HDL®

DALI Gateway (V1.1)

M/DALI.1

KNX®

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APPLICATION PROGRAM INFORMATION

DALI Gateway

M/DALI.1

KNX/EIB-BUS

Document Version: 1.1, Date: 23. Jan.2018

This document describes the M/DALI.1-functions with the KNX-product- application:

DALI Gateway (V1.1).knxprod

Version	Date	Comments
1.0	27.12.2014	First issue
1.1	23.Jan.2018	

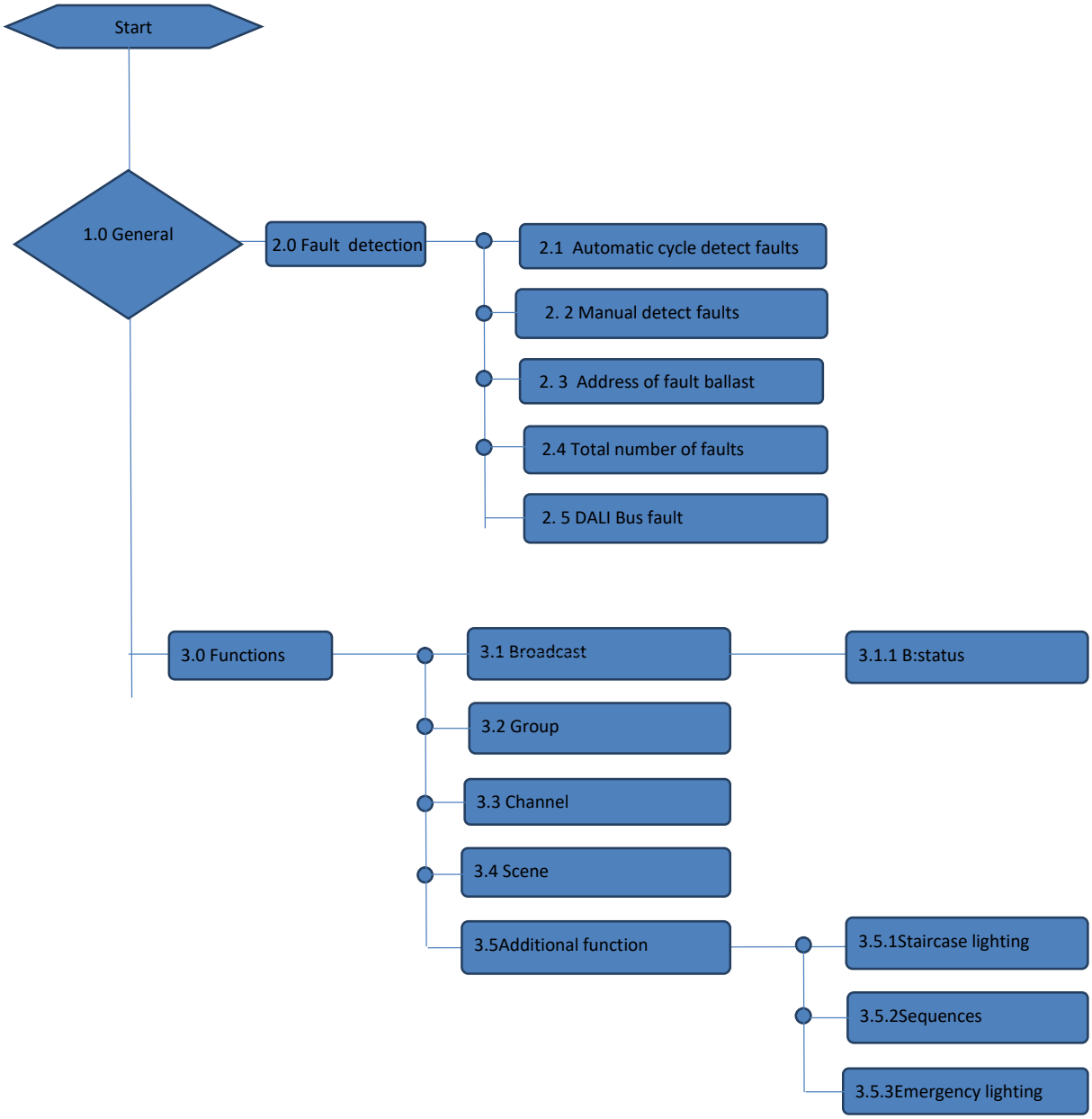
A. General description

B. Function overview flowchart
C. Function description
D. Communication objects
E. Assistant software for DALI group setting

A. General description

This DALI Gateway is used to operate a multitude of building functions, and can be installed onto a standard 35 mm DIN rail. This manual contains the programming information for this module.

B. Flowchart showing module functionality

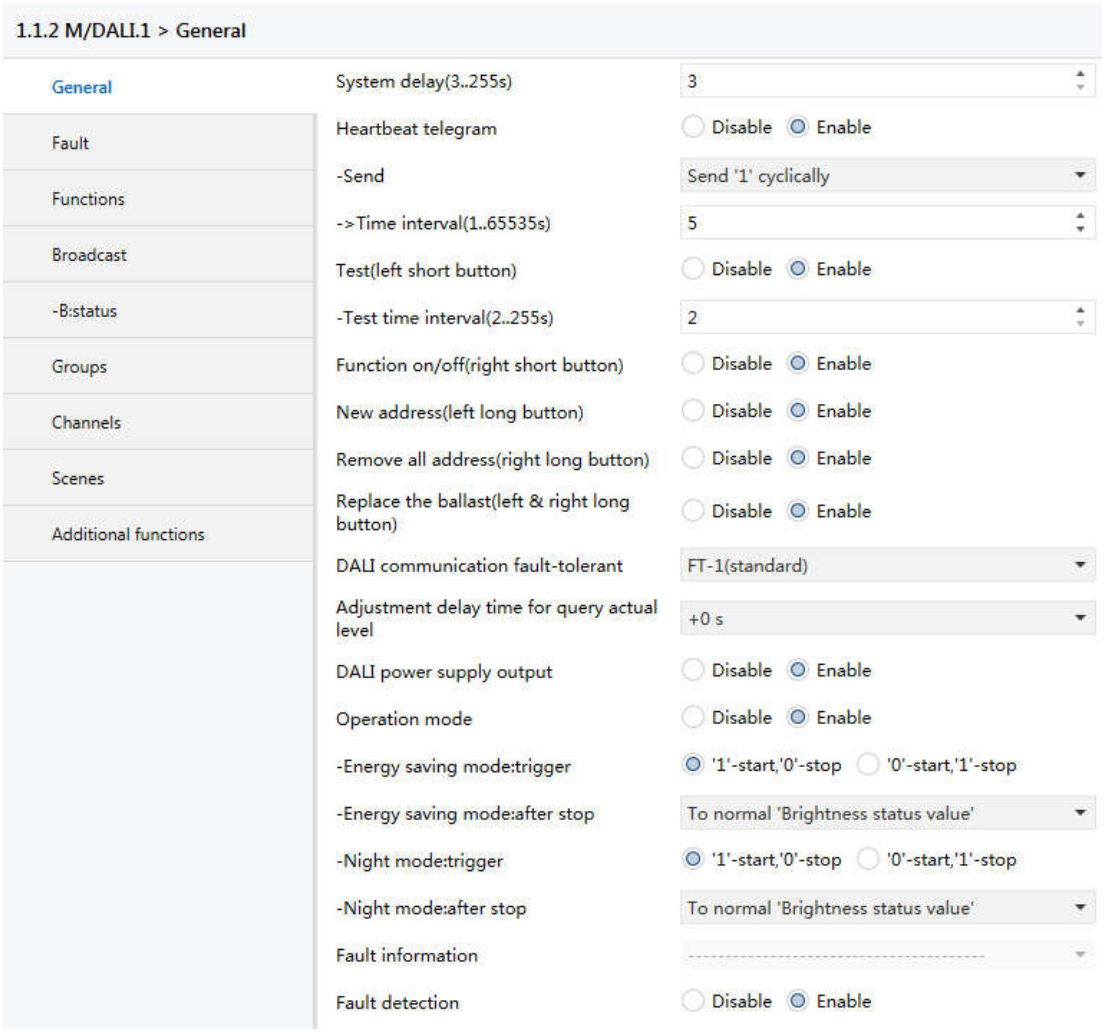


C. Functions

This chapter describes the parameters of the group-orientated M/DALI.1 based on the parameter window. The parameter window features a dynamic structure so that

further parameters or whole parameter windows may be enabled depending on the parameterization and the function of groups.

1.0_General



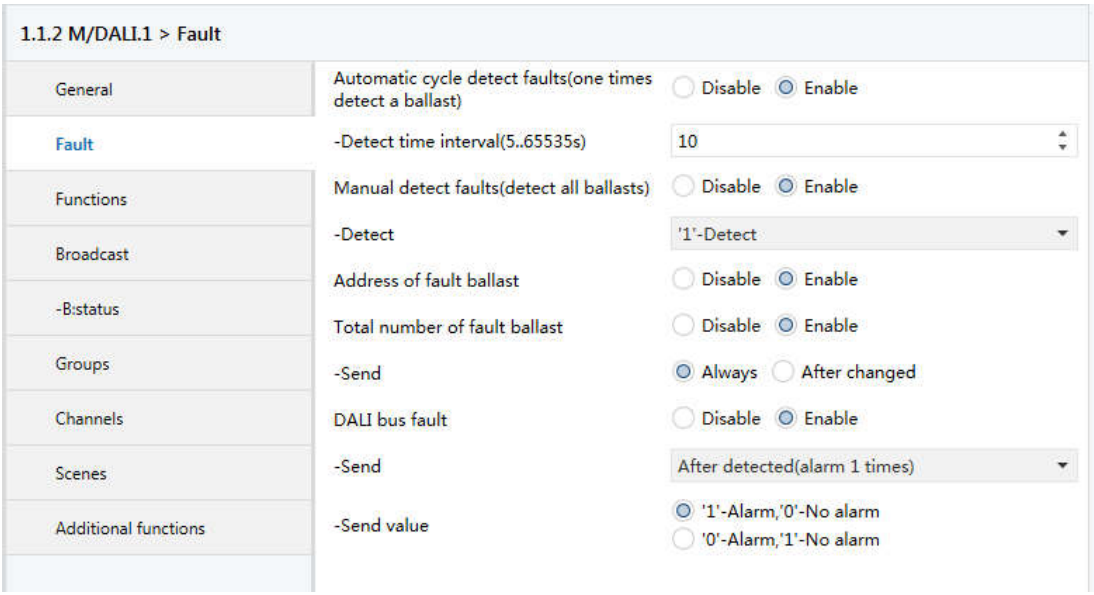
No.	ETS-Parameter	Range (default)	Description
1	System delay	(3)..255s	*Set the delay time for the device to work after power on, the range is 3-255s*
2	Heartbeat telegram	-Disable -Enable	*Disable/ Enable this function.*
3	-Send	-Send ”0” cyclically -Send ”1” cyclically	*Defines which telegram should be sent.* *-Send value”0” cyclically: Sends*

		-Send ”1/0” inverted cyclically -Send ”1” after request	*telegram ”0” to the bus.* *-Send value”1” cyclically: Sends telegram ”1” to the bus.* *-Send value”1/0” cyclically: Telegrams “0”and ”1” are sent alternately to the bus.*
4	-Time interval (1..65535s)	-1..65535s	*Defines how often a telegram is sent.*
5	Test(Left shout button)	-Disable -Enable	*Enable or disable the test button.* *Enable: All DALI devices can be switched on or off independently. This allows cable connections to be checked and verified.* *Disable: DALI devices cannot be switched on or off independently.*
6	-Test time interval(2..255s)	-2..255s	*Defines the duration of the DALI device test.*
7	Function on/off(right short button)	-Disable -Enable	*Enable or disable the function button.* *Enable: All DALI devices will switch on when the function button is pressed. A second press of the function button will then switch off all DALI devices.* *Disable: DALI devices cannot be switched on or off.*
8	New address(left long button)	-Disable -Enable	*Enable or disable all DALI devices to have a new address set by long pressing the test button.*
9	Remove all address(Right long button)	-Disable -Enable	*Enable or disable all DALI devices to have their addresses removed when the function button is long pressed.*
10	*Replace the ballast(left & right long button)	-Disable -Enable	*Enable or disable all old DALI devices to have their setting information transferred to new DALI devices by long pressing the test button and the function*

			button.
11	DALI communication fault-tolerant	-FT-1(standard) -FT-2 … -FT-10	*Defines which fault tolerance should be used.* *The lowest fault tolerance is FT-1.* *The highest fault tolerance is FT-10.*
12	Adjustment delay time for query actual level	+0s +1s … +10s	*Defines the query delay time.* *The shortest query delay time is +0 seconds.* *The longest query delay time is +10 seconds.*
13	DALI power supply output	-Disable -Enable	*Enable or disable the DALI power supply output.*
14	Operation mode	-Disable -Enable	*Enable or disable the operation mode.* *There are 2 types can be set, energy saving mode and night mode. It works conjunction with the channel function.*
15	-Energy saving mode: trigger	*-'1'-start, '0'-stop* *-'0'-start, '1'-stop*	
16	-Energy saving mode: after stop	-To normal 'Brightness status value' -Switch ON -Switch OFF	
17	-Night mode: trigger	*-'1'-start, '0'-stop* *-'0'-start, '1'-stop*	
18	-Night mode: after stop	-To normal 'Brightness status value' -Switch ON -Switch OFF	
Fault information			
19	Fault	Disable	*Enable or disable the fault function.*

		Enable	

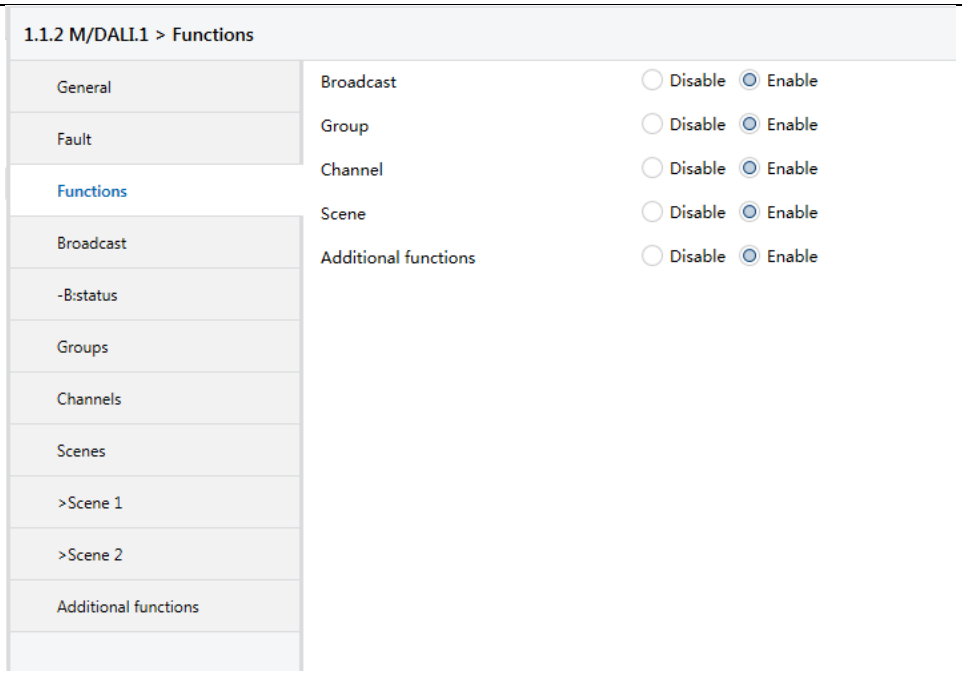
2.0_Fault



No.	ETS-Parameter	Range (default)	Description
14	Automatic cycle detect faults (one times detect a ballast)	-Disable -Enable	*Enable or disable the DALI fault function.* *Define the fault detection time interval.*
	-Detect time interval (5..65535s)	-5..(10)..65535	
	Manual detect faults (detect all ballasts)	-Disable -Enable	*-Enable: you can manual detect faults.* *-Disable: disable this function.*
15	-Detect	-'1'-Detect -'0'-Detect -'1'/'0'-Detect	*Define the parameters for when a telegram should be sent after a fault is detected.*

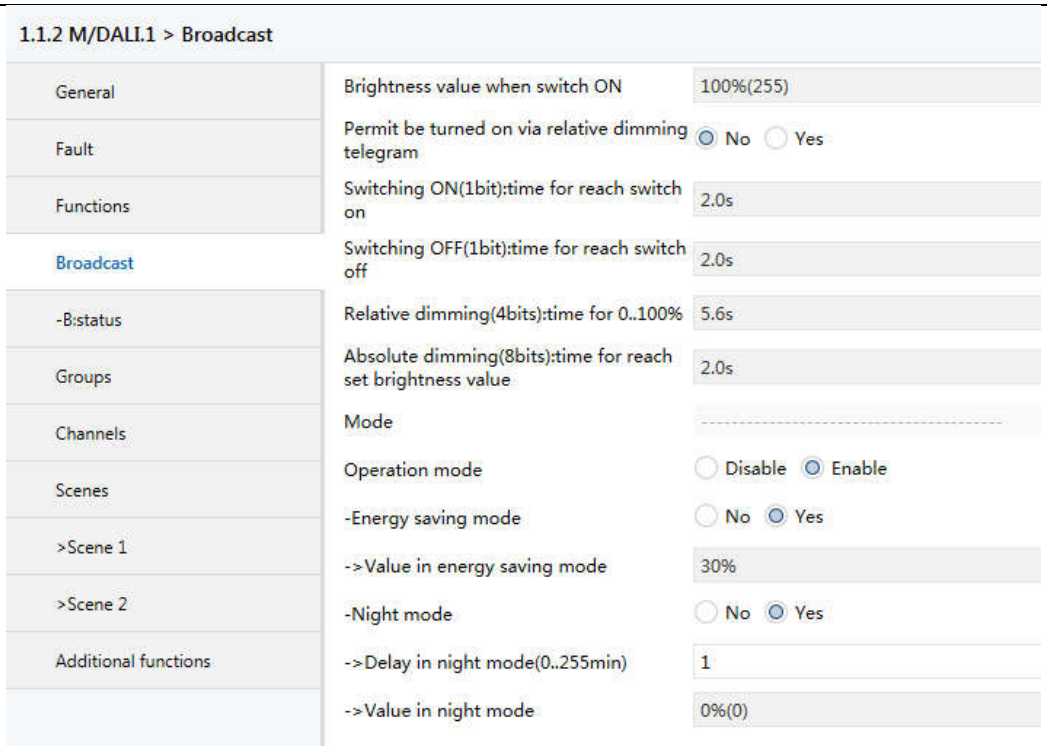
16	Address of fault ballast	-Disable -Enable	*Enable or disable the lamp fault function.*
20	Total faults number	-Disable -Enable	*Enable or disable the total fault number function.*
	-Send	-Always - After changed	*Define if a telegram should be sent after a fault is detected, or after it is detected and changed.*
18	DALI bus fault	-Disable -Enable	*Disable or enable the ballast fault function.*
19	-Send	-After detected (Alarm 1 times) -After detected & changed -After changed, period send when fault	
20	-Send value	-'1'-Alarm, '0'- No alarm -'0'-Alarm, '1'- No alarm	*Enable or disable the total fault number function.*

3.0_Function



No.	ETS-Parameter	Range (default)	Description
24	Broadcast	Disable Enable	*Enable or disable these functions.*
25	Group		
26	Channel		
27	Scene		
28	Additional functions		

3.1/3.1.1_Broadcast

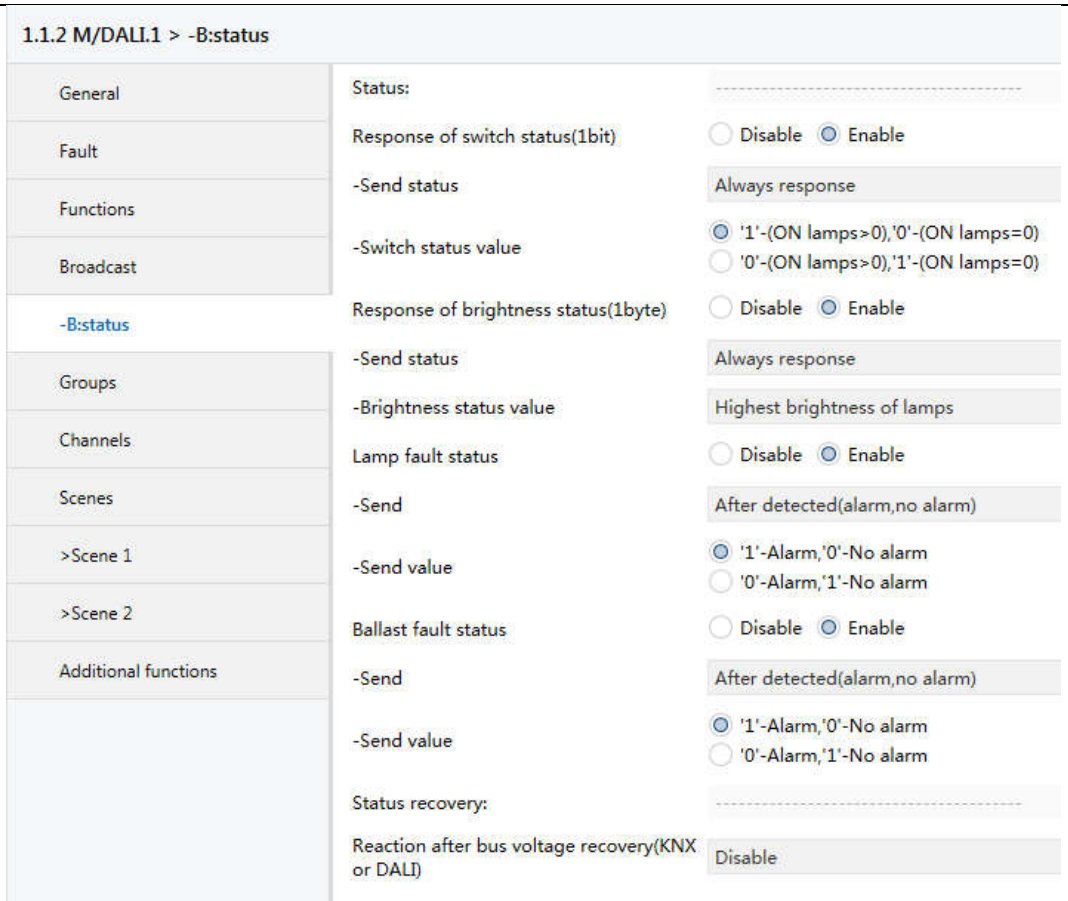


No.	ETS-Parameter	Range (default)	Description
29	Brightness value when switch ON	Last brightness value 0%(0) 1% ….. 100%(255)	*Define the brightness value of the DALI devices when the ON telegram is received.*
30	Permit be turned on via relative dimming telegram	-NO -YES	*Define if relative dimming is to be permitted or not.* *Yes: Permitted* *No: Forbidden*
31	Switching ON(1 bit): time for reach switch on	Immediate 0.7s 1.0s …. 90.5s	*Set the time switch activation period, after a switch on telegram has been received.* *Immediate: All devices will switch on immediately when the switch ON telegram is received.*

			0.7s-90.5s: When the time has elapsed, the lighting intensity will raise from 0% to the switch on value.
32	Switching OFF(1 bit): time for reach switch off	Immediate 0.7s 1.0s …. 90.5s	*Immediate: All devices will switch off immediately when the switch OFF telegram is received.* *0.7s-90.5s: When the time has elapsed, the lighting intensity will dim until the lighting is turned off.*
33	Relative dimming(4bits):time for 0..100%	0.7s 1.0s …. 90.5s	*0.7s-90.5s: When the time has elapsed, the lighting intensity will raise from 0% to the switch on value.*
34	Absolute dimming(8bits):time for reach set brightness value	Immediate 0.7s 1.0s …. 90.5s	*Immediate: All devices will switch on immediately when the switch ON telegram is received.* *When the set time has elapsed, the light intensity will raise from 0% to the switch on value.*
35	Dimming standard	DALI dimming standard KNX dimming standard	*Select which dimming standard is to be utilized.*
Mode			
	Operation mode	-Disable -Enable	
	-Energy saving mode	-No -Yes	
	->Value in energy saving mode	-0%(0) ... -100%(255)	

	-Night mode	-No -Yes	
	->Delay in night mode(0...255min)	-0...255	
	->Value in night mode	-0%(0) ... -100%(255)	

3.1.2_B:Status



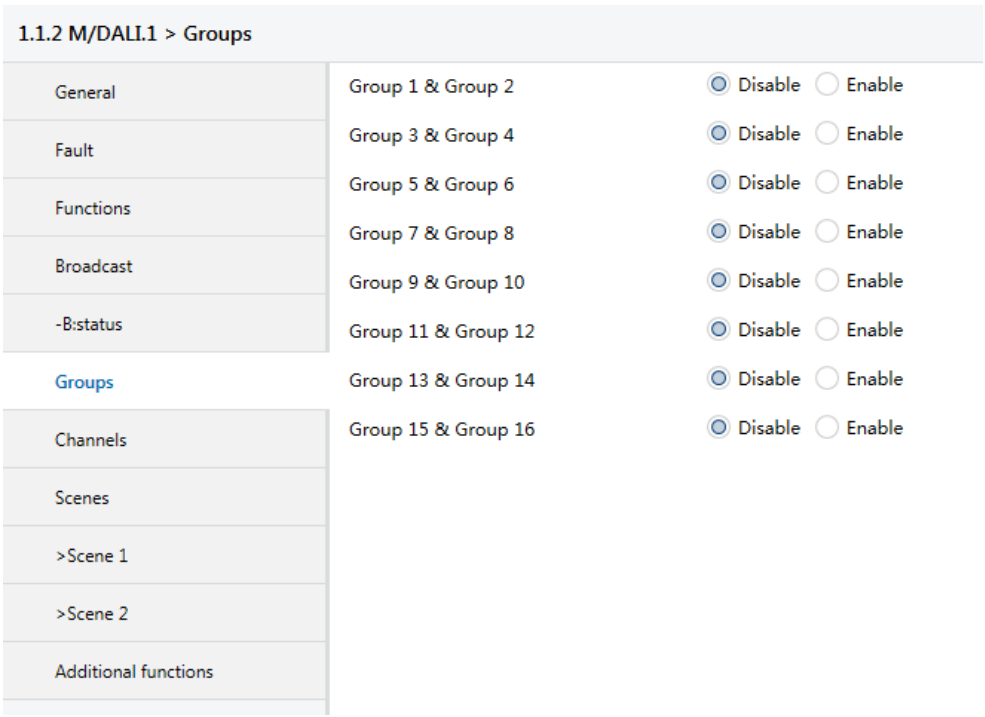
No.	ETS-Parameter	Range (default)	Description
36	Response of switch status(1 bit)	Disable Enable	*Enable or disable the switch status to respond to the KNX bus.*
37	-Send status	-Always response	*Select when a telegram is to be*

		-After changed -After requested	*sent to the KNX bus.* *Always response: A telegram will be sent to the KNX bus regardless of if a change has been made to the switch or not.* *After changed: A telegram will only be sent to the KNX bus after a modification has been made to the switch.*
38	-Switch status value	-'1'-(ON lamps>0), '0'-(ON lamps=0) -'0'-(ON lamps>0), '1'-(ON lamps=0)	*The switch status vale determines if a telegram is to be sent if more than one DALI device is ON.* *'1'- A telegram will be sent if more than 1 DALI device is ON.* *'0'- A telegram will not be sent if more than 1 DALI device is ON.*
39	Response of brightness status(1 byte)	-Disable -Enable	*Enable or disable the KNX bus to respond to the lighting intensity level.*
40	-Send status	-Always response -After changed -After requested	*Select if after a modification a telegram is to be sent to the KNX bus.* *Always response- Regardless of if the status has been changed a telegram will be sent to the KNX bus.* *After changed- A telegram will only be sent to the KNX bus after a modification has been made.*
41	Brightness status value	Average brightness of lamps Lowest brightness of lamps Highest brightness of lamps	*Select which lamp brightness value is sent to the KNX output status.* *Average- The average value of all DALI devices is sent to the KNX output status.*

			Lowest- The lowest value of all DALI devices is sent to the KNX output status. *Highest- The highest value of all DALI devices is sent to the KNX output status.*
	Lamp fault status	-Disable -Enable	*Disable/Enable the function of lamp fault status.*
	-Send	-After detected (alarm, no alarm) -After detected (only alarm) -After detected & changed	
	-Send value	-'1'-Alarm, '0'-No alarm -'0'-Alarm, '1'-No alarm	
	Ballast fault status	-Disable -Enable	
	-Send	-After detected (alarm, no alarm) -After detected (only alarm) -After detected & changed	
	-Send value	-'1'-Alarm, '0'-No alarm -'0'-Alarm, '1'-No alarm	
Status recovery			
42	Reaction when bus voltage recovery(KNX or DALI)	Last brightness Switch ON brightness 0%(0-OFF) 1% 2%	*Select the lighting intensity when the bus is in voltage recovery mode.* Last brightness- The last lighting intensity setting is used. Switch ON brightness- The lighting group uses a pre-set

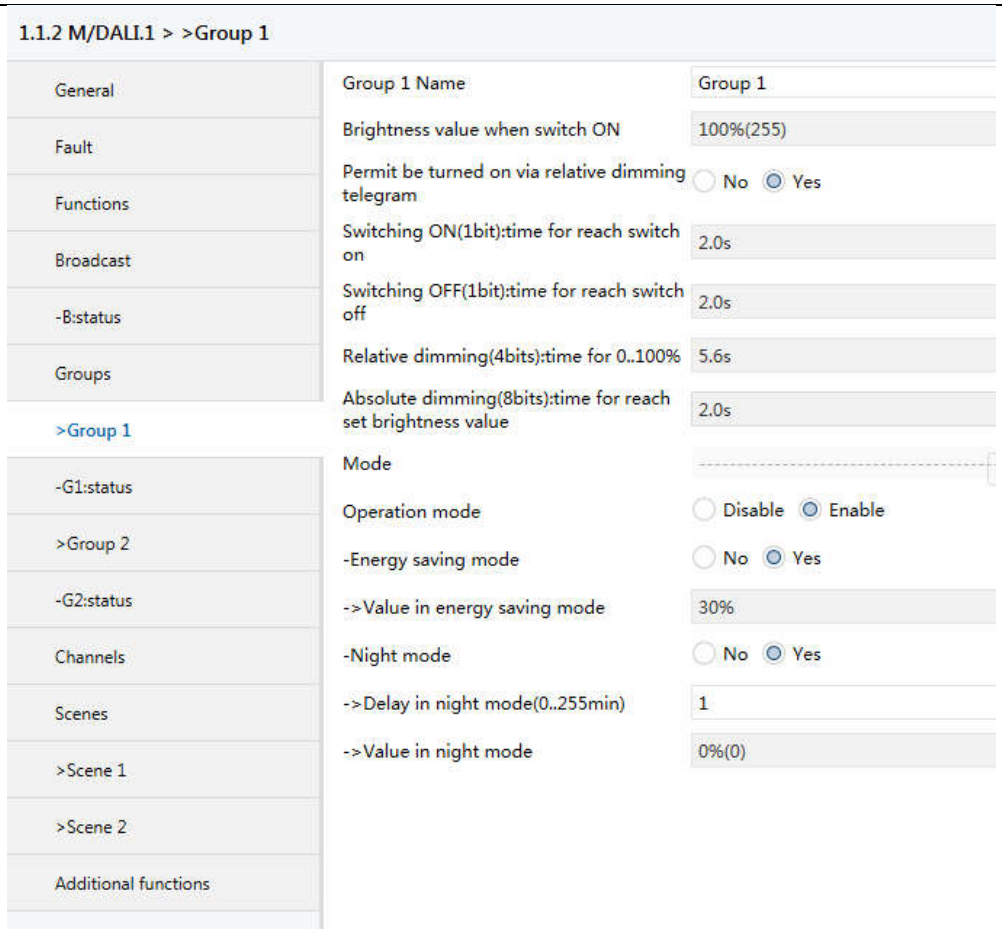
		…. 100%(255)	percentage 0%-99%. *100%- All DALI devices are fully switched on.*

3.2_Groups (Group 1 …Group 16)



No.	ETS-Parameter	Range (default)	Description
	Group 1& Group 2	Disable Enable	*Enable or disable group 1 and group 2 functions.*
	Group 3…Group16	Disable Enable	*Enable or disable the functions of groups 3 to 16.*

3.2.1_Group 1

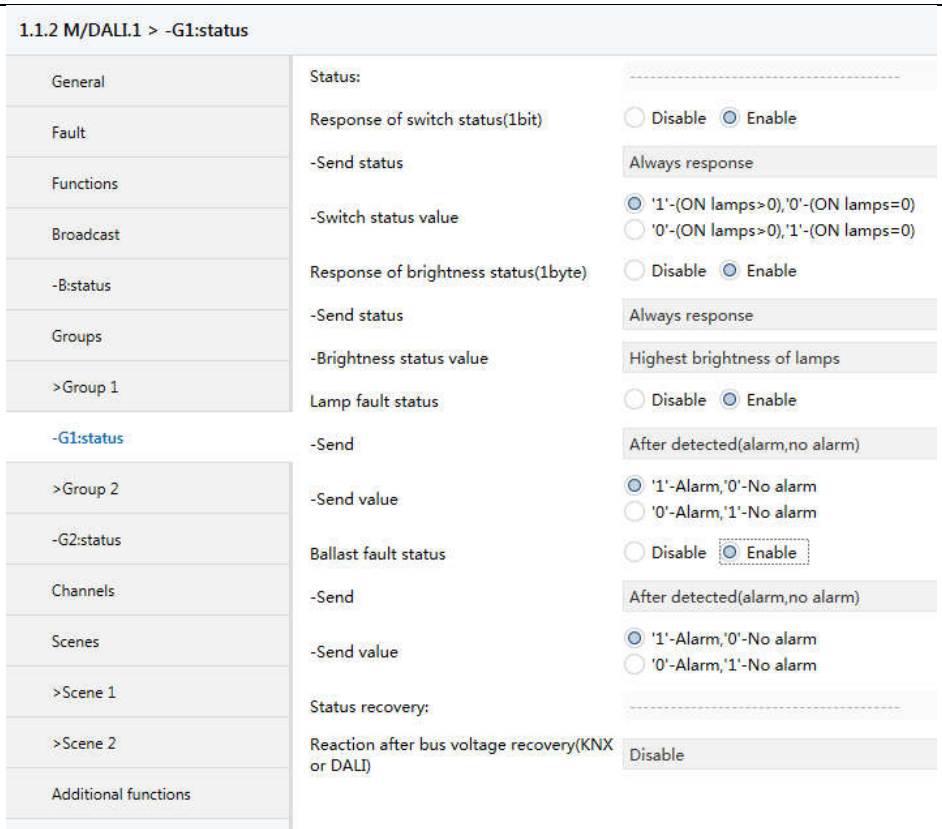


No.	ETS-Parameter	Range (default)	Description
45	Group 1 Name	Group 1	*Name group 1.*
46	Brightness value when switch ON	Last brightness 0%(0-OFF) 1% 2% …. 100%(255)	*Select the lighting intensity when switched on.* Last brightness- The last lighting intensity setting is used. Switch ON brightness- The lighting group uses a pre-set percentage 0%-99%. *100%- All devices are fully switched on.*
47	Permit be turned on via relative dimming telegram	NO YES	*Select if relative dimming is permitted.* *No- Relative dimming is not permitted.*

			Yes - Relative dimming is permitted.
48	Switching ON(1 bit): time for reach switch on	Immediate 0.7s 1.0s …. 90.5s	*Select the (1 bit) switch on time.* *Immediate- All devices will immediately turn on when the switch on telegram is received.* *0.7s-90.5s- When the set time has elapsed, the lighting will reach the switch on value.*
49	Switching OFF(1 bit): time for reach switch off	Immediate 0.7s 1.0s …. 90.5s	*Select the (1 bit) switch off time.* *Immediate- All devices will immediately turn off when the switch off telegram is received.* *0.7s-90.5s- When the set time has elapsed, the lighting will turn off.*
50	Relative dimming(4bits):time for 0..100%	0.7s 1.0s …. 90.5s	*0.7s-90.5s: When the time has elapsed, the lighting intensity will raise from 0% to the switch on value.*
51	Absolute dimming(4bits):time for 0..100%	Immediate 0.7s 1.0s …. 90.5s	*Immediate: All devices will switch on immediately when the switch ON telegram is received.* *When the set time has elapsed, the light intensity will raise from 0% to the switch on value.*
Mode			
	Operation mode	-Disable -Enable	
	-Energy saving mode	-No -Yes	
	->Value in energy saving mode	0%(0) 1%	

		2% …. 100%(255)	
	-Night mode	-No -Yes	
	->Delay in night mode (0...255min)		
	->Value in night mode		
52	Dimming standard	DALI dimming standard KNX dimming standard	*Select which dimming standard is to be utilized.*

3.2.2_G1:Status



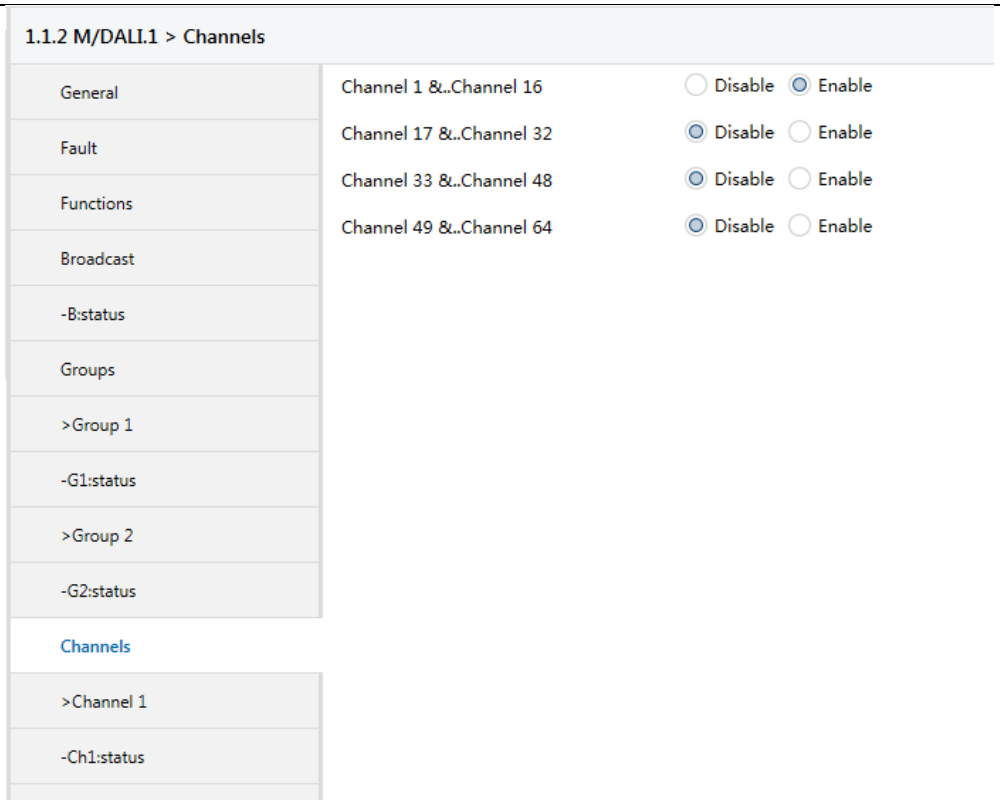
No.	ETS-	Range (default)	Description

	Parameter		
53	Response of switch status(1 bit)	-Disable -Enable	*Enable or disable the KNX bus to respond to the switch status.*
54	-Send status	-Always response -After changed -After requested	*Select if after a modification a telegram is to be sent to the KNX bus.* *Always response- Regardless of if the status has been changed a telegram will be sent to the KNX bus.* *After changed- A telegram will only be sent to the KNX bus after a modification has been made.*
55	-Switch status value	-'1'-(ON lamps>0) ,'0'-(ON lamps=0) -'0'-(ON lamps>0) ,'1'-(ON lamps=0)	*The switch status vale determines if a telegram is to be sent if more than one DALI device is ON.* *'1'- A telegram will be sent if more than 1 DALI device is ON.* *'0'- A telegram will not be sent if more than 1 DALI device is ON.*
56	Response of brightness status(1 byte)	-Disable -Enable	*Enable or disable the KNX bus to respond to brightness status.*
57	-Send status	-Always response -After changed -After requested	*Select if after a modification a telegram is to be sent to the KNX bus.* *Always response- Regardless of if the status has been changed a telegram will be sent to the KNX bus.* *After changed- A telegram will only be sent to the KNX bus after a modification has been made.*
58	-Brightness status value	Average brightness of lamps Lowest brightness of	*Select which lamp brightness value is sent to the KNX output status.*

		lamps Highest brightness off lamps	*Average- The average value of all DALI devices is sent to the KNX output status.* *Lowest- The lowest value of all DALI devices is sent to the KNX output status.* *Highest- The highest value of all DALI devices is sent to the KNX output status.*
	Lamp fault status	-Disable -Enable	*If you select enable, it will detect the lamp status and send the value to the bus.*
	-Send	-After detected (alarm, no alarm) -After detected (only alarm) -After detected & changed	*Alarm: lamp is fault.* *No alarm: lamp works well.* *After detected (alarm, no alarm): whether the lamp status is fault or not ,it will send the value to the bus.* *After detected (only alarm): it will send the value when the lamp is fault.* *After detected & changed: it will send the value when the lamp's state is changed.*
	-Send value	-'1'-Alarm, '0'-No alarm -'0'-Alarm, '1'-No alarm	*Set the value that send to the bus.*
	Ballast fault status	-Disable -Enable	*If you select enable, it will detect the ballast status and send the value to the bus.*
	-Send	-After detected (alarm, no alarm) -After detected (only alarm) -After detected & changed	*Alarm: ballast is fault.* *No alarm: ballast works well.* *After detected (alarm, no alarm): whether the ballast status is fault or not ,it will send the value to the bus.* *After detected (only alarm): it will*

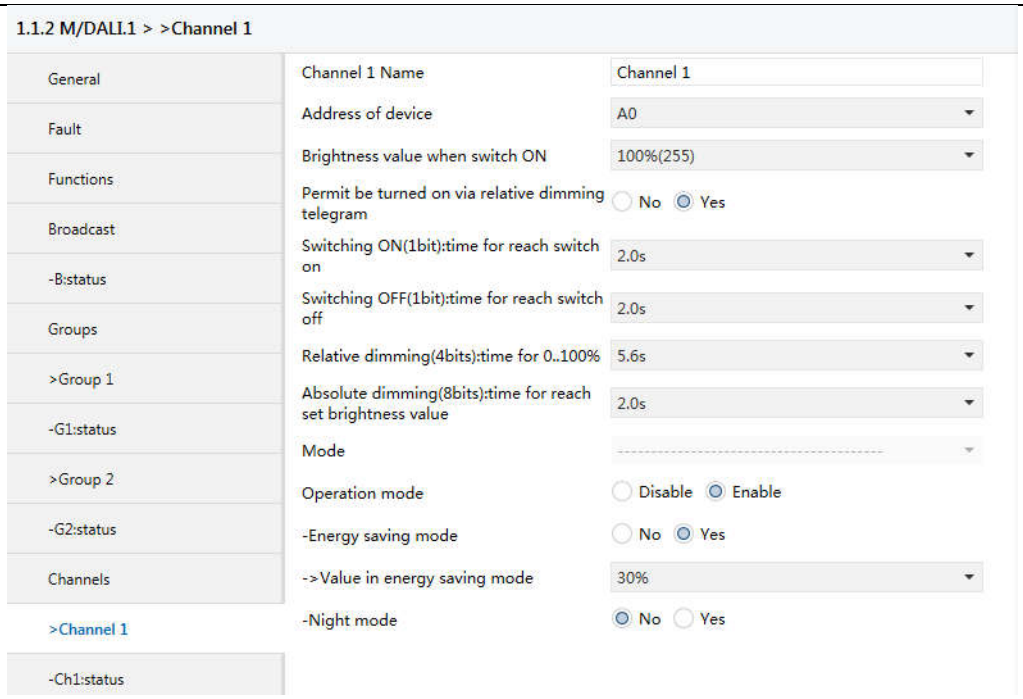
			send the value when the ballast is fault. *After detected & changed: it will send the value when the ballast's state is changed.*
	-Send value	-'1'-Alarm, '0'-No alarm -'0'-Alarm, '1'-No alarm	*Set the value that send to the bus.*
Status recovery			
59	Reaction when bus voltage recovery(KNX or ALI)	Disable Last brightness Switch ON brightness 0%(0-OFF) 1% 2% …. 100%(255)	*Select the lighting intensity when the bus is in voltage recovery mode.* Last brightness- The last lighting intensity setting is used. Switch ON brightness- The lighting group uses a pre-set percentage 0%-99%. *100%- All DALI devices are fully switched on.*

3.3_Channels (Channel 1 …Channel24)



No.	ETS-Parameter	Range (default)	Description
60	Light Channel 1&.. Channel 16	Disable Enable	*Enable or disable lighting channels 1 to 16.*
61	…		
62	Light Channel 49&.. Channel 64	Disable Enable	*Enable or disable lighting channels 49 to 64.*

3.3.1_Channel 1

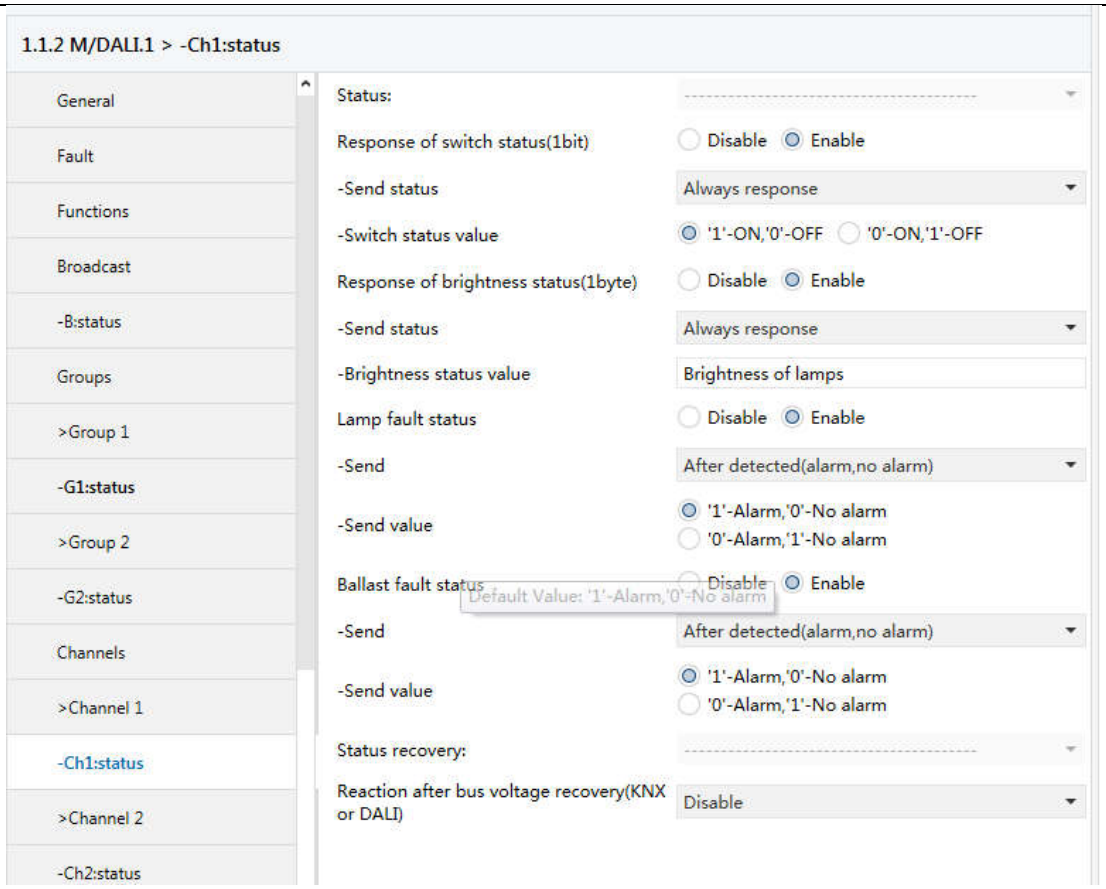


No.	ETS-Parameter	Range (default)	Description
63	Channel 1 Name	Channel 1	*The name of channel 1.*
64	Address of device	A0 … A63	*Set the device address.*
65	Brightness value when switch ON	Last brightness 0%(0-OFF) 1% 2% …. 100%(255)	*Select the lighting intensity when switched on.* Last brightness- The last lighting intensity setting is used. Switch ON brightness- The lighting group uses a pre-set percentage 0%-99%. *100%- All devices are fully switched on.*
66	Permit be turned on via relative dimming telegram	NO YES	*Define if relative dimming is to be permitted or not.* *Yes: Permitted* *No: Forbidden*

67	Switching ON(1 bit): time for reach switch on	Immediate 0.7s 1.0s …. 90.5s	*Set the time switch activation period, after a switch on telegram has been received.* *Immediate: All devices will switch on immediately when the switch ON telegram is received.* *0.7s-90.5s: When the time has elapsed, the lighting intensity will raise from 0% to the switch on value.*
68	Switching OFF(1 bit): time for reach switch off	Immediate 0.7s 1.0s …. 90.5s	*Immediate: All devices will switch off immediately when the switch OFF telegram is received.* *0.7s-90.5s: When the time has elapsed, the lighting intensity will dim until the lighting is turned off.*
69	Relative dimming(4bits):time for 0..100%	0.7s 1.0s …. 90.5s	*0.7s-90.5s: When the time has elapsed, the lighting intensity will raise from 0% to the switch on value.*
70	Absolute dimming(4bits):time for 0..100%	Immediate 0.7s 1.0s …. 90.5s	*Immediate: All devices will switch on immediately when the switch ON telegram is received.* *When the set time has elapsed, the light intensity will raise from 0% to the switch on value.*
Mode			
	Operation mode	-Disable -Enable	
	-Energy saving mode	-On -Yes	
	->Value in energy saving mode	-0%(0) ...	

		-100%(255)	
	-Night mode	-On -Yes	
	->Delay in night mode (0.255min)	-0...255	
	->Value in night mode	-0%(0) ... -100%(255)	

3.2.2_Ch1:Status



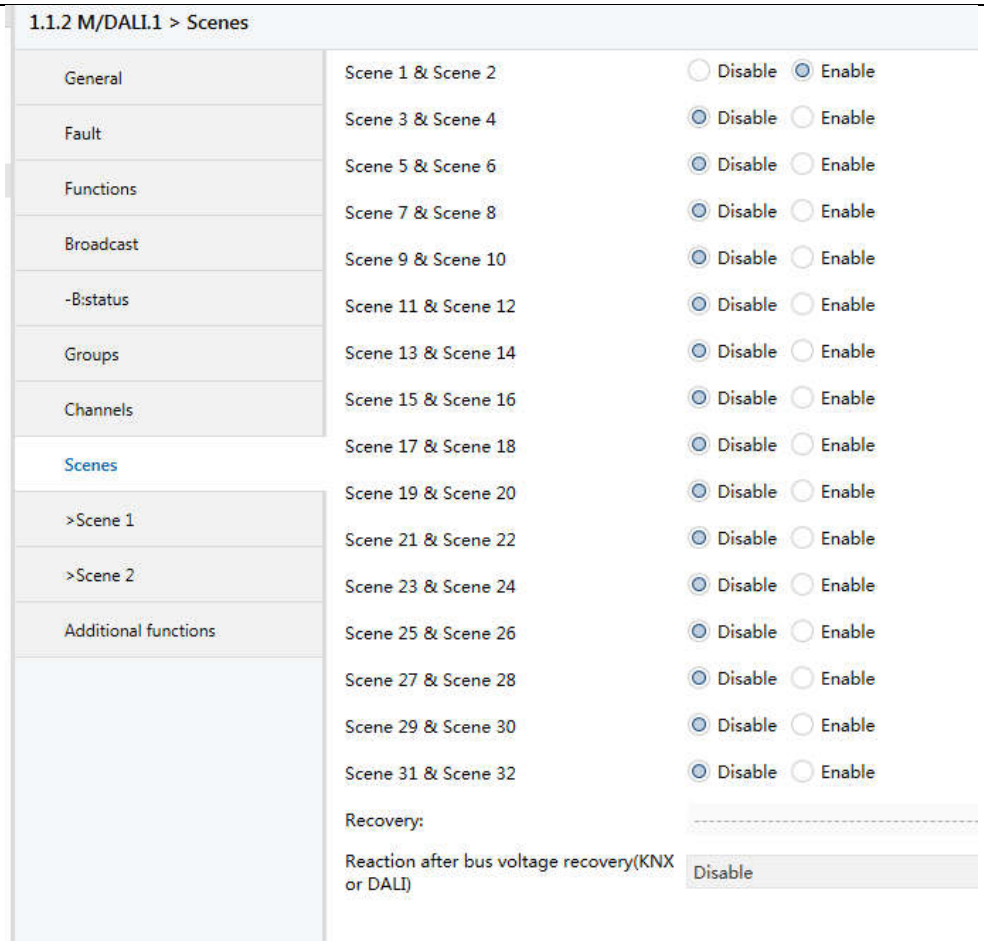
No.	ETS-Parameter	Range (default)	Description
72	Response of switch status(1 bit)	Disable Enable	*Enable or disable the switch status to respond to the KNX bus.*

	-Send status	-Always response -After changed -After requested	*Select when a telegram is to be sent to the KNX bus.* *Always response: A telegram will be sent to the KNX bus regardless of if a change has been made to the switch or not.* *After changed: A telegram will only be sent to the KNX bus after a modification has been made to the switch.* *After requested: A telegram will only be sent to the KNX bus after requested by other device.*
	-Switch status value	-'1'- ON, '0'-OFF -'0'- ON, '1'-OFF	*Define the telegram that sent to the bus.* *ON and OFF are lamps status.*
	Response of brightness status(1 byte)	-Disable -Enable	*Enable or disable the KNX bus to respond to the lighting intensity level.*
	-Send status	-Always response -After changed -After requested	*Select when a telegram is to be sent to the KNX bus.* *Always response: A telegram will be sent to the KNX bus regardless of if a change has been made to the switch or not.* *After changed: A telegram will only be sent to the KNX bus after a modification has been made to the switch.* *After requested: A telegram will only be sent to the KNX bus after requested by other device.*
	-Brightness status value	Average brightness of lamps Lowest brightness of lamps Highest brightness off	*Select which lamp brightness value is sent to the KNX output status.* *Average- The average value of all DALI devices is sent to the*

		lamps	*KNX output status.* *Lowest- The lowest value of all DALI devices is sent to the KNX output status.* *Highest- The highest value of all DALI devices is sent to the KNX output status.*
	Lamp fault status	-Disable -Enable	*If you select enable, it will detect the lamp status and send the value to the bus.*
	-Send	-After detected (alarm, no alarm) -After detected (only alarm) -After detected & changed	*Alarm: lamp is fault.* *No alarm: lamp works well.* *After detected (alarm, no alarm): whether the lamp status is fault or not ,it will send the value to the bus.* *After detected (only alarm): it will send the value when the lamp is fault.* *After detected & changed: it will send the value when the lamp's state is changed.*
	-Send value	-'1'-Alarm, '0'-No alarm -'0'-Alarm, '1'-No alarm	*Set the value that send to the bus.*
	Ballast fault status	-Disable -Enable	*If you select enable, it will detect the ballast status and send the value to the bus.*
	-Send	-After detected (alarm, no alarm) -After detected (only alarm) -After detected & changed	*Alarm: ballast is fault.* *No alarm: ballast works well.* *After detected (alarm, no alarm): whether the ballast status is fault or not ,it will send the value to the bus.* *After detected (only alarm): it will send the value when the ballast is fault.*

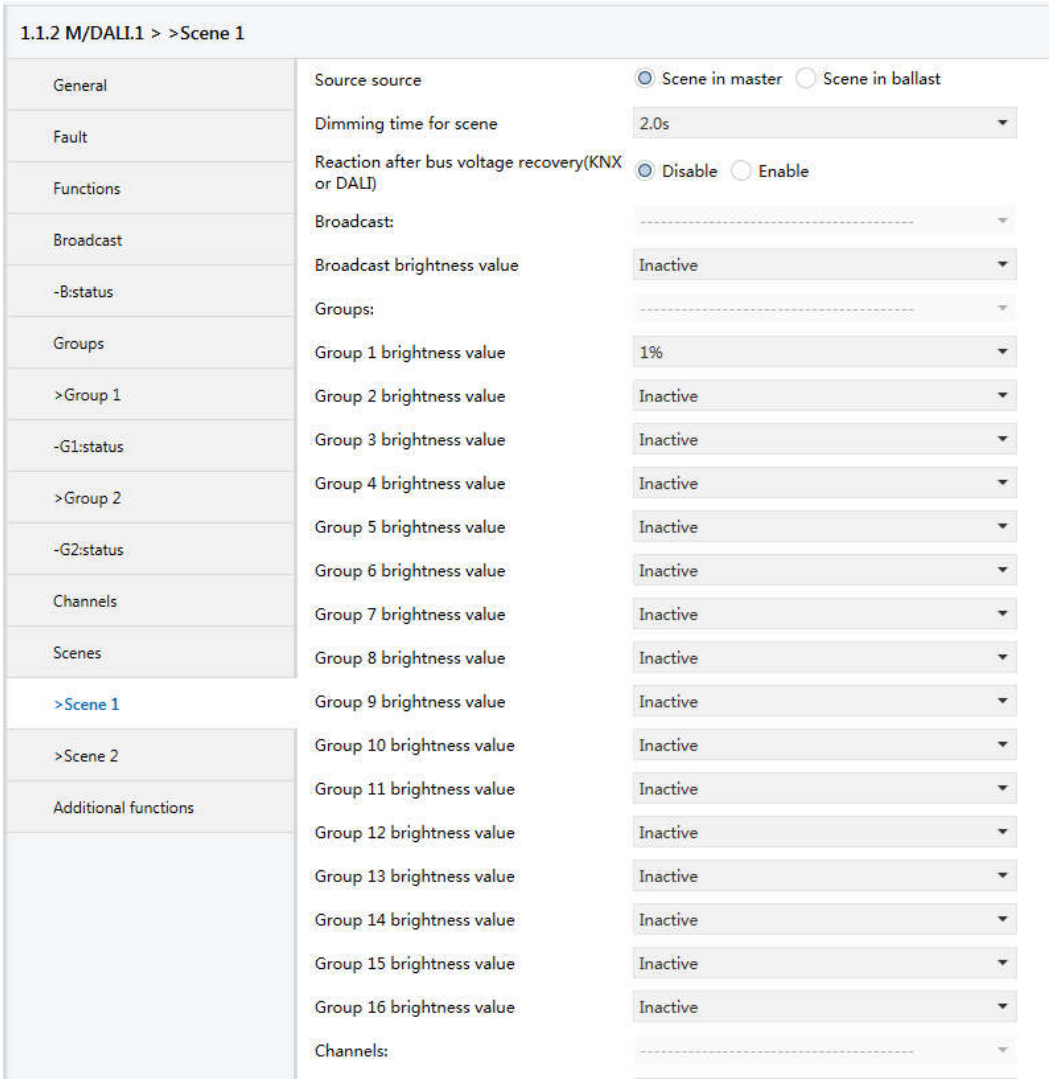
			After detected & changed: it will send the value when the ballast's state is changed.
	-Send value	-'1'-Alarm, '0'-No alarm -'0'-Alarm, '1'-No alarm	*Set the value that send to the bus.*
Status recovery			
	Reaction when bus voltage recovery(KNX or DALI)	Disable Last brightness Switch ON brightness 0%(0-OFF) 1% 2% …. 100%(255)	*Select the lighting intensity when the bus is in voltage recovery mode.* Last brightness- The last lighting intensity setting is used. Switch ON brightness- The lighting group uses a pre-set percentage 0%-99%. *100%- All DALI devices are fully switched on.*

3.4_Scene



No.	ETS-Parameter	Range (default)	Description
	Scene 1 & Scene 2	-Disable -Enable	*Enable or disable scenes 1 & 2.*
	…		
	Scene 31 & Scene 32	-Disable -Enable	*Enable or disable scenes 31 & 32.*
Recovery			
	Reaction after bus voltage recovery (KNX or Dali)	Disable Last scene Scene NO.1 … Scene NO.32	*Define which scene is to be activated when the bus is in voltage recovery mode.*

3.4.1_Scene 1

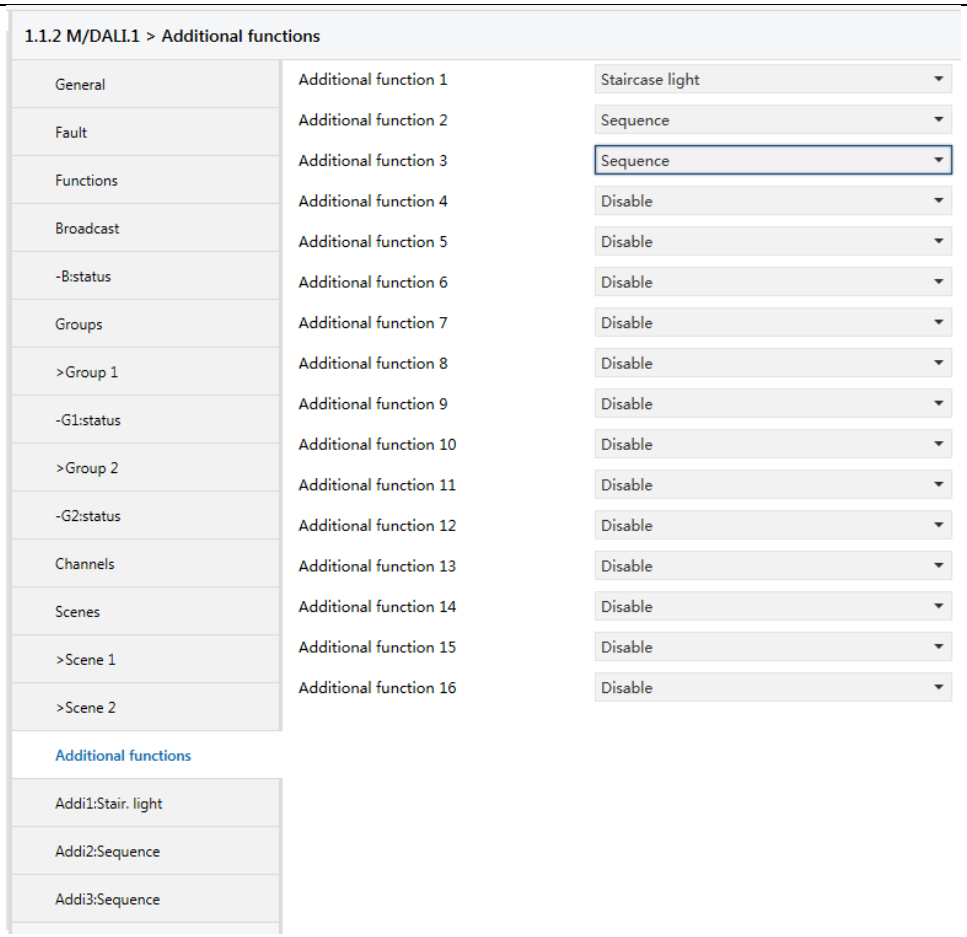


No.	ETS-Parameter	Range (default)	Description
	Scene source	-Scene in master -Scene in ballast	*Set the source of the scene, DALI master or ballast.*
82	Dimming time for scene	Immediate 0.7s 1.0s	*Set the dimming time for scenes.* *Immediate: The scene will immediately activate with the pre-set scene lightning intensity*

		…. 90.5s Same dimming time of group or channel	*when the switch ON telegram is received.* *0.7s-90.5s: When the time has elapsed, the scene will activate with the pre-set scene lightning intensity.*
83	Reaction after bus voltage Recovery(KNX or DALI)	-Disable -Enable	*Enable or disable scenes when the bus is in voltage recovery mode.*
	Broadcast brightness value	-Inactive -0%(0) -1% -2% …. -100%(255)	*Set the brightness value for broadcast.*
	Groups:		
84	Group 1 brightness value	Inactive 0%(0) 1% 2% …. 100%(255)	*Defines the group 1 brightness value when a scene is recalled (Group 1 belongs to the scene).*
	…		
85	Group 16 brightness value	Inactive 0%(0) 1% 2% …. 100%(255)	*The same as Group 1.*

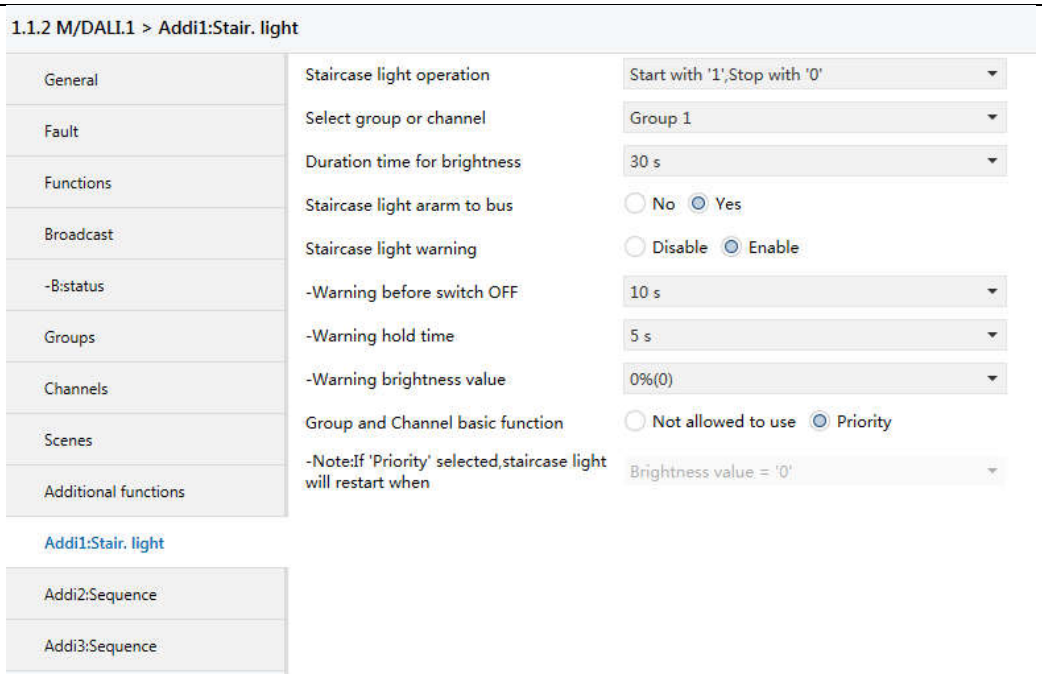
Channel			
86	Channel 1 brightness value	Inactive 0%(0) 1% 2% …. 100%(255)	*Defines the channel 1 brightness value when a scene is recalled (channel 1 belongs to the scene).*
	…	…	
87	Channel 64 brightness value	Inactive 0%(0) 1% 2% …. 100%(255)	*Same as channel 1*

3.5.1_Additional functions



No.	ETS-Parameter	Range (default)	Description
88	Additional function1 … Additional function16	-Disable -Staircase light -Sequence -Emergency light	*Set one of three additional functions, or disable the additional functions.*

3.5.1_Addi1:Stair.light

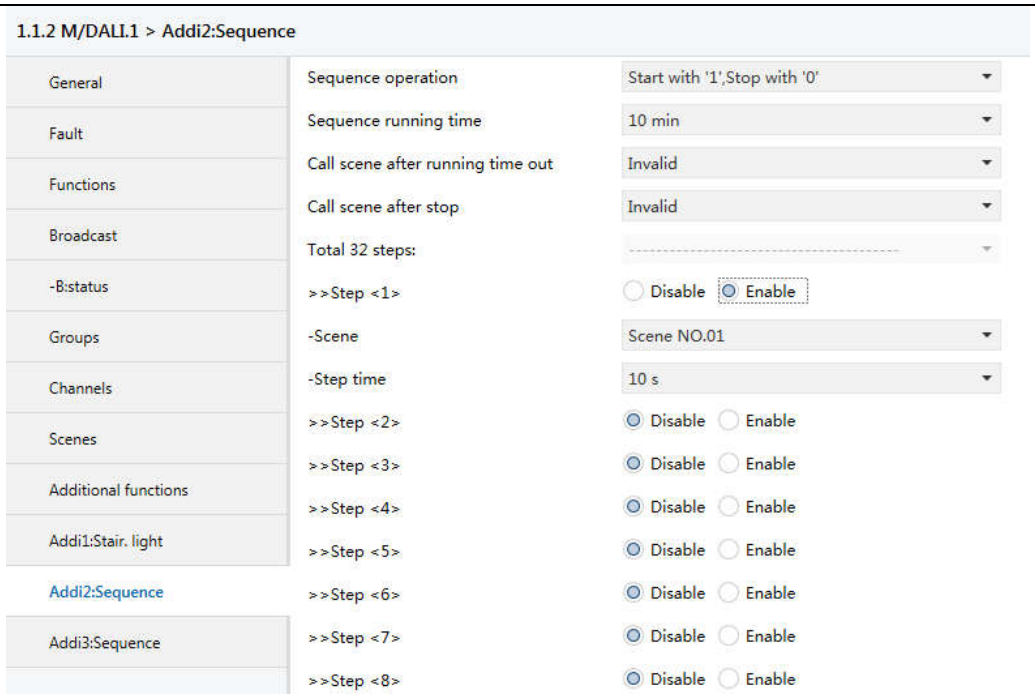


No.	ETS-Parameter	Range (default)	Description
89	Staircase light operation	Start with’1’, Stop with’0’ Start with’0’, Stop with’1’ Start with’1/0’, Can’t stop	*Set the staircase lighting activation and deactivation parameters.* Start with’1’, Stop with’0’-The stair case lighting will activate when telegram ’1’ is received and deactivate when telegram ’0’ is received. Start with’0’, Stop with’1’- The stair case lighting will activate when telegram ’0’ is received and deactivate when telegram ’1’ is received. Start with’1/0’, Can’t stop- The stair case lighting will activate when telegram ’1’ or ’0’ is received and continue operating.

90	Select group or channel	-Group1 … Group 16 Channel 1 … Channel 24	*Select which group or channel is to be used for staircase lighting.*
91	Duration time for brightness	10S 15S 20S … 24h	*Define how much time will elapse for the staircase lighting to reach its pre-set brightness level.*
	Staircase light alarm to bus	-No -Yes	*Whether alarm to bus when start the staircase light.*
92	Staircase light warning	Disable Enable	*Enable or disable the staircase lighting warning function.* *If enabled, a warning will be issued before the staircase lighting is deactivated*
93	-Warning before switch OFF	5s 10s 15s …. 30min	*Define how long time will elapse before an alarm is triggered and the staircase lighting is deactivated.*
94	-Warning hold time	1s 2s 3s … 30s	*Define how long the warning state will last. After the time has elapsed, the staircase lighting will return to its first brightness value.*

95	Warning brightness value	0%(0) 1% 2% …. 100%(255)	*Define the value of the warning brightness.*
96	Group and Channel basic function	-Not allowed to use -Priority	*Set if the group channels and basic functions are a priority or not.*
	-Note: If 'priority' selected, staircase light will restart when	Brightness value='0'	*You need not set this parameter.*

3.5.2_Addi2:Sequence

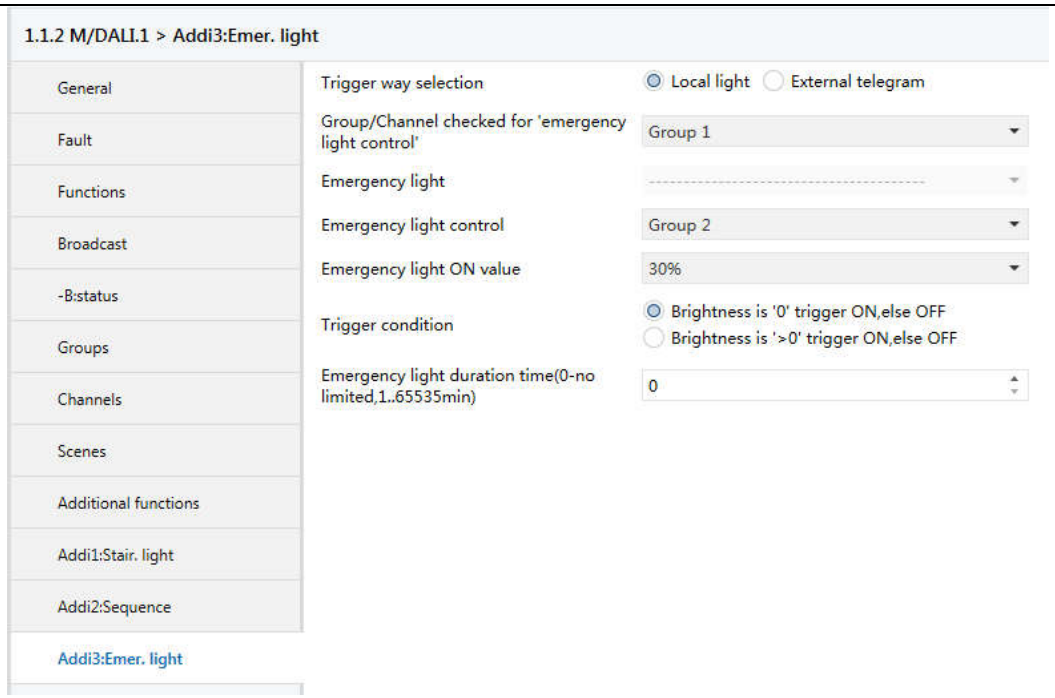


No.	ETS-Parameter	Range (default)	Description
97	Sequence operation	-Start with'1', Stop with'0' -Start with'0', Stop with'1' -Start with'1/0', Can't	*Set the sequence activation and deactivation parameters.* Start with'1', Stop with'0'-The *sequence* will activate when

		stop	telegram ’1’ is received and deactivate when telegram ’0’ is received. Start with’0’, Stop with’1’- The *sequence* will activate when telegram ’0’ is received and deactivate when telegram ’1’ is received. Start with’1/0’, Can’t stop- The *sequence* will activate when telegram ‘1’ or ’0’ is received and continue operating.
98	Sequence running time	-One time -Unlimited -User-defined -1 min … -24h	*Define how long the sequence will run.*
99	Call scene after running time out	-Invalid -Scene NO.01 … -Scene NO.32	*Define which scene will be activated after a scene times out.*
100	Call scene after stop	-Invalid -Scene NO.01 … -Scene NO.32	*Define which scene will be activated after a scene is manually deactivated.*
	Total 32 steps		
101	>>Step<1>	-Disable -Enable	*Enable or disable the step<1> function.*
102	-Scene	-Scene NO.01 -Scene NO.02	*Parameters can be set which determine which scene is used in step 1 of the sequence.*

		…. Scene NO.32	*A single scene can be assigned to several sequence stages.*
103	-Step time	5s 10s … 24h	*Define the running time of each step.*
	Others		

3.5.3_Addi3: Emer. Light



No.	ETS-Parameter	Range (default)	Description
104	Trigger way selection	-Local light -External telegram	*Define which emergency light is activated.*
105	Group/Channel checked for emergency light control	Group 1 Group 2 … Group 16	*Choose the emergency lighting group or channel.*

		Channel 1 Channel 2 … Channel 24	
Emergency light			
106	Emergency light control	Group 1 Group 2 … Group 16 Channel 1 Channel 2 … Channel 24	*Define which group or channel is controlled.*
	Emergency light ON value	-0%(0) ... -100%(255)	*Set the emergency ling value when enable this function.*
107	Start condition	Telegram value'0' trigger ON, else OFF Telegram value'1' trigger ON, else OFF	*Select the emergency lighting start conditions.* *Whentelegram'0' is received, the emergency light will be on, if telegram'0' is not received the emergency light will be off.* *When telegram'1' is received, the emergency light will be on, if telegram'1' is not received the emergency light will be off.*
108	Emergency light duration time(0-nolimited,1..65535min)	0…65535	*Define how long the emergency lighting period will last.*

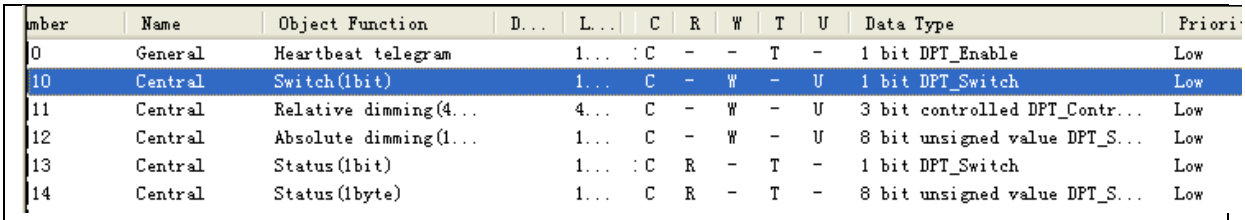
D. Communication objects

Object “General” and enable of “Fault”

Number	Name	Object Function	Descri	Gr	Length	C	R	W	T	U	Data Type	Priority
1	General	Heartbeat telegram			1 bit	C	R	-	T	-	boolean	Low
2	Operation mode	Energy saving mode			1 bit	C	-	W	-	-	start/stop	Low
3	Operation mode	Night mode			1 bit	C	-	W	-	-	start/stop	Low
5	Fault	Manual detect all bal...			1 bit	C	-	W	-	-	start/stop	Low
6	Fault	Address of fault ball...			1 byte	C	R	-	T	-	counter pulses (0..255)	Low
7	Fault	Number of fault ball...			1 byte	C	R	-	T	-	counter pulses (0..255)	Low
8	Fault	DALI bus fault			1 bit	C	R	-	T	-	alarm	Low

NO.	Object name	Function	Flags	Data type
1	General	Heartbeat telegram	C R T	DPT 1.003 1bit
2	Operation mode	Energy saving mode	C W	DPT 1.010 1bit
3	Operation mode	Night mode	C W	DPT 1.010 1bit
The communication objects are used for operation mode.				
4	Null			
5	Fault	Manual detect all ballasts	C W	DPT 1.010 1bit
6	Fault	Address of fault ballast	C R T	DPT 5.010 1byte
7	Fault	Number of fault ballast	C R T	DPT 5.010 1byte
8	Fault	DALI bus fault	C R T	DPT 1.005 1bit
Use these communication objects of a lamp fault can be sent or read.				

Objects Combination controller



mber	Name	Object Function	D...	L...	C	R	W	T	U	Data Type	Priori
0	General	Heartbeat telegram		1...	C	-	-	T	-	1 bit DPT_Enable	Low
10	Central	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
11	Central	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
12	Central	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
13	Central	Status(1bit)		1...	C	R	-	T	-	1 bit DPT_Switch	Low
14	Central	Status(1byte)		1...	C	R	-	T	-	8 bit unsigned value DPT_S...	Low

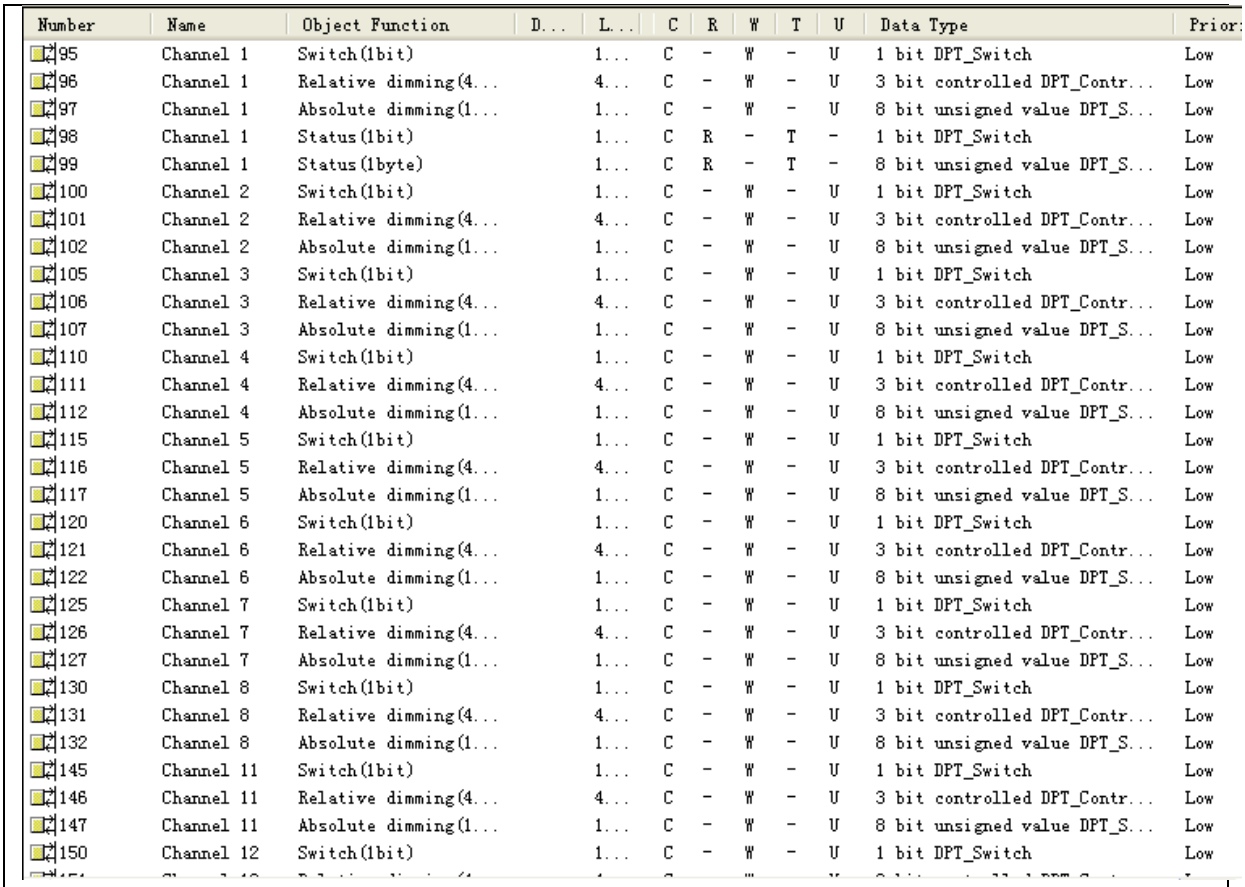
NO.	Object	Function	Flags	Data type
10 **…** **14**	central	Switch(1bit)	C W U	DPT 1.001 1 bit
		Relative dimming(4bits)	C W U	DPT 3.007 4 bit
		Absolute dimming(1byte)	C W U	DPT 5.001 1 byte
		Status(1bit)	C R T	DPT 1.001 1 bit
		Status(1byte)	C R T	DPT 5.001 1 byte
The communication objects are used for combination control. They are able to control switches, shutters, scenes, sequences, percentages, thresholds, and 14 byte strings. When the dry contact is long pressed, a value will be sent to the BUS, enabling control of a diverse range of devices.				

Objects Group controller

Number	Name	Object Function	D...	L...	C	R	W	T	U	Data Type	I
15	Group 1	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L
16	Group 1	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	L
17	Group 1	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	L
18	Group 1	Status(1bit)		1...	C	R	-	T	-	1 bit DPT_Switch	L
19	Group 1	Status(1byte)		1...	C	R	-	T	-	8 bit unsigned value DPT_S...	L
20	Group 2	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L
21	Group 2	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	L
22	Group 2	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	L
25	Group 3	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L
26	Group 3	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	L
27	Group 3	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	L
30	Group 4	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L
31	Group 4	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	L
32	Group 4	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	L
35	Group 5	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L
36	Group 5	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	L
37	Group 5	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	L
40	Group 6	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L
41	Group 6	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	L
42	Group 6	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	L
45	Group 7	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L
46	Group 7	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	L
47	Group 7	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	L
50	Group 8	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L
51	Group 8	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	L
52	Group 8	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	L
55	Group 9	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L
56	Group 9	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	L
57	Group 9	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	L
60	Group 10	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	L

NO.	Object	Function	Flags	Data type
15 **…** **94**	Group N	Switch(1bit)	C W U	DPT 1.001 1 bit
		Relative dimming(4bits)	C W U	DPT 3.007 4 bit
		Absolute dimming(1byte)	C W U	DPT 5.001 1 byte
		Status(1bit)	C R T	DPT 1.001 1 bit
		Status(1byte)	C R T	DPT 5.001 1 byte
Communication objects for lighting groups N.				

Objects Channel



Number	Name	Object Function	D...	L...	C	R	W	T	U	Data Type	Prior
95	Channel 1	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
96	Channel 1	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
97	Channel 1	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
98	Channel 1	Status(1bit)		1...	C	R	-	T	-	1 bit DPT_Switch	Low
99	Channel 1	Status(1byte)		1...	C	R	-	T	-	8 bit unsigned value DPT_S...	Low
100	Channel 2	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
101	Channel 2	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
102	Channel 2	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
105	Channel 3	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
106	Channel 3	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
107	Channel 3	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
110	Channel 4	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
111	Channel 4	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
112	Channel 4	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
115	Channel 5	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
116	Channel 5	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
117	Channel 5	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
120	Channel 6	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
121	Channel 6	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
122	Channel 6	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
125	Channel 7	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
126	Channel 7	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
127	Channel 7	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
130	Channel 8	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
131	Channel 8	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
132	Channel 8	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
145	Channel 11	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low
146	Channel 11	Relative dimming(4...		4...	C	-	W	-	U	3 bit controlled DPT_Contr...	Low
147	Channel 11	Absolute dimming(1...		1...	C	-	W	-	U	8 bit unsigned value DPT_S...	Low
150	Channel 12	Switch(1bit)		1...	C	-	W	-	U	1 bit DPT_Switch	Low

NO.	Object	Function	Flags	Data type
95 **…** **214**	Channel N	Switch(1bit)	C W U	DPT 1.001 1 bit
		Relative dimming(4bits)	C W U	DPT 3.007 4 bit
		Absolute dimming(1byte)	C W U	DPT 5.001 1 byte
		Status(1bit)	C R T	DPT 1.001 1 bit
		Status(1byte)	C R T	DPT 5.001 1 byte
Communication objects for lighting channel N.				

Objects Scene

Number	Name	Object Function	D...	L...	C	R	W	T	U	Data Type	Pri
215	Scene 1..32	Call scene(1byte)		1...	C	-	W	-	U		Low
216	Scene 1/2	'0'-Scene 1 / '1'-...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
217	Scene 3/4	'0'-Scene 3 / '1'-...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
218	Scene 5/6	'0'-Scene 5 / '1'-...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
219	Scene 7/8	'0'-Scene 7 / '1'-...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
220	Scene 9/10	'0'-Scene 9 / '1'-...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
221	Scene 11/12	'0'-Scene 11 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
222	Scene 13/14	'0'-Scene 13 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
223	Scene 15/16	'0'-Scene 15 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
224	Scene 17/18	'0'-Scene 17 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
225	Scene 19/20	'0'-Scene 19 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
226	Scene 21/22	'0'-Scene 21 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
227	Scene 23/24	'0'-Scene 23 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
228	Scene 25/26	'0'-Scene 25 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
229	Scene 27/28	'0'-Scene 27 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
230	Scene 29/30	'0'-Scene 29 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low
231	Scene 31/32	'0'-Scene 31 / '1'...		1...	C	-	W	-	U	1 bit DPT_Switch	Low

NO.	Object	Function	Flags	Data type
215 **…** **231**	Scene N	Switch(1bit)	C W U	DPT 1.001 1 bit
		Relative dimming(4bits)	C W U	DPT 3.007 4 bit
		Absolute dimming(1byte)	C W U	DPT 5.001 1 byte
		Status(1bit)	C R T	DPT 1.001 1 bit
		Status(1byte)	C R T	DPT 5.001 1 byte

Communication objects for lighting scene N.

Objects Additional function

232	Additiona...	Staircase light		1...	C	-	W	-	U	1 bit DPT_Switch	L
233	Additiona...	Sequence		1...	C	-	W	-	U	1 bit DPT_Start	L
234	Additiona...	Emergency light		1...	C	-	W	-	U	1 bit DPT_Switch	L

NO.	Object	Function	Flags	Data type
232 **…** **247**	Additional function N	Staircase light	C W U	DPT 1.001 1 bit
		Sequence	C W U	DPT 1.010 1 bit

		Emergency light	C W U	DPT 1.001 1 byte
The information shown above details the communication objects and the additional N lighting functions.				

Objects, DALI Mange												
252	DALI Manage	Request string	1...	: C	-	W	-	-	Character string DPT_Strin...	Lo
253	DALI Manage	Response string	1...	: C	-	-	T	-	Character string DPT_Strin...	Lo

NO.	Object	Function	Flags	Data type
252 **…** **253**	DALI Mange	Request string	C W U	DPT 1.001 1 bit
		Response string	C W U	DPT 1.010 1 bit
The above communication objects are used for assistant software and group management.				

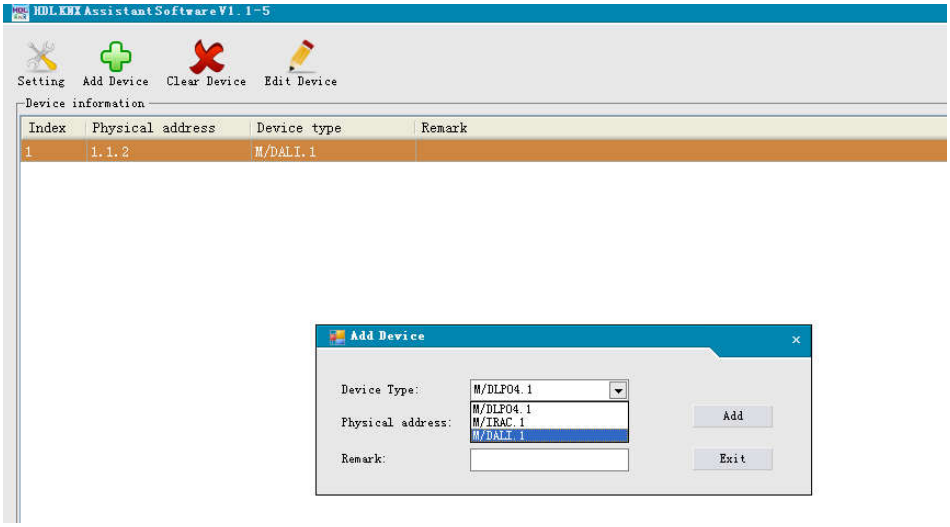
E. Using the assistant software to set DALI groups

1) Install the software

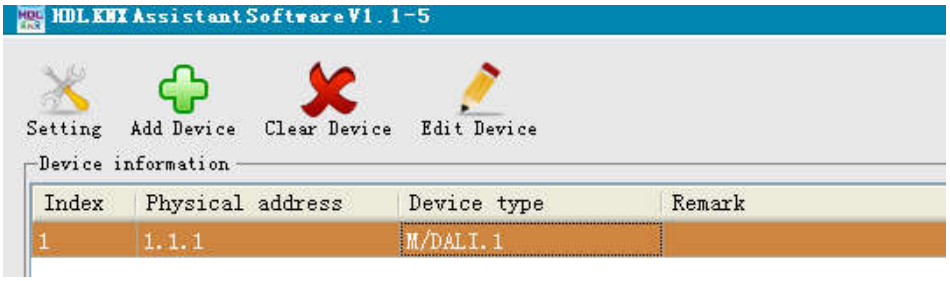
2) To add a device

Main form->Add device->M/DALI.1->set physical address and remark->Add

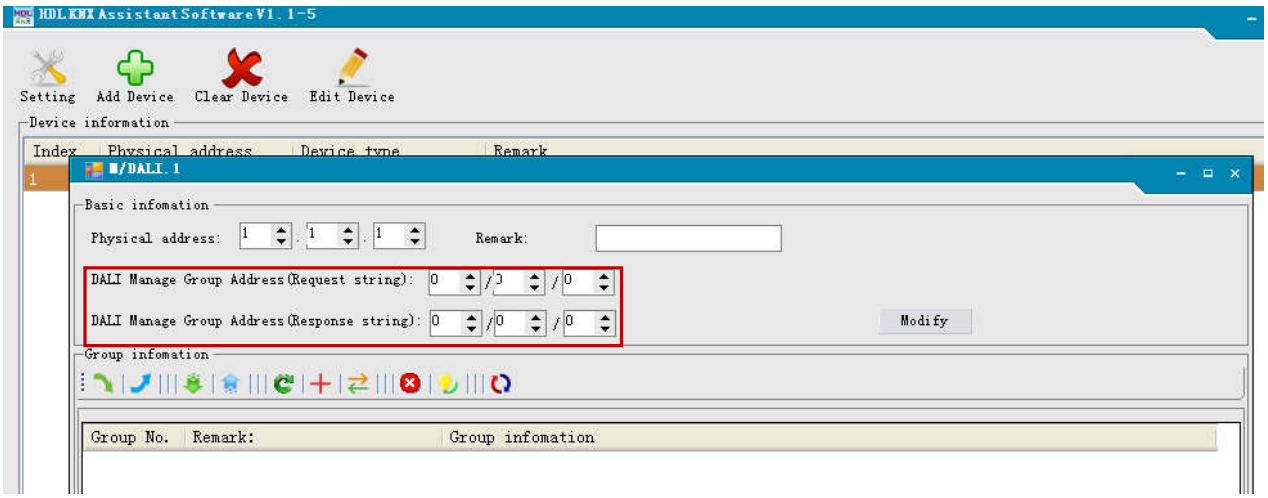
OK.



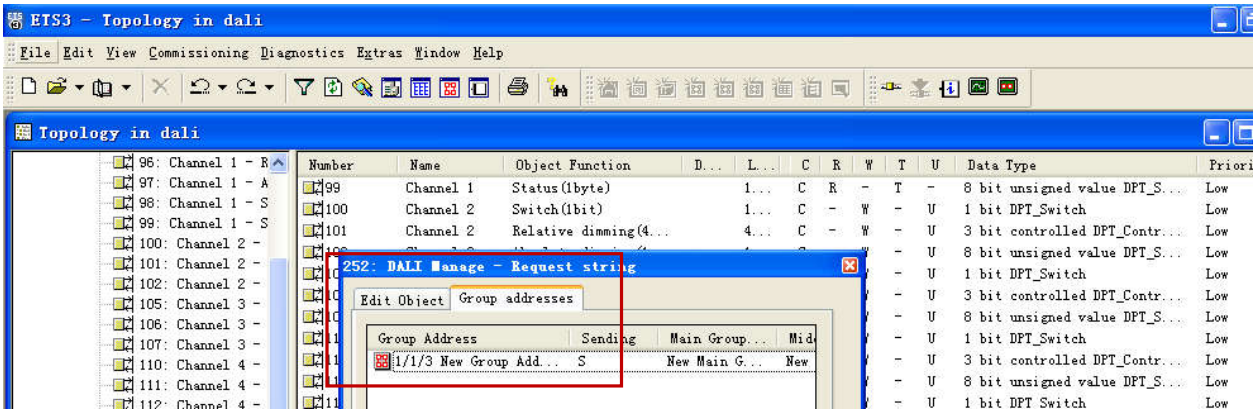
Add the result:



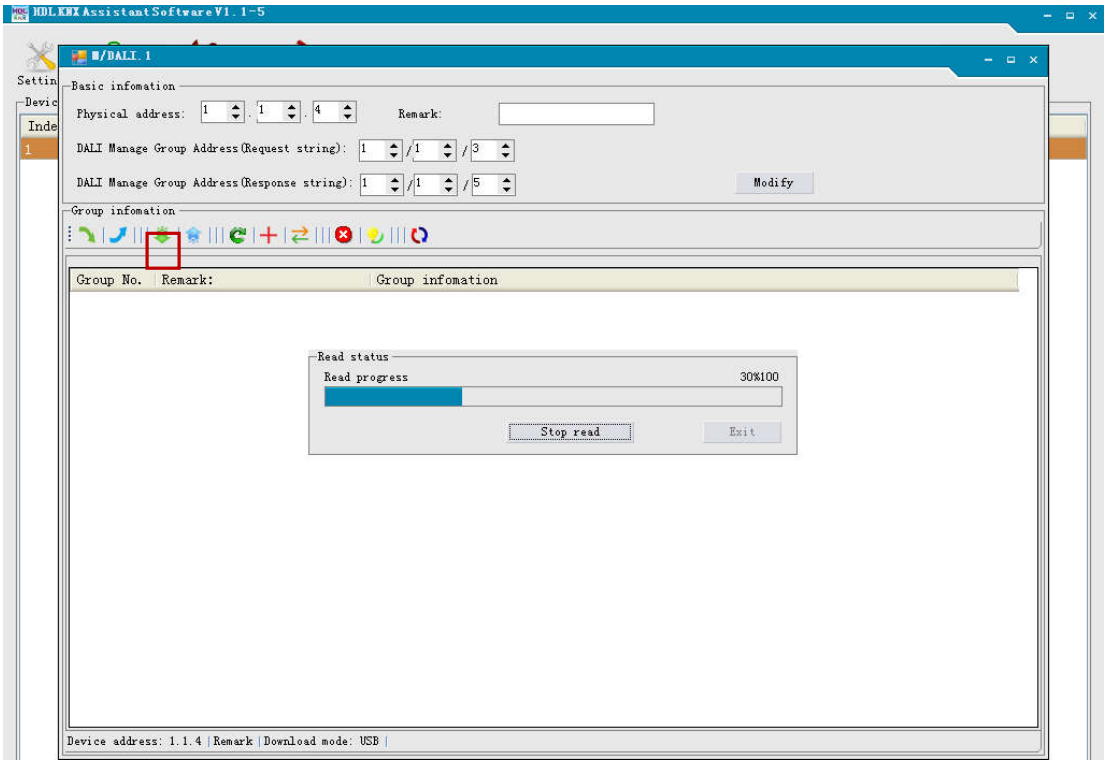
3) Input the DALI Management Group Addresses



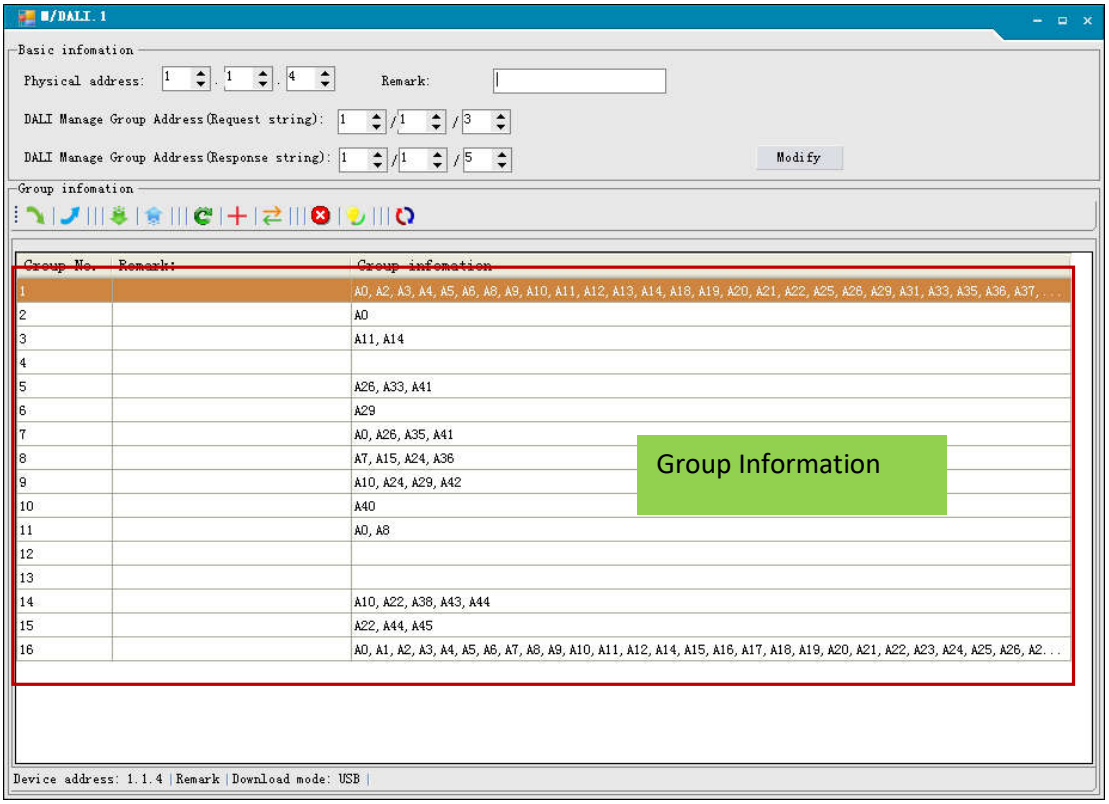
Thegroup addresses are set as object 253 and object 254.



4) Read the group information



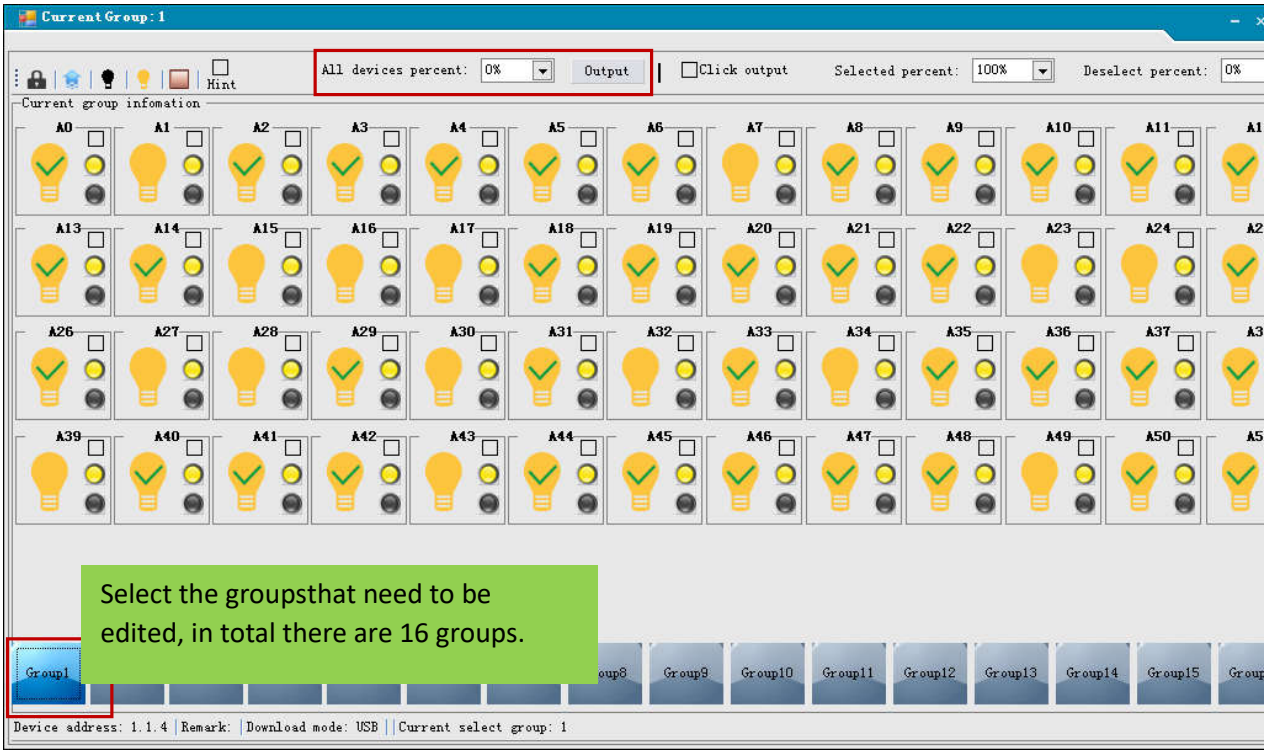
Group information:



DALI devices will be random assigned when the information is first read.

- **Manage Group**

Double click; it will enter into edit window:Double click what????



Interface Functions:

Lock the form: If the lock icon is clicked, the interface cannot be edited.

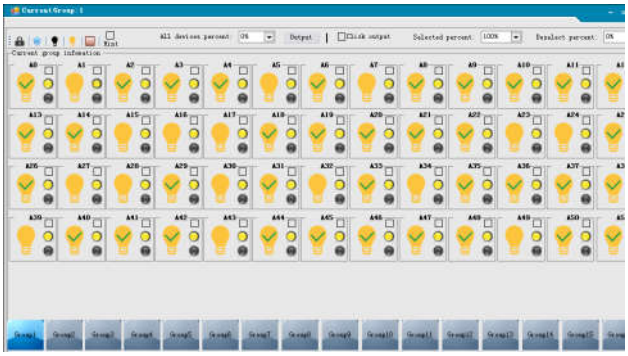
Click the lock icon again , to enable editing.

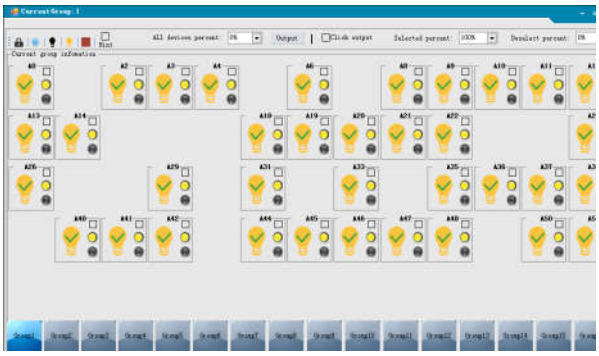
Writer current group info: After editing, clicking this button will write the current information group to the DALI device.

Current group off: Clicking this button will turn the devices in the current group off.

Current group on: Clicking this button will turn the devices in the current group on.

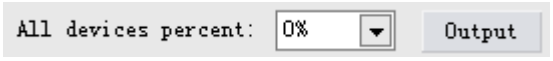
Only show selected devices: Clicking this button will only show selected devices.





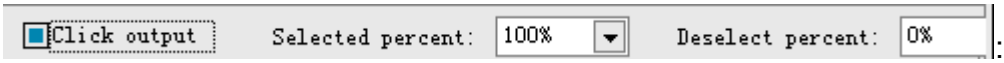
If the hint button is selected a remark will be shown when the curser is hovered over a device.

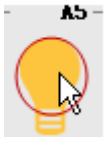
For example: 

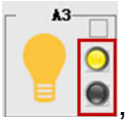


: Select percentage, then click “output”, all the devices will now run at the selected brightness.

- **Ensure that all the DALI device addresses are added**



: If the click output function is selected, it enables the devices to be controlled via clicking on them. To enable this, the percentage must be selected first. For example: 

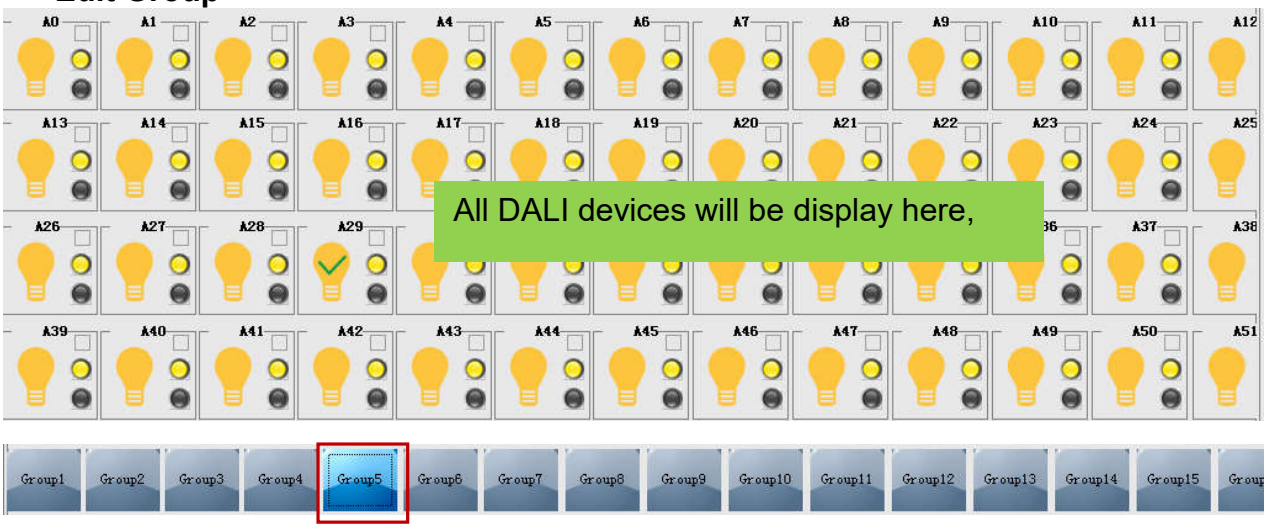
If the click output is not selected, you can control a device like this, 

, when the light is turned on or off the lights address will be shown.

- **Address exchange**

The situation may arise when two devices need to exchange addresses. To enable this, select the devices as shown below left, and then right click and choose ‘Exchange Address’. Click ‘Sure’, to confirm the device address exchange.

- **Edit Group**



There are 16 groups, when you have selected the group you wish to modify, choose from one of the devices immediately above the group list. In the above example group 5 has been selected with device A29.

5) Upload the settings

After the modifications have been made, clicking the upload button (shown above in the red rectangle) will write the parameters into the DALI Module.

--- End of Document ---