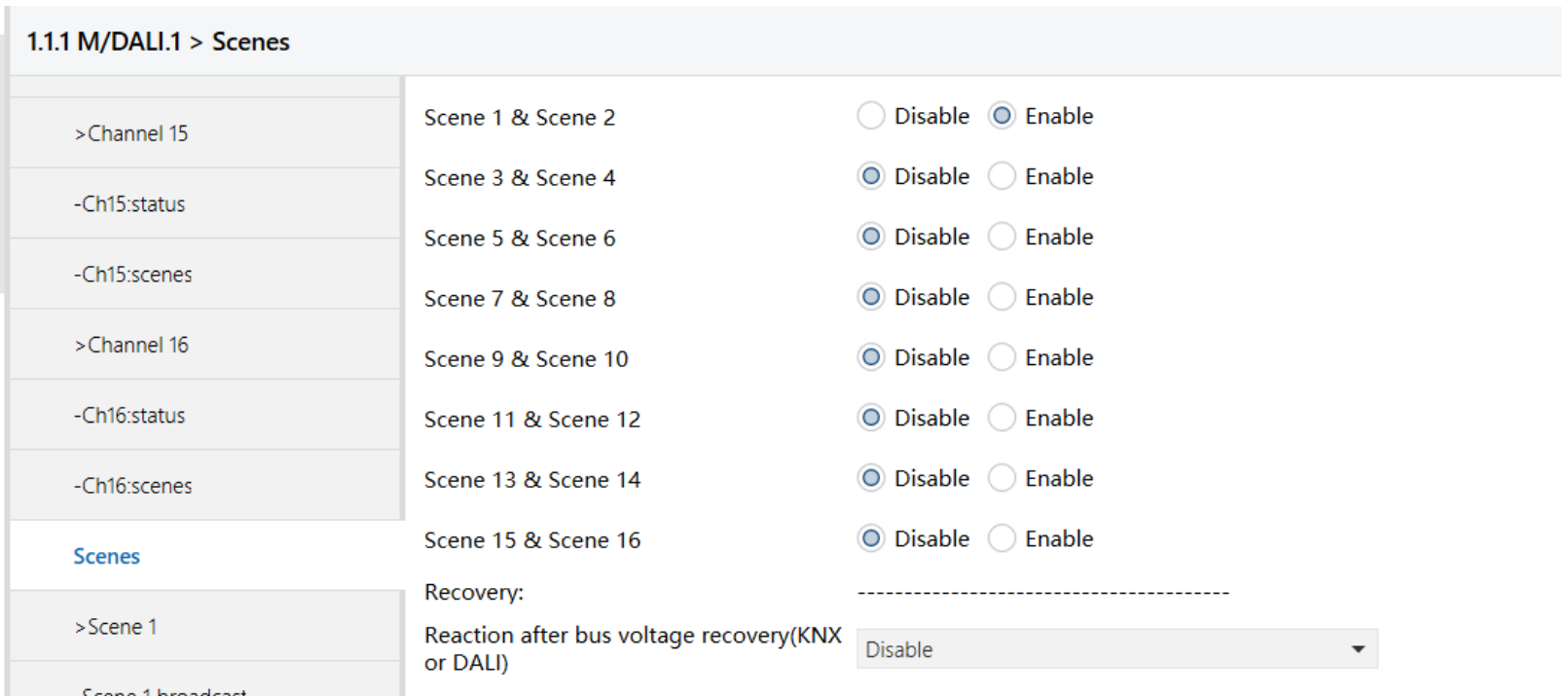


Scenes source: to select “Scene in master” or “Scene in ballast” (only one kind of scene is available at one time).
Scene in master: the scenes saved in DALI master, which can be downloaded to DALI Gateway after the configuration of ETS.
Scene in ballast: the scenes saved in ballast. Each ballast can configure 16 scenes, which can be called via ETS software.



Enable “Scene” in function selection page

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



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.

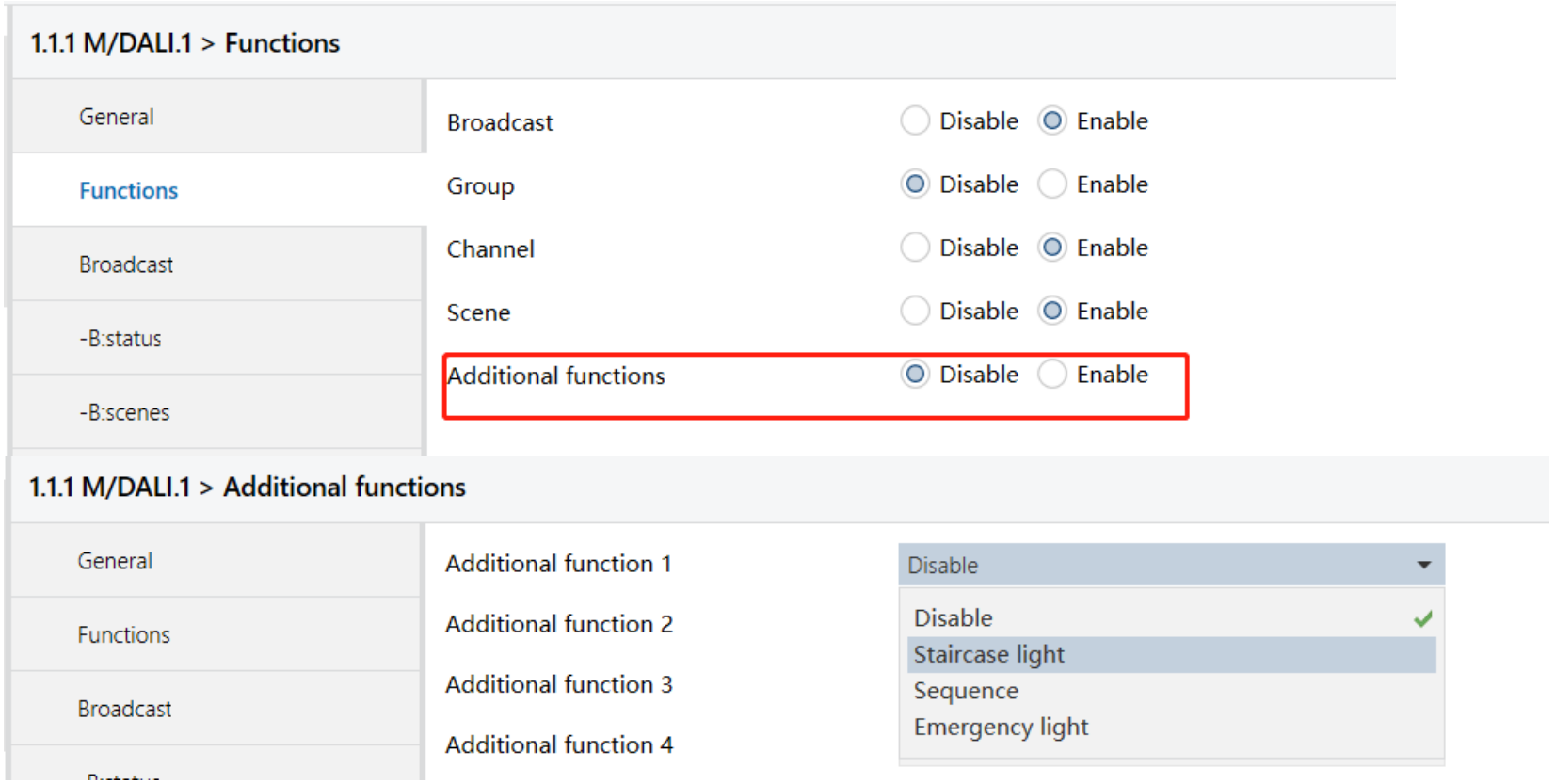
➢ If "Scene No.N (N=1, …, 16)", scene 1-16 can be selected to restore.

1.1.1 M/DALI.1 > -Scene 1 broadcast

- >Channel 15
- -Ch15:status
- -Ch15:scenes
- >Channel 16
- -Ch16:status
- -Ch16:scenes
- Scenes
- >Scene 1
- **-Scene 1 broadcast**
- -Scene 1 group
- -Scene 1 channel

Broadcast colour control type: (•) None ( ) Colour Temperature

Broadcast brightness value: Inactive



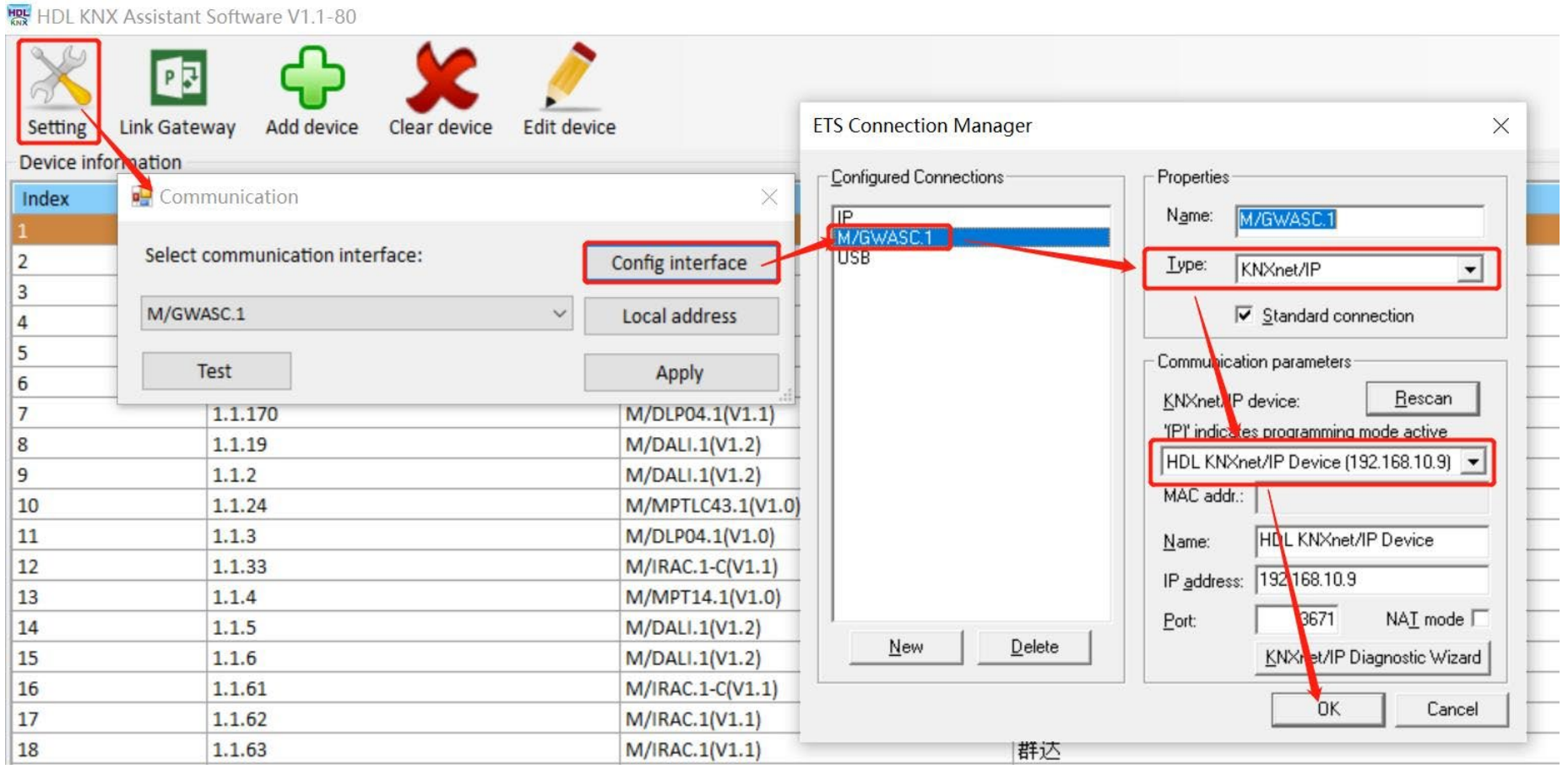
The setting items are explained below:
Additional function N (N=1, …, 16): to select additional function.
1. Staircase light
2. Sequence
3. Emergency light

Part 2

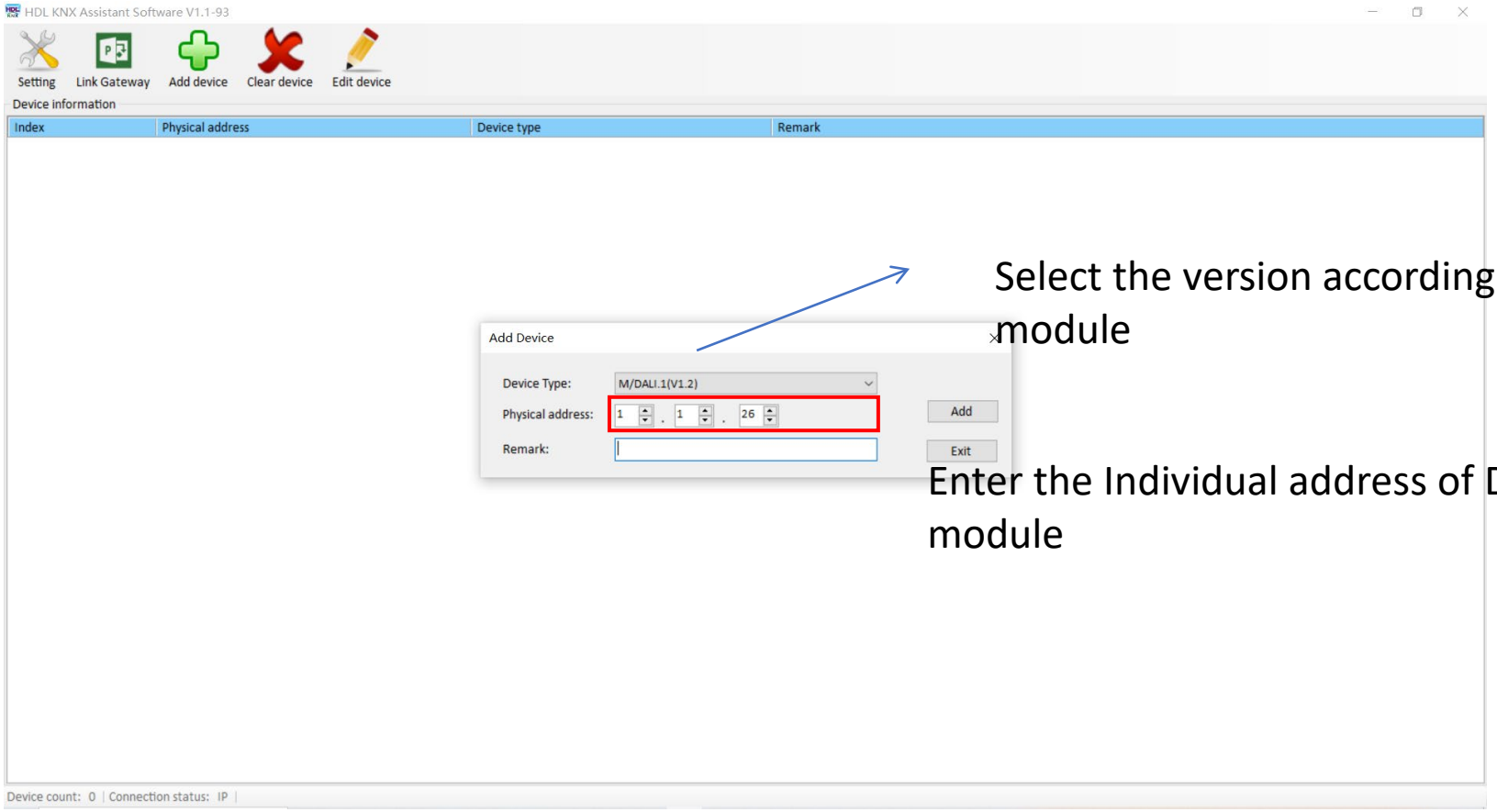
Commission

Commission--- Ballasts Management

Run the HDL KNX Assistant Software. Go to Setting-> Communication mode, select the available interface. If it's the USB downloader, please select the "USB" type. If it's the KNX IP router, please select "KNXnet/IP" type and corresponding IP interface. Then click "Test". After it shows OK, select "Apply

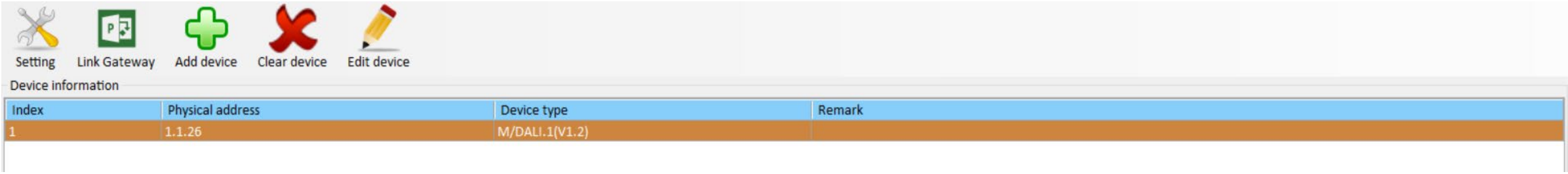


Commission--- Ballasts Management

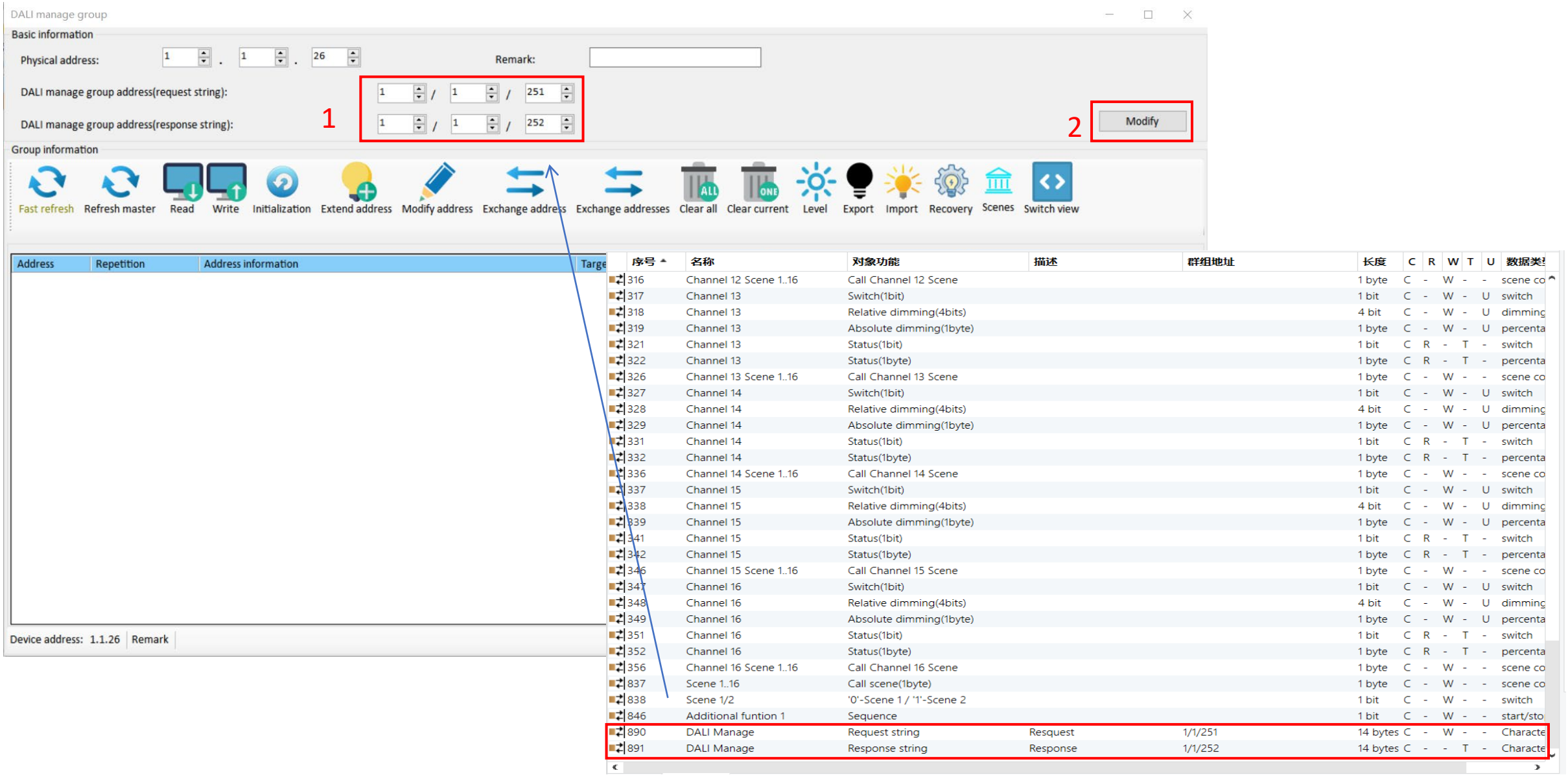


Select the version according to your module

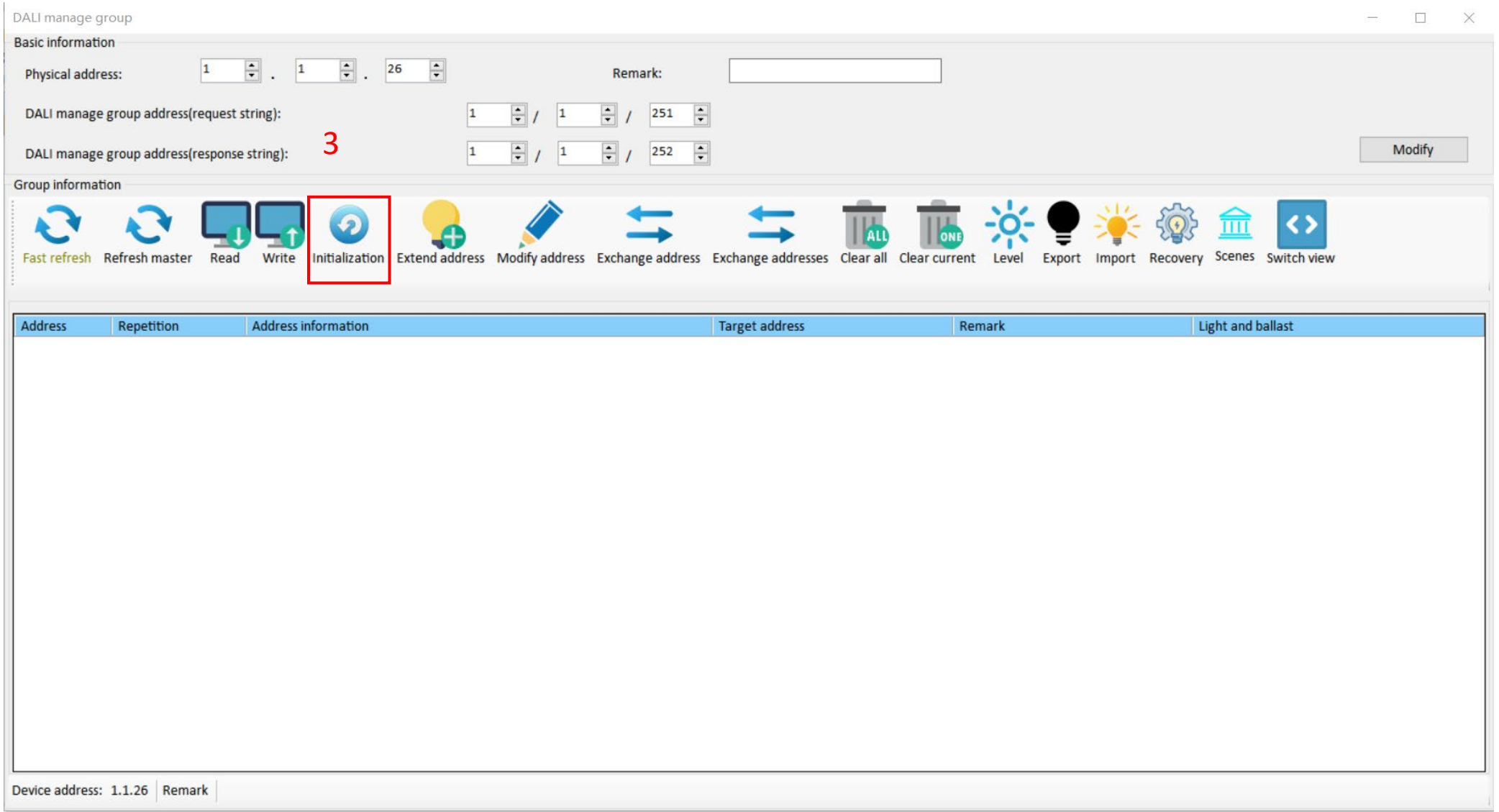
Enter the Individual address of Dali module



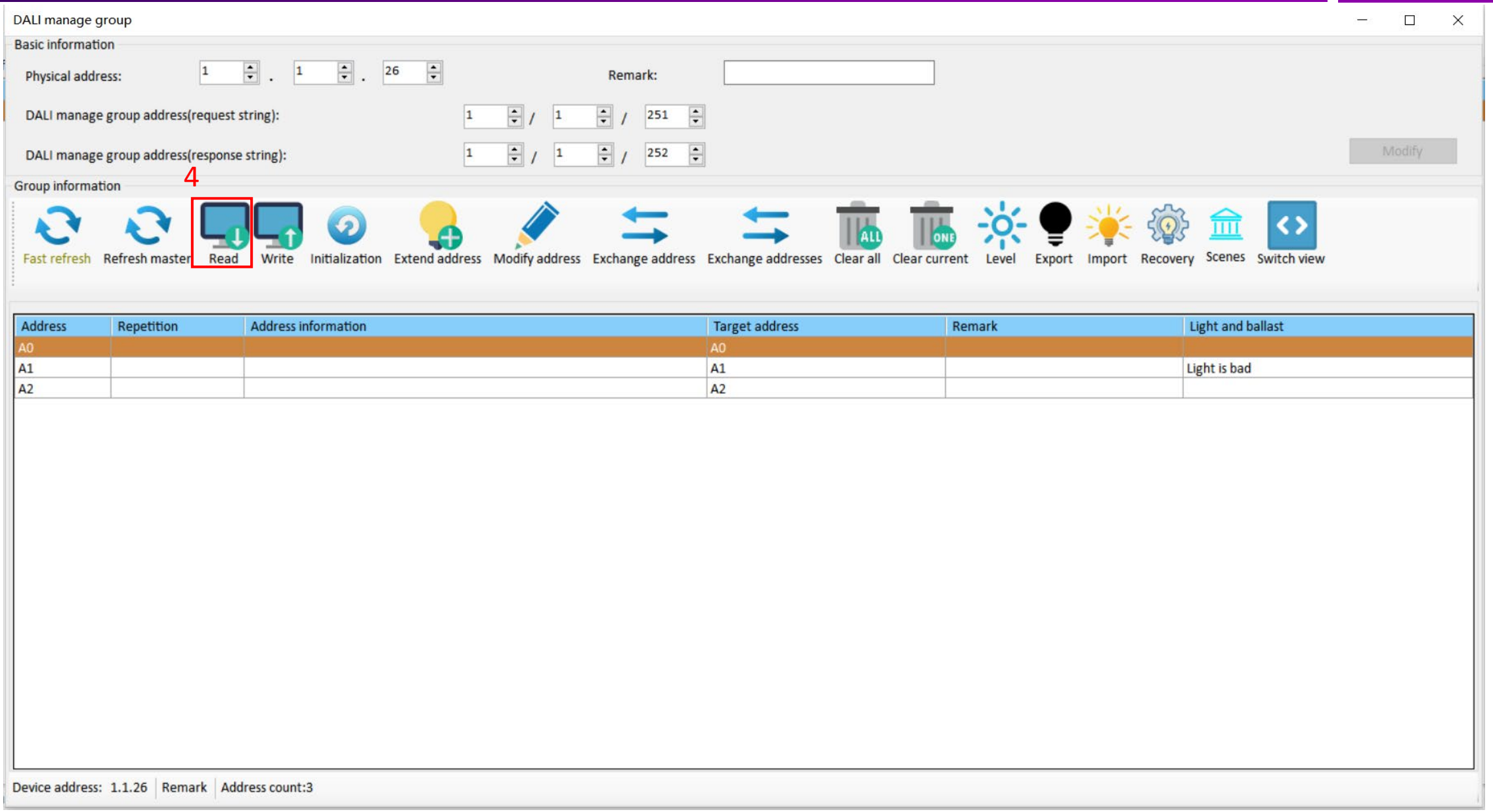
Commission--- Ballasts Management



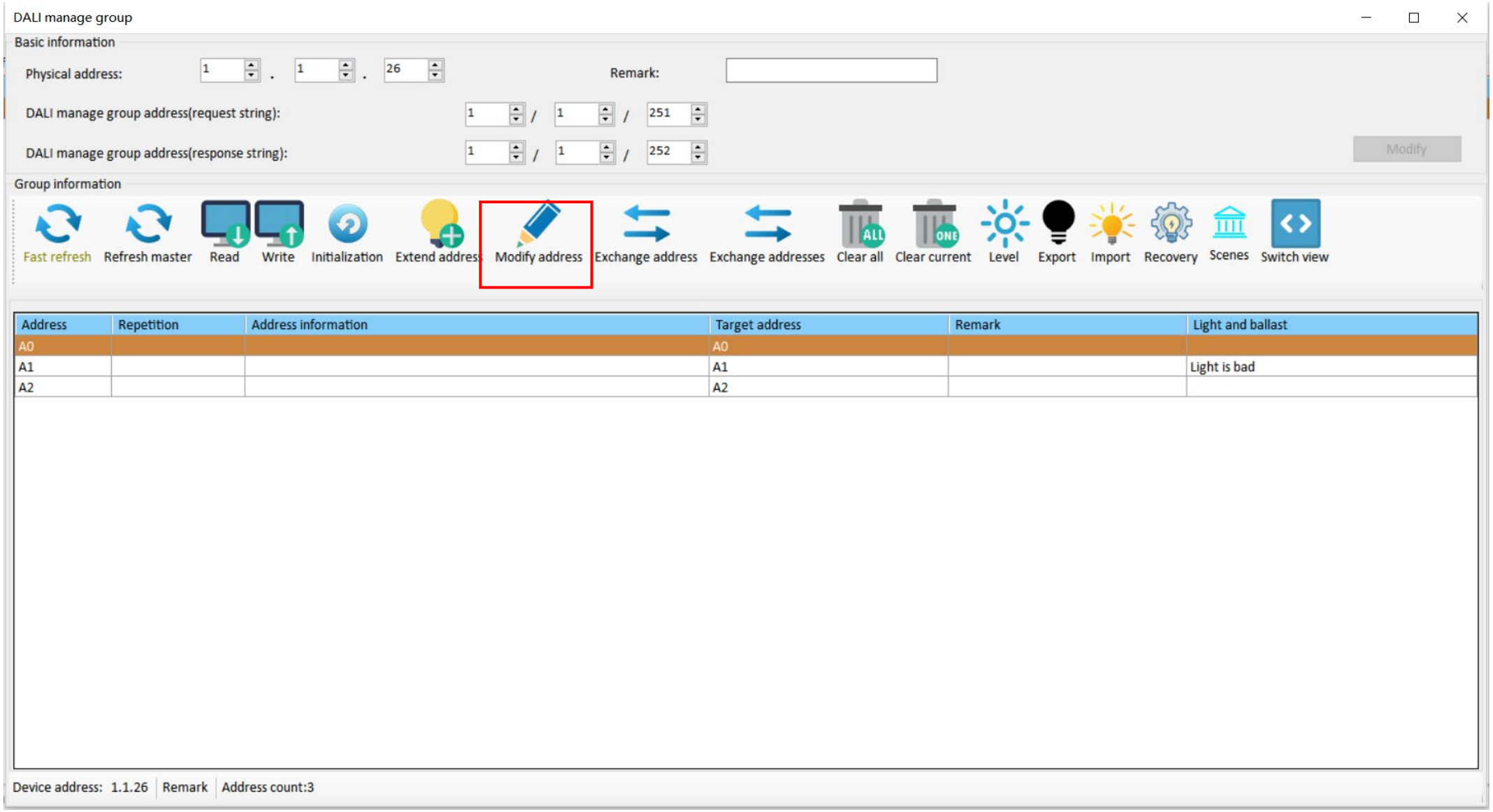
Commission--- Ballasts Management



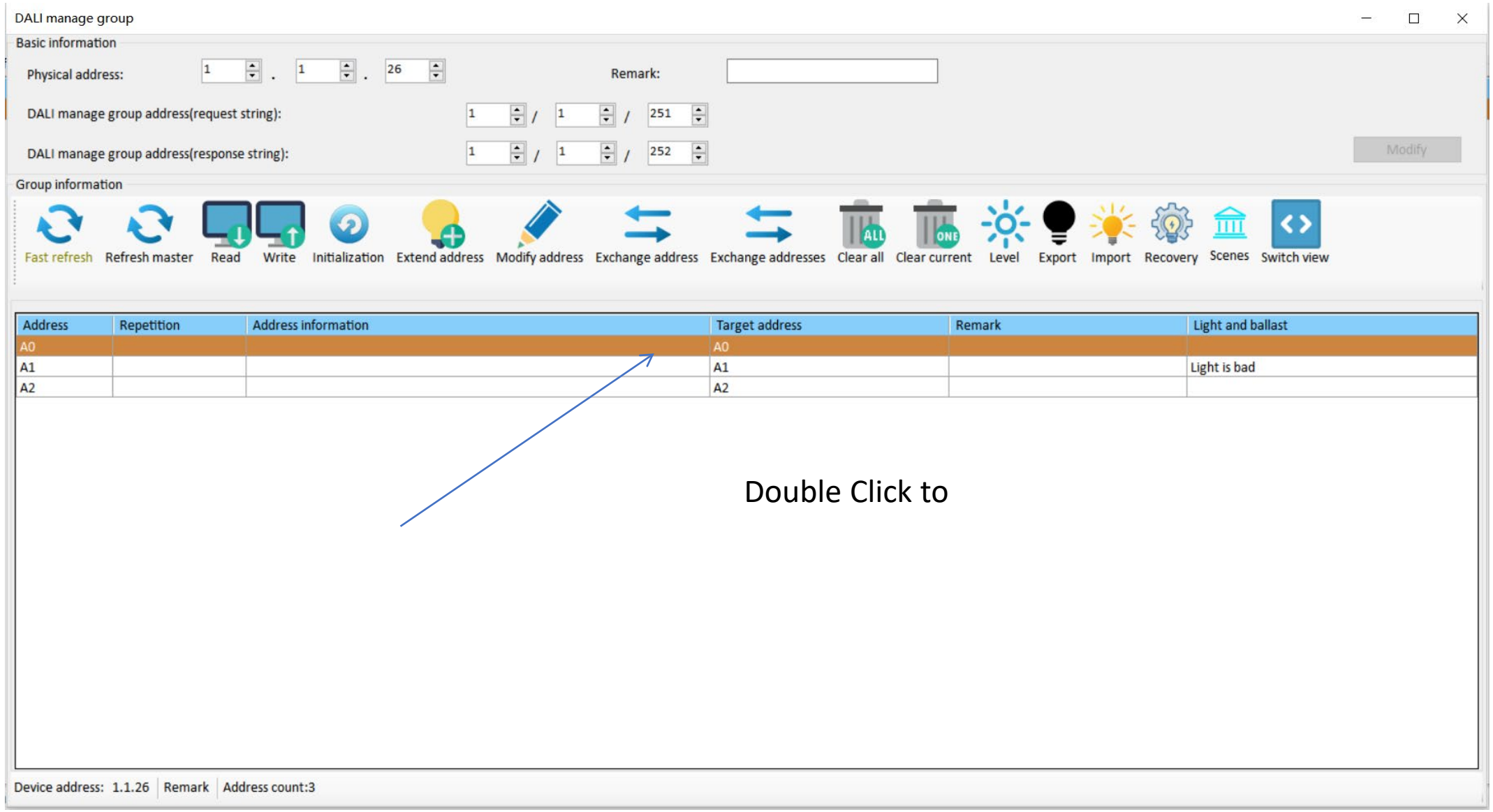
Commission--- Ballasts Management



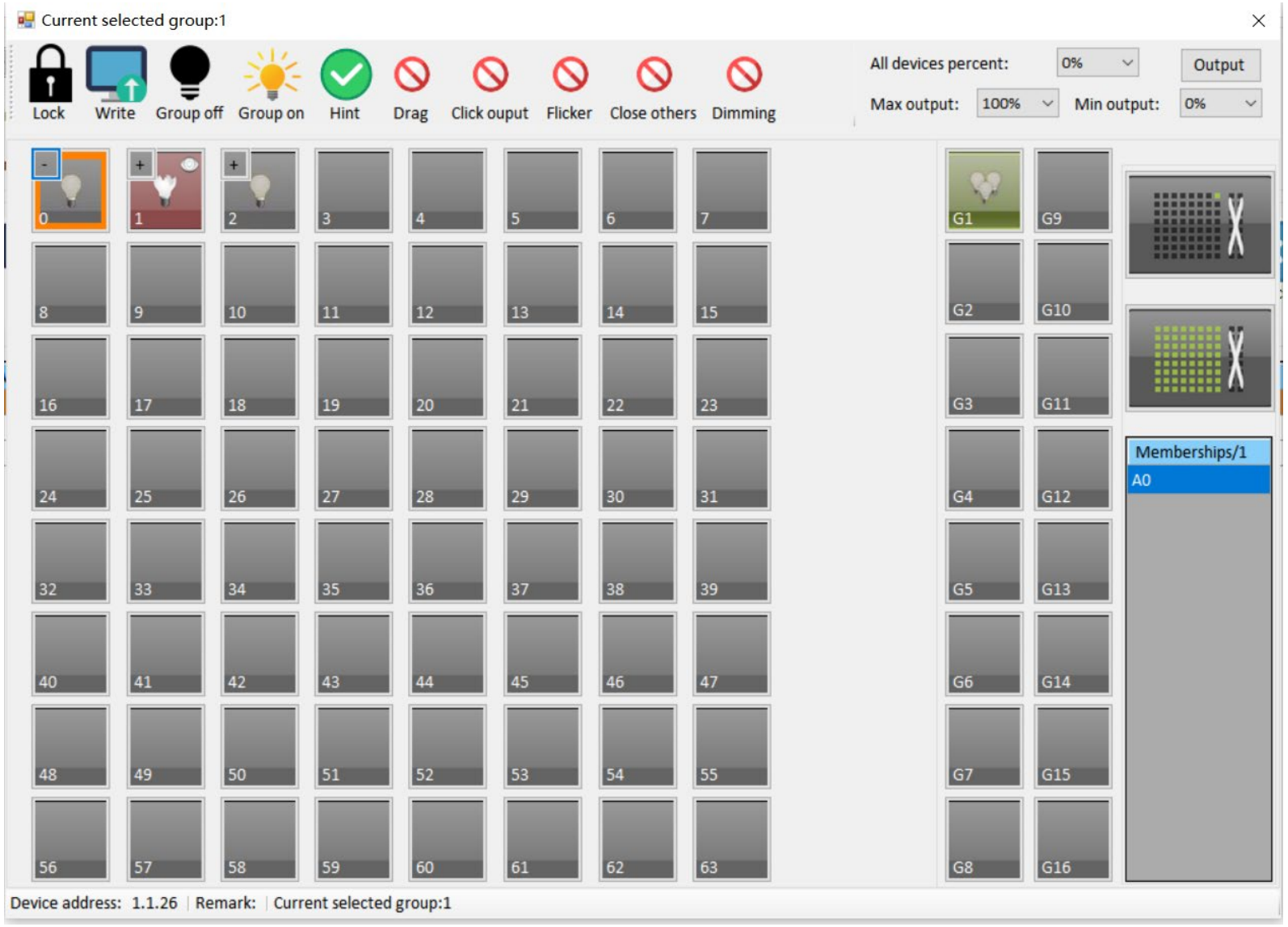
Commission--- Ballasts Management



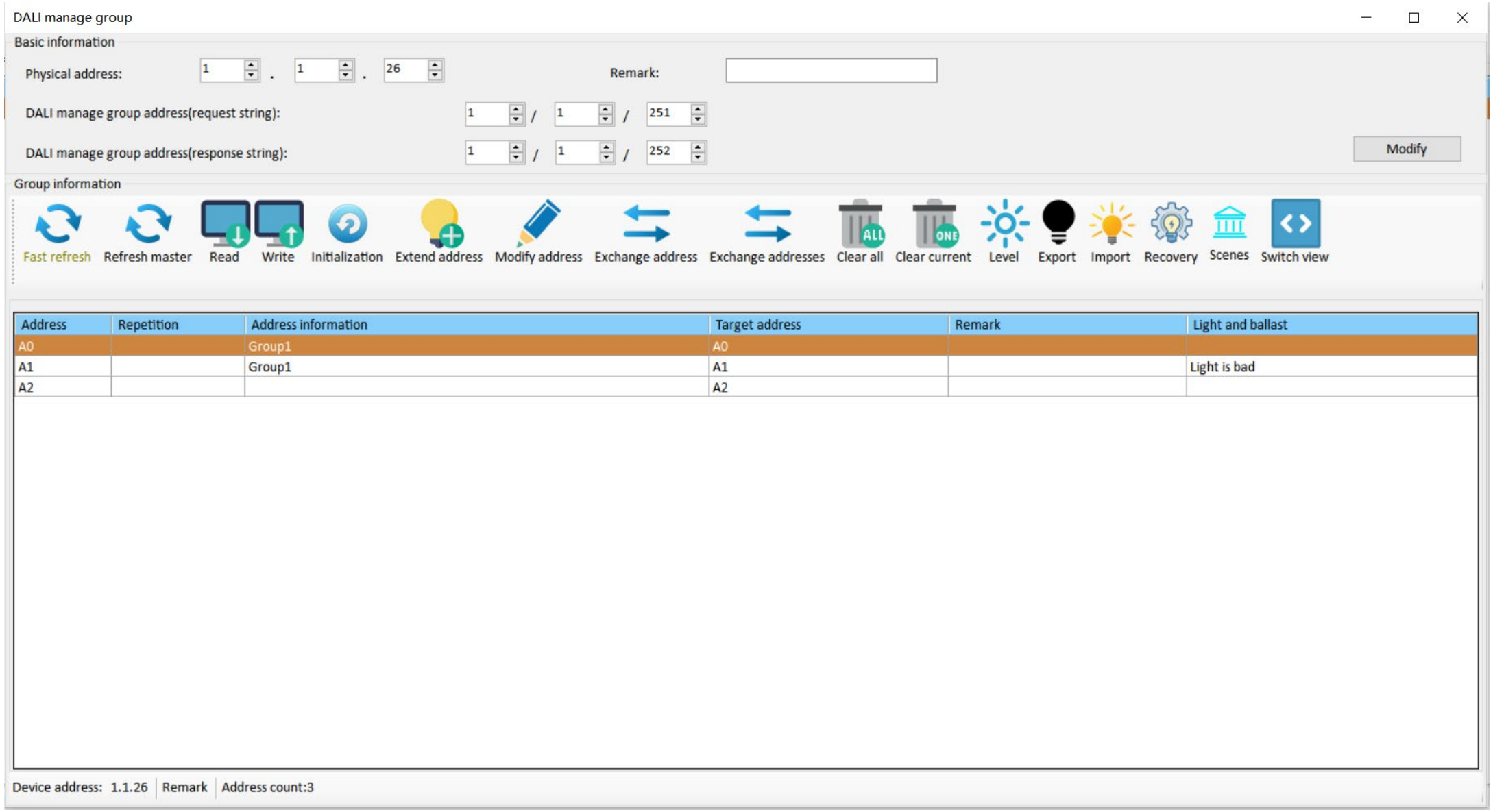
Commission--- Ballasts Management



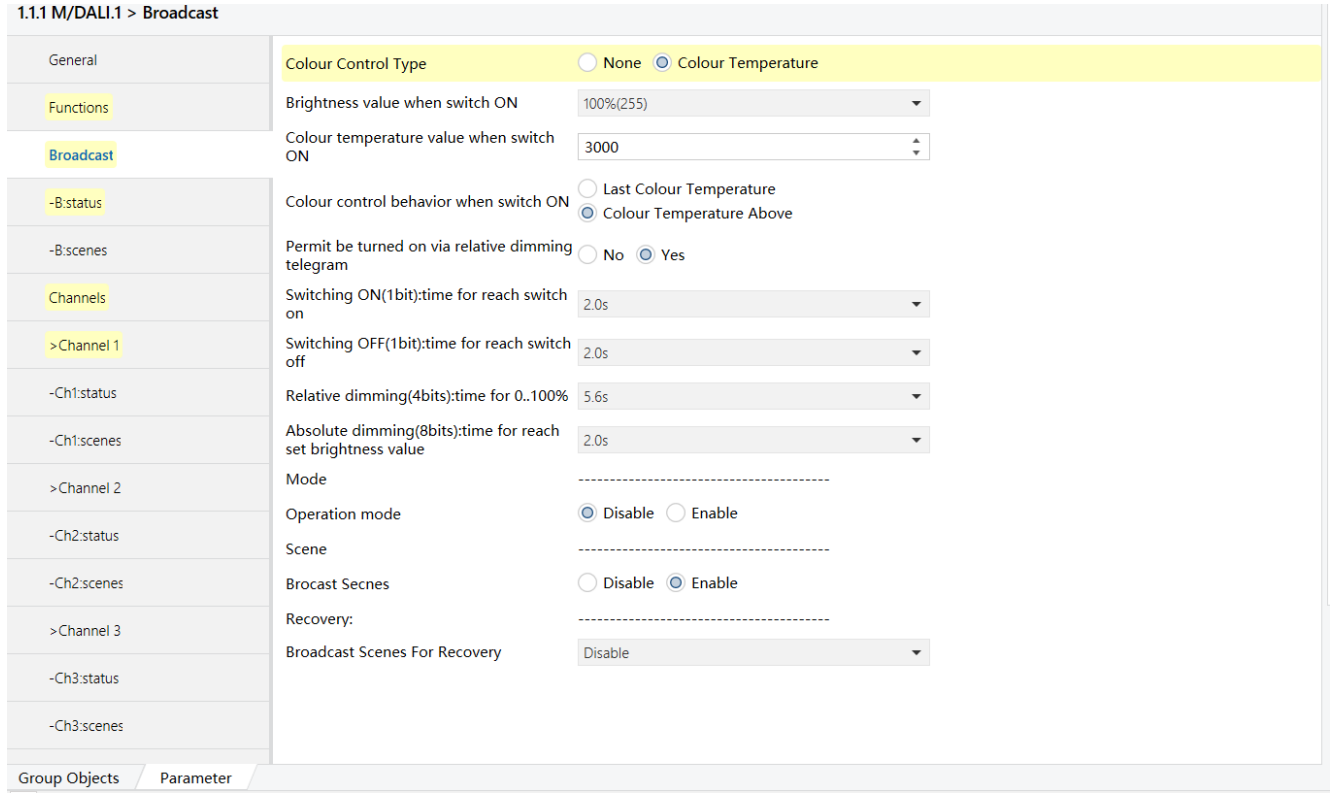
Commission--- Ballasts Management



Commission--- Ballasts Management

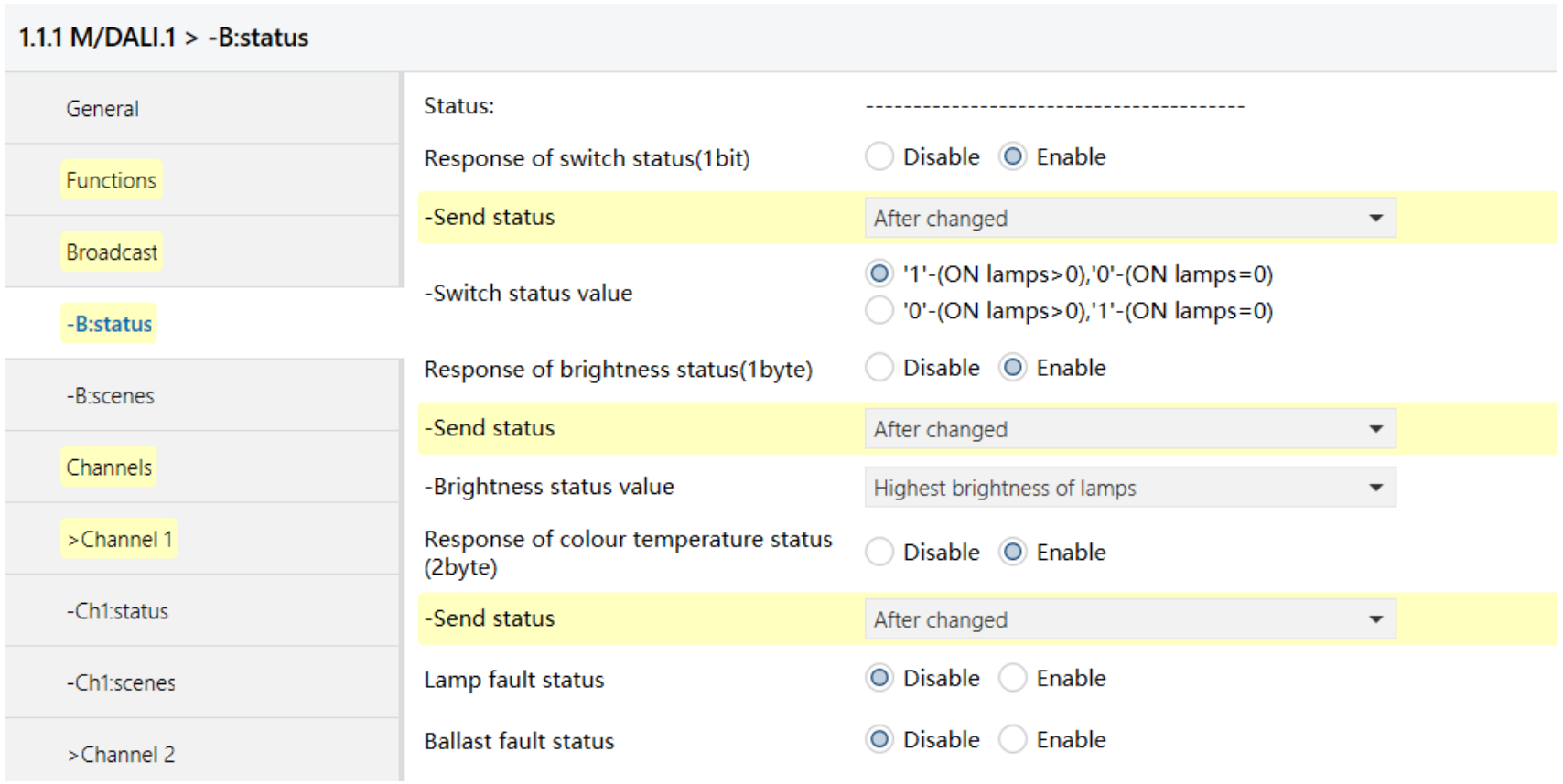


Commission---Broadcast Control



On the broadcast parameters page, select to enable color temperature control while keeping other parameters as default. On the status page, select the status of the switch, dimming, and color temperature, and provide feedback only after status changed.

Commission---Broadcast Control

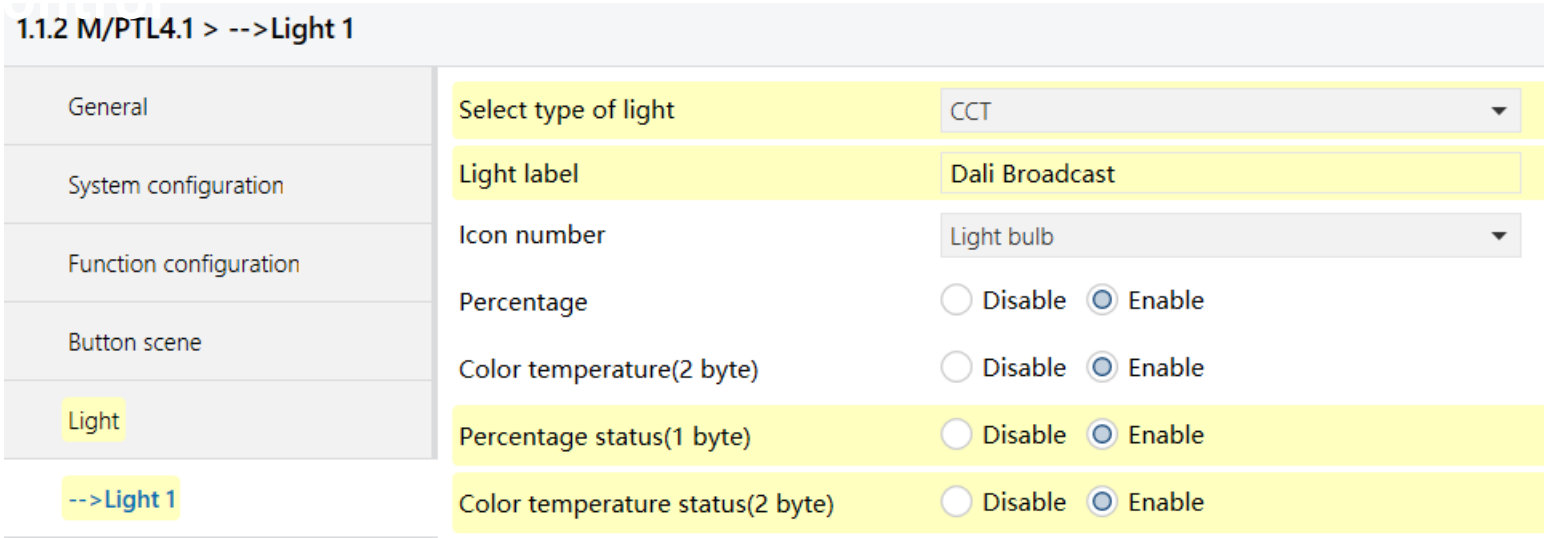


Commission---Broadcast

Set Group Address for the Broadcast switch,relative dimming, absolute dimming, CCT and their feedback.

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Prio
11	Broadcast	Switch(1bit)	Broadcast Switch	6/1/21	1 bit	C	-	W	-	U	switch	Low
12	Broadcast	Relative dimming(4bits)	Broadcast Relative Dimming	6/1/22	4 bit	C	-	W	-	U	dimming c...	Low
13	Broadcast	Absolute dimming(1byte)	Broadcast Absolute Dimming	6/1/23	1 byte	C	-	W	-	U	percentag...	Low
14	Broadcast	Colour Temperature(2bytes)	Broadcast CCT	6/1/24	2 bytes	C	-	W	-	U	absolute c...	Low
15	Broadcast	Status(1bit)	Broadcast Switch Status	6/0/21	1 bit	C	R	-	T	-	switch	Low
16	Broadcast	Status(1byte)	Broadcast Ab dimming Status	6/2/23	1 byte	C	R	-	T	-	percentag...	Low
17	Broadcast	Status(2bytes)	Broadcast CCT Status	6/2/24	2 bytes	C	R	-	T	-	absolute c...	Low
20	Broadcast Scene 1..16	Call Broadcast Scene(1byte)			1 byte	C	-	W	-	-	scene cont...	Low

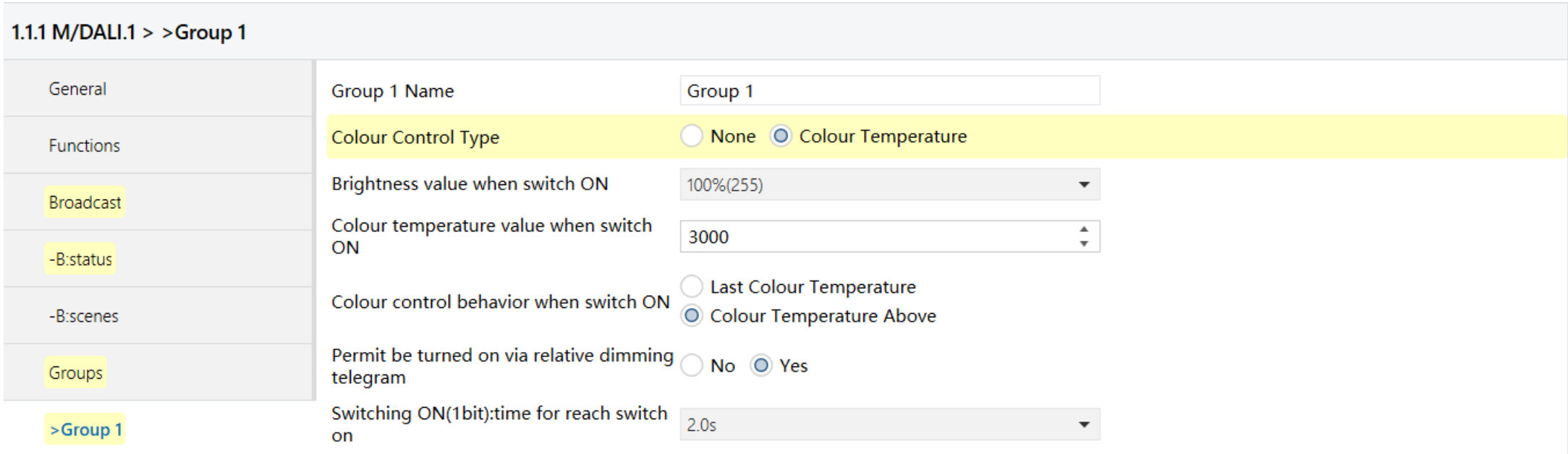
Commission---Broadcast

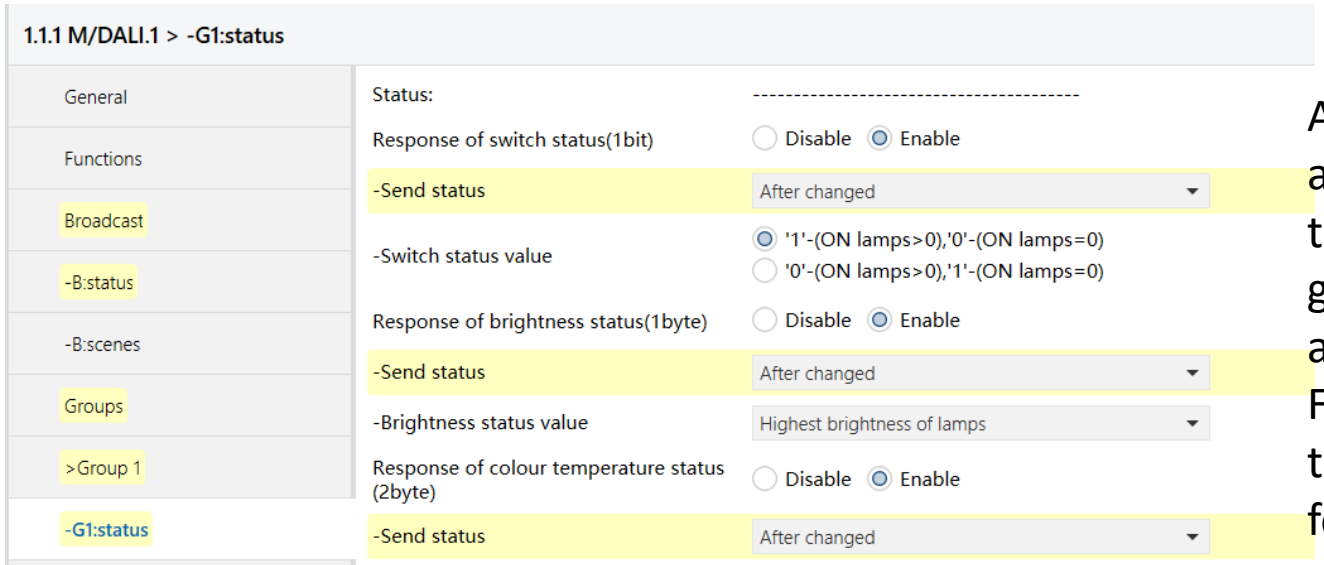


262	Light 1	Percentage(1byte)	Broadcast Absolute Dimming	6/1/23	1 byte	C	-	W	T	U	percentag...	Low
267	Light 1	Color temperature(2byte)	Broadcast CCT	6/1/24	2 bytes	C	-	W	T	U	time (min)	Low
269	Light 1	Percentage status(1byte)	Broadcast Ab dimming Status	6/2/23	1 byte	C	-	W	T	U	percentag...	Low
274	Light 1	Color temperature status	Broadcast CCT Status	6/2/24	2 bytes	C	-	W	T	U	time (min)	Low

After configuring the group address, we use the KNX Granite CCT type to call the broadcast control group address.

Commission---Group Control





As mentioned in the previous section, the driver addresses have been grouped in the auxiliary software. If the drivers with driver addresses 0 and 1 are assigned to group 1, we can control the grouping of the driver addresses through the group control of the Dali module. For example, enabling group 1, enabling color temperature, and setting only after change type feedback.

Commission---Group Control

21	Group 1	Switch(1bit)	Group 1 Switch	6/1/25	1 bit	C	-	W	-	U	switch	Low
22	Group 1	Relative dimming(4bits)	Group 1 Relative Dimming	6/1/26	4 bit	C	-	W	-	U	dimming c...	Low
23	Group 1	Absolute dimming(1byte)	Group 1 Absolute Dimming	6/1/27	1 byte	C	-	W	-	U	percentag...	Low
24	Group 1	Colour Temperature(2bytes)	Group 1 CCT	6/1/29	2 bytes	C	-	W	-	U	absolute c...	Low
25	Group 1	Status(1bit)	Group 1 Switch Status	6/2/25	1 bit	C	R	-	T	-	switch	Low
26	Group 1	Status(1byte)	Group 1 Ab Dimming Status	6/2/27	1 byte	C	R	-	T	-	percentag...	Low
27	Group 1	Status(2bytes)	Group 1 CCT Status	6/2/29	2 bytes	C	R	-	T	-	absolute c...	Low

1.1.2 M/PTL4.1 > -->Light 2

- General
- System configuration
- Function configuration
- Button scene
- Light
- -->Light 1
- -->Light 2

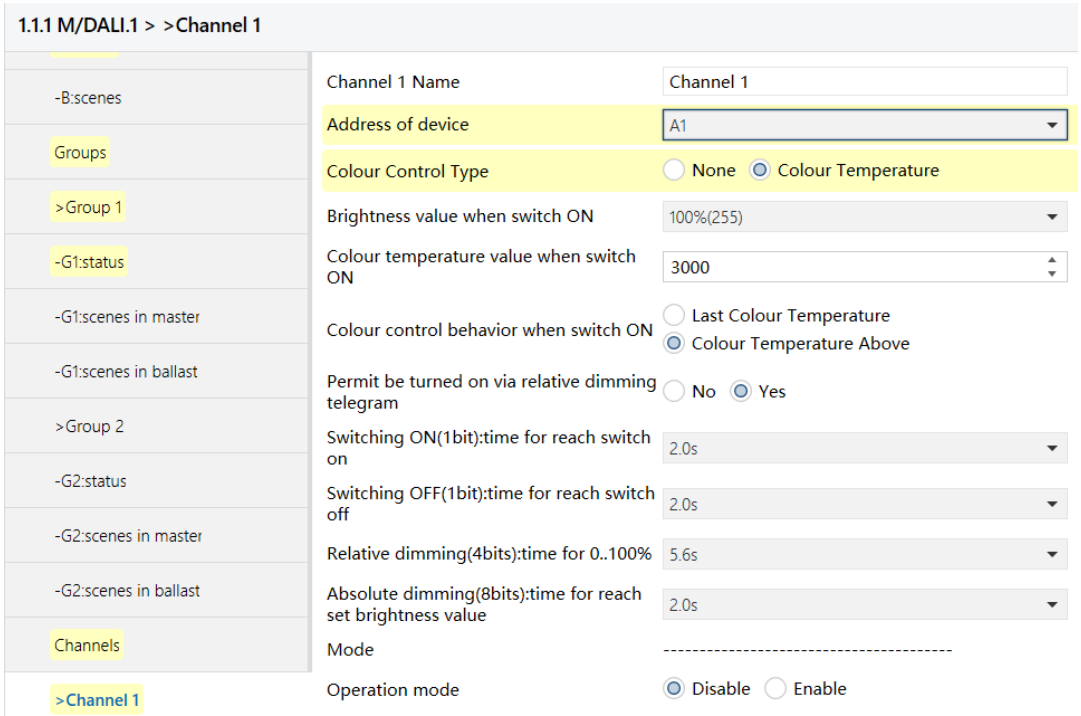
Select type of light	CCT
Light label	Dali Group 1
Icon number	Light bulb
Percentage	Disable / Enable
Color temperature(2 byte)	Disable / Enable
Percentage status(1 byte)	Disable / Enable
Color temperature status(2 byte)	Disable / Enable

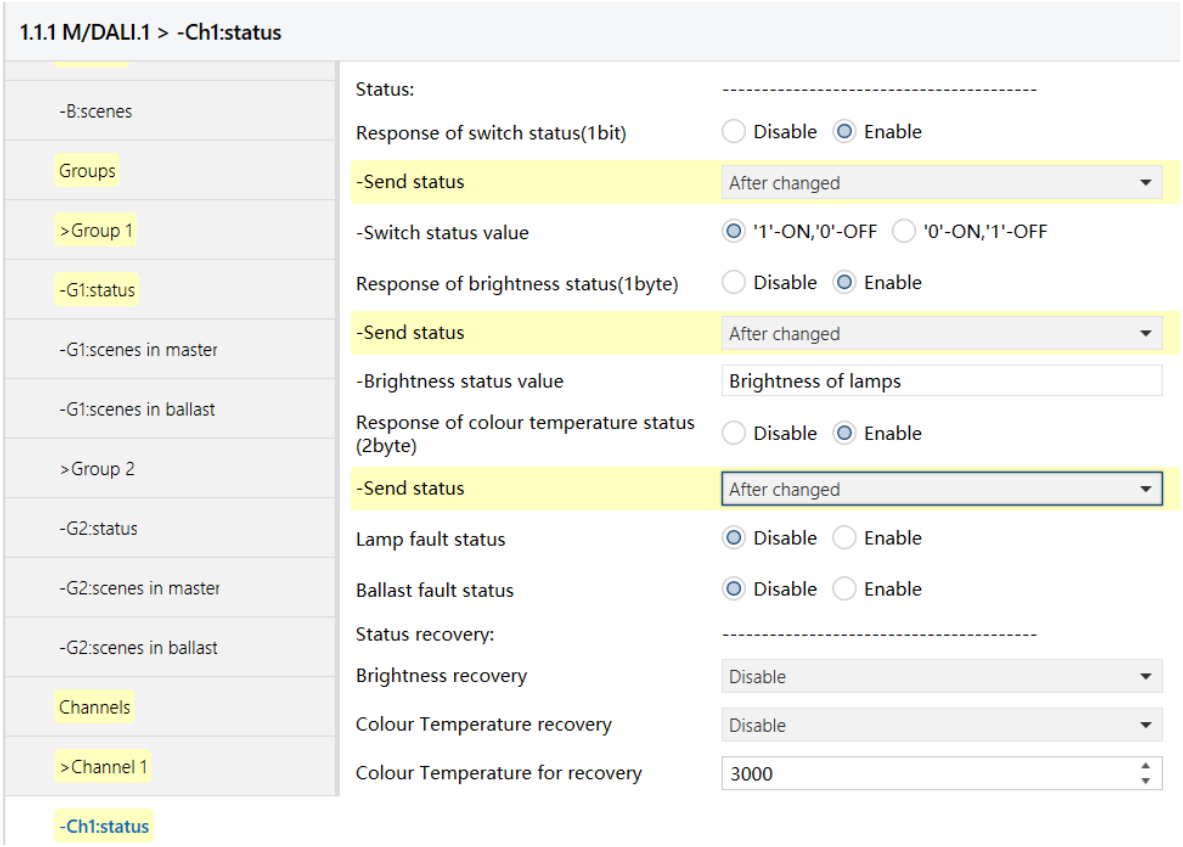
Link the Group Address with KNX Granite

277	Light 2	Percentage(1byte)	Group 1 Absolute Dimming	6/1/27
282	Light 2	Color temperature(2byte)	Group 1 CCT	6/1/29
284	Light 2	Percentage status(1byte)	Group 1 Ab Dimming Status	6/2/27
289	Light 2	Color temperature status	Group 1 CCT Status	6/2/29

Commission---Channel Control

After enabling the Channel control, a single Ballast's address can be controlled to adjust the brightness and color temperature of a certain lamp , and the drive address of the circuit can be set. The default is that ballast address A0 corresponds to channel 1, ballast address A1 corresponds to channel 2, and so on. Here, I set the ballast address A1 for channel 1, enable CCT, and provide feedback after status changed.

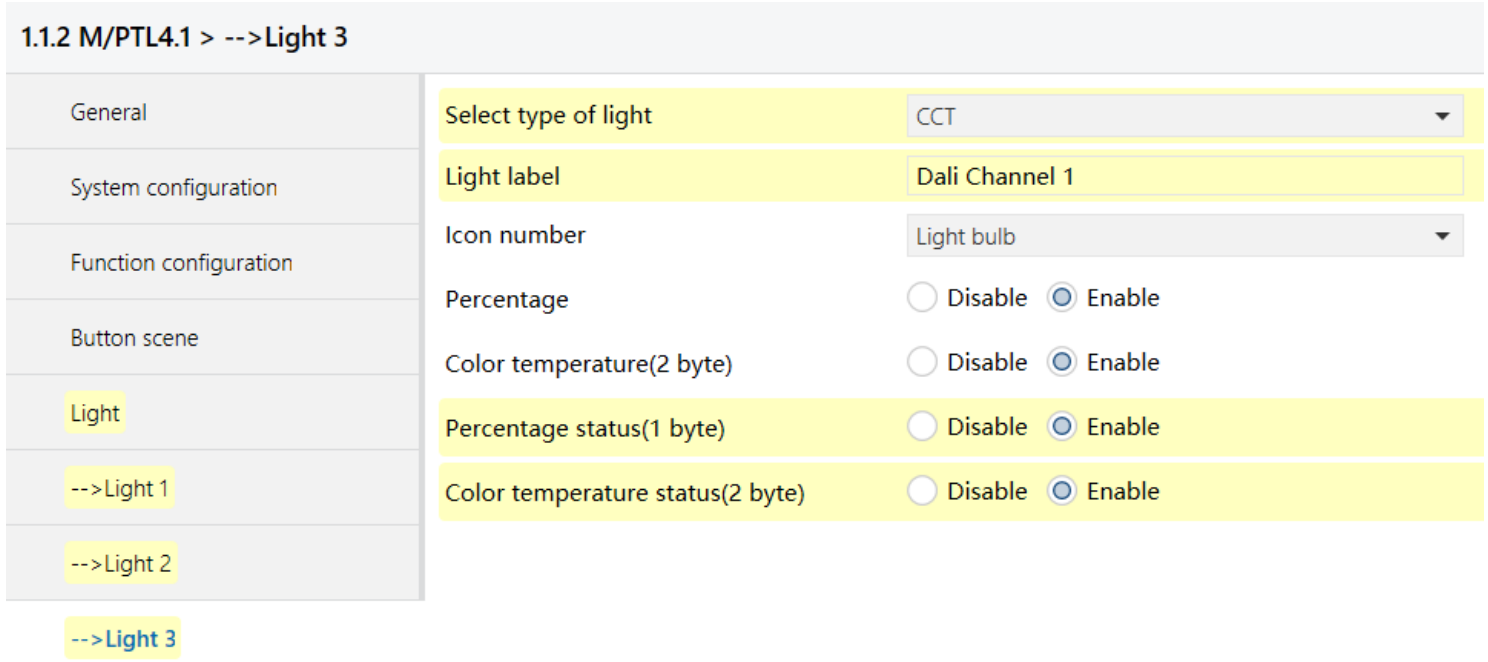




Commission---Channel Control

Set Group Address for the Channel 1 switch,relative dimming, absolute dimming, CCT and their feedback.

197	Channel 1	Switch(1bit)	Channel 1 Switch	6/1/30	1 bit	C	-	W	-	U	switch	Low
198	Channel 1	Relative dimming(4bits)	Channel 1 Relative Dimming	6/1/31	4 bit	C	-	W	-	U	dimming c...	Low
199	Channel 1	Absolute dimming(1byte)	Channel 1 Absolute Dimming	6/1/32	1 byte	C	-	W	-	U	percentag...	Low
200	Channel 1	Colour Temperature(2bytes)	Channel 1 CCT	6/1/33	2 bytes	C	-	W	-	U	absolute c...	Low
201	Channel 1	Status(1bit)	Channel 1 Switch Status	6/2/30	1 bit	C	R	-	T	-	switch	Low
202	Channel 1	Status(1byte)	Channel 1 Ab Dimming Status	6/2/32	1 byte	C	R	-	T	-	percentag...	Low
203	Channel 1	Status(2bytes)	Channel 1 CCT Status	6/2/33	2 bytes	C	R	-	T	-	absolute c...	Low



Select CCT for the lighting type of the 4-inch screen, and enable the feedback options for percentage and color temperature

Commission---Channel Control

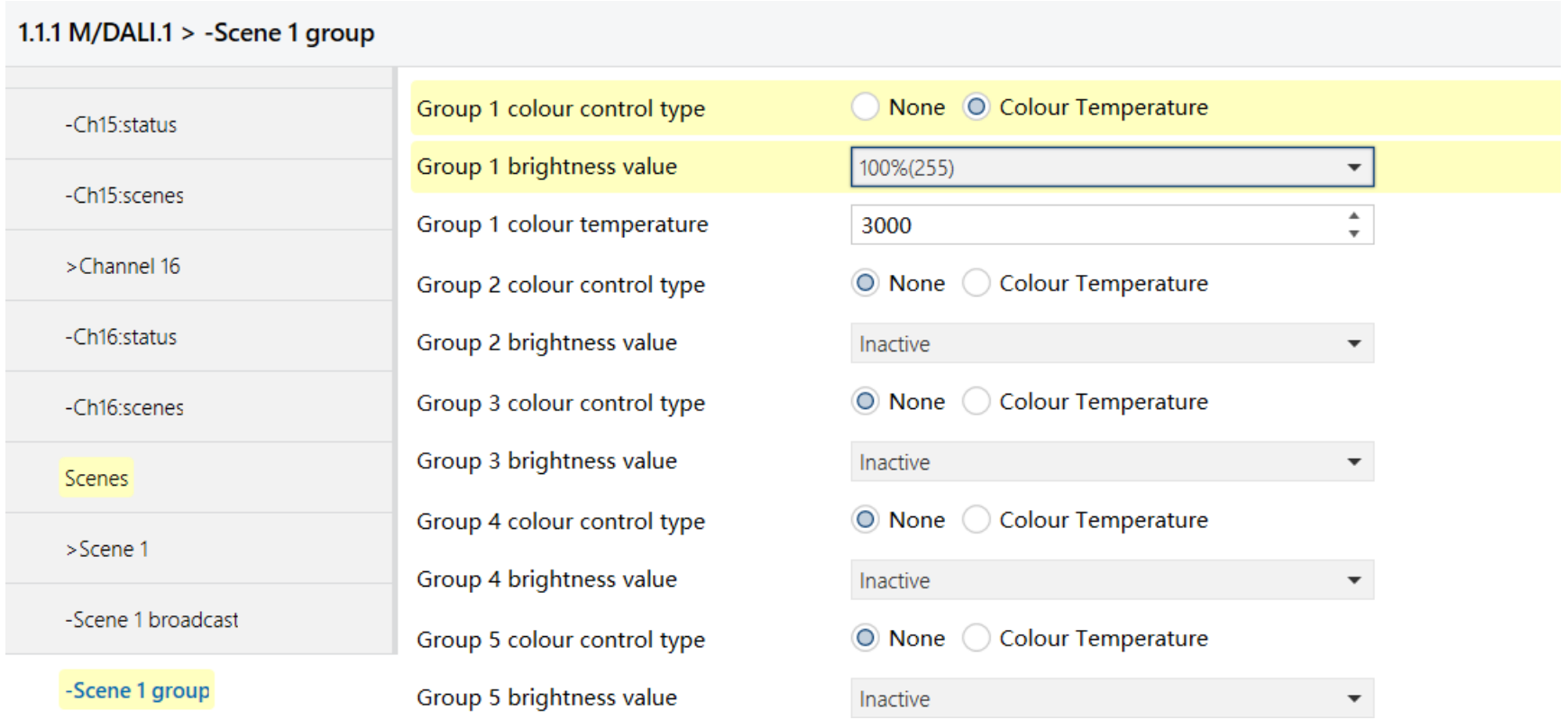
Link the group address of Channel 1 absolute dimming , CCT, percentage status, Color temperature status.

292	Light 3	Percentage(1byte)	Channel 1 Absolute Dimming	6/1/32	1 byte	C	-	W	T	U	percentag...	Low
297	Light 3	Color temperature(2byte)	Channel 1 CCT	6/1/33	2 bytes	C	-	W	T	U	time (min)	Low
299	Light 3	Percentage status(1byte)	Channel 1 Ab Dimming Status	6/2/32	1 byte	C	-	W	T	U	percentag...	Low
304	Light 3	Color temperature status	Channel 1 CCT Status	6/2/33	2 bytes	C	-	W	T	U	time (min)	Low

Commission---Scene Control

Scene Control can control the brightness and color temperature of a zone together.

Here we use Group Scene as an example. Enable color temperature control, set the brightness and color temperature values of group 1. Brightness Value 100%, color temperaure 3000k.

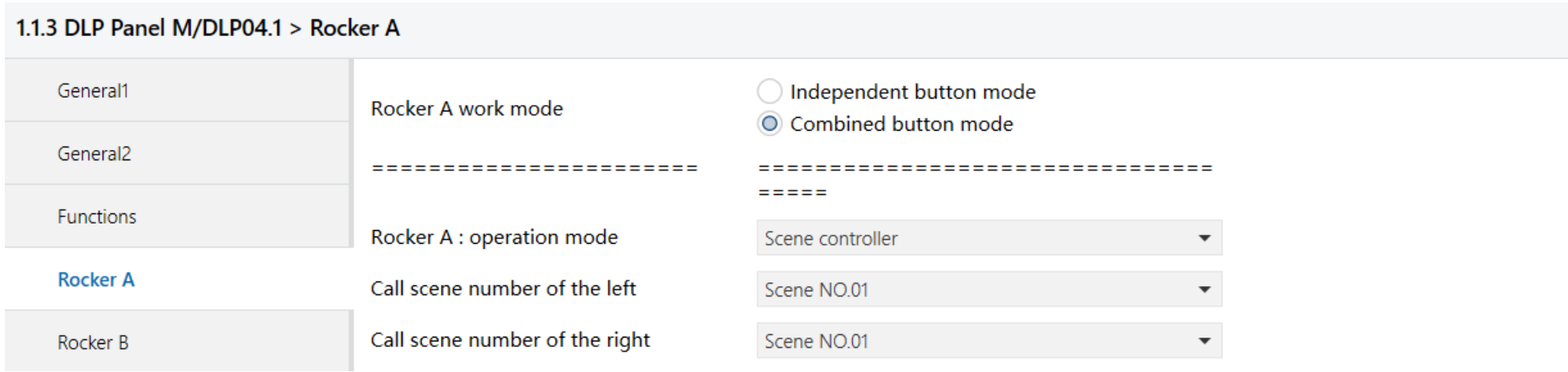


Commission---Scene Control

Go to group address page to set the group address for the Scene. As this scene is in the Dali module, we set group address for Call Group 1 Scene in Master.

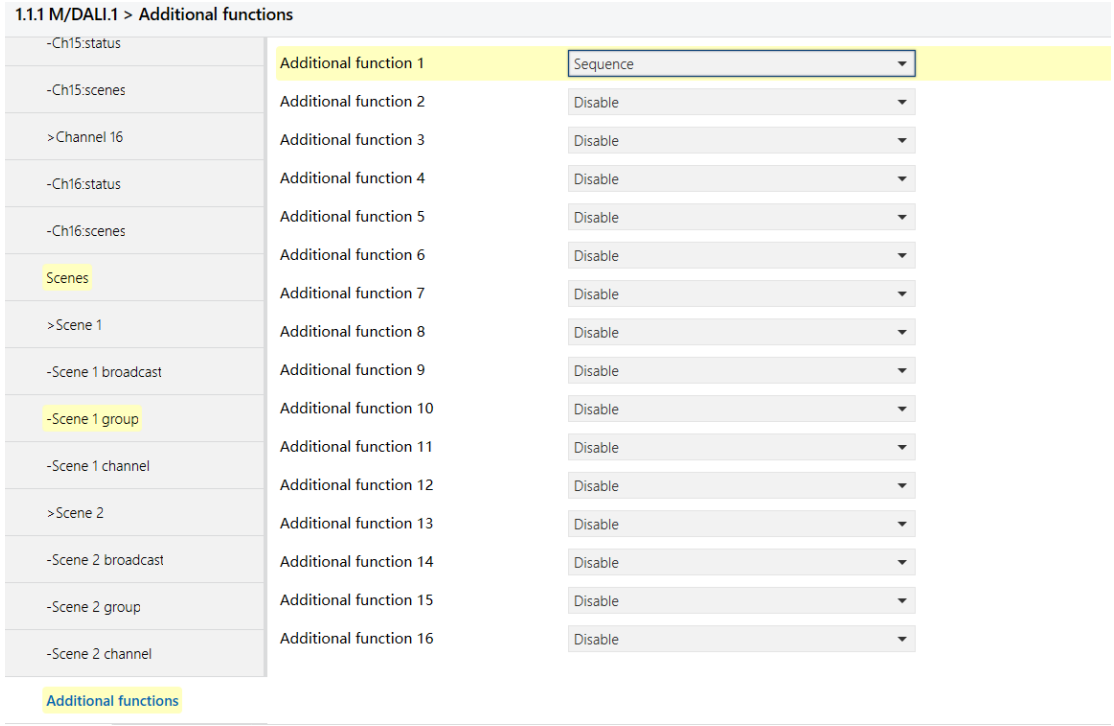
21	Group 1	Switch(1bit)	Group 1 Switch	6/1/25	1 bit	C	-	W	-	U	switch	Low
22	Group 1	Relative dimming(4bits)	Group 1 Relative Dimming	6/1/26	4 bit	C	-	W	-	U	dimming c...	Low
23	Group 1	Absolute dimming(1byte)	Group 1 Absolute Dimming	6/1/27	1 byte	C	-	W	-	U	percentag...	Low
24	Group 1	Colour Temperature(2bytes)	Group 1 CCT	6/1/29	2 bytes	C	-	W	-	U	absolute c...	Low
25	Group 1	Status(1bit)	Group 1 Switch Status	6/2/25	1 bit	C	R	-	T	-	switch	Low
26	Group 1	Status(1byte)	Group 1 Ab Dimming Status	6/2/27	1 byte	C	R	-	T	-	percentag...	Low
27	Group 1	Status(2bytes)	Group 1 CCT Status	6/2/29	2 bytes	C	R	-	T	-	absolute c...	Low
30	Group 1 Scene 1..16 In Master	Call Group 1 Scene In Master	Call Group 1 Scene in Master	6/1/34	1 byte	C	-	W	-	-	scene cont...	Low

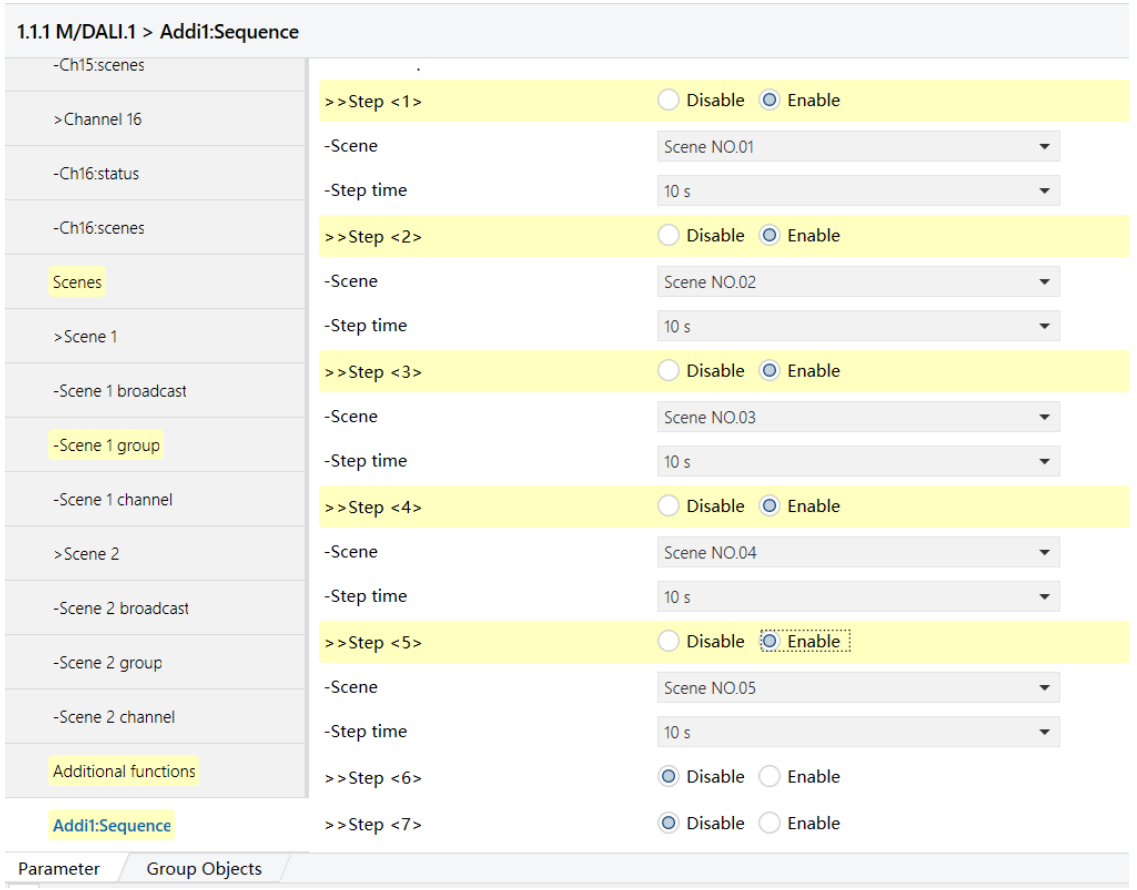
Let’s use DLP panel to control this scene.



Commission---Scene Control

The Dali module has a sequence function that can be used for flexible control of light brightness and color temperature. Enable sequence functions in the Dali module's additional functions. Set brightness and color temperature of the lights for each scene (refer to the previous section). Here, 5 steps are opened to call up 5 scenes, as shown in the following figure:



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THANKS