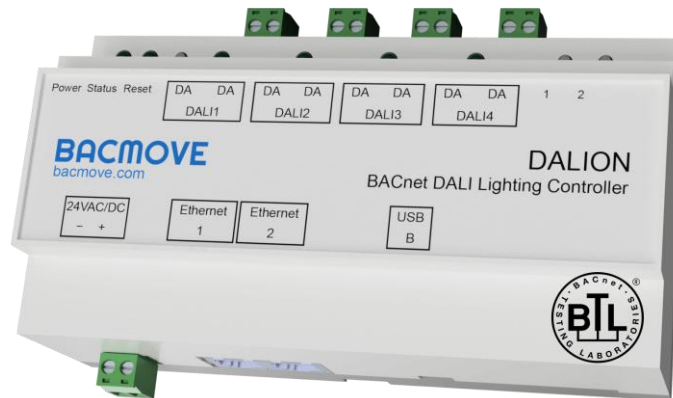


User Manual

Version 2.61.3



© 2026 TECHNOLOGIES BACMOVE INC. All rights reserved.

R20260909.0537

This information can be modified without notice.

Table of Contents

1 DALION	13
2 Introduction	14
2.1 Related documents	14
2.2 List of abbreviations	15
2.3 Specifications	15
2.4 Software Specifications	16
2.5 DALI Types Supported	17
2.6 BACnet Objects	18
2.7 BACnet Services	18
2.7.1 COV (Change of Value)	19
2.7.2 BIBB (BACnet INTEROPERABILITY BUILDING BLOCKS)	20
2.8 Ordering information	20
3 Hardware Installation	21
3.1 Warnings	21
3.1.1 RISK OF ELECTRIC SHOCK	21
3.2 Dimension	21
3.3 Connectors	22
3.4 Power	23
3.5 LEDs Indicators	23
3.5.1 Power supply	23
3.5.2 System status	23
3.5.3 DALI channels	24
3.5.4 RS-485	24
3.5.5 Ethernet	24
3.6 Installation	24
3.7 DALI wiring	25
4 Web User Interface - Overview	26
5 Web User Interface - Responsive	27
5.1 Responsive Web Interface	27
6 Web User Interface - Login	28
6.1 Login	28

7	Web User Interface - Home	29
7.1	Home	29
7.1.1	General Information.....	29
7.1.2	DALI Status	29
7.1.3	Rooms Occupancy	30
7.1.4	Schedules Status	30
7.1.5	Interfaces Status	30
8	Web User Interface - Settings.....	31
8.1	Settings.....	31
8.1.1	System	31
8.1.2	Date Time	31
8.1.3	Location and language	33
8.1.4	Network IP	34
8.1.5	BACnet/IP	35
8.1.6	DALI	38
8.1.7	Network Control (sACN / Art-Net / Modbus TCP)	39
8.1.8	BAS Communication Timeout	42
8.1.9	Network IP - Remote Capture	43
8.1.10	Syslog Client	44
8.1.11	Backup / Restore.....	45
8.1.12	Reboot	45
8.1.13	Reset Commissioning	45
8.1.14	Factory Default.....	45
9	Web User Interface - DALI Commissioning	46
9.1	DALI Commissioning	46
9.1.1	Lamps	46
9.1.2	Lamp Parameters.....	46
9.1.3	Emergency Parameters.....	49
9.1.4	Colour Parameters	50
9.1.5	Colour Picker.....	51
9.1.6	Groups	55
9.1.7	Group Parameters.....	55
9.1.8	Groups 0-7 / 8-15	58
9.1.9	Scenes	59

9.1.10	Scenes Control.....	59
9.1.11	Scenes 0-7 / 8-15.....	60
9.1.12	Memory Bank.....	61
9.1.13	Inputs.....	61
9.1.14	Addition of DALI devices.....	76
9.1.15	Unassigned Devices.....	77
9.1.16	Assignment.....	77
9.1.17	Replace Offline Device.....	78
10	Web User Interface - Automation.....	79
10.1	Automation.....	79
10.1.1	Data Points.....	79
10.1.2	Schedules.....	79
10.1.3	Room Light Control.....	84
10.1.4	Room Light Control Profiles.....	92
10.1.5	Dynamic Color Recipes.....	95
10.1.6	Views.....	97
10.1.7	Remote Link.....	97
10.1.8	Energy Usage Accumulated.....	102
11	Web User Interface - Commissioning Report.....	105
11.1	Commissioning Report.....	105
11.1.1	Commissioning Report.....	105
11.1.2	Lamps Report.....	105
12	Web User Interface - Statistics.....	106
12.1	Statistics.....	106
12.1.1	System Log.....	106
12.1.2	DALI.....	106
12.1.3	DALI protocol analyzer.....	107
12.1.4	BACnet/IP.....	108
12.1.5	BACnet Active COV Subscriptions.....	108
12.1.6	RLC Event History.....	108
12.1.7	Network Control (sACN / Art-Net / Modbus TCP).....	109
12.1.8	IP.....	110
12.1.9	TCP.....	110
12.1.10	UDP.....	111

12.1.11 ARP	111
12.1.12 ICMP	111
12.1.13 ARP Table.....	111
12.1.14 IP Memory.....	111
12.1.15 Ethernet	111
12.1.16 General	111
12.1.17 System Tasks.....	111
12.1.18 File System	111
13 BACnet Interface - Overview	112
14 BACnet Interface - Device Object	113
14.1 Device Object	113
15 BACnet Interface - Network Port Object.....	116
15.1 Network Port Object.....	116
16 BACnet Interface - Analog Output Object - Control of Lamp, Group, and Channel.....	117
16.1 Analog Output Object - Control of Lamp, Group, and Channel	117
16.1.1 Lamp.....	117
16.1.2 Group.....	120
16.1.3 Channel.....	122
17 BACnet Interface - Analog Input Object - Feedback of Lamp, Group, and Channel.....	137
17.1 Analog Input Object - Feedback of Lamp, Group, and Channel	137
17.1.1 Lamp, Group and Channel	137
18 BACnet Interface - Multi-State Output Object - Command Control of Lamp, Group and Channel	144
18.1 Multi-State Output Object - Command Control of Lamp, Group and Channel	144
18.1.1 Lamp, Group and Channel	144
19 BACnet Interface - Analog Input Object - Light Sensor..	148
19.1 Analog Input Object - Light Sensor.....	148
19.1.1 Light Sensor	148
20 BACnet Interface - Binary Input Object - Occupancy Sensors	151

20.1	Binary Input Object - Occupancy Sensors	151
20.1.1	Occupancy Sensor	151
21	BACnet Interface - Binary Input Object - Buttons	155
21.1	Binary Input Object - Buttons.....	155
21.1.1	Button	155
22	BACnet Interface - Multi-State Input Object - Scene Feedback of Group and Channel	157
22.1	Multi-State Input Object - Scene Feedback of Group and Channel	157
22.1.1	Group and Channel.....	157
23	BACnet Interface - Loop Object - Room Light Control ...	159
23.1	Loop Object - Room Light Control	159
23.1.1	Room Light Control	159
24	Analog Value - Lamp, Group, and Channel.....	177
24.1	Analog Value - Lamp, Group, and Channel	177
24.1.1	Lamp, Group, Channel.....	177
25	BACnet Interface - Analog Value - Input Device.....	180
25.1	Analog Value - Input Device	180
25.1.1	Input Device	180
26	BACnet Interface - Analog Value - Room Light Control .	183
26.1	Analog Value - Room Light Control	183
26.1.1	Room Light Control	183
27	BACnet Interface - Multi-State Value Object - Value of Lamp, Group and Channel.....	190
27.1	Multi-State Value Object - Value of Lamp, Group and Channel	190
27.1.1	Lamp, Group and Channel	190
28	BACnet Interface - Multi-State Value Object - Room Light Control.....	192
28.1	Multi-State Value Object - Room Light Control	192
28.1.1	Room Light Control	192
29	BACnet Interface - Multi-State Value Object - Commander	197

29.1	Multi-State Value Object - Commander.....	197
29.1.1	Commander	197
30	BACnet Interface - ReinitializeDevice Service	199
30.1	ReinitializeDevice Service	199
31	BACnet Interface - DeviceCommunicationControl Service	
	200	
31.1	DeviceCommunicationControl Service.....	200
32	DMX512 (sACN / Art-Net)	201
32.1	sACN (E1.31).....	201
32.2	Art-Net.....	201
32.3	Channel Mapping	201
32.3.1	Slot Value Format	202
33	Modbus TCP.....	203
33.1	Holding Registers.....	203
33.2	Holding Register Mapping	203
33.2.1	Register Value Format	203
34	Room Light Control.....	205
34.1	Occupancy Sensors.....	205
34.1.1	Sensor placement	205
34.1.2	Occupancy Process	207
34.1.3	Occupancy - Hold Time.....	208
34.1.4	Occupancy - Walk Through Mode	208
34.1.5	Occupancy - Ignore Time	208
34.1.6	Occupied Command.....	208
34.1.7	Unoccupied Command.....	208
34.1.8	Unoccupied Warning	208
34.2	Occupied Mode - Day / Night Mode.....	209
34.2.1	Occupied Mode - Occupied (Day Mode).....	209
34.2.2	Occupied Mode - Unoccupied (Night Mode).....	209
34.2.3	Power Up Occupied Mode.....	210
34.2.4	Override Timeout	210
34.2.5	Override Only on Exact Output.....	210
34.3	Light Sensors	210

34.3.1	Sensor placement	210
34.3.2	Daylight Harvesting	211
34.3.3	Setpoint.....	211
34.3.4	Multiple Lighting Zones	211
34.4	Manual Control	212
34.4.1	Occupied Mode - Day / Night Mode.....	212
34.4.2	Daylight Harvesting	212
34.4.3	Unoccupied Warning	212
34.5	Room Light Control Profiles.....	212
34.6	Linked Occupancy	213
34.7	External Occupancy and Warning Hold.....	213
34.8	External Light Level	213
34.9	Test Mode	213
34.9.1	Test Mode Timings Settings	213
34.10	Demand Response	214
34.11	Dynamic Color Recipe Graph.....	214
34.12	Schedules	214
34.13	Web Interface.....	215
34.13.1	Room Light Control	215
34.13.2	Room Light Control Configuration	215
34.13.3	Room Light Control States	215
34.14	BACnet Interface	215
34.15	Parameters Copy.....	215
34.16	Control Presets	215
34.16.1	OCCUPANCY AUTO	216
34.16.2	OCCUPANCY AUTO PARTIAL.....	216
34.16.3	OCCUPANCY SHUT OFF.....	216
34.16.4	OCCUPANCY AUTO DAYLIGHT.....	216
35	Dynamic Color Recipes	218
35.1	Recipe Graphs	218
35.1.1	Graph availability.....	218
35.1.2	Support points	218
35.1.3	Color types.....	218
35.1.4	Time types	219

35.2	Recipe Operation.....	219
35.3	Interaction With Room Light Control	219
35.3.1	Daylight Harvesting	219
35.3.2	Manual Override.....	219
35.3.3	Occupancy commands.....	219
35.3.4	Fade behavior	219
35.4	Configuration Workflow.....	219
35.5	Web Interface.....	220
35.5.1	Dynamic Color Recipes.....	220
35.5.2	Room Light Control mapping.....	220
35.6	BACnet Interface	220
35.6.1	Loop command values	220
35.6.2	Occupancy command values	220
35.7	Parameters Copy.....	220
36	Schedule.....	221
37	Commander.....	222
37.1	Specifications.....	222
37.2	Parameters.....	222
37.2.1	Name	222
37.2.2	Execute Count.....	223
37.2.3	Steps.....	223
38	Remote Link	225
38.1	Concepts.....	225
38.1.1	Link Network	225
38.1.2	Link ID.....	225
38.2	Sharing a Push Button.....	225
38.3	Web Interface.....	225
39	View	226
40	USB Console	228
40.1	USB Connector.....	228
40.2	Serial Console Settings	229
40.3	Commands General	229
40.3.1	help	229

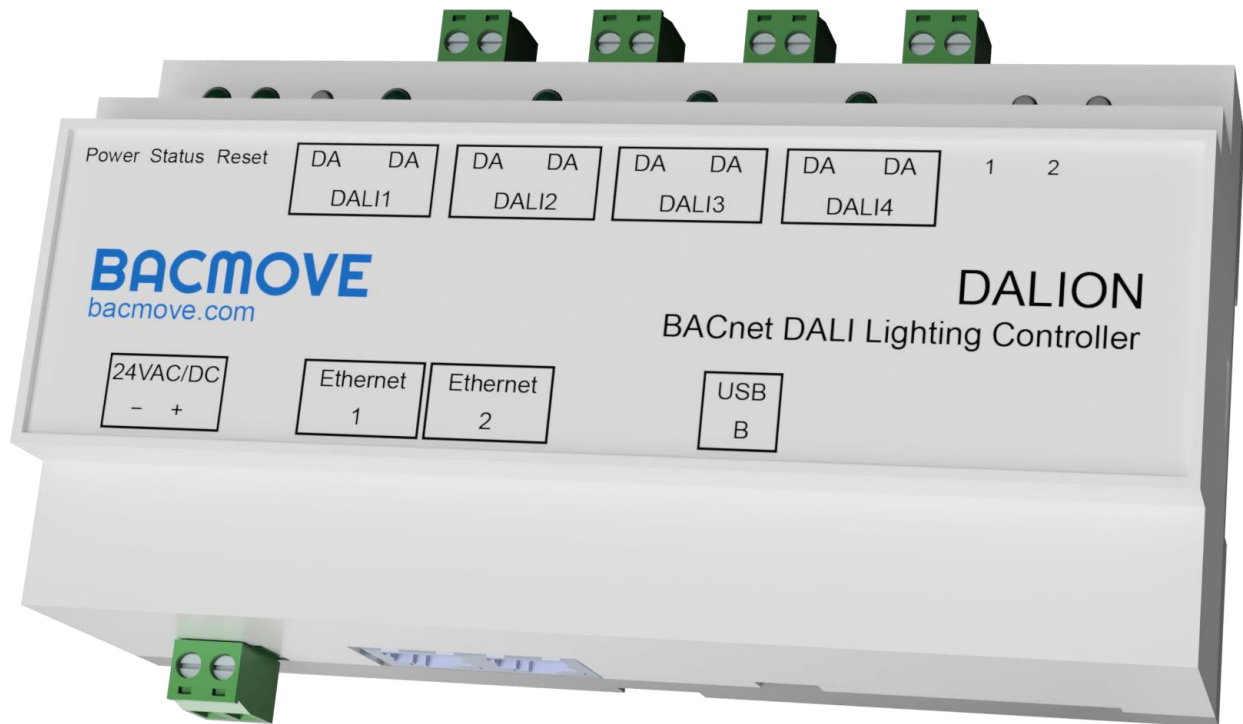
40.3.2	version	229
40.3.3	reboot.....	229
40.3.4	factorydefault.....	229
40.3.5	date.....	229
40.3.6	ping	229
40.3.7	status	229
40.3.8	ip [addr a]	229
40.4	Commands Statistics	229
40.4.1	stip	229
40.4.2	stbacnetip.....	229
40.4.3	stdali	230
40.4.4	stdalianalyzer channel.....	230
40.4.5	sttcp	230
40.4.6	studp	230
40.4.7	starp.....	230
40.4.8	sticmp	230
40.4.9	starptable	230
40.4.10	steth	230
40.4.11	logread	230
40.5	Commands System Settings	230
40.5.1	setsystem.....	230
40.6	Commands IP Settings	231
40.6.1	setip	231
40.7	Commands BACnet/IP Settings	231
40.7.1	setbacnetip.....	231
41	DALION Tool	233
41.1	Overview	233
41.1.1	Installation.....	233
41.2	Menu.....	234
41.2.1	Home	234
41.2.2	About	234
41.3	Sites	234
41.3.1	Folder.....	234
41.3.2	Device.....	234

41.4	Download Backup	235
41.4.1	Preparations.....	235
41.4.2	Download	235
41.5	Restore Backup.....	235
41.5.1	Preparations.....	236
41.5.2	Restore	236
41.6	Firmware Upgrade.....	236
41.6.1	Warnings.....	237
41.6.2	Preparations.....	237
41.6.3	Upgrade	237
41.7	Pre-Commissioning	237
42	Remote CLI Tool	239
42.1	Overview	239
42.2	Commands.....	239
42.2.1	help	239
42.2.2	version	239
42.2.3	ip	239
42.2.4	channel	239
42.2.5	channelcsvfile.....	239
42.2.6	channelgroupscsvfile.....	240
42.2.7	channelinputscsvfile	240
42.2.8	action	240
42.2.9	firmwarefile.....	240
42.2.10	backupfileouttype	241
42.2.11	backupconfig	241
42.2.12	backupfileout.....	241
42.2.13	backupfilein	241
42.3	Channel Lamps CSV File Format	241
42.3.1	First line	242
42.3.2	Second line	242
42.3.3	Third line	242
42.3.4	Columns.....	242
42.4	Channel Groups CSV File Format	245
42.4.1	First line	245

42.4.2	Second line	245
42.4.3	Third line	246
42.4.4	Columns	246
42.5	Channel Inputs CSV File Format	246
42.5.1	First line	246
42.5.2	Second line	247
42.5.3	Third line	247
42.5.4	Columns	247
42.6	Example of command	249
42.6.1	DALI Pre-comminising configuration	249
42.6.2	Download Backup	250
42.6.3	Upload Backup	250
42.6.4	Firmware Upgrade	251
43	API	252
43.1	Overview	252
43.2	Requests	252
43.2.1	Sets lamp, group or channel light intensity	252
43.2.2	Get the list of lamps and control devices	253
43.2.3	Get lamp information	257
43.2.4	Set lamp information	266
43.2.5	Get groups	267
43.2.6	Get scenes	271
43.2.7	Set scenes	273
43.2.8	Recall, store and delete scenes for groups or channel	274
43.2.9	Set lamp, group or channel DT8 colour	274

1 DALION

The DALION can be used to automatically perform DALI room control with occupancy, daylight harvesting, demand response, and more. The gateway functionality allows bidirectional communication between DALI (Digital Addressable Lighting Interface, IEC 62386) networks and BACnet systems. It integrates many functionalities to ease the installation of DALI lighting on the BACnet network.



2 Introduction

The DALION controller allows bidirectional communication between DALI devices (Digital Addressable Lighting Interface, IEC 62386) and BACnet systems. It integrates many functionalities to ease the installation of DALI systems with BACnet networks.

The DALION-4 is equipped with four independent DALI channels. DALION-4 can control up to 256 DALI devices. The DALION-1 is equipped with one DALI channel. DALION-1 can control up to 64 DALI devices. This is 64 devices with 16 groups and 16 scenes per channel. Each channel requires a separated DALI power supply.

It can also integrate up to 32 DALI-2 input devices (control devices) per DALI channel. Light sensors, occupancy sensors and buttons can be configured via the web interface.

The BACnet/IP protocol uses the Ethernet interface to communicate. DALI's channels, groups, lamps, scenes, light sensors, occupancy sensors and buttons are accessible through BACnet standard objects such as Analog Output, Analog Input, Multi-State Output, etc.

The DALION commissioning and configurations are performed via an integrated and responsive web interface. The user interface is accessible from a modern internet browser on several electronic devices such as computers, iPhone, Android and tablets. Therefore, no additional software installation is required.

2.1 Related documents

Available from the website:

- DALION datasheet
- PICS

2.2 List of abbreviations

Abbreviation	Description
100BASE-T	100 Mbps Ethernet with RJ-45 connector
BACnet	Building Automation and Control Network
BBMD	BACnet Broadcast Management Device
BDT	BACnet Broadcast Distribution Table
COV	BACnet Change of Value service
DALI	Digital Addressable Lighting Interface, IEC 62386
DHCP	Dynamic Host Configuration Protocol
DMX	Digital Multiplex, DMX512
DiiA	Digital Illumination Interface Alliance
DNS	Domain Name Server
IP	Internet Protocol
JSON	JavaScript Object Notation
LAN	Local Area Network
MAC	Medium Access Control
Modbus TCP	Modbus over TCP/IP
NaN	Not a Number
sACN	Streaming Architecture for Control Networks, ANSI E1.31
UI	User Interface

2.3 Specifications

Model	DALION-4, DALION-1
Power supply	24 VAC $\pm 10\%$, 50-60 Hz or 24 VDC $\pm 10\%$
Power consumption	4 VA (VAC) or 2 W (VDC)
DALI channels	4 (DALION-4), 1 (DALION-1), low voltage DALI bus, external power supply
Ethernet interface	2, RJ45 Port, 100BASE-T, BACnet/IP, HTTP
USB console port	Mini Type-B USB 2.0, isolated
Button	User button 1, user button 2, reset button
LED Indication	Power supply, system status, DALI channels, Ethernet
Firmware	Upgradable firmware
Operating temperature	0 °C to 45 °C (32 °F to 113 °F)
Operating humidity	5 to 90%, no condensation
Dimension	157 x 86 x 59 mm, 6.181" x 3.386" x 2.323" (L x W x H)
Weight	220 g
Fixation	DIN rail
Enclosure material	Light gray, UL 94 V-0
Protection	IP20

2.4 Software Specifications

Name	Description
Protocols	BACnet/IP, DALI, HTTP, sACN (E1.31), Art-Net, Modbus TCP
DALI Lamps	64 per DALI channel
DALI-2 Inputs	32 per DALI channel (*)
Schedules	4 (DALION-4), 1 (DALION-1), weekly schedules with 6 events per day, astronomical time clock
Room Light Control	16 per channel, with each up to 1 light sensor, 8 occupancy sensors and 4 outputs
COV Subscriptions	580 (**)
COV Subscriptions Addresses	16

(*) For light sensors and occupancy sensors, only the first instance of a control device is available. For buttons all 32 possible instances of a control device are available.

(**) That is 145 per channel, therefore 580 for the 4 channels model and 145 for the 1 channel model.

2.5 DALI Types Supported

List of supported DALI (IEC 62386) device types.

Name	Type	Note
Fluorescent lamps – 201	device type 0	
Self-contained emergency lighting – 202	device type 1	
D.C. voltage – 206	device type 5	
LED modules – 207	device type 6	
Switching function – 208	device type 7	
Colour control – 209	device type 8	xy-coordinate, colour temperature Tc, primary N and RGBWAF
Input devices – Push buttons	301	
Input devices – Occupancy sensor	303	
Input devices – Light sensor	304	

2.6 BACnet Objects

List of available BACnet objects.

Name	Usage
Device	
Network Port	
Analog Input	Feedback for the lamps, groups and channels. Value of light sensors
Analog Output	Commands for the lamps, groups and channels
Analog Value	Parameters for the lamps, groups, channels, input devices and Room Light Control
Multi-state Output	Scenes and commands controllers
Multi-state Input	Scene feedback of group and channel
Multi-state Value	Parameters for the lamps, groups, channels and Room Light Control
Binary Input	Occupancy sensors and button value
Loop	Room Light Control

2.7 BACnet Services

List of available BACnet services.

BACnet Service	Initiate	Execute
I-Am	x	
I-Have	x	
Who-Is	x	
Who-Has	x	
DeviceCommunicationControl		x
ReinitializeDevice		x
ReadProperty		x
ReadPropertyMultiple		x
WriteProperty		x
WritePropertyMultiple		x
SubscribeCOV		x
ConfirmedCOVNotification	x	
UnconfirmedCOVNotification	x	
TimeSynchronization		x
UTCTimeSynchronization		x

2.7.1 COV (Change of Value)

COV subscription is supported for the Analog Input and Binary Input objects.

2.7.2 BIBB (BACnet INTEROPERABILITY BUILDING BLOCKS)

BIBB	Name
DS-RP-B	Data Sharing - ReadProperty-B
DS-RPM-B	Data Sharing - ReadPropertyMultiple-B
DS-WP-B	Data Sharing - WriteProperty-B
DS-WPM-B	Data Sharing - WritePropertyMultiple-B
DS-COV-B	Data Sharing - Change Of Value-B
DS-COVU-B	Data Sharing - Change Of Value Unsubscribed-B
DM-DDB-B	Device Management - Dynamic Device Binding-B
DM-DOB-B	Device Management - Dynamic Object Binding-B
DM-TS-B	Device Management - TimeSynchronization-B
DM-UTC-B	Device Management - UTCTimeSynchronization-B
DM-DCC-B	Device Management - DeviceCommunicationControl-B
DM-RD-B	Device Management - ReinitializeDevice-B
DM-R-B	Device Management - Restart-B
GW-EO-B	Gateway - Embedded Objects-B

2.8 Ordering information

Model Number	Model Description
DALION-4	DALI - BACnet/IP, DALION controller with 4 DALI channels
DALION-1	DALI - BACnet/IP, DALION controller with 1 DALI channel

3 Hardware Installation

3.1 Warnings

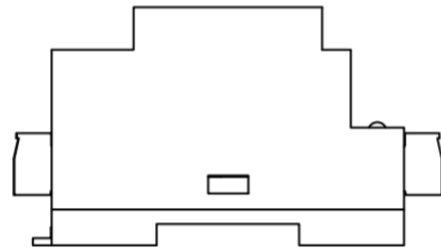
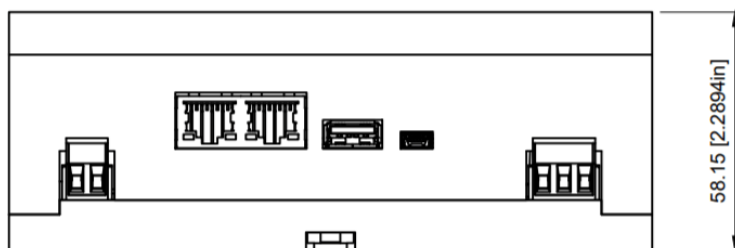
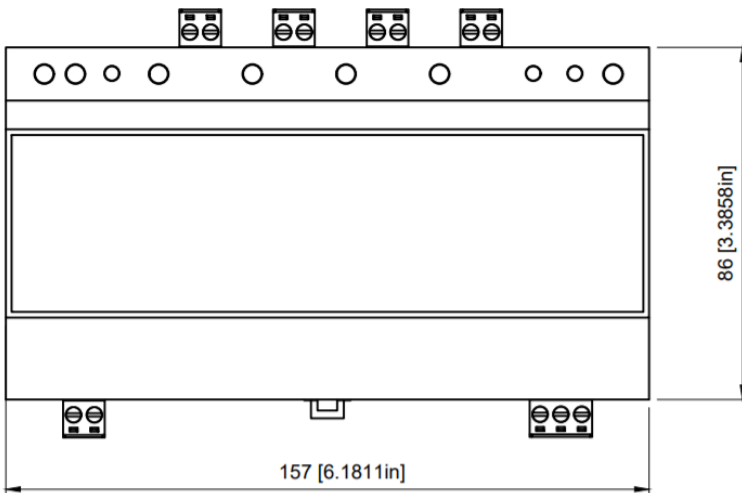
3.1.1 RISK OF ELECTRIC SHOCK



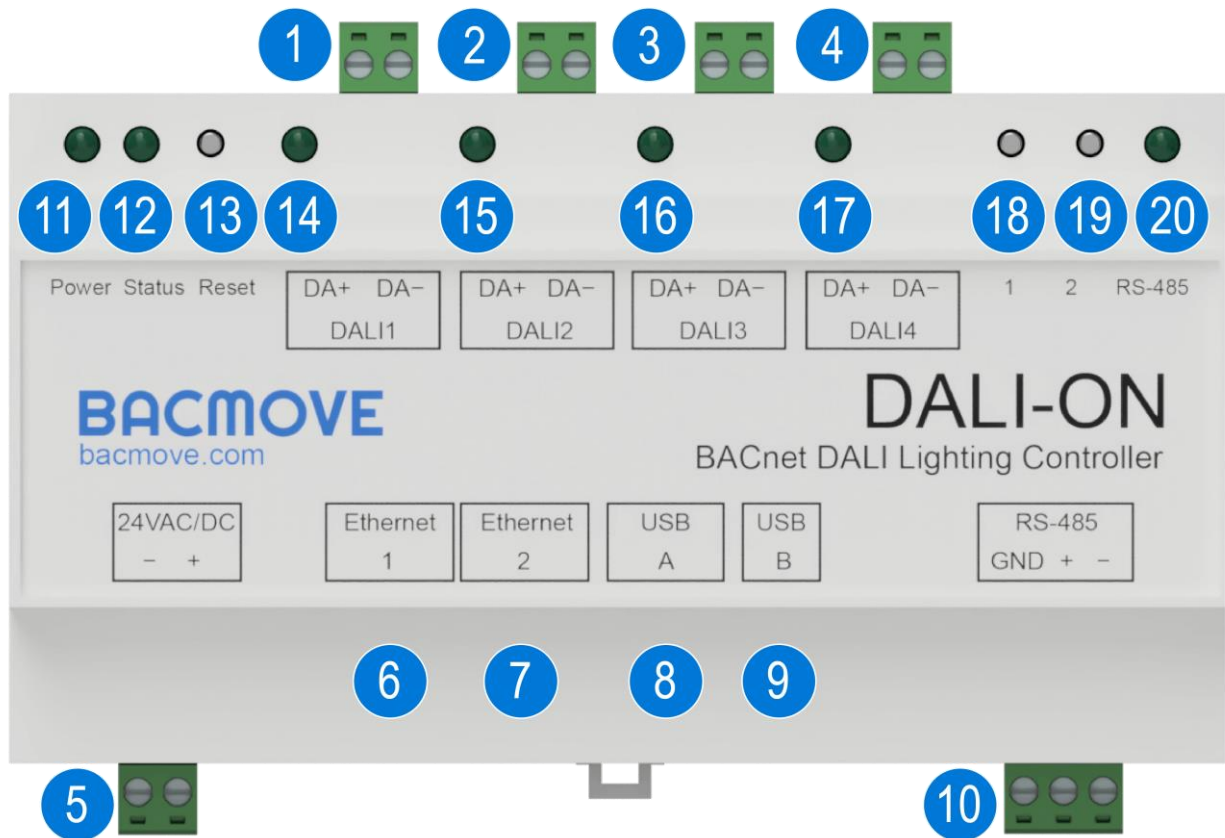
- THE CONTROLLER MUST ONLY BE INSTALLED BY QUALIFIED PROFESSIONALS IN ACCORDANCE WITH APPLICABLE NATIONAL AND LOCAL LAWS AND REGULATIONS.
- FOR INDOOR USE ONLY.
- DO NOT CONNECT THE MAINS/LINE VOLTAGE TO ANY CONNECTOR ON THE CONTROLLER.
- THE CONTROLLER IS INTENDED TO BE INSTALLED INSIDE A CONTROL PANEL OR A BOX AND MUST NOT BE ACCESSIBLE FROM THE OUTSIDE.
- DO NOT COVER THE CONTROLLER WITH OTHER MATERIALS DURING USE.
- KEEP WATER AND OTHER LIQUIDS AWAY FROM THE CONTROLLER.

3.2 Dimension

The dimensions are 157 x 86 x 59 mm, 6.181" x 3.386" x 2.323" (L x W x H).



3.3 Connectors



1. DALI Channel 1 connector
2 position pluggable terminal blocks header of 5.08 mm [0.200"].
2. *DALI Channel 2 connector
2 position pluggable terminal blocks header of 5.08 mm [0.200"].
3. *DALI Channel 3 connector
2 position pluggable terminal blocks header of 5.08 mm [0.200"].
4. *DALI Channel 4 connector
2 position pluggable terminal blocks header of 5.08 mm [0.200"].
5. 24 VAC/DC power supply connector
2 position pluggable terminal blocks header of 5.08 mm [0.200"].
6. First Ethernet connector
RJ45 connector. Connect the LAN Ethernet network to this port.
7. Second Ethernet connector
RJ45 connector. Switch port with the first Ethernet connector.
8. N/A

9. USB device connector
USB 2.0 - Mini-B connector. For the USB console.
10. N/A
11. Power LED indicator
This LED indicator is on when the DALION is powered.
12. Status LED indicator
This LED indicator blinks to indicate the status of the DALION.
13. Reset IP button
Operate only with electrically insulated tools. Pressing this button for four (4) seconds will reset the IP configurations to the factory default value.
14. DALI Channel 1 LED indicator
Activity LED indicator for the DALI channel 1.
15. *DALI Channel 2 LED indicator Activity LED indicator for the DALI channel 2.
16. *DALI Channel 3 LED indicator Activity LED indicator for the DALI channel 3.
17. *DALI Channel 4 LED indicator Activity LED indicator for the DALI channel 4.
18. Button 1
Pressing this button sends 100% to all lamps on all DALI channels.
19. Button 2
Pressing this button sends 0% to all lamps on all DALI channels.
20. N/A

*The DALI Channel 2, 3 and 4 are only available on the 4 DALI channels model.

3.4 Power

The DALION must be powered by a 24 VAC or 24 DC power source.

The supply circuit inside the DALION uses a half-wave rectifier. It can therefore be supplied with the same AC power supply as other devices using a half-wave rectifier. The power supply must be separated from devices using full-wave rectifiers. DC power supply can be shared with other devices.

3.5 LEDs Indicators

3.5.1 Power supply

On when the DALION is powered up.

3.5.2 System status

Blink at an interval of 500 milliseconds to indicate that the DALION is operating properly.

3.5.3 DALI channels

Off when there is no DALI power supply. Lit when there is a DALI power supply. Blinks when DALI packets are received.

3.5.4 RS-485

Blinks when transmitting packets.

3.5.5 Ethernet

3.5.5.1 *Green*

Indicates the Ethernet link and blink when there is network activity.

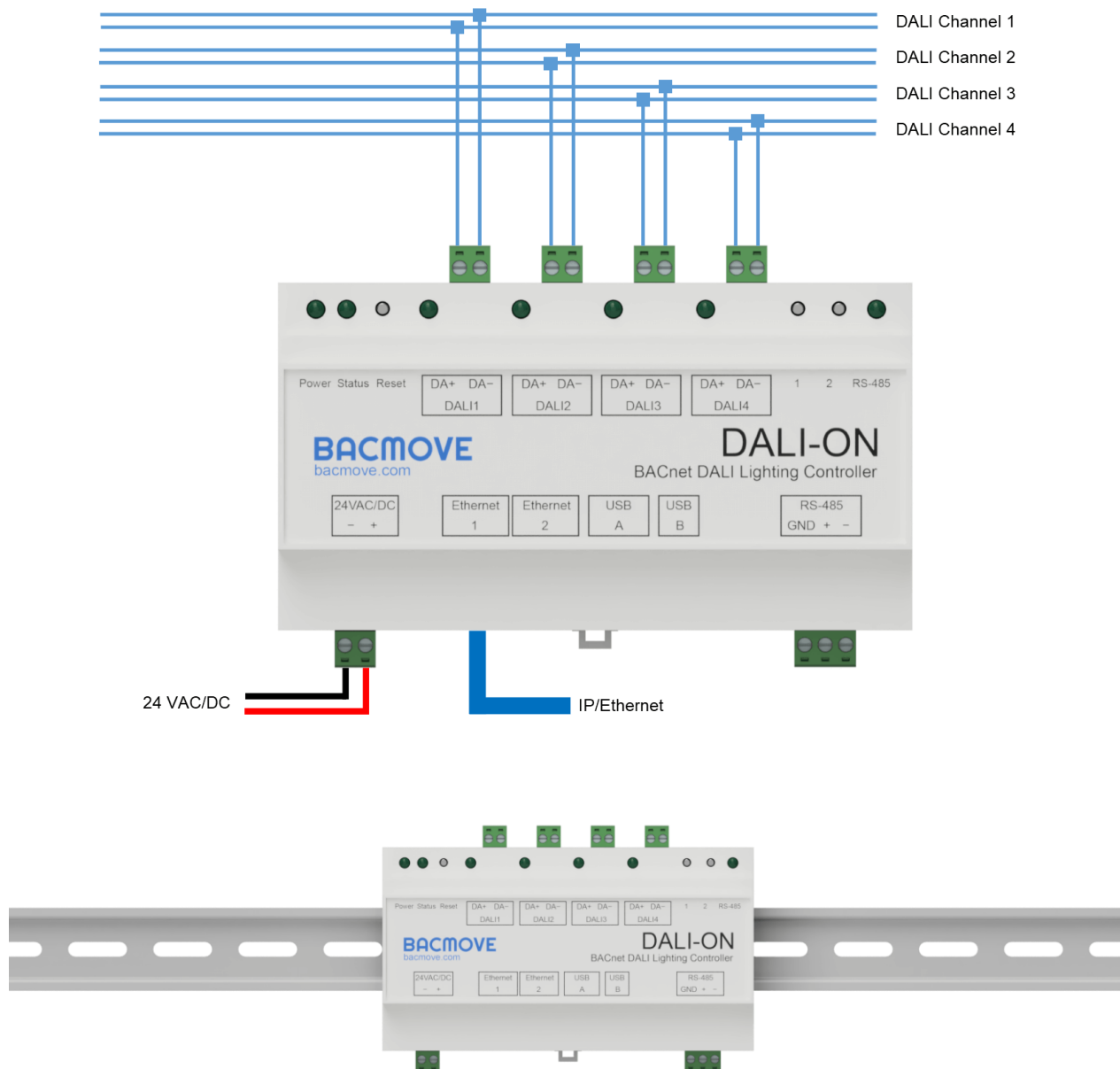
3.5.5.2 *Yellow*

Indicates the Ethernet speed. LED indicator is on for 100 Mbps, LED indicator is off for 10 Mbps.

3.6 Installation

Installation steps:

- Install the DALION with the DIN rail fixation.
- Connect the DALION to the DALI channel bus. An external DALI power supply must be present on the bus.
- Connect the DALION to the LAN Ethernet network.
- Connect the DALION to a 24 VAC transformer Class 2 or a 24 VDC power supply.



3.7 DALI wiring

The bus wiring must be connected in a star topology, a linear topology or a mixture of the two. Wiring must not be carried out in a ring structure. The two wires that serve as the bus must be located in the same cable or cable conduit. In the cable or cable conduit, the two wires must be side by side to avoid unintentional coupling to other signals.

It is recommended to test the integrity of the DALI wiring. With a multimeter verify that there is no main AC voltage on the DALI wires. DALI devices with no protection will normally be destroyed by the main AC voltage.

4 Web User Interface - Overview

The web user interface allows modifying system settings as well as performing the DALI devices commissioning.

5 Web User Interface - Responsive

5.1 Responsive Web Interface

The web user interface adapts to all screen sizes.

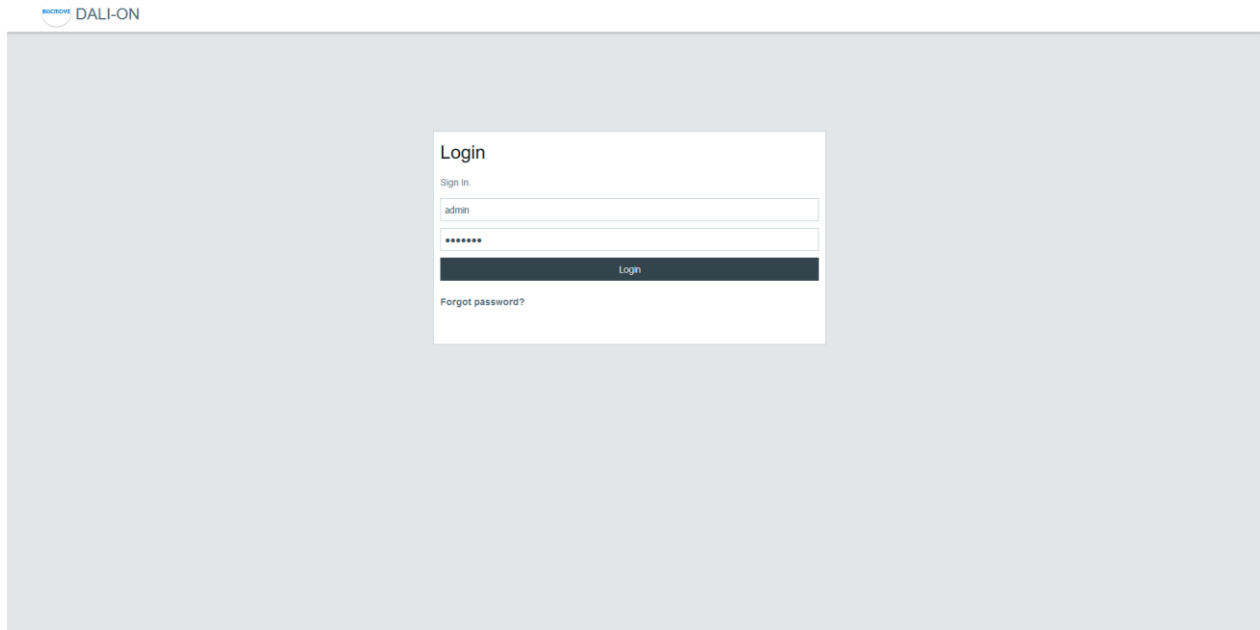


To simplify documentation, the following sections show only screenshots on a desktop computer.

6 Web User Interface - Login

6.1 Login

The first page visible when accessing the DALION is the login page.



The default login details are as follows.

Username	Password
admin	DALION

If the password or username is lost, it can be recovered through the USB console.

7 Web User Interface - Home

7.1 Home

The screenshot displays the DALI-ON web interface. On the left is a dark sidebar menu with the following items: 'admin DALI-ON-4', 'Home', 'Channel 1', 'Channel 2', 'Channel 3', 'Channel 4', 'Settings', 'Statistics', 'Help', and 'Logout'. The 'Home' page is active. The main content area has a header 'Home' and two panels. The 'General Information' panel contains a table with the following data:

General Information	
Model	DALI-ON-4
Firmware Version	1.0.0
Hostname	DALI-ON
Serial Number	20180915-00000000
MAC	44:B4:23:84:44:79
RTC Temperature	27.50 C (80 F)
Uptime	0 days, 00:07:21
RAM Memory	127736 (130744) / 262144 bytes (48%)
Flash Memory	90112 / 2093056 bytes (4%)

The 'Interfaces Status' panel contains a table with the following data:

Interfaces Status	
DALI Channel 1	3 devices, 0 error, 0 offline
DALI Channel 2	0 device, 0 error, 0 offline
DALI Channel 3	0 device, 0 error, 0 offline
DALI Channel 4	0 device, 0 error, 0 offline
IP	192.168.0.210
BACnetIP	222638 / DALI-ON / 47808

7.1.1 General Information

This section displays some general information about the system.

Name	Description
Model	Model name
Firmware Version	Firmware version
Build Date	Date of the firmware build
Hostname	Hostname of the controller
Serial Number	Serial Number
MAC	Ethernet MAC address
RTC Temperature	Current temperature of the controller
Uptime	Time since the last boot of the controller
RAM Memory	Usage of the volatile memory
Flash Memory	Usage of the non-volatile memory

7.1.2 DALI Status

This section shows the current status of the DALI interfaces.

Name	Description
Channel	The channel name
Status	Green indicates no errors, yellow indicates that at least one device is in error
Lamps	The total number of lamps on the channel and the number that are in error
Inputs	The total number of inputs on the channel and the number that are in error
Utilization	A bar showing the percentage of devices used on the channel

7.1.3 Rooms Occupancy

Uses the Room Light Control occupancy state to display the number of rooms that are currently occupied.

7.1.4 Schedules Status

Displays the time of the next scheduled event for the current day.

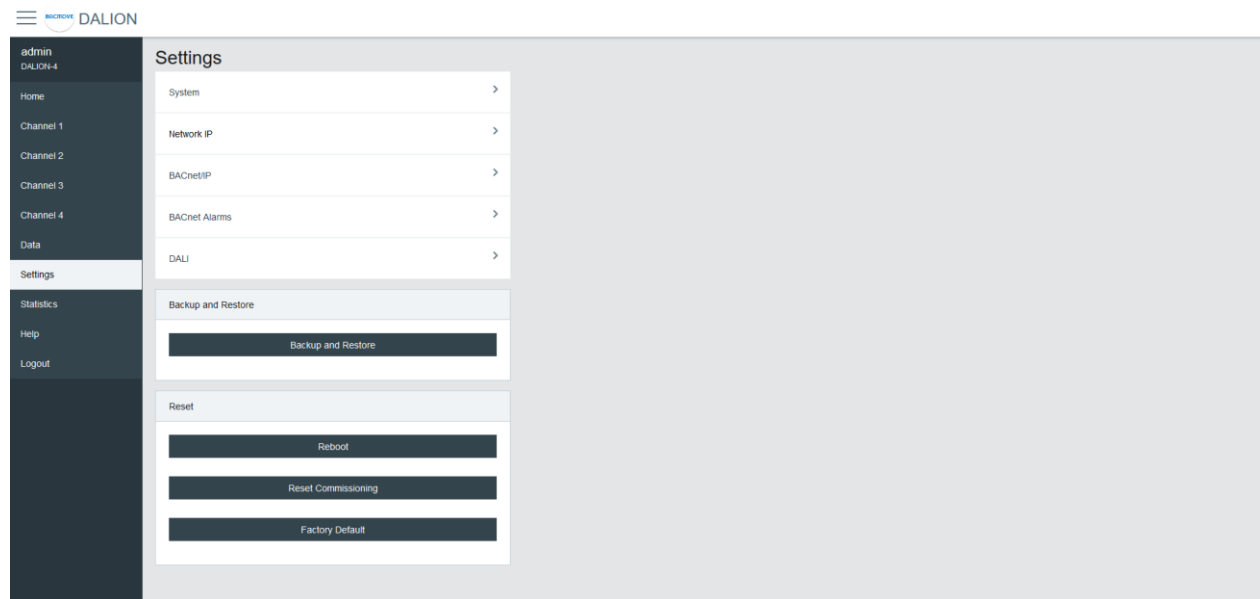
7.1.5 Interfaces Status

This section displays the status of the network interfaces.

Name	Description
IP	Status of the IP network
BACnet/IP	Status of the BACnet/IP interface

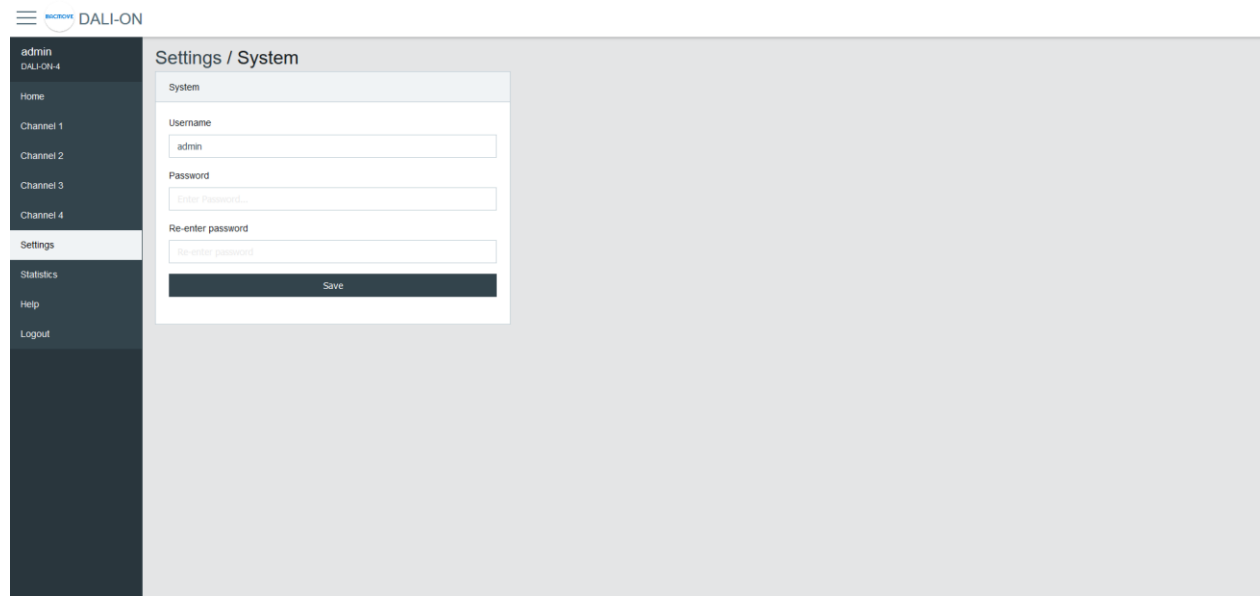
8 Web User Interface - Settings

8.1 Settings



8.1.1 System

The system settings allow changing the username and password.



8.1.2 Date Time

Configuration of the system date and time.

8.1.2.1 Time Source

- **Manual** uses the configured date and time.

- **NTP Server** uses the specified IPv4 address to synchronize the system date and time from a Network Time Protocol (NTP) server.
- **BACnet** allows setting the date and time with the BACnet TimeSynchronization and UTCTimeSynchronization services.

8.1.2.2 *NTP Server IP*

The IP address of the Network Time Protocol (NTP) server used to synchronize the system date and time. Must be a valid IPv4 address. If left blank, the system will not attempt to synchronize time using NTP.

8.1.2.3 *Local Date*

The date to configure in 2026-MM-DD format. Where 2026 is the year, MM is the month, and DD is the day. MM and DD must be preceded by a 0 if they are less than 10.

8.1.2.4 *Local Time*

The time to configure in HH:MM:SS format. Where HH is hours, MM is minutes, and SS is seconds. They must be preceded by a 0 if they are less than 10.

8.1.2.5 *Standard Time Zone Offset*

The UTC time offset, for the period of the year when the Daylight Saving Time is not active. The format is [+|-]HH:MM. Where [+|-] indicates the sign of the offset, HH the hours and MM the minutes.

Example

For Eastern Time Zone (EST).

-05:00

8.1.2.6 *DST Time Zone Offset*

The UTC time offset, for the period of the year when the Daylight Saving Time is active. The format is [+|-]HH:MM. Where [+|-] indicates the sign of the offset, HH the hours and MM the minutes.

Example

For Eastern Daylight Time (EDT).

-04:00

8.1.2.7 *DST Start - Week*

The week of the month when the Daylight Saving Time period starts.

Example

For Eastern Daylight Time (EDT).

2nd

8.1.2.8 *DST Start - Day of Week*

The day of the week when the Daylight Saving Time period starts.

Example

For Eastern Daylight Time (EDT).

Sunday

8.1.2.9 DST Start - Month

The month when the Daylight Saving Time period starts.

Example

For Eastern Daylight Time (EDT).

March

8.1.2.10 DST End - Week

The week of the month when the Daylight Saving Time period ends.

Example

For Eastern Daylight Time (EDT).

1st

8.1.2.11 DST End - Day of Week

The day of the week when the Daylight Saving Time period ends.

Example

For Eastern Daylight Time (EDT).

Sunday

8.1.2.12 DST End - Month

The month when the Daylight Saving Time period ends.

Example

For Eastern Daylight Time (EDT).

November

8.1.2.13 Hardware UTC Date Time

The currently configured UTC date and time.

8.1.3 Location and language

The language of the web interface is configurable.

Configuration of the local latitude and longitude. The latitude and longitude are used for the calculation of the time of sunrise and sunset for the astronomical time clock schedules.

8.1.3.1 *Language*

The supported languages are English and French.

8.1.3.2 *Latitude*

The local latitude coordinate that specifies the position of the system in the north or south direction on the surface of the earth. It is measured as an angle, ranging from -90 degrees at the South Pole to 90 degrees at the North Pole, with zero degrees at the Equator.

8.1.3.3 *Longitude*

The local longitude coordinate specifies the position of the system in the east or west direction on the surface of the Earth. It is measured as an angle, ranging from minus 180 degrees at the westernmost point to 180 degrees at the easternmost point, with zero degrees at the Prime Meridian.

8.1.3.4 *Sunrise and Sunset of the Year*

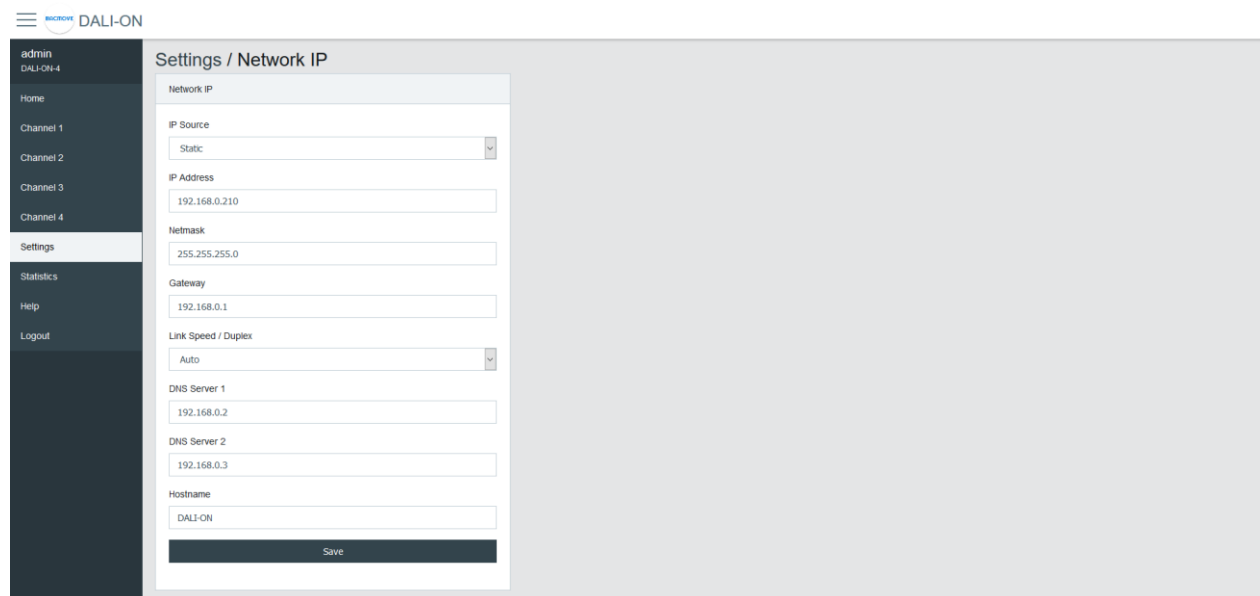
The table lists all the calculated sunrise and sunset times for the current year, based on the configured latitude and longitude. The first row displays the times for the current day.

8.1.4 Network IP

Configuration of the IP interface.

By default, the controller uses the IP address **192.168.0.210**. To access the controller:

- Configure the computer on the same subnetwork.
- Open the DALION web interface with a web browser.



The screenshot displays the DALION web interface. On the left is a dark sidebar with a menu containing 'admin', 'DALION-4', 'Home', 'Channel 1', 'Channel 2', 'Channel 3', 'Channel 4', 'Settings' (highlighted), 'Statistics', 'Help', and 'Logout'. The main content area is titled 'Settings / Network IP'. It contains a 'Network IP' section with the following fields: 'IP Source' (a dropdown menu set to 'Static'), 'IP Address' (a text box containing '192.168.0.210'), 'Netmask' (a text box containing '255.255.255.0'), 'Gateway' (a text box containing '192.168.0.1'), 'Link Speed / Duplex' (a dropdown menu set to 'Auto'), 'DNS Server 1' (a text box containing '192.168.0.2'), 'DNS Server 2' (a text box containing '192.168.0.3'), and 'Hostname' (a text box containing 'DALION-4'). A 'Save' button is located at the bottom of the configuration area.

Name	Unit	Limit	Default	Description
IP Source	Choice	Static, DHCP	Static	Choice of the IP address source
IP Address	IPv4 Address		192.168.0.210	Static IP address
Netmask	IPv4 Address		255.255.255.0	IP network netmask
Gateway	IPv4 Address		192.168.0.1	IP address of the default gateway
Link Speed / Duplex	Choice	Auto, 100F (100 Mbps Full Duplex), 100H (100 Mbps Half Duplex), 10F (10 Mbps Full Duplex), 10H (10 Mbps Half Duplex)	Auto	Ethernet link speed
DNS Server 1	IPv4 Address		192.168.0.2	IP address of the first DNS server
DNS Server 2	IPv4 Address		192.168.0.3	IP address of the second DNS server
Hostname	String	32 characters	DALION	Network hostname

8.1.5 BACnet/IP

Configuration of the BACnet/IP network interface.

admin

DALI-ON 4

Home

Channel 1

Channel 2

Channel 3

Channel 4

Settings

Statistics

Help

Logout

Settings / BACnet/IP

BACnet/IP

Device Instance

222638

Name

DALI-ON

Description

DALI-ON

Location

Enter Location...

APDU Timeout

3000

APDU Retries

3

UDP Port

47808

Network Mode

Device

BBMD IP

0.0.0.0

BBMD Port

47808

BBMD Registration Delay

1800

Save

Name	Unit	Limit	Default	Description
Device Instance	Number	0-4194302	222638	BACnet device object instance number
Device Name	String	32 characters	DALION	BACnet device object name
Device Description	String	32 characters	DALION	BACnet device object description
Device Location	String	32 characters		BACnet device object location
APDU Timeout	Number	0-65535	3000	BACnet APDU timeout
APDU Retry Count	Number	0-65535	3	BACnet APDU Retry Count
UDP Port	Number	0-65535	47808	BACnet/IP UDP Port
Network Mode	Choice	Device / Foreign Device	Device	Enable or disable foreign device mode
BBMD IP	IPv4 Address			IP address of the BBMD server
BBMD Port	Number	0-65535	47808	Port of the BBMD server
BBMD Registration Delay	Seconds	0-65535	300	BBMD Registration Delay
Unsubscribed COV Notification - Binary Input	Choice	Enabled / Disabled	Disabled	Enable or disable the sending of unsubscribed COV Notification for the Binary Input objects
Unsubscribed COV Notification - Analog Input	Choice	Enabled / Disabled	Disabled	Enable or disable the sending of unsubscribed COV Notification for the Analog Input objects

Name	Unit	Limit	Default	Description
Unsubscribed COV Notification - Multi-state Input	Choice	Enabled / Disabled	Disabled	Enable or disable the sending of unsubscribed COV Notification for the Multi-state Input objects
Binary Input - Buttons	Choice	Only Commissioned / All / None	Only Commissioned	Only Commissioned: Only the commissioned input device objects are visible, All: All possible input device objects are visible, None: None of the input device objects are visible.

8.1.6 DALI

Configuration of the DALI channels.

8.1.6.1 Mode

- **Normal:** The controller is operating normally.
- **Disable:** The controller is not authorized to communicate on the DALI channel. When the mode is **Disable**, gray bands appear in the background of the associated DALI channel pages.

8.1.6.2 Lamp Command Repeat Count

The commands that affect the light intensity of the lamps can be repeated.

8.1.6.3 Assign Match Short Address with Index

If enabled when assigning a lamp or input, its short address will automatically be modified to match the assignment index number.

8.1.6.4 Combined Level/Colour Fade (DT8)

When a light level write and a DT8 colour temperature write arrive within the same fade time, the controller merges them into a single combined DALI command so both targets are reached on the first command. This avoids the level or colour freezing part way through a fade, which is the behaviour defined by the DALI standard when a level and a colour command overlap.

The setting is configured per DALI channel and applies to individual lamps, groups, and broadcast, across all write paths (BACnet, web pages, commanders, schedules, and more). Room Light Control is not affected because it already sends level and colour together.

- **Enable** (default): level and colour writes within one fade window are merged into a single combined fade.
- **Disable**: legacy behaviour, where each write is sent independently and a second write can freeze a running fade.

8.1.7 Network Control (sACN / Art-Net / Modbus TCP)

Configuration of the network control receiver module. This feature allows IP network-based DALI gateway lighting control using DMX512 over Ethernet protocols: sACN (E1.31), Art-Net, or Modbus TCP. It supports lighting level control, scene recalls, DT8 colour temperature, and commander start/stop.

Settings / Network Control (sACN / Art-Net / Modbus TCP)

Network Control (sACN / Art-Net / Modbus TCP)

Enable

Disable



Protocol

sACN (E1.31)



Universe

1

1-63999

Failsafe Timeout (s)

10

Failsafe Level (255=relinquish)

255

DT8 Mirek Min

153

DT8 Mirek Max

370

BACnet Priority

8

Save

Name	Unit	Limit	Default	Description
Enable	Choice	Enable / Disable	Disable	Enable or disable the network control receiver
Protocol	Choice	sACN (E1.31) / Art-Net / Modbus TCP	sACN (E1.31)	Protocol selection
Universe	Number	1-63999 (sACN), 0-32767 (Art-Net)	1	sACN universe or Art-Net port-address
Failsafe Timeout (s)	Seconds	0-65535	10	Seconds without data before failsafe action (0 = disabled)
Failsafe Level	Number	0-255	255	Light level applied on failsafe. 0-254 = level, 255 = relinquish
DT8 Mirek Min	Number		153	DT8 colour temperature minimum in mirek (153 ≈ 6500 K)
DT8 Mirek Max	Number		370	DT8 colour temperature maximum in mirek (370 ≈ 2700 K)
BACnet Priority	Number	1-16	8	BACnet write priority used for commands

8.1.7.1 Channel Mapping

The 512-slot DMX universe is divided into 4 blocks of 128 slots, one block per DALI channel:

Block	Slots	DALI Channel
0	0-127	Channel 1
1	128-255	Channel 2
2	256-383	Channel 3
3	384-511	Channel 4

Within each block, the slot offsets are mapped as follows:

Offset	Function
0-63	Lamp levels (64 lamps)
64-79	Group levels (16 groups)
80	Broadcast level
81-96	Scene recall per group (16 groups)
97	Scene recall broadcast
98-113	DT8 colour temperature per group (16 groups)
114	DT8 colour temperature broadcast
115	Commander start (block 0 only, global)
116	Commander stop (block 0 only, global)
117-127	Reserved

8.1.8 BAS Communication Timeout

In the event of loss of communication between the DALION and another BACnet device such as a BAS (Building Automation System), the DALI channels and groups can reach a specified light brightness. The commands executed when the timeout is reached are configured through the pages of each group and channels.

admin
DALION-4
Home
Channel 1
Channel 2
Channel 3
Channel 4
Data
Settings
Statistics
Help
Logout

Settings / BAS Communication Timeout

BAS Communication Timeout

BAS (Building Automation System) Communication Timeout

Enable

Enable

BACnet Device Id

10100

Initial Delay (seconds)

60

Delay (seconds)

900

Timeout Level (DALI Level 0-255)

100

Save

Name	Unit	Limit	Default	Description
Enable	Choice	Enable / Disable	Disable	Enable or disable the communication timeout
BACnet Device Id	Number	0-4194302	0	BACnet device id of the other device (BAS)
Initial Delay	Number	0-4194302	0	Initial Delay in seconds. Used to let time to the other device (BAS) to boot-up
Delay	Number	0-65535	0	Delay in seconds before the communication timeout
Timeout Level	Number	0-255	0	Default light intensity level

8.1.9 Network IP - Remote Capture

The Remote Capture feature allows BACnet/IP traffic received and transmitted to be mirrored and sent to a specified remote IP address.

This enables the analysis and troubleshooting of BACnet communication using external tools such as Wireshark.

DALION
© TECHNOLOGIES BACMOVE INC.

bacmove.com

43 | 278

It is useful for diagnosing network problems, verifying device behavior, or recording protocol exchanges without requiring a network TAP (Test Access Point) or switch with port mirroring.

Sending packets to the remote host begins approximately 2 minutes after boot-up.

Name	Unit	Limit	Default	Description
Enable	Choice	Enable / Disable	Disable	Enable or disable the forwarding of BACnet/IP packets to the remote capture host
Remote IP Address	IPv4 Address			The IPv4 address of the computer running the packet capture software. This host must be reachable
Remote Port	Number	0-65535	47808	The UDP port on the remote host where packets are sent. Default 47808 corresponds to the standard BACnet/IP port but can be set to another value if needed by the capture software

⚠ Remote Capture is intended for diagnostics and testing. It should normally remain disabled during standard operation to avoid unnecessary traffic.

⚠ Forwarding packets increase memory and network usage. On busy networks, enabling this feature continuously is not recommended.

⚠ Ensure that the remote host is running a packet capture tool (e.g., Wireshark) configured to listen on the defined port.

8.1.10 Syslog Client

The Syslog Client allows forwarding system and application messages to a remote Syslog server for monitoring, diagnostics, and logging purposes.

Name	Unit	Limit	Default	Description
Enable	Choice	Enable / Disable	Disable	Activate or deactivate the Syslog client
Syslog Server IP Address	IPv4 Address			Specify the IP address of the remote Syslog server
Syslog Server Port	Number	0-65535	514	Specify the UDP port of the remote Syslog server. Default is usually 514

The Sources define which internal modules or events generate Syslog messages. Each source can be enabled or disabled depending on the required logging.

⚠ Syslog Client is intended for diagnostics and testing. It should normally remain disabled during standard operation to avoid unnecessary traffic.

⚠ Syslog messages increases memory and network usage. Enabling this feature continuously is not recommended.

⚠ Enabling the Syslog Client may generate a large number of network messages depending on the selected sources. This can increase network traffic and load on the Syslog server. It is recommended to enable only the sources required for diagnostics.

8.1.11 Backup / Restore

Please use the Tool software to backup and restore the configurations.

8.1.12 Reboot

This page allows the system to restart. Some configurations, such as network settings, require a system reboot.

8.1.13 Reset Commissioning

This page removes the commissioning data by deleting all lamps, groups, and scenes from the configuration. The commissioning data can be reset for each channel individually.

8.1.14 Factory Default

This page allows resetting all settings and commissioning data to their factory default values.

9 Web User Interface - DALI Commissioning

9.1 DALI Commissioning

9.1.1 Lamps

This page displays the list of commissioned lamps. The list provides a descriptive **Name** of each lamp as well as other information like **Actual Level**, **Type** and short address **S.A.**.

The screenshot shows the DALI Commissioning Web User Interface. On the left is a dark sidebar with a menu containing: Home, Channel 1, Channel 2, Channel 3, Channel 4, Data, Settings, Statistics, Help, and Logout. The main content area is titled 'Channel 1' and has tabs for 'Lamps' (selected) and 'Inputs'. Below the tabs is a search bar labeled 'Filter by device names ...'. A table lists the lamps with columns: Name, Type, Status, S.A., and Action. Each row has a checkbox on the left and 'On', 'Off', and 'More +' buttons on the right.

	Name	Type	Status	S.A.	Action
0	☐ Lamp 1-00	LED	100%	0	☐ On Off More +
1	☐ Lamp 1-01	Colour	100% #2092ef	1	☐ On Off More +
2	☐ Lamp 1-02	Colour	100% 5988K	2	☐ On Off More +
3	☐ Lamp 1-03	LED	100%	3	☐ On Off More +
4	☐ Lamp 1-04	Colour	100% 2702K	4	☐ On Off More +
5	☐ Lamp 1-05	LED	100%	5	☐ On Off More +

Lamps can be turned **On**, **Off** or we can **Set Level** in a percentage of its light intensity. **Notify** helps to identify a lamp by dimming it in a loop between its minimum and maximum light intensity. **Unassign** removes the lamp from the list of lamps while **Delete** also removes the lamp from the list, but also resets its DALI parameters to the default values.

For the lamps with colour control, available with DALI Type 8 (DT8) lamps, the current colour can be modified with **Set Colour**.

By clicking on a lamp row, the Lamp Parameters page opens.

9.1.2 Lamp Parameters

This page allows the configuration of lamp parameters.

admin

DALI-ON 4

Home

Channel 1

Channel 2

Channel 3

Channel 4

Settings

Statistics

Help

Logout

Channel 1 / Lamp 1-01 / Main Office

Parameters

Actual Level %

100

SET

Name

Lamp 1-01 / Main Office

SET

Power On Level %

100

SET

System Failure Level %

100

SET

Minimum Level %

0.1

SET

Maximum Level %

100

SET

Fade Rate steps/s

44.7

SET

Fade Time seconds

4.0

SET

Short Address

11

SET

Run Hours (seconds)

870

SET

Burn-In (seconds)

0

SET

BACnet Object: Analog Output/Input 0

Reliability: 0 (no-fault-detected)

Name	Unit	Minimum	Maximum	Default	Description
Actual Level	Percent	0%	100%		Actual light intensity
Name	String		32 characters		Name of the lamp
Power On Level	Percent	0%	100%	100%	Level of intensity after a power on
System Failure Level	Percent	0%	100%	100%	Level of intensity when system failure
Minimum Level	Percent	0.1%	100%	100%	Minimum level of intensity
Maximum level	Percent	0.1%	100%	100%	Maximum level of intensity
Fade Rate	Choice	2.8	358	44.7	Fade rate in steps per second
Fade Time	Choice	No Fade	90.5	No Fade	Fade time in seconds
Short Address	Number	0	63		The short address
Run Hours	Number	0	65535	0	Number of seconds where the lamp was on
Nominal Power	Number	0	4294967	0	Nominal power
Burn-In	Number	0	65535	0	Number of seconds remaining to the burn-in
Dimming Curve	Choice	Logarithmic	Linear	Logarithmic	Dimming curve

Name	Unit	Minimum	Maximum	Default	Description
Manual Override	Choice			Auto	Holds the lamp on or off until released. Auto returns the lamp to automatic control (Auto, On, Off).
Energy Usage Accumulated	Number	0	42949672	0	Energy usage accumulated
BACnet Object					The BACnet object associated with the lamp
Reliability					Reliability of the lamp

9.1.3 Emergency Parameters

For the lamps of the type “Self-contained emergency lighting (device type 1)”, other parameters are available. When emergency parameters are available, a tab **Emergency** is added.

The screenshot displays the DALION web interface. On the left is a sidebar with a menu containing: Home, Channel 1, Channel 2, Channel 3, Channel 4, Data, Settings, Statistics, Help, and Logout. The main area is titled 'Channel 1 / Lamp 1-03 / Emergency' and has two tabs: 'Device' and 'Emergency', with 'Emergency' being the active tab. Under the 'Parameters' section, there are two main settings blocks: 'Function Test Settings' and 'Duration Test Settings'. Each block contains fields for 'Date of the next test', 'Time of the next test', and 'Interval' (days for function test, weeks for duration test), along with an 'Apply' button. The 'Identify emergency' button is also visible at the top of the settings area.

9.1.3.1 Identify emergency

Allows for the identification of the emergency lamp.

9.1.3.2 Function Test Settings

Allows the configuration of the interval for the function test.

9.1.3.3 Duration Test Settings

Allows the configuration of the interval for the duration test.

9.1.3.4 Prolong

Allows for the configuration of the prolong time.

9.1.3.5 Features

Show the features bits values.

9.1.3.6 Emergency Mode

Show the emergency mode bits value.

9.1.3.7 Emergency Status

Show the emergency status bits value.

9.1.3.8 Failure Status

Show the failure status bits value.

9.1.3.9 Timings

Show to values of the timings.

9.1.3.10 Other modes

Allows modifying the inhibit and rest modes.

9.1.4 Colour Parameters

For the lamps with colour control, available with DALI Type 8 (DT8) lamps, other parameters are available. When colour parameters are available, a tab **Colour** is added.

DALION-4
admin
1999-12-31 20:54:14
DALION

Home
Channel 1
Channel 2
Channel 3
Channel 4
Data
Settings
Statistics
Help
Logout

Channel 1 / Lamp 1-01

Device Colour

Parameters

Actual Colour

Level

☒ 100

Colour

	Red	Green	Blue
	0	127	191

Pick Colour

SET

Power On Colour

Level

☒ 100

Colour

	Red	Green	Blue
	22	142	251

Pick Colour

SET

System Failure Colour

Level

☒ 100

Colour

N/A

Pick Colour

SET

Gear Features/Status: 255

Name	Description
Actual Colour	Actual colour
Power On Colour	Colour after a power on
System Failure Colour	Colour when system failure
Gear Features/Status	DALI features of the lamp
Colour Type Features	DALI colour features of the lamp
Scenes 1-16	Colour for the scenes 1 to 16
Tc Warmest Kelvin (1)	Warmest colour temperature in Kelvin
Tc Coolest Kelvin (1)	Coolest colour temperature in Kelvin
Tc Physical Warmest (1)	Physical warmest colour temperature in Kelvin
Tc Physical Coolest (1)	Physical coolest colour temperature in Kelvin
RGBWAF Control (2)	RGBWAF Control
RGBWAF Assigned Colour (2)	RGBWAF Assigned Colour

(1) Only available for lamps with the colour type; colour temperature Tc.

(2) Only available for lamps with the colour type; RGBWAF.

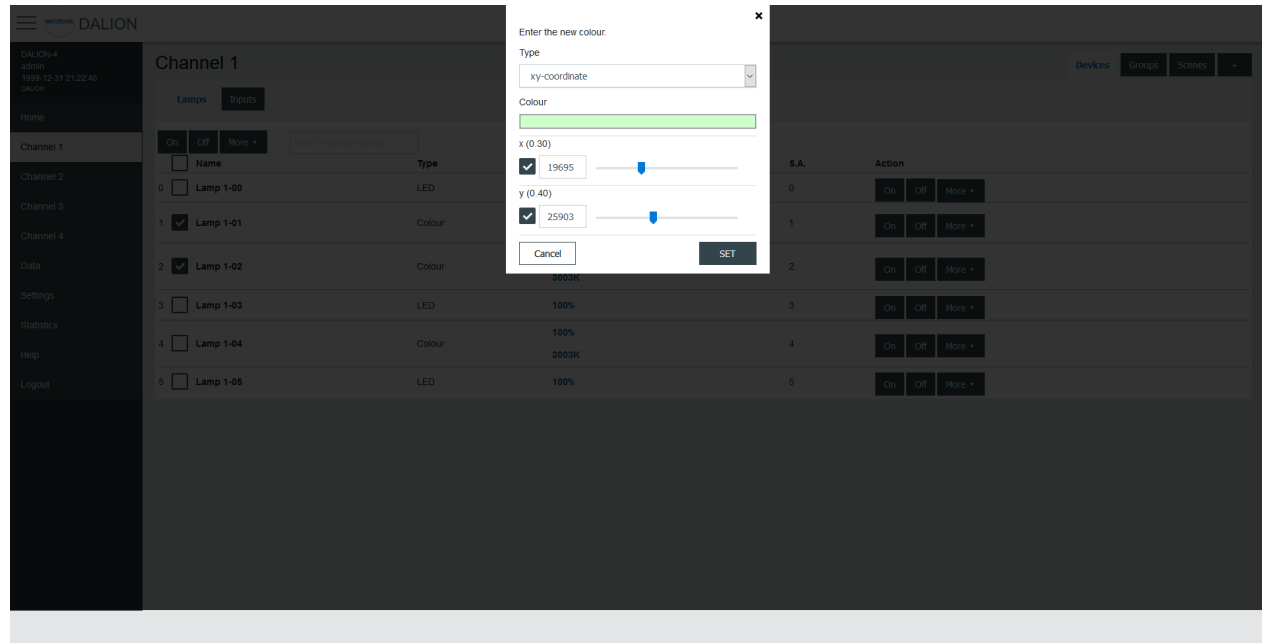
9.1.5 Colour Picker

When using **Set Colour** menu or the **Pick Colour** button a window appear to allow choosing the desired colour.

The window allows defining the colour according to the types of colours available for the selected lamp.

When a value is **MASK**, this value is not modified.
 For example, it is possible to set only the green colour, without affecting the red and blue colour.

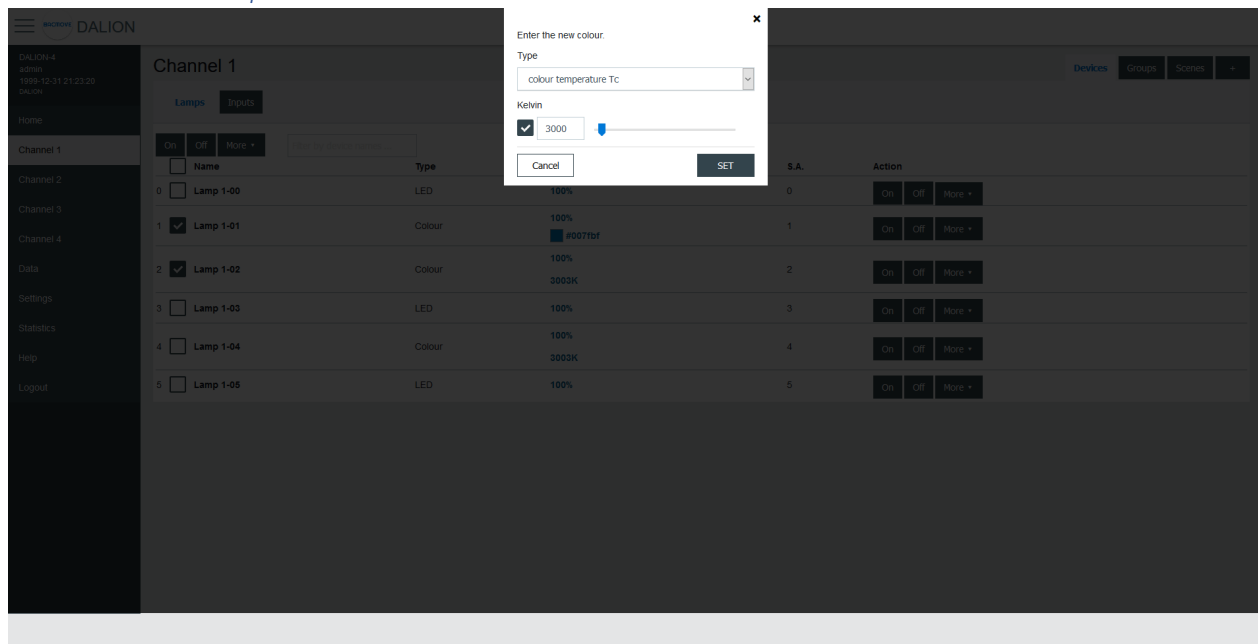
9.1.5.1 *xy-Coordinate*



Name	Unit	Minimum	Maximum	Default	Description
Colour Preview (1)	RGB				Clicking on the colour will open the browser colour picker.
x	1 / 65536	0	65534		
y	1 / 65536	0	65534		

(1) Colour is for demonstration purposes only, the resulting lamp colour may be different.

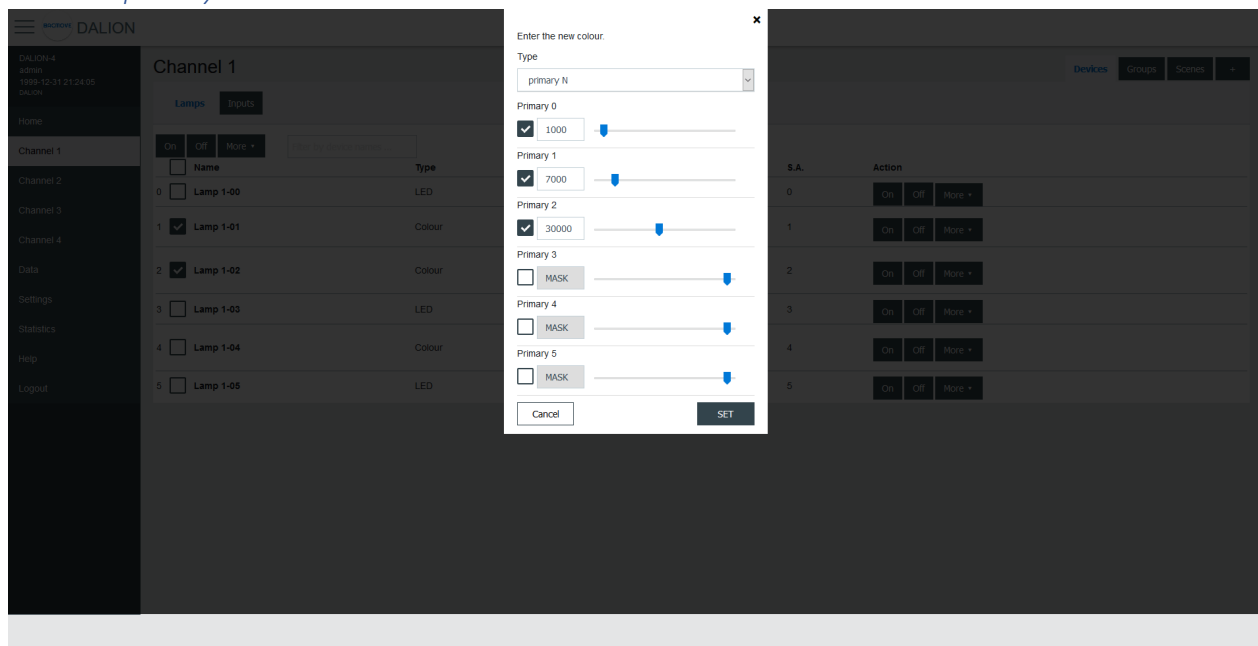
9.1.5.2 colour temperature Tc



Name	Unit	Minimum	Maximum	Default	Description
Kelvin	Kelvin	16 (1)	1 000 000 (1)		Colour temperature in Kelvin

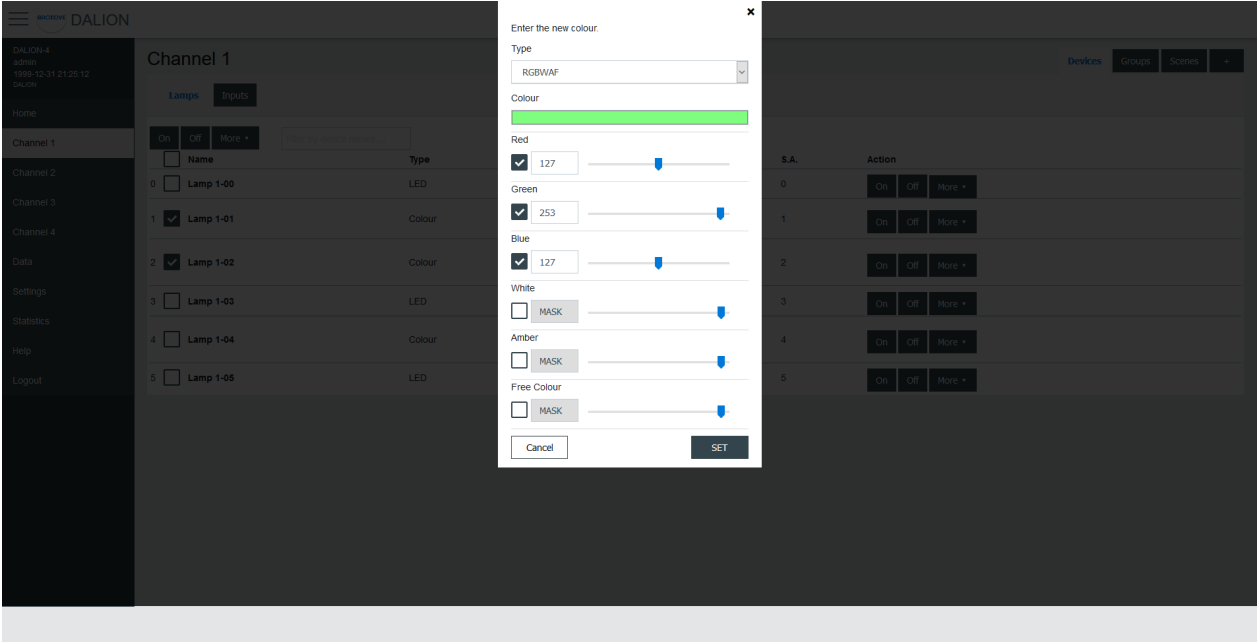
(1) The minimum and maximum Kelvin are also limited by the warmest and coolest parameters.

9.1.5.3 primary N



Name	Unit	Minimum	Maximum	Default	Description
Primary 0-5		0	65534		Primay value

9.1.5.4 RGBWAF



Name	Unit	Minimum	Maximum	Default	Description
Colour Preview (1)	RGB				Clicking on the colour will open the browser colour picker.
Red		0	254		Red colour value
Green		0	254		Green colour value
Blue		0	254		Blue colour value
White		0	254		White colour value
Amber		0	254		Amber colour value
Freecolour		0	254		Freecolour colour value

(1) Colour is for demonstration purposes only, the resulting lamp colour may be different.

9.1.6 Groups

There are 16 groups for the lamps and each lamp can be part of any combination of the 16 groups. This page allows visualization and control of the groups.

The first line is indicated by a * and is the channel. The underlying lines are numbered for the 16 groups.

It is possible to:

- turn **On** or **Off** the group
- **Set Level** of the group intensity
- **Recall, Store** and **Delete** the group scenes

By clicking on a group row, the Group Parameters page opens.

The screenshot shows the 'Channel 1 / Groups' page in the DALI-ON interface. The sidebar on the left contains navigation links: admin, DALI-ON-4, Home, Channel 1, Channel 2, Channel 3, Channel 4, Settings, Statistics, Help, and Logout. The main content area has a header 'Channel 1 / Groups' and tabs for 'Groups', '1-8', and '9-16'. Below the tabs, there is a table of groups. The first row is marked with an asterisk and represents the channel itself. The subsequent 15 rows represent individual groups, each with a checkbox, name, status, number of devices, and action buttons (On, Off, More).

	On	Off	More
* Channel 1			
1 Group 1_01 / Offices			
2 Group 1_02 / Offices Sales			
3 Group 1_03			
4 Group 1_04			
5 Group 1_05			
6 Group 1_06			
7 Group 1_07			
8 Group 1_08			
9 Group 1_09			
10 Group 1_10			
11 Group 1_11			
12 Group 1_12			
13 Group 1_13			
14 Group 1_14			
15 Group 1_15			
16 Group 1_16			

9.1.7 Group Parameters

This page allows the configuration of group parameters.

admin
DALION-4

Home

Channel 1

Channel 2

Channel 3

Channel 4

Data

Settings

Statistics

Help

Logout

Channel 1 / Groups / Group 1_00

Parameters

Actual Level %
100

SET

Name
Group 1_00

SET

Power On Level %
MASK

SET

System Failure Level %
MASK

SET

Minimum Level %
Enter Minimum Level %...

SET

Maximum Level %
Enter Maximum Level %...

SET

Fade Rate steps/s
358

SET

Fade Time seconds
No fade

SET

BACnet Object: Analog Output/Input 1000

Reliability: 0 (no-fault-detected)

Name	Unit	Minimum	Maximum	Default	Description
Actual Level	Percent	0%	100%		Actual group intensity
Name	String		32 characters		Name of the group
Manual Override	Choice			Auto	Holds the group on or off until released. Auto returns the group to automatic control (Auto, On, Off). The same Manual Override is available for a channel.
BACnet Object	String				BACnet object identifier of the group
Reliability	String				BACnet reliability of the group object
BAS Timeout Command	Choice			No Command	The command executed when communication is lost with another BACnet device (BAS). No Command, Off, On or Timeout Level.

Group names provide textual identification for each group. The intensity level of the groups can be changed. Once it is modified, all lamps in the group must reach the same brightness level.

Certain parameters of the DALI lamps can be sent to all the lamps which are part of the group.

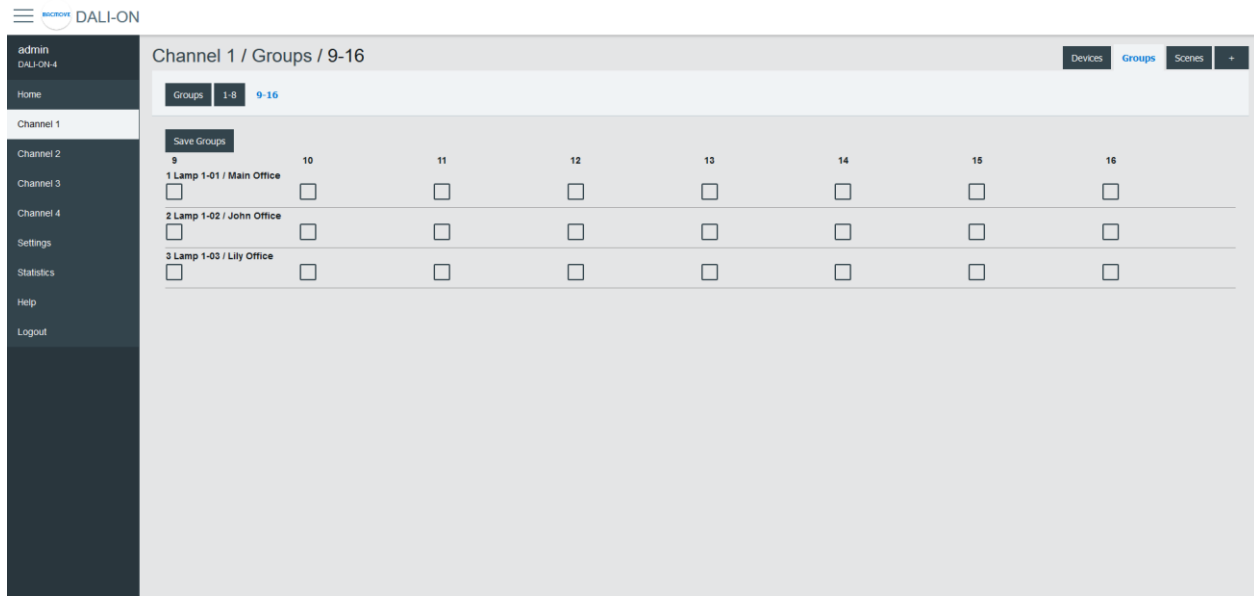
Name	Unit	Minimum	Maximum	Default	Description
Power On Level	Percent	0%	100%	100%	Level of intensity after a power on
System Failure Level	Percent	0%	100%	100%	Level of intensity when system failure
Minimum Level	Percent	0.1%	100%	100%	Minimum level of intensity
Maximum level	Percent	0.1%	100%	100%	Maximum level of intensity
Fade Rate	Choice	2.8	358	44.7	Fade rate in steps per second
Fade Time	Choice	No Fade	90.5	No Fade	Fade time in seconds
Dimming Curve	Choice	Logarithmic	Linear	Logarithmic	Dimming curve

9.1.8 Groups 0-7 / 8-15

For easy visualization and assignment of the 16 groups, they are separated in views of eight groups (i.e., Groups 0-7 and Groups 8-15).

The screenshot shows the DALI-ON web interface. On the left is a sidebar with navigation links: admin, DALI-ON, Home, Channel 1, Channel 2, Channel 3, Channel 4, Settings, Statistics, Help, and Logout. The main content area is titled 'Channel 1 / Groups / 1-8'. It features a 'Groups' tab with sub-tabs for '1-8' and '9-16'. Below the tabs is a 'Save Groups' button and a table for assigning devices to groups 1-8.

	1	2	3	4	5	6	7	8
1 Lamp 1-01 / Main Office	☒	☐	☐	☐	☐	☐	☐	☐
2 Lamp 1-02 / John Office	☒	☒	☐	☐	☐	☐	☐	☐
3 Lamp 1-03 / Lily Office	☒	☒	☐	☐	☐	☐	☐	☐



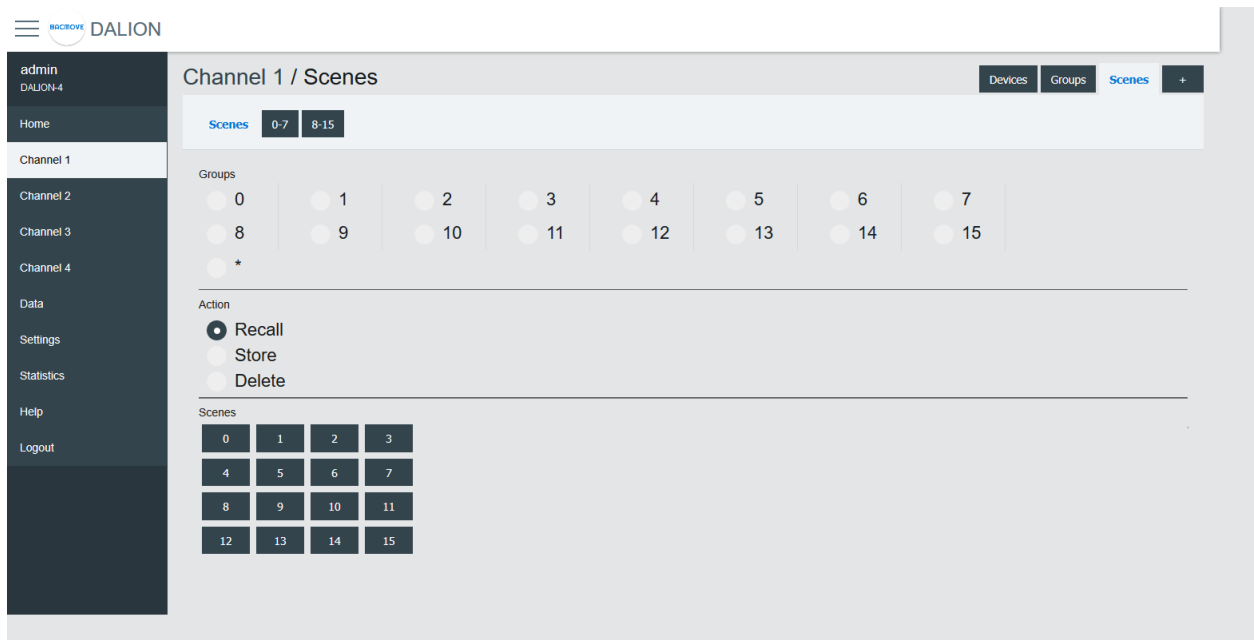
9.1.9 Scenes

Each lamp has 16 scenes. A scene is a level of light intensity in percentages. The value of a scene can also be left empty. Scenes control can be sent to a single lamp, a group of lamps, or the entire DALI channel. When a scene is recalled, all the addressed lamps are invited to dim their brightness at the same brightness level.

For lamps with colour control (i.e., DT8), the 16 scenes can also recall the colour levels. The configuration of the scene colour levels should be performed in the Colour page of each lamp.

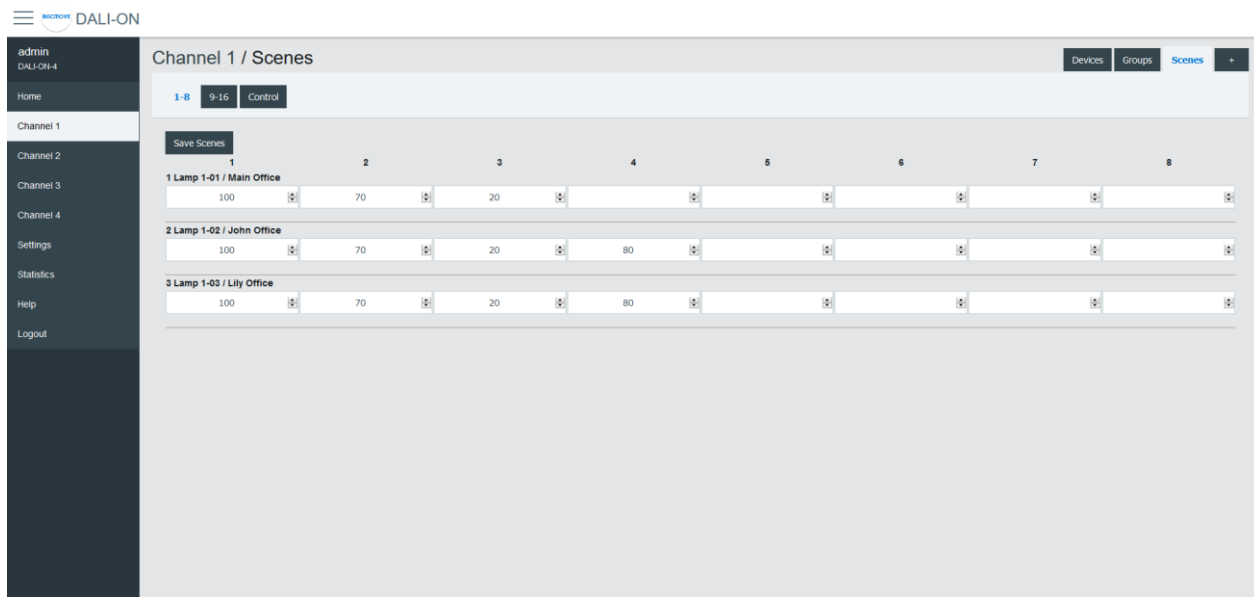
9.1.10 Scenes Control

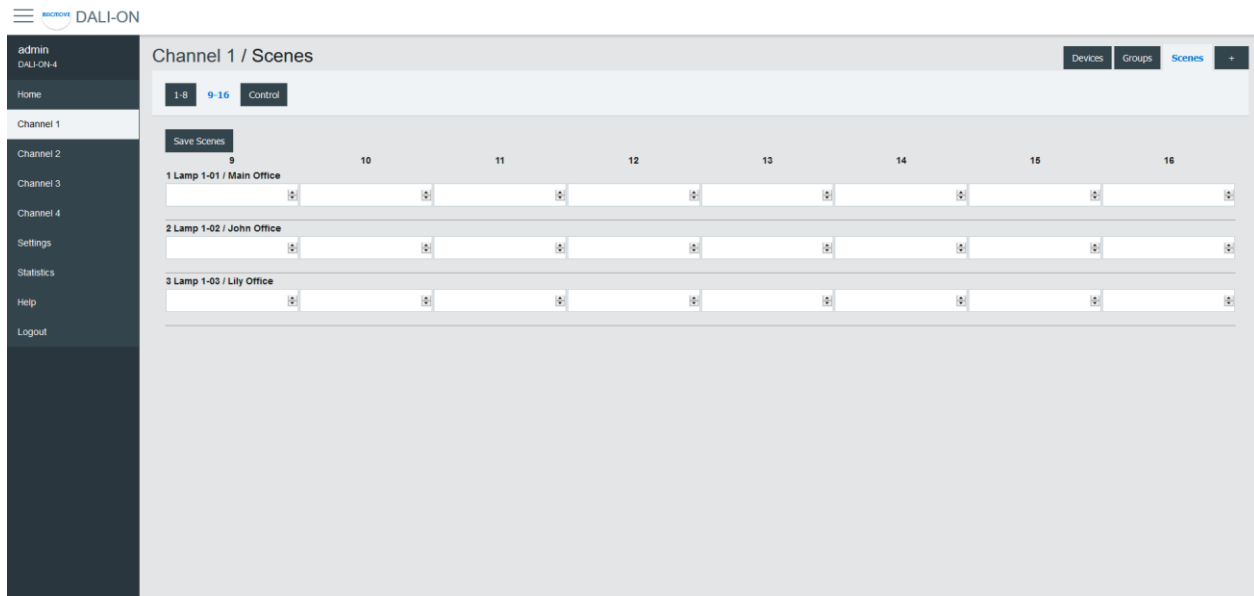
Scenes can be recalled, stored or deleted. Once the desired group or broadcast destination is selected and the **Recall**, **Store** or **Delete** action is also selected, one of the 16 scenes can be performed.



9.1.11 Scenes 0-7 / 8-15

For easy visualization and configuration of the 16 scenes, they are separated in views of eight scenes (i.e., Scenes 0-7 and Scenes 8-15).



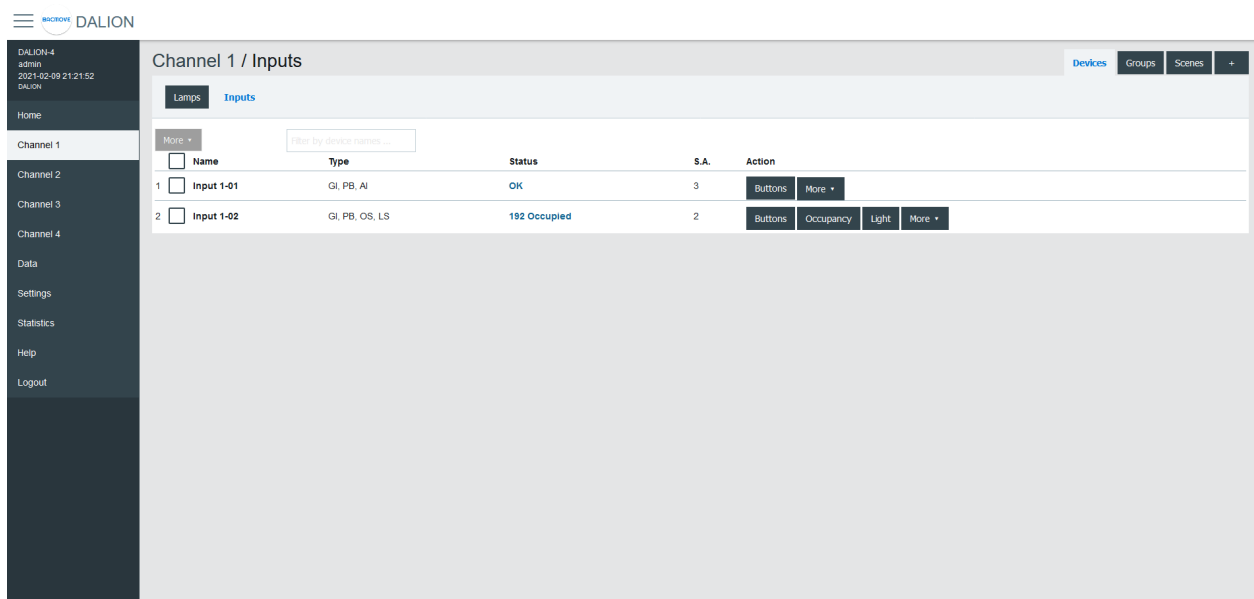


9.1.12 Memory Bank

This page allows read, editing and writing DALI memory banks of lamps and DALI-2 input devices.

9.1.13 Inputs

This page displays the list of commissioned DALI light sensors, occupancy sensors and buttons. The list provides a descriptive **Name** of each input device as well as other information like occupancy state, light value, types and short address.



Inputs devices can identify themselves with the **Identify** button.

The  icon indicates that Buttons or Occupancy commands are prohibited. See the network properties Allowed_Command or Buttons_Allowed_Command for more information.

By clicking on an input row, the Input Parameters page opens.

9.1.13.1 Input Parameters

This page allows the configuration of input parameters.

9.1.13.1.1 Parameters

The screenshot shows the DALION-4 web interface. On the left is a dark sidebar with a menu: Home, Channel 1 (selected), Channel 2, Channel 3, Channel 4, Data, Settings, Statistics, Help, and Logout. The top of the sidebar shows 'DALION-4', 'admin', and a timestamp '2021-02-09 07:04:22'. The main content area is titled 'Channel 1 / Inputs / Input 1-01'. It contains a 'Parameters' form with three sections: 'Name' with a text input 'Input 1-01' and a 'SET' button; 'Short Address' with a text input '3' and a 'SET' button; and 'Number of instances' with a value of '8'.

Name	Unit	Minimum	Maximum	Default	Description
Name	String		32 characters		Name of the device
Short Address	Number	0	63		The short address
Number of instances	Number	1	32		Displays the number of instances

9.1.13.1.2 Instances Value

Display of the values of the input instances.

Instances Value			
Instance	Type	Value	Configuration
0	Push-Button	Toggle 0	Buttons
1	Push-Button	Toggle 0	Buttons
2	Push-Button	Toggle 0	Buttons
3	Push-Button	Toggle 0	Buttons

9.1.13.1.3 Command Allowed

Display and modification of the allowed commands for the occupation and button inputs.

Command Allowed			
Type	Command Allowed		
Occupancy	Off, On	Disable Off	Disable On
Button	Off, On	Disable Off	Disable On

9.1.13.2 Buttons

Each input device support up to 32 button instances. The command and destination for each instance are configurable by clicking on an instance row.

DALION-4 admin 2021-02-09 21:25:19 DALION Home Channel 1 Channel 2 Channel 3 Channel 4 Data Settings Statistics Help Logout	Channel 1 / Inputs / Input 1-01 / Buttons						
	Button Instances						
	Instance	Function	Press Time (ms)	Command	Value 1	Value 2	Destination
	0	Push-button	500	Max Level / Up	0	0	Group 1-00 (Channel 1 / Group 00)
	3	Push-button	500	Off / Down	0	0	Group 1-00 (Channel 1 / Group 00)
	6	Push-button	500	Recall Scene	1	0	Group 1-00 (Channel 1 / Group 00)
	7	Push-button	500	Recall Scene	2	0	Group 1-00 (Channel 1 / Group 00)

9.1.13.3 Button Parameters

DALION-4 admin 2021-02-09 06:20:22 DALION Home Channel 1 Channel 2 Channel 3 Channel 4 Data Settings Statistics Help Logout	Channel 1 / Inputs / Input 1-01 / Buttons / 0						
	Button Parameters						
	Instance Values						
	Function						
	Push-button						
	Press Time (ms)						
	500						
	Destination						
	Group 1-00 (Channel 1 / Group 00)						
	Command						
	Max Level / Up						
	Value 1						
	0						
	Value 2						
	0						
	All Instances Values						
	Repeat Time (ms)						
	160						
	Save						

Name	Description
Function	Push-button or Switch
Press Time	Press time in milliseconds
Destination Type	Type of the Destination
Destination	Destination of the command
Command	Choice of the button command
Value 1	First value of the command
Value 2	Second value of the command
Send to Link ID	Remote Link ID the button events are shared into

9.1.13.3.1 Function

Name	Description
Push-button	Actuated when the button is temporarily pressed
Switch	Actuated when the button position is toggled

Push-button for momentary contact, like a wall push button.

Switch for maintained contact, like an occupancy sensor or a photocell.

9.1.13.3.2 Press Time

The time in milliseconds before registering a button press.

9.1.13.3.3 Repeat Time (ms)

The time in milliseconds between repeated commands. This parameter is the same for all instances of the same device.

9.1.13.3.4 Destination Type

The destination type allows to determine which destinations and commands are available to the button configuration.

Name
Group, Channel, RLC
Lamp
Commander
Commanders

9.1.13.3.4.1 Group, Channel, RLC

Allows commanding a DALI group, a DALI channel, or a Room Light Control.

Room Light Control commands are prefixed with "RLC:".

9.1.13.3.4.2 Lamp

Allows commanding a DALI lamp.

9.1.13.3.4.3 Commander

Allows starting or stopping a Commander.

9.1.13.3.4.4 Commanders

Allows starting or stopping a Commander.

9.1.13.3.5 Destination

The destination depends on the selected Destination Type.

9.1.13.3.6 Command - Group, Channel, RLC, Lamp

9.1.13.3.6.1 Push-button

Name	Short Press	Long Press	Long Press Repeat
Disabled			
Direct Value	Direct Value Value 1 %		
On	Recall Max Level		
On / Up	Recall Max Level	On and Step Up	Up
Off	Off		
Off / Down	Off	Step Down and Off	Down
Min Level	Min Level		
Min Level / Down	Min Level	Step Down and Off	Down
Recall Scene	Recall Scene Value 1 0-15		
Recall Scene / Up	Recall Scene Value 1 0-15	On and Step Up	Up
Recall Scene / Down	Recall Scene Value 1 0-15	Step Down and Off	Down
On / Off	Toggle between Recall Max Level and Off		
Last Level	Recall Last Level		
Last Level / Up	Recall Last Level	On and Step Up	Up
Last Level / Off	Toggle between Last Level and Off		
On / Off, Up / Down	Toggle between Recall Max Level and Off	Toggle between On and Step Up and Step Down and Off	Toggle between Up and Down
Last Level / Off, Up / Down	Toggle between Recall Last Level and Off	Toggle between On and Step Up and Step Down and Off	Toggle between Up and Down

Name	Short Press	Long Press	Long Press Repeat
Direct Value / Off, Up / Down	Toggle between Direct Value Value 1 % and Off	Toggle between On and Step Up and Step Down and Off	Toggle between Up and Down
Recall Scene / Off, Up / Down	Toggle between Recall Scene Value 1 0-15 and Off	Toggle between On and Step Up and Step Down and Off	Toggle between Up and Down
RLC: Occupancy - Unoccupied	Toggle occupancy state, 1 is unoccupied.		
RLC: Occupancy - Occupied	Toggle occupancy state, 1 is occupied		
RLC: Daylight Harvesting - Stop	Stop daylight harvesting		
RLC: Daylight Harvesting - Start	Start daylight harvesting		
RLC: Demand Response - Stop	Stop demand response		
RLC: Demand Response - Start	Start demand response		

9.1.13.3.6.2 Switch

Name	Open switch	Close switch
Disabled		
Direct Value	Direct Value Value 2 %	Direct Value Value 1 %
On		Recall Max Level
On / Up		Recall Max Level
Off		Off
Off / Down		Off
Min Level		Min Level
Min Level / Down	Min Level	Min Level
Recall Scene	Recall Scene Value 1 0-15	Recall Scene Value 2 0-15
Recall Scene / Up	Recall Scene Value 1 0-15	Recall Scene Value 2 0-15
Recall Scene / Down	Recall Scene Value 1 0-15	Recall Scene Value 2 0-15
On / Off	Off	On
Last Level		Recall Last Level
Last Level / Up		Recall Last Level
Last Level / Off	Off	Recall Last Level
On / Off, Up / Down	Off	On
Last Level / Off, Up / Down	Off	Recall Last Level
Direct Value / Off, Up / Down	Off	Direct Value Value 1 %
Recall Scene / Off, Up / Down	Off	Recall Scene Value 1 0-15
RLC: Occupancy - Unoccupied	Occupied	Unoccupied
RLC: Occupancy - Occupied	Unoccupied	Occupied
RLC: Daylight Harvesting - Stop	Start daylight harvesting	Stop daylight harvesting
RLC: Daylight Harvesting - Start	Stop daylight harvesting	Start daylight harvesting
RLC: Demand Response - Stop	Start demand response	Stop demand response
RLC: Demand Response - Start	Stop demand response	Start demand response

9.1.13.3.7 Command - Commander

Name	Short Press	Long Press	Long Press Repeat
No Command			
Start	Start the commander in the Destination		
Stop	Stop the commander in the Destination		

9.1.13.3.8 Command - Commanders

Name	Short Press	Long Press	Long Press Repeat
No Command			
Start Commander NN	Start the commander NN		
Stop Commander NN	Stop the commander NN		

9.1.13.3.9 Value 1

First value of the command.

9.1.13.3.10 Value 2

Second value of the command.

9.1.13.3.11 Send to Link ID

Shares this button's input events into a [Remote Link](#) Link ID. Virtual buttons on any controller of the same Link Network that follow this Link ID execute them. Leave empty to keep the button local.

9.1.13.4 Occupancy Sensor

Each input device supports up to one occupancy sensor instance.

DALION-4
admin
2021-02-09 06:26:53
DALION

Home
Channel 1
Channel 2
Channel 3
Channel 4
Data
Settings
Statistics
Help
Logout

Channel 1 / Inputs / Input 1-02 / Occupancy

Occupancy Parameters

Hold Time (seconds)

Save

Name	Unit	Minimum	Maximum	Default	Description
Hold Time	Seconds				Hold time in seconds

9.1.13.5 Light Sensor

Each input device supports up to one light sensor instance.

DALION-4
admin
2021-02-10 06:32:56
DALION

Home
Channel 1
Channel 2
Channel 3
Channel 4
Data
Settings
Statistics
Help
Logout

Channel 1 / Inputs / Input 1-02 / Light

Light Parameters

Hysteresis (%)

Hysteresis Minimum

Save

Name	Unit	Minimum	Maximum	Default	Description
Hysteresis					Hysteresis in percentage
Hysteresis Minimum					Hysteresis minimum

To prevent flooding the DALI network with an excessive number of events triggered by minor changes in illuminance levels, a hysteresis band is present in the light sensor.

The hysteresis band is determined as the greater of the following values:

- The Hysteresis in percentage of the sensor internal current illuminance level.
- The Hysteresis Minimum.

9.1.13.5.1 Hysteresis

This is a percentage of the current sensor internal illuminance level.

The valid values are from 0 to 25 percent.

9.1.13.5.2 Hysteresis Minimum

The minimum hysteresis.

The valid values are from 0 to 255.

9.1.13.6 Light Sensor Calibration

Light sensor calibration involves using a lux meter to measure the ambient light intensity. By comparing the value of the sensor with the lux meter reading, you can adjust the sensor to ensure accurate and consistent measurements. This process ensures that the output of the sensor corresponds accurately to the actual light intensity in lux.

Light Sensor Calibration						
Light Sensor Calibration						
Search Light Sensor:						
☐	Channel	Index	Name	Measured	Sensor Value	Set
☐	1	0	Input 1-00 Light	500	519	Calibrate Set
☐	1	1	Input 1-01 Light			Set
☐	1	2	Input 1-02 Light			Set
☐	1	3	Input 1-03 Light			Set
☐	1	4	Input 1-04 Light			Set
☐	1	5	Input 1-05 Light			Set
☐	1	6	Input 1-06 Light			Set
☐	1	7	Input 1-07 Light			Set
☐	1	8	Input 1-08 Light			Set
☐	1	9	Input 1-09 Light			Set
☐	1	10	Input 1-10 Light			Set
☐	1	11	Input 1-11 Light			Set
☐	1	12	Input 1-12 Light			Set
☐	1	13	Input 1-13 Light			Set
☐	1	14	Input 1-14 Light			Set
☐	1	15	Input 1-15 Light			Set
☐	1	16	Input 1-16 Light			Set
☐	1	17	Input 1-17 Light			Set

9.1.13.6.1 Light Sensors List

It list the calibration for each light sensor.

9.1.13.6.1.1 Collumns

9.1.13.6.1.1.1 Checkbox

Allows the manual calibration of the multiple selected light sensors.

9.1.13.6.1.1.2 Channel

The light sensor channel number, 1 to 4.

9.1.13.6.1.1.3 Index

The light sensor index number, 0 to 31.

9.1.13.6.1.1.4 Name

The light sensor name.

9.1.13.6.1.1.5 Measured

The value measured with a lux meter for calibration.

9.1.13.6.1.1.6 Sensor Value

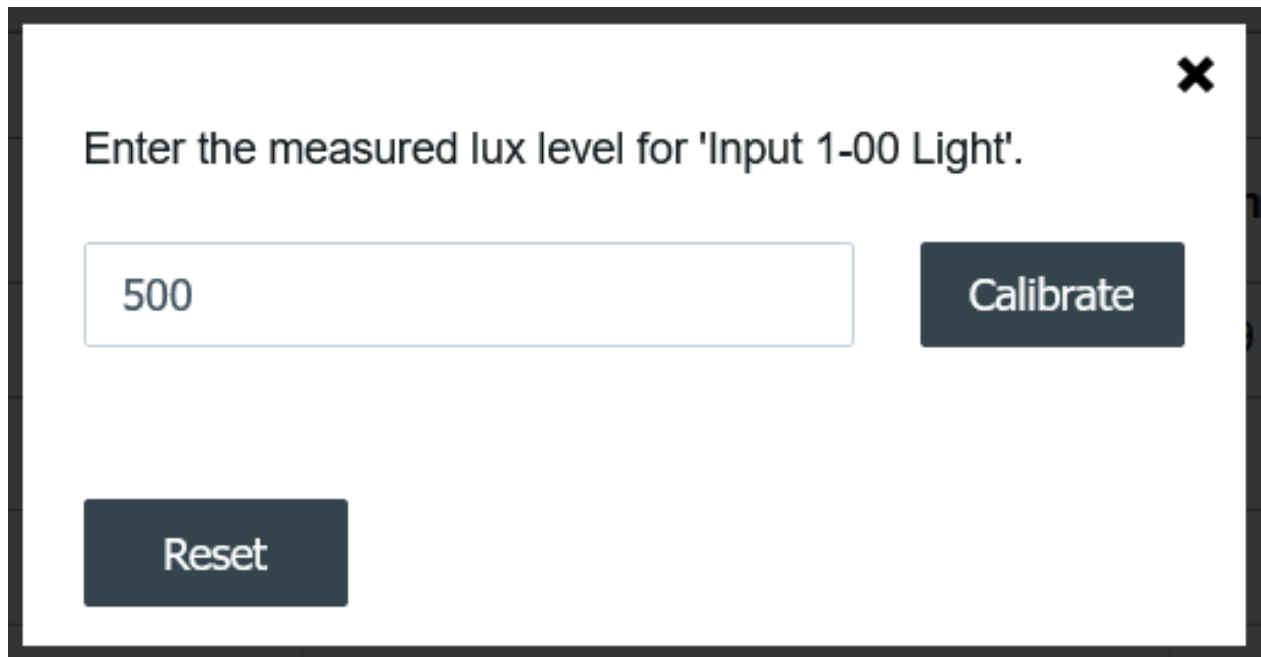
The light sensor reading value used for calibration.

9.1.13.6.1.1.7 Calibrate Button

Opens the light sensor calibration.

Enter the value obtained from the lux meter and press the Calibrate button.

The Reset button clears the calibration, allowing the use of the light sensor value without calibration.



Enter the measured lux level for 'Input 1-00 Light'.

500

Calibrate

Reset

9.1.13.6.1.1.8 Set Button

Opens the manual calibration for the light sensor.

Enter the value obtained from the lux meter and the light sensor reading. Then, press the Set button.

The Reset button clears the calibration, allowing the use of the light sensor value without calibration.

×

Enter the measured lux level and sensor reading value for 'Input 1-00 Light'.

500

519

Set

Reset

9.1.14 Addition of DALI devices

The button “+” is used to search for non-commissioned devices.

admin

DALION-4

Home

Channel 1

Channel 2

Channel 3

Channel 4

Data

Settings

Statistics

Help

Logout

Channel 1 / Scan

Devices Groups Scenes +

Unassigned (2)

Search

Scan

Clear

Auto Assign

Apply Assignment

Device	S.A.	Type	Status	Action
Unassigned	3	LED	0%	On Off Identify
Unassigned	63	LED	0%	On Off Identify

9.1.15 Unassigned Devices

After scanning a channel, the page displays the non-commissioned devices found on the network. The buttons allow turning **On**, **Off** and to **Identify** the lamp by cycling it between its minimum and its maximum of intensity.

The **Scan** button allows starting a scan on the DALI channel for unassigned devices.

The **Clear** button allows clearing the list of unassigned devices.

The **Auto Assign** button automatically assigns lamps to a lamp index.

The **Apply Assignment** button assign lamps to a selected lamp index.

9.1.16 Assignment

There are three ways of assigning the DALI devices.

9.1.16.1 Auto Assign

The lamps are automatically assigned to a lamp index.

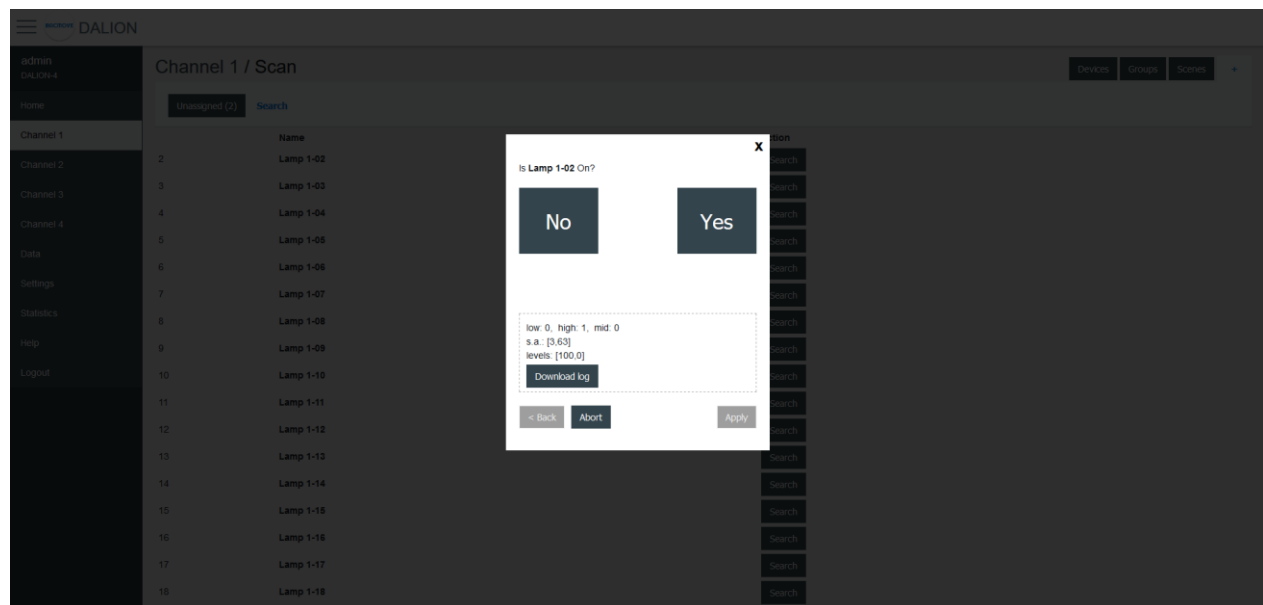
9.1.16.2 Apply Assignment

The selected assignment is applied.

9.1.16.3 Search

The available lamps can be searched. By pressing the **Search** button next to a lamp, a search by a half-interval search means is launched to find the lamp. Half of the lamps are turned Off, while the other half is turned On, the user must answer **No** or **Yes** if the desired lamp is On. This process is repeated until only the desired lamp is On.

Once the search is complete, the user can enter a name for the lamp and **Apply** the assignment.



9.1.17 Replace Offline Device

An offline DALI device can be replaced by a newly scanned device at the same index. Select the offline device to replace in the assign selection, then apply a scanned unassigned device: the new device is programmed to the short address of the replaced device and its stored configuration is automatically resent. This restores a fixture after a physical device is swapped, without recommissioning it.

10 Web User Interface - Automation

10.1 Automation

10.1.1 Data Points

The BACnet objects are listed.

10.1.2 Schedules

The schedules allow to automatically adjust the light intensity at a specific time for the groups, channels and scene controllers.

There are 4 (4 DALI channels model), 1 (1 DALI channel model) schedules of 7 weekdays and each day can execute up to 6 different events. Each schedule can control up to 4 different data points.

10.1.2.1 Schedules Brief

Displays the current values of the schedules and allows to **Enable** or **Disable** them.

Clicking on a schedule row allows to modify its parameters and events.

The screenshot shows the DALION web interface. The top header includes the DALION logo and user information: DALION-4, admin, 2020-07-26 09:03:13, DALION. The sidebar on the left contains navigation links: Home, Channel 1, Channel 2, Channel 3, Channel 4, Data, Settings, Statistics, Help, and Logout. The main content area is titled 'Data / Schedules' and features an 'Update' button. Below this is a 'Schedules Brief' section containing a table with the following data:

Name	Present Value	State	
Schedule 1-0	0	Enabled	Disable
Schedule 2-0	0	Enabled	Disable
Schedule 3-0	0	Enabled	Disable
Schedule 4-0	0	Enabled	Disable

At the top right of the table, there are two buttons: 'Enable All' and 'Disable All'.

10.1.2.2 Schedule Parameters

Allows to modify the parameters of a schedule such as its name and its output data point.

DALION-4
admin
2020-07-26 09:13:20
DALION

Home

Channel 1

Channel 2

Channel 3

Channel 4

Data

Settings

Statistics

Help

Logout

Data / Schedules / Schedule 1-0 / Parameters

Parameters

Name

Schedule 1-0

Schedule Output - 0

Channel 1 (Channel 1)

Schedule Output - 1

Schedule Output - 2

Schedule Output - 3

Effective Period Start

2000-01-01

yyyy-mm-dd

Effective Period End

2037-12-31

yyyy-mm-dd

Priority For Writing

8

Name	Unit	Minimum	Maximum	Default	Description
Name	String		32 characters		Name of the schedule
Output Type	Choice				The type of output
Schedule Output 1	Data Point				Data point where the schedule writes
Schedule Output 2	Data Point				Data point where the schedule writes
Schedule Output 3	Data Point				Data point where the schedule writes
Schedule Output 4	Data Point				Data point where the schedule writes
Effective Period Start	Date				First date on which the schedule is in effect
Effective Period End	Date				Last date on which the schedule is in effect
Priority For Writing	Number	1	16	8	Priority used by the schedule when writing
Schedule Default	Number				Default value of the schedule
BACnet Object	String				BACnet object identifier of the schedule

10.1.2.2.1 Output Type

10.1.2.2.1.1 Group, Channel

Allows sending command to a group or channel.

10.1.2.2.1.2 Commander

Allows sending command to a single commander.

10.1.2.2.1.3 Commanders

Allows sending command to a commander.

10.1.2.2.1.4 Group Control

Allows sending a command to a group control.

10.1.2.2.1.5 Remote Link

Sends a button short press into a Link ID (1-32767). Virtual buttons on any controller of the same Link Network that follow this Link ID execute it, like a shared DALI push button short press. The event value is the Link ID.

10.1.2.3 Weekly Schedule

Displays the scheduled events of the schedule.

	SU	MO	TU	WE	TH	FR	SA
1	08:30 100	07:00 100	07:00 100	07:00 100	07:00 100	07:00 100	08:30 100
2	18:00 0	20:00 0	20:00 0	20:00 0	20:00 0	20:00 0	18:00 0
3							
4							
5							
6							

10.1.2.4 Weekly Schedule Edit

Allows modifying the schedule events.

10.1.2.4.1 Day of the Week

Allows selecting the days of the week to modify. Several days can be modified at the same time.

10.1.2.4.2 Event Program

Allows selecting the event program to modify.

10.1.2.4.3 Type

The type of event time.

Type	Description
Time	Fixed time
Sunrise	Astronomical sunrise time
Sunset	Astronomical sunset time

10.1.2.4.4 Time

The time of the event.

By Selecting – : – the events corresponding to the selected **Day of the Week** and **Event Program** will be deleted.

10.1.2.4.5 Offset

For astronomical time allows for an offset of 120 minutes before or after the astronomical time.

10.1.2.4.6 Earliest Time

For astronomical time allows limiting the earliest time that the event can occur.

10.1.2.4.7 Execute Earliest

For astronomical time allows executing the event if it were to occur before the Earliest Time.

10.1.2.4.8 Latest Time

For astronomical time allows limiting the latest time that the event can occur.

10.1.2.4.9 Execute Latest

For astronomical time allows executing the event if it were to occur after the Latest Time.

10.1.2.4.10 Value

The value written by the schedule at the specified time.

10.1.2.4.11 Buttons

The **Ok** button applies the modification of the schedule events and returns to the Weekly Schedule page. The button **Apply** applies the modification but remains on the same page to allow the entry of more events. The button **Cancel** returns to the Weekly Schedule page without modifying the events.

10.1.3 Room Light Control

The Room Light Control allow to automatically adjust the light intensity depending of external inputs such as occupancy, presence and light sensors.

10.1.3.1 Room Light Control List

Lists all the available Room Light Control. It also indicates the current states of the occupancy, light sensors and outputs.

Clicking on a Room Light Control row allows to modify its parameters.

Data / Room Light Control				Test Mode Settings	States
Room Light Control					
Command ▾					
☐	Name	Sensors	Outputs	States	
01	☒ RLC 01	Light Input 1-01 Light 0 lux Occupancy Input 1-02 Occupancy  Input 1-03 Occupancy 	Group 1-15 (Channel 1 / Group 15) 100 %	DL	
				Occupancy:	Unoccupied
				Occupancy Timer (s)	0 / 0
				Override Timer (s)	0 / 1800
02	☐ RLC 02		Outputs 2 Group 1-00 (Channel 1 / Group 00) 100 %		
03	☐ RLC 03		Group 1-00 (Channel 1 / Group 00) 100 %		
04	☐ RLC 04				

For each Room Light Control, the list also shows its active profile, the inputs that currently report it occupied and the source of an active warning hold.

10.1.3.1.1 Occupancy Sources

Indicates which inputs currently report the Room Light Control as occupied.

Source	Description
Sensors (direct)	Occupancy sensors sending directly to this Room Light Control.
Buttons	Buttons with an occupancy command for this Room Light Control.
External (Network)	External Occupancy inputs written over the network (writer slots).
Linked Rooms	Held occupied by a linked Room Light Control.

10.1.3.1.2 Warning Hold

Indicates when the Room Light Control is held at its warning level, and its source: an External Warning Hold input (network) or a linked Room Light Control.

10.1.3.1.3 Active Profile

Indicates the profile whose occupancy and daylight harvesting parameters the Room Light Control currently follows.

10.1.3.2 Room Light Control Parameters

Allows to modify the parameters of a Room Light Control such as its name, its timings and its output data points.

Refer to the associated BACnet object for further details.

DALION-4
admin
2021-10-10 12:19:43
DALION

Home
Channel 1
Channel 2
Channel 3
Channel 4
Data
Settings
Statistics
Help
Logout

Room Light Control / RLC 01

Enabled

Parameters

Name
RLC 01
8 characters maximum.

Mode
Enabled

Write Priority
8

Occupancy

Occupied Command
Direct Value

Occupied Intensity (%) or Scene Number
90
Value for occupied state.

Unoccupied Command
Direct Value

Unoccupied Intensity (%) or Scene Number
0

Light Sensor

Light Sensors - 1
Input 1-00 Light (Channel 1 / Light Sensor 00)

Occupancy Sensors

Occupancy Sensors - 1
Input 1-00 Occupancy (Channel 1 / Occupancy Sensor 00)

Occupancy Sensors - 2

Occupancy Sensors - 3

Occupancy Sensors - 4

Occupancy Sensors - 5

Occupancy Sensors - 6

Occupancy Sensors - 7

Occupancy Sensors - 8

Outputs

Primary outputs.

Output - 1
Channel 1 (Channel 1)

Output - 2

Output - 3

Output - 4

Save

Outputs 2

Secondary outputs associated with Lamp 2 configuration.

Output 2 - 1

Output 2 - 2

Output 2 - 3

Output 2 - 4

Save

10.1.3.2.1 Parameters

Name	Unit	Limit	Default	Description
Name	String	8 characters	RLC NN, where NN is the number of the Room Light Control	Name of the Room Light Control.
Mode	Choice	Enabled, Disabled	Disabled	Allows to enable and disable the Room Light Control.
Write Priority	Number	1-16	8	Priority for writing to the outputs.

10.1.3.2.2 Profile

Assigns a Room Light Control Profile that the Room Light Control follows instead of its own parameters. A different profile can be assigned for the occupied and the unoccupied Occupied Mode.

An assigned profile overrides the occupancy commands, times and daylight harvesting values of the Room Light Control. Those fields stay editable and are used again when no profile is assigned.

Name	Description
Profile (Occupied Mode: Occupied)	The profile followed while the Occupied Mode is occupied.
Profile (Occupied Mode: Unoccupied)	The profile followed while the Occupied Mode is unoccupied.

10.1.3.2.3 Occupancy

Name	Unit	Limit	Default	Description
Occupied Command	Choice	Disabled, Direct Value, Max Level, Off, Min Level, Recall Scene, Start Daylight Harvesting, Stop Daylight Harvesting	Disabled	Command executed when entering the occupied state.
Occupied Intensity (%) or Scene Number	Percent or Number	0-100% or 0-15 Scene Number	0	The value for the Occupied Command.
Unoccupied Command	Choice	Disabled, Direct Value, Max Level, Off, Min Level, Recall Scene, Start Daylight Harvesting, Stop Daylight Harvesting	Disabled	Command executed when entering the unoccupied state.
Unoccupied Intensity (%) or Scene Number	Percent or Number	0-100% or 0-15 Scene Number	0	The value for the Unoccupied Command.

Name	Unit	Limit	Default	Description
Warning Command	Choice	Disabled, Direct Value, Max Level, Off, Min Level, Recall Scene, Start Daylight Harvesting, Stop Daylight Harvesting, Blink Warning	Disabled	Command executed when entering the warning state. Blink Warning blinks the lights off briefly and returns them to their previous level.
Warning Intensity (%) or Scene Number	Percent or Number	0-100% or 0-15 Scene Number	0	The value for the Warning Command.
Warning Time	Seconds	0 - 2 400	0 (disabled)	The warning time.
Hold Time	Seconds	0 - 2 400	0 (disabled)	Hold time for occupancy state.
Ignore Time	Seconds	0 - 2 400	0 (disabled)	Time where the occupation update is ignored after the lamp goes Off.
Walk-Through Mode	Choice	Enabled, Disabled	Disabled	When enabled, an occupancy shorter than 1/8 of the Hold Time shortens the Hold Time to 1/4 of its value.
Override Time	Seconds	0 - 72 000	0	Time where the unoccupied state is temporarily overwritten by the occupied state.
Occupied Mode Command Enable	Choice	No Command, Unoccupied Command, Occupied Command, Unoccupied and Occupied Command	Unoccupied and Occupied Command	It allows enabling and disabling the execution of the occupancy command when Occupied_Mode is modified.

10.1.3.2.4 Daylight Harvesting

Name	Unit	Limit	Default	Description
Setpoint Unoccupied	Number	0 - 65 534	0	Setpoint unoccupied for the illumination level.
Setpoint Occupied	Number	0 - 65 534	0	Setpoint occupied for the illumination level.
Deadband	Number	0 - 65 534	20	Deadband for the current setpoint.
Step Value	Percent	0 - 100	4	Maximum step to approach the illumination setpoint in percentage.
Minimum Intensity	Percent	0 - 100	0	Minimum intensity.
Maximum Intensity	Percent	0 - 100	100	Maximum intensity.
Lamp 2 Offset	Percent	0 - 100	0	Lamp 2 Offset.
Lamp 2 Limit	Percent	0 - 100	0	Lamp 2 Limit.

10.1.3.2.5 Light Sensor

Selection of the light sensor for daylight harvesting.

10.1.3.2.6 Occupancy Sensor

Selection of the occupancy sensors for occupied state.

10.1.3.2.7 Linked Occupancy

Selection of up to four other Room Light Controls that this Room Light Control holds while its own occupancy state is occupied. Refer to the associated BACnet Loop object for the hold mode details.

10.1.3.2.8 Outputs

Selection of the primary outputs.

10.1.3.2.9 Outputs 2

Selection of the secondary outputs.

10.1.3.3 Room Light Control States

Accessed via the Room Light Control list with the States button, displays the internal states and timers of the Room Light Control. It provides valuable information on the operations and internal states of Room Light Control, making it easier to understand their functioning.

10.1.3.3.1 Name

Name of the Room Light Control.

10.1.3.3.2 States

Value	Description
DL	Daylight Harvesting is currently active
OC	Currently occupied
OA	Override is currently active
OM	Occupied Mode is occupied
TM	Test Mode is currently active
DR	Demand Response is currently active

10.1.3.3.3 Flags

Internal information.

10.1.3.3.4 Occupancy State

Value	Description
Unknown	Unknown state, this may be due to an unconfigured Room Light Control
Unoccupied	Unoccupied
Unoccupied - Wait Ignore Time	The occupancy sensors Ignore Time is currently counting
Occupied	Occupied
Occupied - Wait Hold Time	The occupancy sensors Hold Time is currently counting
Occupied - Wait Warning Time	Warning command was executed and Warning Time is currently counting

10.1.3.3.5 Occupancy Timer (s)

Increments, in seconds, up to the configured parameter value.

10.1.3.3.6 Light Integrator

Internal value of the Daylight Harvesting control.

10.1.3.3.7 Light Prev. Error

Internal value of the Daylight Harvesting control.

10.1.3.3.8 Light Diff.

Internal value of the Daylight Harvesting control.

10.1.3.3.9 Light Prev. Meas.

Internal value of the Daylight Harvesting control.

10.1.3.3.10 Light Out.

Internal value of the Daylight Harvesting control.

10.1.3.3.11 Override Timer (s)

Increments, in seconds, up to the configured parameter value.

10.1.3.3.12 Sensors

Indicates whether the occupancy sensors of the Room Light Control are occupied.

10.1.3.3.13 Active Profile

The profile the Room Light Control currently follows, shown as RLCP followed by the profile number.

10.1.3.3.14 Ext. Occupancy

The External Occupancy writer slots (network) currently asserted.

10.1.3.3.15 Ext. Warning Hold

The External Warning Hold writer slots (network) currently asserted.

10.1.3.3.16 External Light Level

The External Light Level (lux) written over BACnet, when set. When no external light level is set, the DALI light sensors apply.

10.1.3.3.17 Occupancy Sources

Indicates which inputs currently report the Room Light Control as occupied.

Code	Description
SE	The Room Light Control own occupancy sensor data points.
SD	Occupancy sensors sending directly to this Room Light Control.
BU	Buttons with an occupancy command.
EX	External Occupancy inputs (network writer slots).
LI	Held occupied by a linked Room Light Control.

10.1.4 Room Light Control Profiles

A Room Light Control Profile is a shared, named set of behaviour parameters that a Room Light Control can follow instead of its own parameters. Up to 32 profiles are available.

10.1.4.1 Profiles List

Lists all profiles and the number of Room Light Controls assigned to each. Clicking a profile row opens the profile editor.

Automation / RLC Profiles

Profiles		Create from RLC	Duplicate	Assignments
	Name	Assigned RLCs		
RLCP 01	RLC Profile 1	2		
RLCP 02	RLC Profile 2	2		
RLCP 03	RLC Profile 3	3		
RLCP 04	RLC Profile 4			
RLCP 05	RLC Profile 5			
RLCP 06	RLC Profile 6			
RLCP 07	RLC Profile 7			
RLCP 08	RLC Profile 8			
RLCP 09	RLC Profile 9			
RLCP 10	RLC Profile 10			
RLCP 11	RLC Profile 11			

Column	Description
Name	The profile name. An unnamed profile is shown as "unnamed".
Assigned RLCs	The number of Room Light Controls that follow the profile.

The following actions are available:

- **Create from RLC:** creates a profile from the current settings of a Room Light Control.
- **Duplicate:** copies a profile to another profile.
- **Assignments:** opens the page to assign a profile to several Room Light Controls at once.

10.1.4.2 Profile Parameters

Allows modifying a profile, such as its name, its occupancy commands and times, and its daylight harvesting settings.

Automation / RLC Profiles / RLC Profile 1

RLCP 01Save

Name

max: 16 characters

Occupancy
Occupied Command

Unoccupied Command

Warning Command

Warning Command - Value

min: 0 max: 255

Hold Time (s)

Occupancy: Occupied Command and value, Unoccupied Command and value, Warning Command and value, Hold Time (s), Ignore Time (s) and Warning Time (s).

Daylight Harvesting: Occupied Setpoint (lux), Unoccupied Setpoint (lux), Deadband (lux), Step Value (%), Minimum Intensity (%) and Maximum Intensity (%).

10.1.4.3 *Create from RLC*

Copies the current occupancy behaviour and daylight harvesting parameters of a Room Light Control into a profile.

Field	Description
Room Light Control	The Room Light Control to copy the settings from.
Destination Profile	The profile to overwrite.
Profile Name	The name of the destination profile.

10.1.4.4 Duplicate

Copies a profile to another profile.

Field	Description
Source Profile	The profile to copy from.
Destination Profile	The profile to copy to.

10.1.4.5 Assignments

Assigns a profile to several Room Light Controls at once, for the occupied and the unoccupied Occupied Mode.

Automation / RLC Profiles / Assignments

Assignments Save

None ▼ Profile (Occupied Mode: Occupied) ▼ Set Selected

☐	RLC	Profile (Occupied Mode: Occupied)	Profile (Occupied Mode: Unoccupied)
☐	01 RLC 01 (RLC 01)	RLCP 01 - RLC Profile 1 ▼	RLCP 02 - RLC Profile 2 ▼
☐	02 RLC 02 (RLC 02)	RLCP 01 - RLC Profile 1 ▼	RLCP 02 - RLC Profile 2 ▼
☐	03 RLC 03 (RLC 03)	RLCP 03 - RLC Profile 3 ▼	None ▼
☐	04 RLC 04 (RLC 04)	RLCP 03 - RLC Profile 3 ▼	None ▼
☐	05 RLC 05 (RLC 05)	RLCP 03 - RLC Profile 3 ▼	None ▼
☐	06 RLC 06 (RLC 06)	None ▼	None ▼
☐	07 RLC 07 (RLC 07)	None ▼	None ▼
☐	08 RLC 08 (RLC 08)	None ▼	None ▼

Column	Description
RLC	The Room Light Control.
Profile (Occupied Mode: Occupied)	The profile followed while the Occupied Mode is occupied.
Profile (Occupied Mode: Unoccupied)	The profile followed while the Occupied Mode is unoccupied.

Select the Room Light Control rows and use Set Selected to apply a profile to all selected Room Light Controls.

10.1.5 Dynamic Color Recipes

Dynamic Color Recipes allows configuring time-based brightness and color transitions.

10.1.5.1 Dynamic Color Recipes List

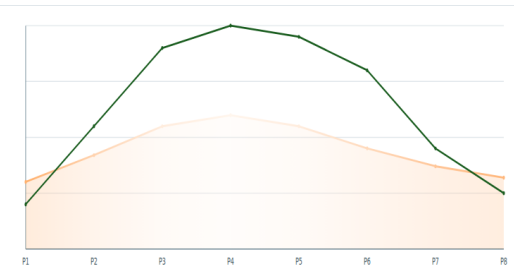
Lists all available graphs and their status.

Clicking **Open** on a graph row opens the graph configuration page.

Automation / Dynamic Color Recipes			
Update RLC Mapping			
Graphs			
#	Name	Flags	Open
1	Productive Boost	Enabled	Open
2	Office Daylight	Enabled	Open
3	Hospitality Warm	Enabled	Open
4	Retail Display	Enabled	Open
5	RGB Pulse	Enabled	Open
6	Graph 06	Disabled	Open
7	Graph 07	Disabled	Open
8	Graph 08	Disabled	Open
9	Graph 09	Disabled	Open
10	Graph 10	Disabled	Open
11	Graph 11	Disabled	Open
12	Graph 12	Disabled	Open
13	Graph 13	Disabled	Open

10.1.5.2 Dynamic Color Recipes Graph

Allows modifying the parameters of a graph and its support points.

Automation / Dynamic Color Recipes / Graph 1																																																																										
Update RLC Mapping Presets or copy Save																																																																										
Parameters																																																																										
Name	Enable	Fade Time	Color type (ct)																																																																							
Productive Boost	Enabled	No change	TC																																																																							
Graph Preview		Points																																																																								
Color Temperature ● Brightness (%)  Note: Graph is for illustrative purposes only and may not reflect the actual color and brightness.	<table><thead><tr><th>#</th><th>Time Type</th><th>Offset (minutes)</th><th>Time / Earliest Clamp</th><th>Latest Clamp</th><th>%</th><th>Kelvin</th><th>Actions</th></tr></thead><tbody><tr><td>1</td><td>☾</td><td></td><td>05 : 30</td><td></td><td>20</td><td>3003</td><td> Pick T I X </td></tr><tr><td>2</td><td>☾</td><td></td><td>07 : 00</td><td></td><td>55</td><td>4202</td><td> Pick T I X </td></tr><tr><td>3</td><td>☾</td><td></td><td>09 : 00</td><td></td><td>90</td><td>5495</td><td> Pick T I X </td></tr><tr><td>4</td><td>☾</td><td></td><td>12 : 00</td><td></td><td>100</td><td>5988</td><td> Pick T I X </td></tr><tr><td>5</td><td>☾</td><td></td><td>14 : 30</td><td></td><td>95</td><td>5495</td><td> Pick T I X </td></tr><tr><td>6</td><td>☾</td><td></td><td>17 : 00</td><td></td><td>80</td><td>4505</td><td> Pick T I X </td></tr><tr><td>7</td><td>☾</td><td></td><td>20 : 00</td><td></td><td>45</td><td>3704</td><td> Pick T I X </td></tr><tr><td>8</td><td>☾</td><td></td><td>22 : 30</td><td></td><td>25</td><td>3195</td><td> Pick T I X </td></tr></tbody></table>		#	Time Type	Offset (minutes)	Time / Earliest Clamp	Latest Clamp	%	Kelvin	Actions	1	☾		05 : 30		20	3003	Pick T I X	2	☾		07 : 00		55	4202	Pick T I X	3	☾		09 : 00		90	5495	Pick T I X	4	☾		12 : 00		100	5988	Pick T I X	5	☾		14 : 30		95	5495	Pick T I X	6	☾		17 : 00		80	4505	Pick T I X	7	☾		20 : 00		45	3704	Pick T I X	8	☾		22 : 30		25	3195	Pick T I X
#	Time Type	Offset (minutes)	Time / Earliest Clamp	Latest Clamp	%	Kelvin	Actions																																																																			
1	☾		05 : 30		20	3003	Pick T I X																																																																			
2	☾		07 : 00		55	4202	Pick T I X																																																																			
3	☾		09 : 00		90	5495	Pick T I X																																																																			
4	☾		12 : 00		100	5988	Pick T I X																																																																			
5	☾		14 : 30		95	5495	Pick T I X																																																																			
6	☾		17 : 00		80	4505	Pick T I X																																																																			
7	☾		20 : 00		45	3704	Pick T I X																																																																			
8	☾		22 : 30		25	3195	Pick T I X																																																																			

10.1.5.2.1 Parameters

Allows modifying the graph parameters such as its name, status, fade time and color type.

The graph parameters include:

- Name
- Enable
- Fade Time
- Color Type

10.1.5.2.2 Points

Each support point allows configuring:

- Time type (Fixed, Sunrise, Sunset)
- Time and offsets
- Brightness and color values

10.1.5.3 Dynamic Color Recipes RLC Graph Mapping

Allows configuring the mapping between Room Light Control and Dynamic Color Recipes graphs.

Each row maps one Room Light Control to a selected graph and can be saved directly.

Automation / Dynamic Color Recipes / RLC Graph Mapping

Update

RLC Graph Mapping

Save All Mapping Changes

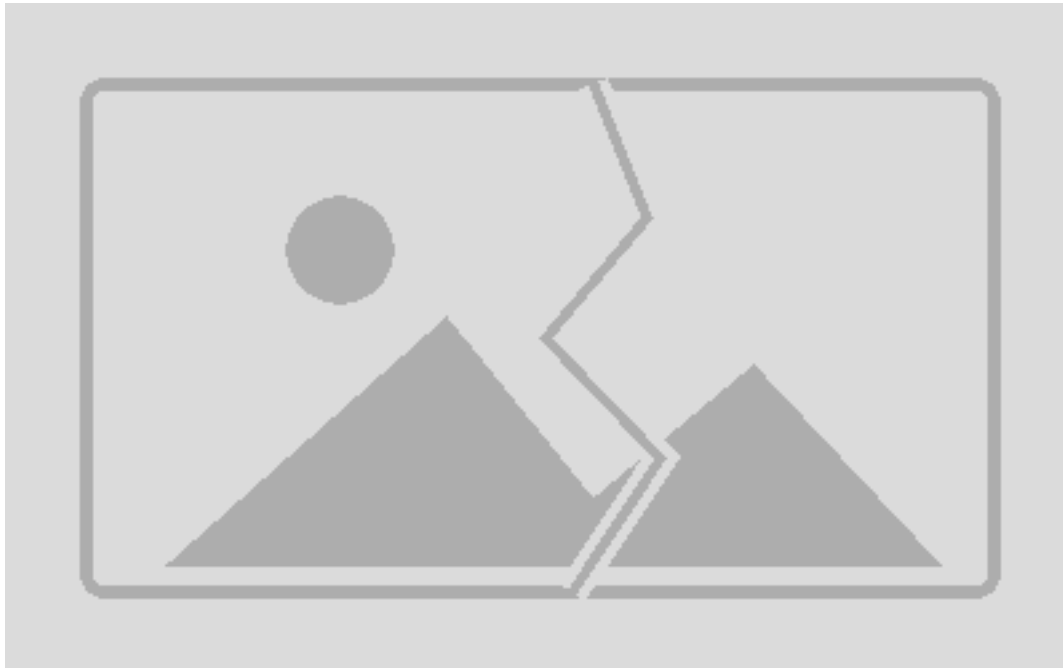
RLC	Graph	Save
1	1 - Productive Boost	Save
2	1 - Productive Boost	Save
3	1 - Productive Boost	Save
4	2 - Office Daylight	Save
5	2 - Office Daylight	Save
6	4 - Retail Display	Save
7	5 - RGB Pulse	Save
8	Unassigned	Save
9	Unassigned	Save
10	Unassigned	Save
11	Unassigned	Save
12	Unassigned	Save

10.1.6 Views

The Views feature enables creating custom dashboards tailored to the control and monitoring needs of rooms or zones. Each view uses a grid of cells, where cells can display labels, values, buttons, or lighting commands, and automatically expand when adjacent cells are unconfigured.

10.1.7 Remote Link

Remote Link shares lighting control between DALI channels and controllers on the same network.

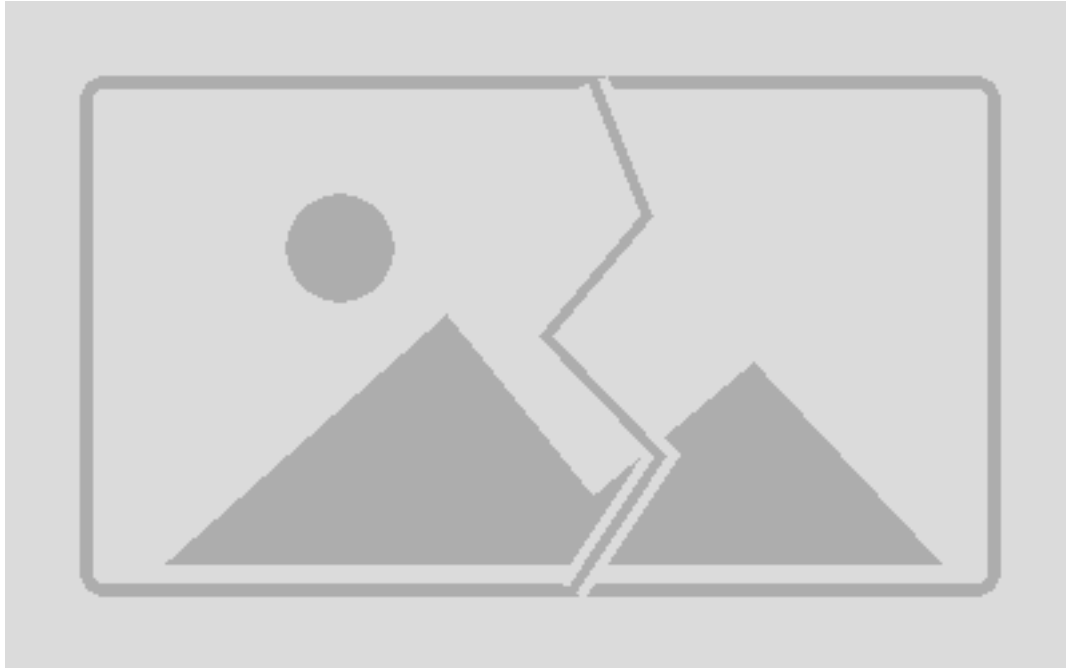


The page groups four sub-pages.

Page	Purpose
Link Network	Selects the Link Network this controller belongs to
RLC Links (Send)	Publishes Room Light Control values into Link IDs
Virtual Buttons (Receive)	Executes button events received from Link IDs
Link Monitor	Diagnostic view of the Link IDs seen on the network

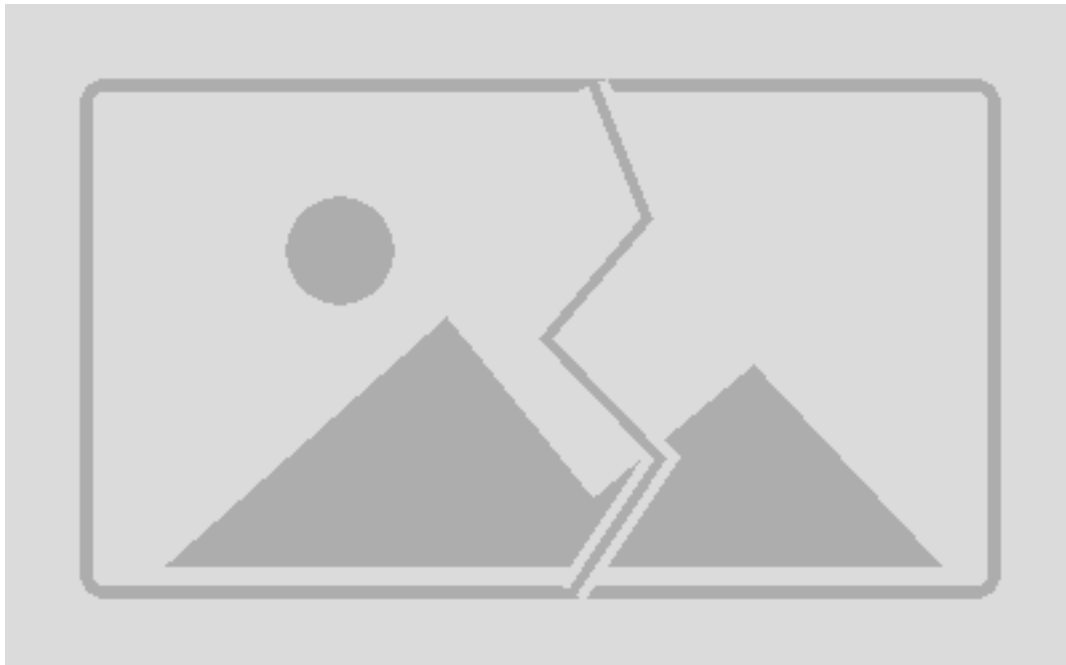
[10.1.7.1 Link Network](#)

Selects the Link Network (0-255) this controller belongs to. Values are only shared between controllers on the same Link Network.



10.1.7.2 RLC Links (Send)

Each entry publishes one value into a Link ID. Controllers receiving that Link ID apply the value. The value can come from a Room Light Control, or from a DALI occupancy or light sensor shared directly. Sharing a sensor directly needs no local Room Light Control on the sending side.



Name	Description
Type	The value the entry sends. Disabled turns the entry off
Source	The Room Light Control the value is taken from, or, for the sensor types, the DALI sensor selected by channel and device
Link ID	The Link ID (1-32767) the entry publishes into
Heartbeat (min)	Interval at which the value is re-sent so late receivers stay in sync
Occupancy/Hold Slot	Receiver input slot (1-4) used for the RLC Occupancy, RLC Warning Hold and Occupancy Sensor types
Deadband (lx)	Minimum change in lux before a new RLC Light Level or Light Sensor value is sent

10.1.7.2.1 Type

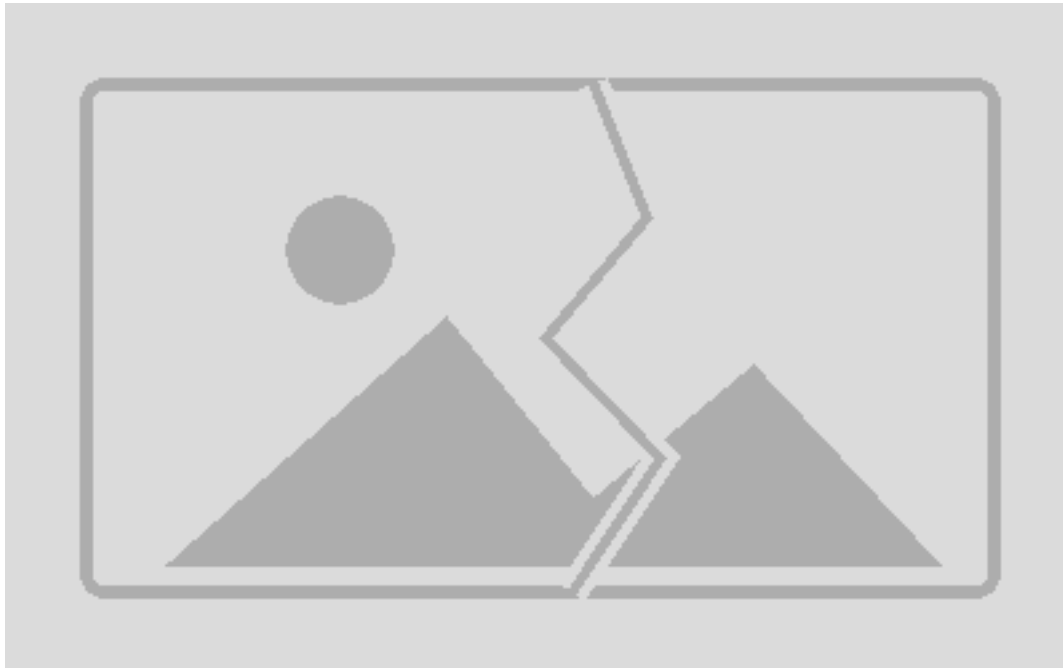
Type	Description
Disabled	The entry does not send anything
RLC Occupancy	Sends the occupancy state, holding receiving Room Light Controls occupied while active
RLC Warning Hold	Sends the warning hold state, holding receiving Room Light Controls in warning hold while active
RLC Light Level	Sends the measured light level in lux, for daylight harvesting on the receiving side
RLC Commands	Forwards the Room Light Control output commands (on, off, scene, level, circadian, blink warning, etc.)
Occupancy Sensor	Sends a DALI occupancy sensor state directly, holding receiving Room Light Controls occupied while active
Light Sensor	Sends a DALI light sensor level in lux directly, for daylight harvesting on the receiving side

The Occupancy Sensor and Light Sensor types publish a DALI sensor straight into a Link ID, without a local Room Light Control. When one of them is selected, the Source column lists the DALI sensors by channel and device.

The Occupancy/Hold Slot lets several senders hold the same receiver independently: the receiver stays held while any of its slots is active. The Deadband applies to the light level only.

10.1.7.3 Virtual Buttons (Receive)

A virtual button executes the button events received from its Link ID on this controller, exactly like a locally connected DALI push button. Long press dimming ramps are generated locally and protected by a fail-safe timeout.

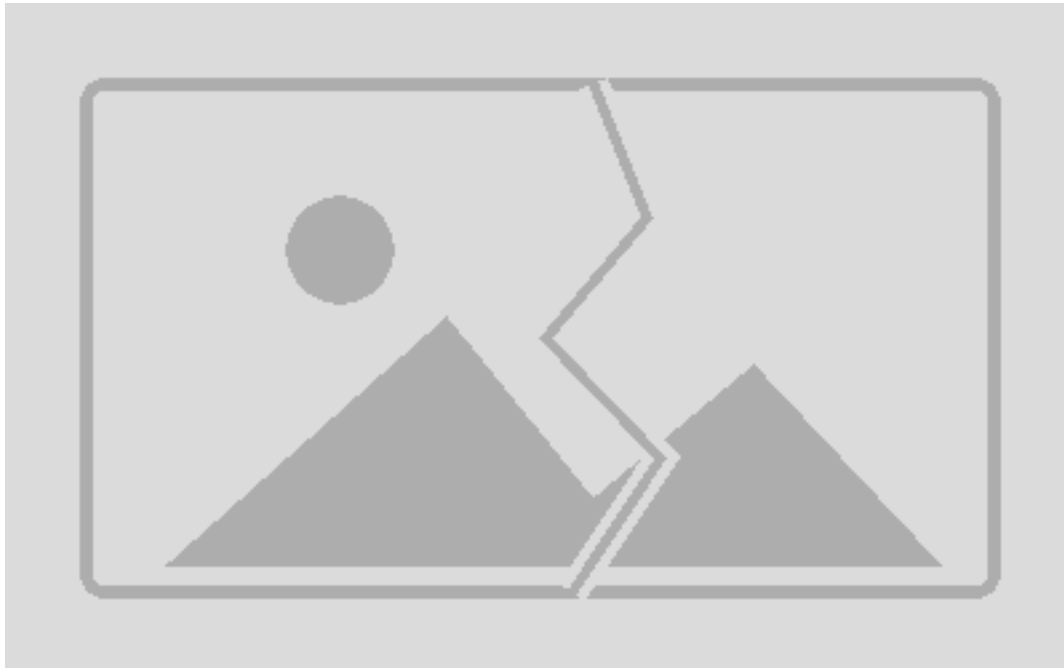


Name	Description
Receive from Link ID	The Link ID (1-32767) this virtual button follows. Empty disables the virtual button
Mode	Push Button or Switch, matching the source button behaviour
Destination Type	Channel / Group, Lamp, Commander, Commanders, Group Control, or RLC Outputs
Destination	The target that depends on the Destination Type
Command	The command executed on the destination
Value 1, Value 2	The command values

The destination, command and values follow the same rules as a physical DALI push button.

10.1.7.4 Link Monitor

Lists the Link IDs observed on the network, received from any publisher on the same Link Network, with their last value and publisher. The view updates automatically and is a diagnostic aid to confirm that senders and receivers use matching Link Networks and Link IDs.



Column	Description
Network	The Link Network the value was received on
Link ID	The Link ID the value belongs to
Type	The value type (occupancy, warning hold, light level, command, button event)
Value	The last value received
Slot	The occupancy/hold slot, when applicable
Source Device	The publishing controller
Source IP	The IP address of the publishing controller
Age	Time since the value was last received

10.1.8 Energy Usage Accumulated

It represents the accumulated energy consumption in watt-hours for the lamps. The values are the result of a calculation based on the configured nominal power.

Data / Energy Usage 

Update

It represents the accumulated energy consumption in watt-hours for the lamps.
The values are the result of a calculation based on the configured nominal power.

Data Points					Reset All	Export	Print
Channel ↓	Index ↓	Name ↓	Energy (Wh) ↓	Nominal Power ↓			
0	0	Lamp 1-00	3398.7	111	Reset		
0	1	Lamp 1-01	3398.7	111	Reset		
0	2	Lamp 1-02	3770.9	123	Reset		
0	3	Lamp 1-03	316.5	30	Reset		

10.1.8.1 Data Points List

It list the accumulated energy for each configured lamp. Clicking on a collum name allows sorting the table.

10.1.8.2 Collumns

10.1.8.2.1 Channel

The lamp channel number, 1 to 4.

10.1.8.2.2 Index

The lamp index number, 0 to 63.

10.1.8.2.3 Name

The lamp name.

10.1.8.2.4 Energy (Wh)

The accumulated energy.

10.1.8.2.5 Nominal Power

The configured nominal power.

10.1.8.2.6 Change Time

The last time when the accumulated energy was saved.

10.1.8.2.7 Reset Time

The last time when the accumulated energy was reset or directly written.

10.1.8.3 Buttons

10.1.8.3.1 Print

It allows printing the accumulated energy consumption values.

10.1.8.3.2 Export

It allows downloading accumulated energy consumption values in a TSV (tab-separated values) file.

10.1.8.3.3 Reset All

Reset to zero the accumulated energy consumption for all lamps.

10.1.8.3.4 Reset

Reset to zero the accumulated energy consumption for the lamp.

11 Web User Interface - Commissioning Report

11.1 Commissioning Report

11.1.1 Commissioning Report

The Commissioning Report provides an overview of the stored commissioning data.

It includes details about the groups and their associated configurations, such as schedules, Room Light Control, Commanders, Remote Link, and inputs.

Data / Commissioning Report

Update

This report provides an overview of the commissioning data.
It includes details about the groups and their configurations.
⚠ Report information may be incomplete.

Commissioning ReportLamps Report

Download JSON Report

Group 1-00

Schedule Schedule 4-0

Room Light Control
RLC 02
RLC 03

Commander Commander 01

Group 1-01

Room Light Control
RLC 04 Auto Shutoff Auto On

Occupancy: Input 1-00

Group 1-15

Room Light Control
RLC 01 Auto Shutoff Auto Daylight

Light: Input 1-01 Occupancy: Input 1-02, Input 1-03

11.1.2 Lamps Report

The Lamps Report provides an overview of the stored lamp data.

It includes details about each lamp and its configuration, such as addressing, levels, fades, dimming curves, and runtime statistics.

Data / Lamps Report

Update

This report provides an overview of the lamps data.
It includes details about the lamps and their configurations.
⚠ Report information may be incomplete.

Commissioning ReportLamps Report

Download JSON Report

Lamps Report

Name	Channel	Index	Short Address	Power On Level %	System Failure Level %	Minimum Level %	Maximum Level %	Fade Rate steps/s	Fade Time (seconds)	Run Hours (seconds)	Nominal Power	Burn-In (seconds)	Dimming Curve
Lamp 1-00	1	0	1	100.00	100.00	1.10	100.00	44.7	0	8140	0.00	0	Linear
Lamp 1-01	1	1	3	100.00	100.00	10.00	92.10	44.7	0	10050	0.00	0	Logarithmic
Lamp 1-02	1	2	5	100.00	100.00	10.00	92.10	44.7	0	10020	0.00	0	Logarithmic

12 Web User Interface - Statistics

12.1 Statistics

Many counters are available to help with the diagnostic of network problems for the DALI, BACnet and Ethernet interfaces.

12.1.1 System Log

Displays the system log file that records certain system events.

12.1.2 DALI

Many counters are available to help with the diagnostic of DALI related problems.

The screenshot shows the DALI-ON web interface. The left sidebar contains navigation links: admin, DALI-ON-4, Home, Channel 1, Channel 2, Channel 3, Channel 4, Settings, Statistics, Help, and Logout. The main content area is titled 'Statistics / DALI' and includes 'Update' and 'Clear' buttons. Below this, there is a table of DALI counters. The table is organized into four sections, one for each DALI channel (DALI 1, DALI 2, DALI 3, DALI 4). Each section contains three rows of data: Tx packets, Rx packets, and Tx No Answer. The data for DALI 1 is 978 Tx packets, 422 Rx packets, and 556 Tx No Answer. The data for DALI 2, DALI 3, and DALI 4 is 0 for all three metrics.

DALI		
DALI counters		
DALI 1		
Tx packets	978	
Rx packets	422	
Tx No Answer	556	
DALI 2		
Tx packets	0	
Rx packets	0	
Tx No Answer	0	
DALI 3		
Tx packets	0	
Rx packets	0	
Tx No Answer	0	
DALI 4		
Tx packets	0	
Rx packets	0	
Tx No Answer	0	

Name	Description
Tx Packets	The number of packets transmitted
Rx Packets	The number of packets received
Tx No Answer	The number of transmission with a missing answer
Rx Bit Timing Violation	The number of bit timing violation detected
Tx Collision Avoidance	The number of collisions avoided
Tx Collision Detection	The number of collisions detected
Tx Timeout Override	The number of canceled transmissions
DT8 Combine Performed	The number of times a level write and a colour write were merged into a single combined fade
DT8 Overlap Combines	The number of combined fades merged across different targets sharing the same lamps, for example a level written to a sub-group and a colour written to a larger group. These are also counted in DT8 Combine Performed
DT8 Tracker Evictions	The number of times the pending write memory was full and the oldest tracked target was dropped, normally 0

12.1.3 DALI protocol analyzer

The analyzer allows network troubleshooting and analysis of the DALI communication protocol. It displays in real time the received and transmitted DALI packets. It is possible to **Pause**, **Clear** or **Save** the data to the computer with the buttons.

The screenshot shows the DALI-ON web interface. On the left is a sidebar with navigation links: admin, DALI-ON-4, Home, Channel 1, Channel 2, Channel 3, Channel 4, Settings, Statistics (highlighted), Help, and Logout. The main content area is titled 'Statistics / DA Analyzer / 1' and includes buttons for 'Pause', 'Clear', and 'Save'. Below these buttons is a section labeled 'DALI Analyzer' containing a table of 'DALI commands'.

Time	Type	Hex	Address	Command
949916400	TXFW	5105	40	RECALL MAX LEVEL
949916392	RDBW	FE		254 (FE)
949916392	TXFW	7FA0	63	QUERY ACTUAL LEVEL
949916392	RDBW	04		132 (04)
949916392	TXFW	7F90	63	QUERY STATUS
949916374	RDBW	FE		254 (FE)
949916373	TXFW	51A0	40	QUERY ACTUAL LEVEL
949916373	RDBW	04		132 (04)
949916373	TXFW	5190	40	QUERY STATUS
949916343	RDBW	FE		254 (FE)
949916343	TXFW	7FA0	63	QUERY ACTUAL LEVEL
949916343	RDBW	04		132 (04)
949916343	TXFW	7F90	63	QUERY STATUS
949916326	RDBW	FE		254 (FE)
949916326	TXFW	51A0	40	QUERY ACTUAL LEVEL

Name	Description
Time	The time the packet was received or transmitted
Type	The packet type
Hex	Hexadecimal raw data of the packet
Address	The packet destination address
Command	The command

12.1.3.1 Packet Type

Name	Description
TXFW	Transmission of a forward frame
TXBW	Transmission of a backward frame
RXFW	Reception of a forward frame
RXBW	Reception of a backward frame

12.1.4 BACnet/IP

Many counters are available to help with the diagnostic of BACnet related problems.

Name	Description
Tx Packets	The number of packets transmitted
Rx Packets	The number of packets received
Dropped Packets	The number of dropped packets
BVLC Last Result	The last result of BVLC
Invoke ID Unavailable	The number of time a new Invoke ID was unavailable
Invoke ID Failed	The number of failed Invoike ID
Task Time	Timing of the BACnet task
Task Time Error Count	The number of BACnet task timing errors
Last Task Time Error	The Last BACnet task timing error

12.1.5 BACnet Active COV Subscriptions

Displays the list of currently active COV-B subscriptions.

12.1.6 RLC Event History

Displays the Room Light Control event history used for diagnostics and troubleshooting.

Statistics / RLC Event History

Update Clear Pause

128 / 128

Search...

Download CSV

#	Timestamp	Origin Id	Origin	Event Type	State	Value
128	2026-04-05 17:03:45	ch1_cd2_inst0	Input 1-02	Occupancy Sensor	Movement	0
127	2026-04-05 17:03:45	ch1_cd2_inst0	Input 1-02	Occupancy Sensor	No Movement	0
126	2026-04-05 17:03:44	ric11	RLC 11	Occupancy	Occupied	0
125	2026-04-05 17:03:44	ric11	RLC 11	Occupancy Cmd	Start Circadian Rhythm	100
124	2026-04-05 17:03:44	ch1_cd1_inst0	Input 1-01	Occupancy Sensor	Movement	0
123	2026-04-05 17:03:40	ric11	RLC 11	Occupancy	Unoccupied	0
122	2026-04-05 17:03:40	ric11	RLC 11	Occupancy Cmd	Start Circadian Rhythm	0
121	2026-04-05 17:03:40	ch1_cd1_inst0	Input 1-01	Occupancy Sensor	No Movement	0
120	2026-04-05 17:02:50	ch1_cd2_inst0	Input 1-02	Occupancy Sensor	Movement	0
119	2026-04-05 17:02:50	ch1_cd2_inst0	Input 1-02	Occupancy Sensor	No Movement	0
118	2026-04-05 17:02:26	ric11	RLC 11	Occupancy	Occupied	0
117	2026-04-05 17:02:26	ric11	RLC 11	Occupancy Cmd	Start Circadian Rhythm	100
116	2026-04-05 17:02:26	ch1_cd1_inst0	Input 1-01	Occupancy Sensor	Movement	0

Column	Description
#	The event index.
Timestamp	The time of the event.
Origin Id	The identifier of the source that caused the event.
Origin	The source that caused the event.
Event Type	The type of event.
State	The state associated with the event.
Value	The value associated with the event.

The Pause and Resume button stops and restarts the live update of the table. The history can be exported to a file.

12.1.7 Network Control (sACN / Art-Net / Modbus TCP)

Counters for the network control receiver module.

Statistics / Network Control (sACN / Art-Net / Modbus TCP)

Update

Network Control (sACN / Art-Net / Modbus TCP)	
Network control receiver counters.	
Enabled	0
Protocol	sACN (E1.31)
Universe / Port-Address	1
Source Active	0
Frames Received	0
Frames Dropped	0

Name	Description
Enabled	Whether the network control receiver is enabled
Protocol	The active protocol (sACN, Art-Net, or Modbus TCP)
Universe / Port-Address	The configured sACN universe or Art-Net port-address
Source Active	Whether a source is currently sending data
Frames Received	The number of accepted frames
Frames Dropped	The number of discarded frames (bad parse, wrong universe, or sequence error)

12.1.8 IP

Many counters are available to help with the diagnostic of problems with the IP (Internet Protocol) communication stack.

12.1.9 TCP

Many counters are available to help with the diagnostic of problems with the TCP (Transmission Control Protocol) communication stack.

12.1.10 UDP

Many counters are available to help with the diagnostic of problems with the UDP (User Datagram Protocol) communication stack.

12.1.11 ARP

Many counters are available to help with the diagnostic of problems with the ARP (Address Resolution Protocol) communication stack.

12.1.12 ICMP

Many counters are available to help with the diagnostic of problems with the ICMP (Internet Control Message Protocol) communication stack.

12.1.13 ARP Table

This page displays the current ARP (Address Resolution Protocol) cache where IP addresses are associated with Ethernet MAC addresses.

12.1.14 IP Memory

This page displays the current memory usage of the IP stack.

12.1.15 Ethernet

This page displays the current value of some Ethernet registers.

12.1.16 General

This page displays general counters and memory usage.

12.1.17 System Tasks

This page displays the task usage.

12.1.18 File System

This page displays the file system usage.

13 BACnet Interface - Overview

BTL Listed BACnet Gateway (B-GW) allows bidirectional communication between DALI devices (Digital Addressable Lighting Interface) and BACnet systems.

DALI's channels, groups, lamps, and scenes are accessible through BACnet standard objects such as Analog Output, Analog Input, Multi-State Output, etc. The light sensors and occupancy sensors are also accessible via objects of the Analog Input and Binary Input types.

14 BACnet Interface - Device Object

14.1 Device Object

List of available properties for this object.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	W
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
System_Status	112	BACnetDeviceStatus	R
Vendor_Name	121	CharacterString	R
Vendor_Identifier	120	Unsigned16	R
Model_Name	70	CharacterString	R
Firmware_Revision	44	CharacterString	R
Application_Software_Version	12	CharacterString	R
Location	58	CharacterString	W
Description	28	CharacterString	W
Protocol_Version	98	Unsigned	R
Protocol_Revision	139	Unsigned	R
Protocol_Services_Supported	97	BACnetServicesSupported	R
Protocol_Object_Types_Supported	96	BACnetObjectTypesSupported	R
Object_List	76	BACnetARRAY[N] of BACnetObjectIdentifier	R
Max_APDU_Length_Accepted	62	Unsigned	R
Segmentation_Supported	107	BACnetSegmentation	R
Local_Time	57	Time	R
Local_Date	56	Date	R
UTC_Offset	119	INTEGER	R
Daylight_Savings_Status	24	BOOLEAN	R
APDU_Segment_Timeout	10	Unsigned	R
APDU_Timeout	11	Unsigned	W

Property Identifier	Property ID	Property Datatype	Conformance Code
Number_Of_APDU_Retries	73	Unsigned	W
Device_Address_Binding	30	BACnetLIST of BACnetAddressBinding	R
Database_Revision	155	Unsigned	R
Active_COV_Subscriptions	152	BACnetLIST of BACnetCOVSubscription	R
Last_Restart_Reason	196	BACnetRestartReason	R
Time_Of_Device_Restart	203	BACnetTimeStamp	R
Restart_Notification_Recipients	202	BACnetLIST of BACnetRecipient	R
Serial_Number	372	CharacterString	R
Property_List	371	BACnetARRAY[N] of BACnetPropertyIdentifier	R
System_RTC_Temperature	922	REAL	R
System_Uptime	928	Unsigned	R

14.1.1.1 System_RTC_Temperature

The internal temperature of the DALION in degree Celsius.

14.1.1.2 System_Uptime

The number of seconds since the last boot up of the DALION.

15 BACnet Interface - Network Port Object

15.1 Network Port Object

List of available properties for this object.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Status_Flags	111	BACnetStatusFlags	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	R
Network_Type	427	BACnetNetworkType	R
Protocol_Level	482	BACnetProtocolLevel	R
Changes_Pending	416	BOOLEAN	R
Network_Number	425	Unsigned16	R
Network_Number_Quality	426	BACnetNetworkNumberQuality	R
APDU_Length	399	Unsigned	R
MAC_Address	423	OCTET STRING	R
BACnet_IP_Mode	408	BACnetIPMode	W
IP_Address	400	OCTET STRING	R
BACnet_IP_UDP_Port	412	Unsigned16	R
IP_Subnet_Mask	411	OCTET STRING	R
IP_Default_Gateway	401	OCTET STRING	R
IP_DNS_Server	406	BACnetARRAY[N] of OCTET STRING	R
FD_BBMD_Address	418	BACnetHostNPort	W
FD_Subscription_Life_time	419	Unsigned16	W
IP_DHCP_Enable	402	BOOLEAN	R
IP_DHCP_Lease_Time	403	Unsigned	R
IP_DHCP_Lease_Time_Remaining	404	Unsigned	R
IP_DHCP_Server	405	OCTET STRING	R

16 BACnet Interface - Analog Output Object - Control of Lamp, Group, and Channel

16.1 Analog Output Object - Control of Lamp, Group, and Channel

To control the intensity of the lamps, use the Analog Output objects. Lamps parameters can also be modified with these objects.

16.1.1 Lamp

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	REAL	W
Description	28	CharacterString	R
Device_Type	31	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Units	117	BACnetEngineeringUnits	R
Min_Pres_Value	69	REAL	R
Max_Pres_Value	65	REAL	W
Priority_Array	87	BACnetPriorityArray	R
Relinquish_Default	104	REAL	R
Current_Command_Priority	431	BACnetOptionalUnsigned	R
Power_On_Level	512	REAL	W
System_Failure_Level	513	REAL	W
Fade_Time	514	REAL	W
Ramp_Rate	515	REAL	W
Min_Level	516	REAL	W
Groups	517	BIT STRING	W
Nominal_Power	518	REAL	W
Dim_Mode	520	Enumerated	W
Run_Hours	527	Unsigned	R
Run_Hours_Reset_Time	528	Unsigned	R
Colour_Temp	567	REAL	W
Command	900	Unsigned	W
Device_Type_Supported	925	BIT STRING	R

Property Identifier	Property ID	Property Datatype	Conformance Code
Energy_Usage_Accumulated	926	REAL	W
Emergency_Time_Until_Next_Function_Test	1010	Unsigned	W
Emergency_Time_Until_Next_Duration_Test	1011	Unsigned	W
Emergency_Battery_Charge	1012	REAL	R
Emergency_Duration_Test_Result	1013	Unsigned	R
Emergency_Emergency_Mode	1014	BIT STRING	R
Emergency_Failure_Status	1015	BIT STRING	R
Emergency_Emergency_Status	1016	BIT STRING	R
Emergency_Emergency_Level	1020	REAL	W
Emergency_Emergency_Minimum_Level	1021	REAL	R
Emergency_Emergency_Maximum_Level	1022	REAL	R
Emergency_Prolong	1023	Unsigned	W
Emergency_Function_Test_Interval_Time	1026	Unsigned	W
Emergency_Duration_Test_Interval_Time	1027	Unsigned	W
Emergency_Test_Execution_Timeout	1028	Unsigned	W
Emergency_Lamp_Emergency_Time	1029	Unsigned	R
Emergency_Lamp_Total_Operation_Time	1030	Unsigned	R
Emergency_Rated_Duration	1031	Unsigned	R

Property Identifier	Property ID	Property Datatype	Conformance Code
Emergency_Features	1032	BIT STRING	R
Dimming_Curve	6000	Enumerated	W
Colour_Type	8000	Enumerated	W
Colour_XYC_X	8010	REAL	W
Colour_XYC_Y	8011	REAL	W
Colour_TC_TC	8020	REAL	W
Colour_PN_P0	8030	REAL	W
Colour_PN_P1	8031	REAL	W
Colour_PN_P2	8032	REAL	W
Colour_PN_P3	8033	REAL	W
Colour_PN_P4	8034	REAL	W
Colour_PN_P5	8035	REAL	W
Colour_RGBWAF_RE D	8040	REAL	W
Colour_RGBWAF_GR EEN	8041	REAL	W
Colour_RGBWAF_BL UE	8042	REAL	W
Colour_RGBWAF_WH ITE	8043	REAL	W
Colour_RGBWAF_AM BER	8044	REAL	W
Colour_RGBWAF_FRE ECOLOUR	8045	REAL	W

16.1.2 Group

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	REAL	W
Description	28	CharacterString	R
Device_Type	31	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Units	117	BACnetEngineeringUnits	R
Min_Pres_Value	69	REAL	R
Max_Pres_Value	65	REAL	W
Priority_Array	87	BACnetPriorityArray	R
Relinquish_Default	104	REAL	R
Current_Command_Priority	431	BACnetOptionalUnsigned	R
Power_On_Level	512	REAL	W
System_Failure_Level	513	REAL	W
Fade_Time	514	REAL	W
Ramp_Rate	515	REAL	W
Min_Level	516	REAL	W
Nominal_Power	518	REAL	W
Dim_Mode	520	Enumerated	W
Run_Hours	527	Unsigned	R
Run_Hours_Reset_Time	528	Unsigned	R
Colour_Temp	567	REAL	W
LGC_Group_Control_Command	576	Unsigned	W
Command	900	Unsigned	W

Property Identifier	Property ID	Property Datatype	Conformance Code
Energy_Usage_Accumulated	926	REAL	W
Dimming_Curve	6000	Enumerated	W
Colour_Type	8000	Enumerated	W
Colour_XYC_X	8010	REAL	W
Colour_XYC_Y	8011	REAL	W
Colour_TC_TC	8020	REAL	W
Colour_PN_P0	8030	REAL	W
Colour_PN_P1	8031	REAL	W
Colour_PN_P2	8032	REAL	W
Colour_PN_P3	8033	REAL	W
Colour_PN_P4	8034	REAL	W
Colour_PN_P5	8035	REAL	W
Colour_RGBWAF_RED	8040	REAL	W
Colour_RGBWAF_GREEN	8041	REAL	W
Colour_RGBWAF_BLUE	8042	REAL	W
Colour_RGBWAF_WHITE	8043	REAL	W
Colour_RGBWAF_AMBER	8044	REAL	W
Colour_RGBWAF_FRESCOLOUR	8045	REAL	W

16.1.3 Channel

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	REAL	W
Description	28	CharacterString	R
Device_Type	31	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Units	117	BACnetEngineeringUnits	R
Min_Pres_Value	69	REAL	R
Max_Pres_Value	65	REAL	W
Priority_Array	87	BACnetPriorityArray	R
Relinquish_Default	104	REAL	R
Current_Command_Priority	431	BACnetOptionalUnsigned	R
Power_On_Level	512	REAL	W
System_Failure_Level	513	REAL	W
Fade_Time	514	REAL	W
Ramp_Rate	515	REAL	W
Min_Level	516	REAL	W
Nominal_Power	518	REAL	W
Dim_Mode	520	Enumerated	W
Run_Hours	527	Unsigned	R
Run_Hours_Reset_Time	528	Unsigned	R
Colour_Temp	567	REAL	W
LGC_Group_Control_Command	576	Unsigned	W
Command	900	Unsigned	W

Property Identifier	Property ID	Property Datatype	Conformance Code
Energy_Usage_Accumulated	926	REAL	W
Dimming_Curve	6000	Enumerated	W
Colour_Type	8000	Enumerated	W
Colour_XYC_X	8010	REAL	W
Colour_XYC_Y	8011	REAL	W
Colour_TC_TC	8020	REAL	W
Colour_PN_P0	8030	REAL	W
Colour_PN_P1	8031	REAL	W
Colour_PN_P2	8032	REAL	W
Colour_PN_P3	8033	REAL	W
Colour_PN_P4	8034	REAL	W
Colour_PN_P5	8035	REAL	W
Colour_RGBWAF_RE D	8040	REAL	W
Colour_RGBWAF_GR EEN	8041	REAL	W
Colour_RGBWAF_BL UE	8042	REAL	W
Colour_RGBWAF_WH ITE	8043	REAL	W
Colour_RGBWAF_AM BER	8044	REAL	W
Colour_RGBWAF_FRE ECOLOUR	8045	REAL	W
Network_Mode	923	Unsigned	W
Network_Command_ Repeat_Count	924	Unsigned	W

16.1.3.1 Object_Identifier

The object instance number is represented as TCLL.

- “T” is the type of object as follows, 0 for DALI lamps, 1 for DALI groups and 2 for DALI channels.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents for lamp objects, numbers 00-63, for group objects, numbers 00-15 and for channel objects, number 00.

16.1.3.2 Object_Name

The name of the DALI lamp, group or channel.

16.1.3.3 Object_Type

ANALOG_OUTPUT (1).

16.1.3.4 Present_Value

The light intensity in percentages for the DALI lamp, group or channel.

16.1.3.5 Description

A description of the DALI lamp, group or channel.

16.1.3.6 Device_Type

- For lamp objects, it is **DALI lamp**.
- For group objects, it is **DALI group**.
- For channel objects, it is **DALI channel**.

16.1.3.7 Status_Flags

This property indicates the general “reliability” of the object.

16.1.3.8 Reliability

This property indicates whether the operation of the DALI output is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.
- NO_OUTPUT (6) - No DALI device is connected to the output object.
- COMMUNICATION_FAILURE (12) - DALI device is offline.
- UNRELIABLE_OTHER (7) - An error has been reported by the DALI lamp.

16.1.3.9 Out_Of_Service

This property indicates whether the physical device represented by the object is in service.

16.1.3.10 Units

The unit for the Present_Value is percent.

16.1.3.11 Min_Pres_Value

The minimum value is always zero (0). It represents the lowest value for the property Present_Value.

16.1.3.12 Max_Pres_Value

For lamp objects, this is the DALI variable “MAX LEVEL” of the lamp. It is writable for lamps, groups, and channels.

For groups and channels, the initial value of the property is 100 and it returns the last written value, which may differ from the actual value of the lamps.

16.1.3.13 Priority_Array

This property is a read-only array of prioritized values.

16.1.3.14 Relinquish_Default

It is the default value used for the Present_Value property when all command priority values in the Priority_Array property have a NULL value.

16.1.3.15 Power_On_Level

It represents the DALI variable “POWER ON LEVEL” of the DALI lamp in percentages. A value of NaN represents the DALI “MASK” value. It is writable for lamps, groups and channels. For groups and channels, it always read as NaN.

16.1.3.16 System_Failure_Level

It represents the DALI variable “SYSTEM FAILURE LEVEL” of the DALI lamp in percentages. A value of NaN represents the DALI “MASK” value. It is writable for lamps, groups and channels. For groups and channels, it always read as NaN.

16.1.3.17 Fade_Time

Represents the DALI variable “FADE TIME” in seconds for the DALI lamp. It is writable for lamps, groups and channels. For groups and channels, it always read as NaN.

16.1.3.18 Ramp_Rate

Represents the DALI variable “FADE RATE” in percent per second for the DALI lamp. It is writable for lamps, groups and channels. For groups and channels, it always read as NaN.

16.1.3.19 Min_Level

It represents the DALI variable “MIN LEVEL” of the DALI lamp in percentages. It is writable for lamps, groups and channels. For groups and channels, it always read as NaN.

16.1.3.20 Groups

Only available for lamp objects, it represents the DALI variables “GROUP_0_8” and “GROUP_9_15” concatenated in a 16 bit.

16.1.3.21 Nominal_Power

It represents the nominal power of the DALI lamp. It is writable for lamps, groups and channels. For groups and channels, it always read as NaN.

16.1.3.22 Dim_Mode

Indicates if fading (0) or ramping (1) is used when controlling the light intensity with the Present_Value.

16.1.3.23 Run_Hours

The number of seconds the lamp was On.

For group and channel objects, this property is available and returns 0.

16.1.3.24 Run_Hours_Reset_Time

Indicates the last time the Run_Hours was reset.

For group and channel objects, this property is available and returns 0.

16.1.3.25 Colour_Temp

For DALI Type 8 (DT8) lamps, whose colour control is colour temperature Tc, the current colour in Kelvin (K) can be modified. The objects for lamps, groups and channels can modify the colour temperature of lamps.

16.1.3.26 Command

Allows to execute commands on lamp, group, and channel objects.

16.1.3.26.1 NO COMMAND (1)

No command is executed.

16.1.3.26.2 GO TO SCENE (2-17)

Recall the scenes 0-15.

16.1.3.26.3 STORE SCENE (18-33)

Store the scenes 0-15.

16.1.3.26.4 REMOVE SCENE (34-49)

Delete the scenes 0-15.

16.1.3.26.5 RESET RUN HOURS (52)

Reset the run hours to zero.

16.1.3.26.6 EMERGENCY FUNCTION TEST START (54)

Start the function test for the lamps of the type “Self-contained emergency lighting (device type 1)”.

16.1.3.26.7 EMERGENCY DURATION TEST START (55)

Start the duration test for the lamps of the type “Self-contained emergency lighting (device type 1)”.

16.1.3.26.8 EMERGENCY TESTS STOP (56)

Stop the current test for the lamps of the type “Self-contained emergency lighting (device type 1)”.

16.1.3.26.9 DIM UP (57)

Start dimming up.

16.1.3.26.10 DIM ON AND UP (58)

Turn on and start dimming up.

16.1.3.26.11 DIM DOWN (59)

Start dimming down.

16.1.3.26.12 DIM DOWN AND OFF (60)

Dim down and turn off.

16.1.3.26.13 OFF (64)

Turn off the output.

16.1.3.26.14 DIM STEP UP (65)

Apply one dim step up.

16.1.3.26.15 DIM STEP DOWN (66)

Apply one dim step down.

16.1.3.26.16 GROUP ADD (67-82)

Add to the group 0-15.

16.1.3.26.17 GROUP REMOVE (83-98)

Remove from the group 0-15.

16.1.3.26.18 RECALL MIN LEVEL (200)

Recall Min Level.

16.1.3.26.19 RECALL MAX LEVEL (201)

Recall Max Level.

16.1.3.26.20 RECALL LAST LEVEL (202)

Recall Last Level.

16.1.3.26.21 EMERGENCY REST (203)

For the “Self-contained emergency lighting (device type 1)” only, starts the rest mode.

In this mode the lamp is intentionally off when it is powered from the battery.

Refer to the specification IEC 62386-202 for the complete details on the rest mode.

16.1.3.26.22 EMERGENCY INHIBIT (204)

For the “Self-contained emergency lighting (device type 1)” only, starts the inhibit mode.

In this mode the lamp is powered from the mains power supply but it is also prevented for 15 minutes from going into the emergency mode when an event of mains power failure occurs.

Refer to the specification IEC 62386-202 for the complete details on the inhibit mode.

16.1.3.26.23 EMERGENCY RESET INHIBIT (205)

For the “Self-contained emergency lighting (device type 1)” only, cancels the inhibit timer.

Refer to the specification IEC 62386-202 for the complete details on the inhibit mode.

16.1.3.26.24 EMERGENCY RESET FUNCTION TEST DONE FLAG (206)

For the “Self-contained emergency lighting (device type 1)” only, resets the function test done flag.

Refer to the specification IEC 62386-202 for the complete details on this command.

16.1.3.26.25 EMERGENCY RESET DURATION TEST DONE FLAG (207)

For the “Self-contained emergency lighting (device type 1)” only, resets the duration test done flag.

Refer to the specification IEC 62386-202 for the complete details on this command.

16.1.3.26.26 EMERGENCY START IDENTIFICATION (208)

For the “Self-contained emergency lighting (device type 1)” only, starts the identification.

Refer to the specification IEC 62386-202 for the complete details on this command.

16.1.3.27 LGC_Group_Control_Command

Allows writing a direct group-control value or an encoded command.

Direct value: 0 to 100 controls light intensity in percent.

Encoded command: values ≥ 1000 are interpreted as $1000 + \text{Command}$.

16.1.3.28 Energy_Usage_Accumulated

It represents the accumulated energy consumption in watt-hours for the DALI lamp. This value is the result of a calculation based on the Nominal_Power property. It is writable for lamps, groups and channels. For groups and channels, it always read as NaN.

16.1.3.29 Device_Type_Supported

Indicates the supported DALI types for the physical DALI device connected to the object.

Bit	Name
0	Fluorescent
1	Self-contained emergency
2	Discharge HID
3	Low-voltage halogen
4	Incandescent lamp
5	Conversion to DC voltage
6	LED
7	Switching relay
8	Colour

16.1.3.30 Emergency_Time_Until_Next_Function_Test

For the “Self-contained emergency lighting (device type 1)” only, represents the time until the next function test in minutes.

The valid values are from 0 to 983 025 minutes.

DALI lamps calculate this value in 15 minutes intervals.

16.1.3.31 Emergency_Time_Until_Next_Duration_Test

For the “Self-contained emergency lighting (device type 1)” only, represents the time until the next duration test in minutes.

The valid values are from 0 to 983 025 minutes.

DALI lamps calculate this value in 15 minutes intervals.

16.1.3.32 Emergency_Battery_Charge

For the “Self-contained emergency lighting (device type 1)” only, represents the battery charge in percentages.

The valid values are from 0 to 100 percent and a value of NaN represents the DALI “MASK” value. “MASK” means that the lamp cannot perform this functionality.

16.1.3.33 Emergency_Duration_Test_Result

For the “Self-contained emergency lighting (device type 1)” only, represents the duration test result in minutes.

The valid values are from 0 to 510 minutes.

16.1.3.34 Emergency_Emergency_Mode

For the “Self-contained emergency lighting (device type 1)” only, represents the emergency mode.

Bit	Name	Value
0	reset mode is active	0 = No
1	normal mode is active	0 = No
2	emergency mode is active	0 = No
3	extended emergency mode is active	0 = No
4	function test is in progress	0 = No
5	duration test is in progress	0 = No
6	hardwired inhibit is active	0 = Not active / not present
7	hardwired switch is on	0 = Off

16.1.3.35 Emergency_Failure_Status

For the “Self-contained emergency lighting (device type 1)” only, represents the failure status.

Bit	Name	Value
0	circuit failure	0 = No
1	battery duration failure	0 = No
2	battery failure	0 = No
3	emergency lamp failure	0 = No
4	function test maximum delay exceeded	0 = No
5	duration test maximum delay exceeded	0 = No
6	function test failed	0 = No
7	duration test failed	0 = No

16.1.3.36 Emergency_Emergency_Status

For the “Self-contained emergency lighting (device type 1)” only, represents the emergency status.

Bit	Name	Value
0	inhibit mode	0 = No
1	function test done and result valid	0 = No
2	duration test done and result valid	0 = No
3	battery fully charged	0 = In progress
4	function test request pending	0 = No
5	duration test request pending	0 = No
6	identification active	0 = No
7	physically selected	0 = No

16.1.3.37 Emergency_Emergency_Level

For the “Self-contained emergency lighting (device type 1)” only, represents the emergency level in percentages.

The valid values are from 0 to 100 percent and a value of NaN represents the DALI “MASK” value. “MASK” means that the value is unknown.

16.1.3.38 Emergency_Emergency_Minimum_Level

For the “Self-contained emergency lighting (device type 1)” only, represents the emergency minimum level in percentages.

The valid values are from 0 to 100 percent and a value of NaN represents the DALI “MASK” value. “MASK” means that the value is unknown.

16.1.3.39 Emergency_Emergency_Maximum_Level

For the “Self-contained emergency lighting (device type 1)” only, represents the emergency maximum level in percentages.

The valid values are from 0 to 100 percent and a value of NaN represents the DALI “MASK” value. “MASK” means that the value is unknown.

16.1.3.40 Emergency_Prolong

For the “Self-contained emergency lighting (device type 1)” only, represents the prolong time in seconds.

Valid values are between 0 and 7 650 seconds (127 minutes).

DALI lamps calculate this value in 30 second intervals.

16.1.3.41 Emergency_Function_Test_Interval_Time

For the “Self-contained emergency lighting (device type 1)” only, represents the function test interval time in days.

Valid values are between 0 and 255 days. The value 0 means that the automatic testing is not supported.

16.1.3.42 Emergency_Duration_Test_Interval_Time

For the “Self-contained emergency lighting (device type 1)” only, represents the duration test interval time in weeks.

Valid values are between 0 and 97 weeks. The value 0 means that the automatic testing is not supported.

16.1.3.43 Emergency_Test_Execution_Timeout

For the “Self-contained emergency lighting (device type 1)” only, represents the test execution timeout in days.

Valid values are between 0 and 255 days. A value of 0 means a 15 minutes execution timeout.

16.1.3.44 Emergency_Lamp_Emergency_Time

For the “Self-contained emergency lighting (device type 1)” only, represents the lamp emergency time in hours.

The valid values are from 0 to 254 hours and a value of 255 represents the maximum value of 254 hours or more.

16.1.3.45 Emergency_Lamp_Total_Operation_Time

For the “Self-contained emergency lighting (device type 1)” only, represents the lamp total operation time in hours.

The valid values are from 0 to 1 016 hours and a value of 1 020 represents the maximum value of 1 016 hours or more.

16.1.3.46 Emergency_Rated_Duration

For the “Self-contained emergency lighting (device type 1)” only, represents the rated duration.

The valid values are from 0 to 510 minutes.

16.1.3.47 Emergency_Features

For the “Self-contained emergency lighting (device type 1)” only, represents the features information describing the type of lamp.

Bit	Name	Value
0	integral emergency control gear	0 = No
1	maintained control gear	0 = No
2	switched maintained control gear	0 = No
3	auto test capability	0 = No
4	adjustable emergency level	0 = No
5	hardwired inhibit supported	0 = No
6	physical selection supported	0 = No
7	re-light in rest mode supported	0 = No

16.1.3.48 Dimming_Curve

The dimming curve determines how the DALI level should be translated into light output. The standard dimming curve is logarithmic. Some lamps allow modifying to dimming curve between logarithmic and a linear one.

The DALION automatically translates the requested light output of a percentage to the dimming curve configured in the lamp with the following formulas.

Logarithmic

$$\text{Light output}(\text{level}) = 10^{\frac{\text{level}-1}{253/3} - 1} \%$$

Linear

$$\text{Light output}(\text{level}) = \frac{\text{level}}{254} \times 100 \%$$

It is important to note that sending a dimming command to a group consisting of lamps of different dimming curves may not produce the expected result. Ideally, only group lamps configured with the same dimming curve.

It is recommended to configure the dimming curve before programming the other levels such as scenes, minimum level, maximum level, power on level, etc.

[16.1.3.48.1 LOGARITHMIC \(1\)](#)

Standard logarithmic dimming curve.

[16.1.3.48.2 LINEAR \(2\)](#)

Linear dimming curve.

[16.1.3.49 Colour_Type](#)

The current or requested colour control type.

The supported colour types are as follows.

Name	Value
xy-coordinate	1
colour temperature Tc	2
primary N	3
RGBWAF	4

[16.1.3.50 Colour_XYC_X](#)

For DALI Type 8 (DT8) lamps, whose colour control is xy-Coordinate, the x-coordinate of the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.

The valid values are from 0 to 65534 and a value of NaN represents the DALI “MASK” value.

The unit of the value is $1 / 65536$. Therefore the maximum corresponding x-coordinate is 0.99997.

[16.1.3.51 Colour_XYC_Y](#)

For DALI Type 8 (DT8) lamps, whose colour control is xy-Coordinate, the y-coordinate of the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.

The valid values are from 0 to 65534 and a value of NaN represents the DALI “MASK” value.

The unit of the value is $1 / 65536$. Therefore the maximum corresponding y-coordinate is 0.99997.

[16.1.3.52 Colour_TC_TC](#)

For DALI Type 8 (DT8) lamps, whose colour control is colour temperature Tc, the current colour temperature can be modified. The objects for lamps, groups and channels can modify the colour of lamps.

The valid values are from 1 to 65534 and a value of NaN represents the DALI “MASK” value.

The unit of the value is 1 Mirek. Therefore the minimum value is 1 Mirek (1000000 Kelvin) and the maximum value is 65534 Mirek (15.26 Kelvin).

Mirek = 1 000 000 / [Colour Temperature in Kelvin]

Kelvin = 1 000 000 / [value of Mirek]

16.1.3.53 Colour_PN_P0 to Colour_PN_P5

For DALI Type 8 (DT8) lamps, whose colour control is primary N, the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.

The valid values are from 0 to 65534 and a value of NaN represents the DALI “MASK” value.

The unit of the value is 1 / 65536. Therefore the maximum corresponding primary value is 0.99997.

16.1.3.54 Colour_RGBWAF_RED

For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current red colour can be modified. The objects for lamps, groups and channels can modify lamp colour.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

16.1.3.55 Colour_RGBWAF_GREEN

For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current green colour can be modified. The objects for lamps, groups and channels can modify lamp colour.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

16.1.3.56 Colour_RGBWAF_BLUE

For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current blue colour can be modified. The objects for lamps, groups and channels can modify lamp colour.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

16.1.3.57 Colour_RGBWAF_WHITE

For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current white colour can be modified. The objects for lamps, groups and channels can modify lamp colour.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

16.1.3.58 Colour_RGBWAF_AMBER

For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current amber colour can be modified. The objects for lamps, groups and channels can modify lamp colour.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

16.1.3.59 Colour_RGBWAF_FREECOLOUR

For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current freecolour colour can be modified. The objects for lamps, groups and channels can modify lamp colour.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

16.1.3.60 Network_Mode

Name	Value	Description
NORMAL	0	The controller is operating normally.
DISABLE	1	The controller is not authorized to communicate on the DALI channel.

16.1.3.61 Network_Command_Repeat_Count

The number of repeats of the DALI commands that affect the light intensity of the lamps.

17 BACnet Interface - Analog Input Object - Feedback of Lamp, Group, and Channel

17.1 Analog Input Object - Feedback of Lamp, Group, and Channel

To obtain the intensity of the lamps, use the Analog Input objects.

17.1.1 Lamp, Group and Channel

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	REAL	W
Description	28	CharacterString	R
Device_Type	31	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Units	117	BACnetEngineeringUnits	R
Min_Pres_Value	69	REAL	R
Max_Pres_Value	65	REAL	W
COV_Increment	22	REAL	W
Nominal_Power	518	REAL	W
Channel_Battery_Failure	532	BIT STRING	R
Channel_Function_Test_Failure	533	BIT STRING	R
Channel_Duration_Test_Failure	534	BIT STRING	R
Last_Level	906	REAL	R
Device_Type_Supported	925	BIT STRING	R
Energy_Usage_Accumulated	926	REAL	W
Emergency_Battery_Failure	1000	BOOLEAN	R
Emergency_Function_Test_Failure	1001	BOOLEAN	R
Emergency_Duration_Test_Failure	1002	BOOLEAN	R
Colour_Type	8000	Enumerated	R

Property Identifier	Property ID	Property Datatype	Conformance Code
Colour_XYC_X	8010	REAL	R
Colour_XYC_Y	8011	REAL	R
Colour_TC_TC	8020	REAL	R
Colour_PN_P0	8030	REAL	R
Colour_PN_P1	8031	REAL	R
Colour_PN_P2	8032	REAL	R
Colour_PN_P3	8033	REAL	R
Colour_PN_P4	8034	REAL	R
Colour_PN_P5	8035	REAL	R
Colour_RGBWAF_RE D	8040	REAL	R
Colour_RGBWAF_GR EEN	8041	REAL	R
Colour_RGBWAF_BL UE	8042	REAL	R
Colour_RGBWAF_WH ITE	8043	REAL	R
Colour_RGBWAF_AM BER	8044	REAL	R
Colour_RGBWAF_FRE ECOLOUR	8045	REAL	R

17.1.1.1 Object_Identifier

The object instance number is the same as the associated Analog Output object and is also represented as TCLK.

- “T” is the type of object as follows, 0 for DALI Lamps, 1 for DALI groups and 2 for DALI channels.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents for lamp objects, numbers 00-63, for group objects, numbers 00-15 and for channel objects, number 00.

17.1.1.2 Object_Name

The **Object_Name** of the associated Analog Output object of the DALI lamp, group or channel ending with “Feedback”.

17.1.1.3 Object_Type

ANALOG_INPUT (0).

17.1.1.4 *Present_Value*

The current light intensity as a percentage for the DALI lamps, groups and channels.

17.1.1.5 *Description*

The **Description** of the associated Analog Output object of the DALI lamp, group or channel ending with “Feedback”.

17.1.1.6 *Device_Type*

A text description of the physical DALI device connected to the analog output, it is the DALI device type (ex. “**Fluorescent lamps**”, “**Conversion from digital signal into d.c. voltage**”, “**LED modules**”, “**Switching function**”). For group objects, it is “**DALI group**”. For channel objects, it is “**DALI channel**”.

17.1.1.7 *Status_Flags*

This property indicates the general “reliability” of an analog input object.

17.1.1.8 *Reliability*

This property indicates whether the operation of the DALI output is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.
- NO_SENSOR (1) - No physical device is connected to the input object.
- COMMUNICATION_FAILURE (12) - DALI device is offline.
- UNRELIABLE_OTHER (7) - A DALI error has been reported by the DALI lamp.

17.1.1.9 *Out_Of_Service*

It indicates whether the physical device that the object represents is in service.

17.1.1.10 *Units*

The unit for the Present_Value is percent.

17.1.1.11 *Min_Pres_Value*

The minimum value is always zero (0). It represents the lowest value for the property Present_Value.

17.1.1.12 *Max_Pres_Value*

The maximum value is always one hundred (100). It represents the highest value for the property Present_Value.

17.1.1.13 *COV_Increment*

This property specifies the minimum change of the Present_Value that issues a COVNotification.

17.1.1.14 *Nominal_Power*

It represents the nominal power of the DALI lamp. It is writable for lamps, groups and channels. For groups and channels, it always read as NaN.

17.1.1.15 Channel_Battery_Failure

Only available for channel objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a battery failure. Each 64 lamps of the channel are one bit of the 64-bit BIT STRING. When a battery failure is reported by a lamp, its associated bit is set.

17.1.1.16 Channel_Function_Test_Failure

Only available for channel objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a function test failure. Each 64 lamps of the channel are one bit of the 64-bit BIT STRING. When a function test failure is reported by a lamp, its associated bit is set.

17.1.1.17 Channel_Duration_Test_Failure

Only available for channel objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a duration test failure. Each 64 lamps of the channel are one bit of the 64-bit BIT STRING. When a duration test failure is reported by a lamp, its associated bit is set.

17.1.1.18 Last_Level

It represents the last level value in percentages.

17.1.1.19 Device_Type_Supported

Only available for lamp objects, this property indicates the supported DALI types for the physical DALI device connected to the object.

Bit	Name
0	Fluorescent
1	Self contained emergency
2	Discharge HID
3	Low voltage halogen
4	Incandescent lamp
5	Conversion to DC voltage
6	LED
7	Switching relay
8	Colour

17.1.1.20 Energy_Usage_Accumulated

It represents the accumulated energy consumption in watt-hours for the DALI lamp. This value is the result of a calculation based on the Nominal_Power property. It is writable for lamps, groups and channels. For groups and channels, it always read as NaN.

17.1.1.21 Emergency_Battery_Failure

Only available for lamp objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a battery failure. When a battery failure is reported by the lamp, the value is true.

17.1.1.22 Emergency_Function_Test_Failure

Only available for lamp objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a function test failure. When a function test failure is reported by the lamp, the value is true.

17.1.1.23 Emergency_Duration_Test_Failure

Only available for lamp objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a duration test failure. When a duration test failure is reported by the lamp, the value is true.

17.1.1.24 Colour_Type

The current colour control type.

The supported colour types are as follows.

Name	Value
xy-coordinate	1
temperature Tc	2
primary N	3
RGBWAF	4

17.1.1.25 Colour_XYC_X

The current x-coordinate value of DALI Type 8 (DT8) lamps, whose colour control is xy-Coordinate.

The valid values are from 0 to 65534 and a value of NaN represents the DALI “MASK” value.

The unit of the value is 1 / 65536. Therefore the maximum corresponding x-coordinate is 0.99997.

17.1.1.26 Colour_XYC_Y

The current y-coordinate value of DALI Type 8 (DT8) lamps, whose colour control is xy-Coordinate.

The valid values are from 0 to 65534 and a value of NaN represents the DALI “MASK” value.

The unit of the value is 1 / 65536. Therefore the maximum corresponding y-coordinate is 0.99997.

17.1.1.27 Colour_TC_TC

The current colour temperature of DALI Type 8 (DT8) lamps, whose colour control is colour temperature Tc.

The valid values are from 1 to 65534 and a value of NaN represents the DALI “MASK” value.

The unit of the value is 1 Mirek. Therefore the minimum value is 1 Mirek (1000000 Kelvin) and the maximum value is 65534 Mirek (15.26 Kelvin).

Mirek = 1 000 000 / [Colour Temperature in Kelvin]

Kelvin = 1 000 000 / [value of Mirek]

17.1.1.28 Colour_PN_P0 to Colour_PN_P5

The current primary N value of DALI Type 8 (DT8) lamps, whose colour control is primary N.

The valid values are from 0 to 65534 and a value of NaN represents the DALI “MASK” value.

The unit of the value is 1 / 65536. Therefore the maximum corresponding primary value is 0.99997.

17.1.1.29 Colour_RGBWAF_RED

The current red value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

17.1.1.30 Colour_RGBWAF_GREEN

The current green value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

17.1.1.31 Colour_RGBWAF_BLUE

The current blue value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

17.1.1.32 Colour_RGBWAF_WHITE

The current white value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

17.1.1.33 Colour_RGBWAF_AMBER

The current amber value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

17.1.1.34 Colour_RGBWAF_FREECOLOUR

The current freecolour of DALI type 8 (DT8) lamps, whose colour control is RGBWAF.

The valid values are from 0 to 254 and a value of NaN represents the DALI “MASK” value.

18 BACnet Interface - Multi-State Output Object - Command Control of Lamp, Group and Channel

18.1 Multi-State Output Object - Command Control of Lamp, Group and Channel

To control DALI scenes and other commands for the lamps, groups and channels, use Multi-State Output objects. Among other things recall, store and delete scenes with these objects.

18.1.1 Lamp, Group and Channel

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	Unsigned	W
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Number_Of_States	74	Unsigned	R
State_Text	110	BACnetARRAY[N]of CharacterString	R
Priority_Array	87	BACnetPriorityArray	R
Relinquish_Default	104	REAL	R
Manual_Override	953	Unsigned	R

18.1.1.1 Object_Identifier

The object instance number is the same as the associated Analog Output object and is also represented as TCLK.

- “T” is the type of object as follows, 0 for DALI lamps, 1 for DALI groups and 2 for DALI channels.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents for group objects, numbers 0-15 and for channel objects, number 00.

18.1.1.2 Object_Name

The **Object_Name** of the associated Analog Output object of the Group or Channel ending with “Scene”.

18.1.1.3 *Object_Type*

MULTISTATE_OUTPUT (14).

18.1.1.4 *Present_Value*

Among other things the Present_Value allows recalling, storing, and deleting the scenes. The available values are described below.

18.1.1.4.1 GO TO SCENE (1-16)

Allow sending the DALI command “**GO TO SCENE**” to the associated lamp, group or channel (broadcast).

18.1.1.4.2 STORE SCENE (17-32)

Allow sending the DALI command “**STORE DTR AS SCENE**” to the associated lamp, group or channel (broadcast).

18.1.1.4.3 REMOVE SCENE (33-48)

Allow sending the DALI command “**REMOVE FROM SCENE**” to the associated lamp, group or channel (broadcast).

18.1.1.4.4 NO COMMAND (50)

No command is executed.

18.1.1.4.5 RESET RUN HOURS (53)

Reset the run hours to zero.

18.1.1.4.6 EMERGENCY FUNCTION TEST START (55)

Start the function test for the lamps of the type “Self-contained emergency lighting (device type 1)”.

18.1.1.4.7 EMERGENCY DURATION TEST START (56)

Start the duration test for the lamps of the type “Self-contained emergency lighting (device type 1)”.

18.1.1.4.8 EMERGENCY TESTS STOP (57)

Stop the current test for the lamps of the type “Self-contained emergency lighting (device type 1)”.

18.1.1.4.9 DIM UP (58)

Allow sending the DALI command “**UP**” to the associated lamp, group or channel (broadcast).

18.1.1.4.10 DIM ON AND UP (59)

Allow sending the DALI command “**ON AND STEP UP**” to the associated lamp, group or channel (broadcast).

18.1.1.4.11 DIM DOWN (60)

Allow sending the DALI command “**DOWN**” to the associated lamp, group or channel (broadcast).

18.1.1.4.12 DIM DOWN AND OFF (61)

Allow sending the DALI command “**STEP DOWN AND OFF**” to the associated lamp, group or channel (broadcast).

18.1.1.4.13 OFF (65)

Allow sending the DALI command “**OFF**” to the associated lamp, group or channel (broadcast).

18.1.1.4.14 DIM STEP UP (66)

Allow sending the DALI command “**STEP UP**” to the associated lamp, group or channel (broadcast).

18.1.1.4.15 DIM STEP DOWN (67)

Allow sending the DALI command “**STEP DOWN**” to the associated lamp, group or channel (broadcast).

18.1.1.4.16 RECALL MIN LEVEL (68)

Allow sending the DALI command “**RECALL MIN LEVEL**” to the associated lamp, group or channel (broadcast).

18.1.1.4.17 RECALL MAX LEVEL (69)

Allow sending the DALI command “**RECALL MAX LEVEL**” to the associated lamp, group or channel (broadcast).

18.1.1.4.18 RECALL LAST LEVEL (70)

Recall Last Level.

18.1.1.4.19 EMERGENCY REST (71)

For the “Self-contained emergency lighting (device type 1)” only, starts the rest mode.

In this mode the lamp is intentionally off when it is powered from the battery.

Refer to the specification IEC 62386-202 for the complete details on the rest mode.

18.1.1.4.20 EMERGENCY INHIBIT (72)

For the “Self-contained emergency lighting (device type 1)” only, starts the inhibit mode.

In this mode the lamp is powered from the mains power supply but it is also prevented for 15 minutes from going into the emergency mode when an event of mains power failure occurs.

Refer to the specification IEC 62386-202 for the complete details on the inhibit mode.

18.1.1.4.21 EMERGENCY RESET INHIBIT (73)

For the “Self-contained emergency lighting (device type 1)” only, cancels the inhibit timer.

Refer to the specification IEC 62386-202 for the complete details on the inhibit mode.

18.1.1.4.22 EMERGENCY RESET FUNCTION TEST DONE FLAG (74)

For the “Self-contained emergency lighting (device type 1)” only, resets the function test done flag.

Refer to the specification IEC 62386-202 for the complete details on this command.

18.1.1.4.23 EMERGENCY RESET DURATION TEST DONE FLAG (75)

For the “Self-contained emergency lighting (device type 1)” only, resets the duration test done flag.

Refer to the specification IEC 62386-202 for the complete details on this command.

18.1.1.4.24 EMERGENCY START IDENTIFICATION (76)

For the “Self-contained emergency lighting (device type 1)” only, starts the identification.

Refer to the specification IEC 62386-202 for the complete details on this command.

18.1.1.4.25 GROUP ADD (77-92)

Allow sending the DALI command “**ADD TO GROUP**” to the associated lamp, group or channel (broadcast).

18.1.1.4.26 GROUP REMOVE (93-108)

Allow sending the DALI command “**REMOVE FROM GROUP**” to the associated lamp, group or channel (broadcast).

18.1.1.4.27 MANUAL OVERRIDE AUTO (109)

Releases the manual override and returns the associated lamp, group or channel to automatic control.

18.1.1.4.28 MANUAL OVERRIDE ON (110)

Holds the associated lamp, group or channel on until the override is released.

18.1.1.4.29 MANUAL OVERRIDE OFF (111)

Holds the associated lamp, group or channel off until the override is released.

18.1.1.5 Status_Flags

This property indicates the general “reliability” of the object.

18.1.1.6 Reliability

This property indicates whether the operation of the Present_Value or the operation of the object is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.

18.1.1.7 Out_Of_Service

It is an indication of whether or not the object is in service.

18.1.1.8 Manual_Override

The current Manual Override state of the associated lamp, group or channel. The state is changed by writing the MANUAL OVERRIDE commands to the Present_Value.

Name	Value	Description
Auto	0	No override, the target is under automatic control.
On	1	The target is held on until the override is released.
Off	2	The target is held off until the override is released.

19 BACnet Interface - Analog Input Object - Light Sensor

19.1 Analog Input Object - Light Sensor

To obtain the light sensors' illuminance level, use the Analog Input objects.

19.1.1 Light Sensor

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	REAL	W
Description	28	CharacterString	R
Device_Type	31	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Units	117	BACnetEngineeringUnits	R
Min_Pres_Value	69	REAL	R
Max_Pres_Value	65	REAL	W
COV_Increment	22	REAL	W
Light_Hystereris	564	Unsigned	W
Light_Hystereris_Minimum	565	Unsigned	W
Light_Raw_Value	570	REAL	R
Light_Calibration_Measured_Value	571	REAL	R
Light_Calibration_Sensor_Value	572	REAL	R
Device_Serial_Number	573	OCTET STRING	R

19.1.1.1 Object_Identifier

The object instance number is represented as TCLK.

- “T” is the type of object as follows, 5 for DALI sensors.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents for sensor objects, numbers 00-31.

19.1.1.2 Object_Name

The name of the light sensor.

19.1.1.3 Object_Type

ANALOG_INPUT (0).

19.1.1.4 Present_Value

The current illuminance level.

19.1.1.5 Description

A description of the light sensor.

19.1.1.6 Device_Type

A text description of the physical DALI device connected to the analog input. For light sensor objects, it is “**DALI sensor**”.

19.1.1.7 Status_Flags

This property indicates the general “reliability” of an analog input object.

19.1.1.8 Reliability

This property indicates whether the operation of the DALI sensor is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.
- NO_SENSOR (1) - No physical device is connected to the input object.
- COMMUNICATION_FAILURE (12) - DALI device is offline.
- UNRELIABLE_OTHER (7) - A DALI error has been reported by the DALI sensor.

19.1.1.9 Out_Of_Service

It indicates whether the physical device that the object represents is in service.

19.1.1.10 Units

The unit for the Present_Value is luxes.

19.1.1.11 Min_Pres_Value

The minimum value is always zero (0). It represents the lowest value for the property Present_Value.

19.1.1.12 Max_Pres_Value

The maximum value is always infinity. It represents the highest value for the property Present_Value.

19.1.1.13 COV_Increment

This property specifies the minimum change of the Present_Value that issues a COVNotification.

19.1.1.14 Light_Hystereris

This is a percentage of the current sensor internal illuminance level.

The valid values are from 0 to 25 percent.

19.1.1.15 Light_Hystereris_Minimum

The minimum hysteresis.

The valid values are from 0 to 255.

19.1.1.16 Light_Raw_Value

The uncalibrated light sensor reading before applying any calibration calculations.

19.1.1.17 Light_Calibration_Measured_Value

The value measured by an external lux meter, used for calibrating the light sensor.

19.1.1.18 Light_Calibration_Sensor_Value

The light sensor reading value used as a reference point during the calibration process.

19.1.1.19 Device_Serial_Number

The DALI serial number of the input device.

20 BACnet Interface - Binary Input Object - Occupancy Sensors

20.1 Binary Input Object - Occupancy Sensors

To obtain the occupancy state, use the Binary Input objects.

20.1.1 Occupancy Sensor

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	Enumerated	W
Description	28	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Inactive_Text	46	CharacterString	R
Active_Text	4	CharacterString	R
Occupancy_Hold_Time	563	Unsigned	W
Allowed_Command	904	Enumerated	W
Buttons_States	905	Unsigned32	R
Buttons_Allowed_Command	927	Enumerated	W
Light_Hysterisis	564	Unsigned	W
Light_Hysterisis_Minimum	565	Unsigned	W
Light_Raw_Value	570	REAL	R
Light_Calibration_Measured_Value	571	REAL	R
Light_Calibration_Sensor_Value	572	REAL	R
Device_Serial_Number	573	OCTET STRING	R

20.1.1.1 Object_Identifier

The object instance number is represented as TCLL.

- “T” is the type of object as follows, 5 for DALI sensors.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents for sensor objects, numbers 00-31.

20.1.1.2 Object_Name

The name of the occupancy sensor.

20.1.1.3 Object_Type

BINARY_INPUT (3).

20.1.1.4 Present_Value

The current occupancy state.

20.1.1.5 Inactive_Text

“Unoccupied”.

20.1.1.6 Active_Text

“Occupied”.

20.1.1.7 Occupancy_Hold_Time

Hold time in seconds for the sensor.

Valid values are between 1 and 2 540 seconds (42.3 minutes) with an interval of 10 seconds.

20.1.1.8 Allowed_Command

Indicates whether the occupancy state of this object is used or not by the Room Light Control.

At the startup, the value is OFF_ON_ALLOWED.

Name	Value	Description
OFF_ON_DISALLOWED	0	Both Unoccupied and Occupied states are unused.
OFF_ALLOWED	1	Only Unoccupied state is used.
ON_ALLOWED	2	Only Occupied state is used.
OFF_ON_ALLOWED	3	Both Unoccupied and Occupied states are used.

20.1.1.9 Buttons_States

Indicates the state of the buttons instances of the associated DALI input device. Each button instance state is represented by a bit in this 32-bit unsigned value.

For example, if only the instance 2 is pressed the value is 4.

For button instance configured as **Push-button**, the bit value toggle each time that the button is short pressed.

For button instance configured as **Switch**, the bit value is 1 when the button is pressed and 0 when the button is released.

20.1.1.10 Buttons_Allowed_Command

Indicates whether the button instances of the associated DALI input device can generate commands.

At the startup, the value is OFF_ON_ALLOWED.

Name	Value	Description
OFF_ON_DISALLOWED	0	Both <i>Off</i> and <i>On</i> commands are disabled.
OFF_ALLOWED	1	Only <i>Off</i> commands are enabled.
ON_ALLOWED	2	Only <i>On</i> commands are used.
OFF_ON_ALLOWED	3	Both <i>Off</i> and <i>On</i> commands are enabled.

Off commands are the commands *Direct Value* with a value of 0, *Off* and *Off / Down*. As well as the toggle commands *On / Off* and *Last Level / Off* when the command to generate is Off.

On commands are the commands *Direct Value* with a value greater than 0, *Max Level*, *Max Level / Up*, *Min Level*, *Min Level / Down*, *Recall Scene*, *Recall Scene / Up* and *Recall Scene / Down*. As well as the toggle commands *On / Off* and *Last Level / Off* when the command to generate is not Off.

[20.1.1.11 Light_Hystereris](#)

The Light_Hystereris of the associated Analog Input object.

[20.1.1.12 Light_Hystereris_Minimum](#)

The Light_Hystereris_Minimum of the associated Analog Input object.

[20.1.1.13 Light_Raw_Value](#)

The Light_Raw_Value of the associated Analog Input object.

[20.1.1.14 Light_Calibration_Measured_Value](#)

The Light_Calibration_Measured_Value of the associated Analog Input object.

[20.1.1.15 Light_Calibration_Sensor_Value](#)

The Light_Calibration_Sensor_Value of the associated Analog Input object.

[20.1.1.16 Device_Serial_Number](#)

The DALI serial number of the input device.

21 BACnet Interface - Binary Input Object - Buttons

21.1 Binary Input Object - Buttons

To obtain the button state of each individual button instance, use the Binary Input objects.

21.1.1 Button

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	Enumerated	W
Description	28	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Inactive_Text	46	CharacterString	R
Active_Text	4	CharacterString	R
Buttons_Allowed_Command	927	Enumerated	W
Device_Serial_Number	573	OCTET STRING	R

21.1.1.1 Object_Identifier

The object instance number is represented as 3CLLI.

- “3” the prefix is the number 3.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents the DALI input device, numbers 00-31.
- “II” represents the button instance number, numbers 00-31.

21.1.1.2 Object_Name

The name of the button.

21.1.1.3 Object_Type

BINARY_INPUT (3).

21.1.1.4 *Present_Value*

The current button state.

For button instance configured as **Push-button**, the value toggle each time that the button is short pressed.

For button instance configured as **Switch**, the value is ACTIVE when the button is pressed and INACTIVE when the button is released.

21.1.1.5 *Inactive_Text*

"Inactive".

21.1.1.6 *Active_Text*

"Active".

21.1.1.7 *Buttons_Allowed_Command*

Indicates whether the button instances of the associated DALI input device can generate commands. At the startup, the value is OFF_ON_ALLOWED.

Name	Value	Description
OFF_ON_DISALLOWED	0	Both <i>Off</i> and <i>On</i> commands are disabled.
OFF_ALLOWED	1	Only <i>Off</i> commands are enabled.
ON_ALLOWED	2	Only <i>On</i> commands are used.
OFF_ON_ALLOWED	3	Both <i>Off</i> and <i>On</i> commands are enabled.

Off commands are the commands *Direct Value* with a value of 0, *Off* and *Off / Down*. As well as the toggle commands *On / Off* and *Last Level / Off* when the command to generate is Off.

On commands are the commands *Direct Value* with a value greater than 0, *Max Level*, *Max Level / Up*, *Min Level*, *Min Level / Down*, *Recall Scene*, *Recall Scene / Up* and *Recall Scene / Down*. As well as the toggle commands *On / Off* and *Last Level / Off* when the command to generate is not Off.

21.1.1.8 *Device_Serial_Number*

The DALI serial number of the input device.

22 BACnet Interface - Multi-State Input Object - Scene Feedback of Group and Channel

22.1 Multi-State Input Object - Scene Feedback of Group and Channel

To obtain the latest DALI scenes for the groups and channels, use Multi-State Input objects.

22.1.1 Group and Channel

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	Unsigned	W
Description	28	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Out_Of_Service	81	BOOLEAN	W
Number_Of_States	74	Unsigned	R
State_Text	110	BACnetARRAY[N]of CharacterString	R

22.1.1.1 Object_Identifier

The object instance number is the same as the associated Analog Output object and is also represented as TCLL.

- “T” is the type of object as follows, 1 for DALI groups and 2 for DALI channels.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents for group objects, numbers 0-15 and for channel objects, number 00.

22.1.1.2 Object_Name

The **Object_Name** of the associated Analog Output object of the Group or Channel ending with “Scene Feedback”.

22.1.1.3 Object_Type

MULTISTATE_INPUT (13).

22.1.1.4 Present_Value

The Present_Value represents the latest scene recalling. The available values are described below.

NO COMMAND: - Values 1 for the initial value.

GO TO SCENE: - Values 2 to 17 for the DALI command “**GO TO SCENE**” to the associated group or channel (broadcast).

22.1.1.5 Description

The **Description** of the associated Analog Output object of the Group or Channel ending with “Scene Feedback”.

22.1.1.6 Status_Flags

This property indicates the general “reliability” of the object.

22.1.1.7 Out_Of_Service

It is an indication of whether or not the object is in service.

23 BACnet Interface - Loop Object - Room Light Control

23.1 Loop Object - Room Light Control

To control the Room Light Control, use Loop objects. Visualise the states and configure the parameters with these objects.

23.1.1 Room Light Control

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	REAL	R
Description	28	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Output_Units	117	BACnetEngineeringUnits	R
Manipulated_Variable_Reference	60	BACnetObjectPropertyReference	R
Controlled_Variable_Reference	19	BACnetObjectPropertyReference	R
Controlled_Variable_Value	21	REAL	R
Controlled_Variable_Units	20	BACnetEngineeringUnits	R
Setpoint_Reference	109	BACnetSetpointReference	R
Setpoint	108	REAL	R
Action	2	BACnetAction	R
Priority_For_Writing	88	Unsigned(1..16)	W
Occupancy_Variable_Reference	537	BACnetObjectPropertyReference	R
Occupancy_Variable_Value	538	BOOLEAN	R
Mode	539	Unsigned	W
Hold_Time	540	Unsigned	W
Ignore_Time	541	Unsigned	W
Occupied_Level	542	REAL	W
Unoccupied_Level	543	REAL	W
Step_Value	544	REAL	W

Property Identifier	Property ID	Property Datatype	Conformance Code
Lamp_2_Offset	550	REAL	W
Lamp_2_Limit	551	REAL	W
Override	560	REAL	R
Auto_Mode	561	BACnetBinaryPV	R
Occupancy_State	562	BACnetBinaryPV	R
Manipulated_Variable_Value	574	REAL	R
Controlled_Variable_Value	575	REAL	R
Command	900	Unsigned	W
Setpoint_Occupied	901	REAL	W
Setpoint_Unoccupied	902	REAL	W
Deadband_Setpoint	903	REAL	W
Warning_Time	907	Unsigned	W
Warning_Command_Command	908	Unsigned	W
Warning_Command_Value	909	Unsigned	W
Occupied_Command_Command	910	Unsigned	W
Occupied_Command_Value	911	Unsigned	W
Unoccupied_Command_Command	912	Unsigned	W
Unoccupied_Command_Value	913	Unsigned	W
Minimum_Intensity	914	REAL	W
Maximum_Intensity	915	REAL	W
Daylight_Harvesting_Active	916	Unsigned	R
Occupied_Mode	917	Unsigned	W
Override_Timeout	918	Unsigned	W
Demand_Response_Value	919	REAL	W

Property Identifier	Property ID	Property Datatype	Conformance Code
Demand_Response_State	920	Unsigned	R
Occupied_Mode_Command_Enable	921	Unsigned	W
Override_Only_On_Exact_Output	931	Unsigned	W
Linked_Occupancy_Target_RLC_1	948	Unsigned	W
Linked_Occupancy_Target_RLC_2	949	Unsigned	W
Linked_Occupancy_Target_RLC_3	950	Unsigned	W
Linked_Occupancy_Target_RLC_4	951	Unsigned	W
Linked_Occupancy_Target_RLC_Mode_Mask	952	Unsigned	W
Profile_Occupied_Mode	954	Unsigned	W
Profile_Occupied_Mode_Name	955	CharacterString	R
Profile_Unoccupied_Mode	956	Unsigned	W
Profile_Unoccupied_Mode_Name	957	CharacterString	R
External_Occupancy_Timeout	958	Unsigned	W
External_Occupancy_1	959	Unsigned	W
External_Occupancy_2	960	Unsigned	W
External_Occupancy_3	961	Unsigned	W
External_Occupancy_4	962	Unsigned	W
External_Warning_Hold_1	963	Unsigned	W

Property Identifier	Property ID	Property Datatype	Conformance Code
External_Warning_Hold_2	964	Unsigned	W
External_Warning_Hold_3	965	Unsigned	W
External_Warning_Hold_4	966	Unsigned	W
External_Light_Level	999	REAL	W
Circadian_Active	9000	BACnetBinaryPV	R
Dynamic_Color_Recipe_Graph	9001	Unsigned	W
Dynamic_Color_Recipe_Graph_Name	9002	CharacterString	R
Dynamic_Color_Recipe_Graph_Enabled	9003	BACnetBinaryPV	W
Circadian_Point_1_Brightness	9010	REAL	W
Circadian_Point_2_Brightness	9011	REAL	W
Circadian_Point_3_Brightness	9012	REAL	W
Circadian_Point_4_Brightness	9013	REAL	W
Circadian_Point_5_Brightness	9014	REAL	W
Circadian_Point_6_Brightness	9015	REAL	W
Circadian_Point_7_Brightness	9016	REAL	W
Circadian_Point_8_Brightness	9017	REAL	W
Circadian_Point_1_Kelvin	9020	REAL	W
Circadian_Point_2_Kelvin	9021	REAL	W
Circadian_Point_3_Kelvin	9022	REAL	W

Property Identifier	Property ID	Property Datatype	Conformance Code
Circadian_Point_4_K elvin	9023	REAL	W
Circadian_Point_5_K elvin	9024	REAL	W
Circadian_Point_6_K elvin	9025	REAL	W
Circadian_Point_7_K elvin	9026	REAL	W
Circadian_Point_8_K elvin	9027	REAL	W

23.1.1.1 *Object_Identifier*

The object instance number is represented as CRR.

- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “RR” represents the Room Light Control, numbers 00-15.

23.1.1.2 *Object_Name*

The name of the Room Light Control.

23.1.1.3 *Object_Type*

LOOP (12).

23.1.1.4 *Present_Value*

The light intensity in percentages for the Room Light Control.

23.1.1.5 *Description*

A description of the Room Light Control.

23.1.1.6 *Status_Flags*

This property indicates the general “reliability” of a loop object.

23.1.1.7 *Reliability*

This property indicates whether the operation of the Room Light Control is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.
- OPEN_LOOP (4) - The value of the light sensor does not changes when the Room Light Control output changes.
- COMMUNICATION_FAILURE (12) - The sensors or output devices are offline.
- UNRELIABLE_OTHER (7) - Another error has been reported.

23.1.1.8 Out_Of_Service

It indicates whether the algorithm that the object represents is in service.

23.1.1.9 Output_Units

The unit for the Present_Value is percent.

23.1.1.10 Manipulated_Variable_Reference

The output (Present_Value) of the control loop is written to the object and property designated by this property.

23.1.1.11 Controlled_Variable_Reference

It indicates the object and property of the light sensor.

23.1.1.12 Controlled_Variable_Value

The current value of the light sensor.

23.1.1.13 Setpoint_Reference

It indicates the object and property of the setpoint. It is always empty, indicating that the setpoint is contained in the Setpoint property.

23.1.1.14 Setpoint

The value of the current setpoint in lux.

23.1.1.15 Action

The action is DIRECT (0).

23.1.1.16 Priority_For_Writing

This property provides a priority to be used to write to the Manipulated_Variable_Reference that is controlled by this loop.

Valid values are between 1 and 16.

23.1.1.17 Occupancy_Variable_Reference

It indicates the object and property of the occupancy sensor.

23.1.1.18 Occupancy_Variable_Value

The current value of the occupancy sensor.

23.1.1.19 Mode

The current mode of the Room Light Control.

Name	Value	Description
Disabled	0	The Room Light Control is disabled
Enabled	1	The Room Light Control is enabled

[23.1.1.20 Hold_Time](#)

The hold time in seconds used for the occupancy state. The occupancy state remains in the occupied state for the hold time when the value of Occupancy_Variable_Value changes to be unoccupied.

Valid values are between 0 and 2 400 seconds (40 minutes) with an interval of 10 seconds.

[23.1.1.21 Ignore_Time](#)

The ignore time in seconds used for the occupancy state. Once the occupancy state changes to unoccupied the ignore time is used to temporarily ignore the occupied change of the Occupancy_Variable_Value.

Valid values are between 0 and 2 400 seconds (40 minutes) with an interval of 10 seconds.

[23.1.1.22 Occupied_Level](#)

The output light intensity when entering the occupied state.

[23.1.1.23 Unoccupied_Level](#)

The output light intensity when entering the unoccupied state.

[23.1.1.24 Step_Value](#)

The maximum value in percent that the Room Light Control can change its output per second, during constant light control.

Valid values are between 0 and 100 % with an interval of 0.5 %.

[23.1.1.25 Lamp_2_Offset](#)

The offset between the primary and the secondary output.

Valid values are between 0 and 100 % with an interval of 0.5 %.

[23.1.1.26 Lamp_2_Limit](#)

The value where the secondary output becomes the same as the primary output.

Valid values are between 0 and 100 % with an interval of 0.5 %.

[23.1.1.27 Override](#)

The value of the output override in percent (0 - 100%). When the value is NaN the override is disabled.

[23.1.1.28 Auto_Mode](#)

Inactive (0): The Room Light Control is currently overridden or is disabled.

Active (1): The Room Light Control is not currently overridden and is active.

23.1.1.29 Occupancy_State

Indicates the current occupancy state of the Room Light Control.

Inactive (0): The occupancy state is unoccupied.

Active (1): The occupancy state is occupied.

23.1.1.30 Manipulated_Variable_Value

The value of the manipulated variable, used internally to track a value for Manipulated_Variable_Reference.

23.1.1.31 Controlled_Variable_Value

The value of the controlled variable, used internally to track a value for Controlled_Variable_Reference.

23.1.1.32 Command

Allows to execute commands on the Room Light Control.

23.1.1.32.1 NO COMMAND (1)

No command is executed.

23.1.1.32.2 START DEMAND RESPONSE (2)

Starts the demand response (power limit).

23.1.1.32.3 STOP DEMAND RESPONSE (3)

Stops the demand response (power limit).

23.1.1.32.4 START DAYLIGHT HARVESTING (4)

Starts the daylight harvesting.

23.1.1.32.5 STOP DAYLIGHT HARVESTING (5)

Stops the daylight harvesting.

23.1.1.32.6 START OVERRIDE (6)

Starts the override.

23.1.1.32.7 STOP OVERRIDE (7)

Stops the override.

23.1.1.32.8 ENABLE (8)

Enable the Room Light Control.

23.1.1.32.9 DISABLE (9)

Disable the Room Light Control.

23.1.1.32.10 OCCUPIED MODE COMMAND ENABLE NO COMMAND (10)

Disables occupied mode related command execution.

23.1.1.32.11 OCCUPIED MODE COMMAND ENABLE UNOCCUPIED COMMAND (11)

Allows only the unoccupied command execution.

23.1.1.32.12 OCCUPIED MODE COMMAND ENABLE OCCUPIED COMMAND (12)

Allows only the occupied command execution.

23.1.1.32.13 OCCUPIED MODE COMMAND ENABLE ALL COMMAND (13)

Allows occupied and unoccupied command execution.

23.1.1.32.14 OCCUPIED MODE COMMAND ENABLE WARNING COMMAND (14)

Allows only the warning command execution.

23.1.1.32.15 OCCUPIED MODE COMMAND ENABLE ALL COMMAND WARNING (15)

Allows occupied command and warning command execution.

23.1.1.32.16 OCCUPIED MODE UNOCCUPIED (16)

Sets the occupied mode to unoccupied.

23.1.1.32.17 OCCUPIED MODE OCCUPIED (17)

Sets the occupied mode to occupied.

23.1.1.32.18 OCCUPIED MODE UNOCCUPIED UNOCCUPIED COMMAND (18)

Sets the occupied mode to unoccupied and executes the unoccupied command.

23.1.1.32.19 OCCUPIED MODE OCCUPIED OCCUPIED COMMAND (19)

Sets the occupied mode to occupied and executes the occupied command.

23.1.1.32.20 OCCUPIED MODE UNOCCUPIED NO COMMAND (20)

Sets the occupied mode to unoccupied without executing occupied mode commands.

23.1.1.32.21 OCCUPIED MODE OCCUPIED NO COMMAND (21)

Sets the occupied mode to occupied without executing occupied mode commands.

23.1.1.32.22 OCCUPIED MODE UNOCCUPIED WARNING COMMAND (22)

Sets the occupied mode to unoccupied and executes the warning command.

23.1.1.32.23 START TEST MODE (23)

Starts test mode.

23.1.1.32.24 STOP TEST MODE (24)

Stops test mode.

23.1.1.32.25 OCCUPANCY SENSORS ENABLE (25)

Enables occupancy sensors.

23.1.1.32.26 OCCUPANCY SENSORS DISABLE (26)

Disables occupancy sensors.

23.1.1.32.27 OCCUPANCY SENSORS DISABLE UNOCCUPIED (27)

Disables occupancy sensors with unoccupied behavior.

23.1.1.32.28 OCCUPANCY SENSORS DISABLE OCCUPIED (28)

Disables occupancy sensors with occupied behavior.

23.1.1.32.29 START CIRCADIAN (29)

Starts circadian rhythm control.

23.1.1.32.30 STOP CIRCADIAN (30)

Stops circadian rhythm control.

23.1.1.33 *Setpoint_Occupied*

The setpoint of desired light illuminance of the room when the occupancy state is occupied.

Valid values are between 0 and 65 534 lux with an interval of 1 lux.

23.1.1.34 *Setpoint_Unoccupied*

The setpoint of desired light illuminance of the room when the occupancy state is unoccupied. It is also possible to use a relative setpoint to the Setpoint_Occupied, for this a negative is used that will represent a percentage to reduce from the Setpoint_Occupied.

Valid values are between 0 and 65 534 lux with an interval of 1 lux. When relative setpoint is used the valid values are between -100 and 0 % with an interval of 1 %.

23.1.1.35 *Deadband_Setpoint*

The dead band in lux used by the current setpoint.

Valid values are between 0 and 65 534 lux with an interval of 1 lux.

23.1.1.36 *Warning_Time*

The warning time in seconds used for the occupancy state. The Warning_Command is executed before the Unoccupied_Command which is executed after the Warning_Time, when the value of Occupancy_Variable_Value changes to be unoccupied.

Valid values are between 0 and 2 400 seconds (40 minutes) with an interval of 10 seconds.

23.1.1.37 *Warning_Command_Command, Occupied_Command_Command and Unoccupied_Command_Command*

Name	Value	Description
Disabled	0	The command is disabled.
Direct Value	1	Direct light value.
Max Level	2	Recall Max Level.
Off	3	Off.
Min Level	4	Recall Min Level.
Recall Scene	5	Recall Scene.
Start Daylight Harvesting	6	Start the Room Light Control daylight harvesting.
Stop Daylight Harvesting	7	Stop the Room Light Control daylight harvesting.
Relinquish	8	Relinquish the priority.
Commanders	9	Execute commanders logic.
Start Circadian	10	Start circadian rhythm control.
Stop Circadian	11	Stop circadian rhythm control.
Blink Warning	12	The lights blink off briefly and return to their previous level. Intended for the Warning Command.

23.1.1.38 *Warning_Command_Value, Occupied_Command_Value and Unoccupied_Command_Value*

Name	Value Range	Unit
Disabled	0	
Direct Value	0 - 100	Percent
Max Level		
Off		
Min Level		
Recall Scene	0 - 15	Scene number
Start Daylight Harvesting		
Stop Daylight Harvesting		
Relinquish		
Commanders	0 - 255	Vendor specific
Start Circadian		
Stop Circadian		
Blink Warning		

[23.1.1.39 Minimum_Intensity](#)

Minimum intensity of the Room Light Control output.

Valid values are between 0 and 100 % with an interval of 0.5 %.

[23.1.1.40 Maximum_Intensity](#)

Maximum intensity of the Room Light Control output.

Valid values are between 0 and 100 % with an interval of 0.5 %.

[23.1.1.41 Daylight_Harvesting_Active](#)

This property indicates whether the daylight harvesting control is currently active or not.

Name	Value	Description
Inactive	0	The daylight harvesting control is currently inactive.
Active	1	The daylight harvesting control is currently active.

[23.1.1.42 Occupied_Mode](#)

The current occupancy mode.

Unoccupied (0): The Room Light Control is unoccupied.

Occupied (1): The Room Light Control is occupied.

[23.1.1.43 Override_Timeout](#)

The override timeout in seconds. The override remains active for this period.

Valid values are between 0 and 72 000 seconds (20 hours) with an interval of 300 seconds. When the value is zero, this functionality is disabled.

Override is automatically initiated when the output of a Room Light Control is modified from another source than the Room Light Control itself. For example, this allows a DALI button or a BACnet group command to temporarily override the output.

While the override timeout is active, Daylight Harvesting is suspended. When the override timeout ends, daylight harvesting is un-suspended and if it is in unoccupied state, the Warning and the Unoccupied commands are executed.

23.1.1.44 Demand_Response_Value

The demand response allows limiting the illuminance of the room. A negative value reduces the illuminance of the room by this value in percentages. A positive value increases the illuminance of the room by this value in percentages. When daylight harvesting is active, the setpoint is decreased or increased by this value in percentages.

Valid values are between -100 and 100 percent with an interval of 1 percent.

23.1.1.45 Demand_Response_State

The current state of the demand response.

Inactive (0): The demand response is inactive.

Active (1): The demand response is active.

23.1.1.46 Occupied_Mode_Command_Enable

It allows enabling and disabling the execution of the occupancy command when Occupied_Mode is modified.

Name	Value	Description
NO_COMMAND	0	No command is executed.
UNOCCUPIED_COMMAND	1	Only unoccupied command is executed.
OCCUPIED_COMMAND	2	Only occupied command is executed.
ALL	3	Both Unoccupied and Occupied commands are executed.
WARNING_COMMAND	4	Only warning command is executed.
ALL_COMMAND_WARNING	5	Occupied and warning commands are executed.

[23.1.1.47 Override_Only_On_Exact_Output](#)

When disabled (0), any command that reaches an output of the Room Light Control starts the Override Time, including commands that reach the output only through lamps shared with other groups. When enabled (1), the Override Time starts only for commands sent directly to a configured output; commands from other groups sharing the same lamps only stop the daylight harvesting. It is disabled by default.

Value	Description
0	Disabled. Any command reaching an output, including through shared lamps, starts the Override Time.
1	Enabled. Only commands sent directly to a configured output start the Override Time.

[23.1.1.48 Linked_Occupancy_Target_RLC_1, Linked_Occupancy_Target_RLC_2, Linked_Occupancy_Target_RLC_3 and Linked_Occupancy_Target_RLC_4](#)

Linked Occupancy lets this Room Light Control hold up to four other Room Light Controls while its own occupancy state is occupied. Each property selects one target Room Light Control.

Value	Description
0	No link.
1 - 64	The target Room Light Control number. Up to 64 on the DALION-4 model and up to 16 on the DALION-1 model.

A Room Light Control cannot link to itself; such a value is rejected.

[23.1.1.49 Linked_Occupancy_Target_RLC_Mode_Mask](#)

Selects how each linked target is held. The mask has one bit per linked target. A target whose bit is cleared is held in Warning Hold; a target whose bit is set is held in the Occupied state.

Linked target	Value to add to the mask
Linked_Occupancy_Target_RLC_1	1
Linked_Occupancy_Target_RLC_2	2
Linked_Occupancy_Target_RLC_3	4
Linked_Occupancy_Target_RLC_4	8

For example, a mask of 5 (1 + 4) holds the first and third targets in the Occupied state, while the second and fourth are held in Warning Hold. A mask of 0 holds all targets in Warning Hold.

23.1.1.50 Profile_Occupied_Mode and Profile_Unoccupied_Mode

A Room Light Control Profile is a shared, named set of behaviour parameters (occupancy commands, hold, ignore and warning times, and daylight harvesting settings) that a Room Light Control can follow instead of its own parameters. Up to 32 profiles are shared by all Room Light Controls.

A Room Light Control can follow one profile while its Occupied Mode is occupied (Profile_Occupied_Mode) and another while it is unoccupied (Profile_Unoccupied_Mode).

Value	Description
0	Profile_Occupied_Mode: no profile, the Room Light Control uses its own parameters. Profile_Unoccupied_Mode: use the same profile as Profile_Occupied_Mode.
1 - 32	The profile number.

23.1.1.51 Profile_Occupied_Mode_Name and Profile_Unoccupied_Mode_Name

The name of the profile assigned by Profile_Occupied_Mode and Profile_Unoccupied_Mode respectively. The value is an empty string when no profile is assigned.

23.1.1.52 External_Occupancy_Timeout

The auto-expiry timeout, in minutes, for the External_Occupancy and External_Warning_Hold slots. A writer must re-assert its slot within this time or the slot clears itself.

When the value is zero, the timeout is disabled and the slots stay set until cleared.

23.1.1.53 External_Occupancy_1, External_Occupancy_2, External_Occupancy_3 and External_Occupancy_4

Four external occupancy writer slots allow external systems to report occupancy to the Room Light Control over BACnet. Each external system owns one slot, so slots do not overwrite one another.

Value	Description
0	The slot does not report occupancy.
1	The slot reports occupancy.

The Room Light Control is held occupied while any slot is set.

23.1.1.54 *External_Warning_Hold_1, External_Warning_Hold_2, External_Warning_Hold_3 and External_Warning_Hold_4*

Four external warning-hold writer slots allow external systems to hold the Room Light Control over BACnet. Each external system owns one slot, so slots do not overwrite one another.

Value	Description
0	The slot does not hold.
1	The slot holds the Room Light Control.

The Room Light Control stays held while any slot is set.

23.1.1.55 *External_Light_Level*

The Room Light Control light level in lux, written over BACnet for daylight harvesting instead of using a DALI light sensor. While set, the value overrides the light sensors.

The value expires with the `External_Occupancy_Timeout`, where a writer must re-write the value within the timeout or it clears itself. When the timeout is zero, the value stays set until cleared.

Valid values are between 0 and 65 534 lux. Writing a negative value clears the external light level, and the DALI light sensors apply again. The property reads -1.0 when no external light level is set.

23.1.1.56 *Circadian_Active*

Indicates whether circadian rhythm control is currently active for the Room Light Control.

Inactive (0): Circadian rhythm control is not active.

Active (1): Circadian rhythm control is active.

23.1.1.57 *Dynamic_Color_Recipe_Graph*

Selects the Dynamic Color Recipe graph followed by the Room Light Control.

Value	Description
0	No graph.
1 - 16	The Dynamic Color Recipe graph number. Up to 16 on the DALION-4 model and up to 4 on the DALION-1 model.

23.1.1.58 *Dynamic_Color_Recipe_Graph_Name*

The name of the graph selected by `Dynamic_Color_Recipe_Graph`. The value is an empty string when no graph is assigned.

23.1.1.59 *Dynamic_Color_Recipe_Graph_Enabled*

Enables or disables the graph selected by `Dynamic_Color_Recipe_Graph`. Because the enabled state belongs to the graph, this affects every Room Light Control that uses the same graph.

Inactive (0): The graph is disabled.

Active (1): The graph is enabled.

Writing this property is refused when no graph is assigned to the Room Light Control.

23.1.1.60 Circadian_Point_1_Brightness to Circadian_Point_8_Brightness

Read or write the brightness of the eight support points of the graph selected by Dynamic_Color_Recipe_Graph. Because the support points belong to the graph, writing them affects every Room Light Control that uses the same graph.

The value is a percentage from 0 to 100, in steps of 0.5 %.

A masked (unused) support point reads as NaN. The property also reads as NaN when no graph is assigned to the Room Light Control. Writing NaN or a negative value masks the support point.

Writing a value greater than 100 is refused. Writing is refused when no graph is assigned to the Room Light Control.

23.1.1.61 Circadian_Point_1_Kelvin to Circadian_Point_8_Kelvin

Read or write the color temperature, in Kelvin, of the eight support points of the graph selected by Dynamic_Color_Recipe_Graph. Because the support points belong to the graph, writing them affects every Room Light Control that uses the same graph.

A masked (unused) support point reads as NaN. The property also reads as NaN when no graph is assigned to the Room Light Control, or when the graph is not a color temperature graph. Writing NaN or a negative value masks the support point.

Writing is refused when the value maps outside the valid color temperature range, when the graph is not a color temperature graph, or when no graph is assigned to the Room Light Control.

The Circadian_Active, Dynamic_Color_Recipe_Graph, Dynamic_Color_Recipe_Graph_Name, Dynamic_Color_Recipe_Graph_Enabled, Circadian_Point_1_Brightness to Circadian_Point_8_Brightness and Circadian_Point_1_Kelvin to Circadian_Point_8_Kelvin properties are available only when circadian rhythm support is enabled.

24 Analog Value - Lamp, Group, and Channel

24.1 Analog Value - Lamp, Group, and Channel

Some lamp, group and channel parameters are also available via these objects. Those values are also available via the proprietary properties of the associated Analog Output object.

24.1.1 Lamp, Group, Channel

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	REAL	R
Description	28	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Units	117	BACnetEngineeringUnits	R
Min_Pres_Value	69	REAL	R
Max_Pres_Value	65	REAL	R
Resolution	106	REAL	R

24.1.1.1 Object_Identifier

The object instance number is represented as 1TCLLI.

- “1” the prefix is the number 1.
- “T” is the type of object as follows, 0 for DALI lamps, 1 for DALI groups and 2 for DALI channels.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents for lamp objects, numbers 00-63, for group objects, numbers 00-15 and for channel objects, number 00.
- “II” represents the parameter, numbers 00-99.

Number	Name
00	Colour_Temp
01	Colour_XYC_X
02	Colour_XYC_Y
03	Colour_TC_TC

24.1.1.2 *Object_Name*

The name of the parameter with the name of the Analog Output as a prefix.

24.1.1.3 *Object_Type*

ANALOG VALUE (2).

24.1.1.4 *Present_Value*

The value of the parameter.

24.1.1.4.1 *Colour_Temp*

The colour temperature in Kelvin (K).

Same value as the property Colour_Temp of the associated Analog Output object.

24.1.1.4.2 *Colour_XYC_X*

The x-coordinate for xy-Coordinate.

Same value as the property Colour_XYC_X of the associated Analog Output object.

24.1.1.4.3 *Colour_XYC_Y*

The y-coordinate for xy-Coordinate.

Same value as the property Colour_XYC_Y of the associated Analog Output object.

24.1.1.4.4 *Colour_TC_TC*

The colour temperature in 1 Mirek.

Same value as the property Colour_TC_TC of the associated Analog Output object.

24.1.1.5 *Description*

A description of the object.

24.1.1.6 *Status_Flags*

This property indicates the general “reliability” of the object.

24.1.1.7 *Reliability*

This property indicates whether the operation of the object is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.

24.1.1.8 Out_Of_Service

It indicates whether the algorithm that the object represents is in service.

24.1.1.9 Units, Min_Pres_Value, Max_Pres_Value, Resolution

The Units, Min_Pres_Value, Max_Pres_Value and Resolution for the Present_Value.

Name	Units	Min_Pres_Value	Max_Pres_Value	Resolution
Colour_Temp	degrees-kelvin	15.26	1000000	REAL EPSILON
Colour_XYC_X	no-units	0	65534	1
Colour_XYC_Y	no-units	0	65534	1
Colour_TC_TC	no-units	1	65534	1

For Colour_Temp the Min_Pres_Value and Max_Pres_Value represent the Physical Warmest and Physical Coolest of the assigned lamp.

25 BACnet Interface - Analog Value - Input Device

25.1 Analog Value - Input Device

Some DALI input device parameters are also available via these objects. Those values are also available via the proprietary properties of the associated Binary Input object.

25.1.1 Input Device

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	REAL	R
Description	28	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Units	117	BACnetEngineeringUnits	R
Min_Pres_Value	69	REAL	R
Max_Pres_Value	65	REAL	R
Resolution	106	REAL	R

25.1.1.1 Object_Identifier

The object instance number is represented as 5CLLII.

- “5” the prefix is the number 5.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents the DALI input device, numbers 00-31.
- “II” represents the parameter, numbers 00-99.

Number	Name
00	Allowed_Command
01	Buttons_Allowed_Command
02	Occupancy_Hold_Time
03	Light_Hystereris
04	Light_Hystereris_Minimum
05	Light_Raw_Value
06	Light_Calibration_Measured_Value
07	Light_Calibration_Sensor_Value

25.1.1.2 *Object_Name*

The name of the parameter with the name of the Binary Input as a prefix.

25.1.1.3 *Object_Type*

ANALOG VALUE (2).

25.1.1.4 *Present_Value*

The value of the parameter.

25.1.1.4.1 *Allowed_Command*

Same value as the property Allowed_Command of the associated Binary Input object.

25.1.1.4.2 *Buttons_Allowed_Command*

Same value as the property Buttons_Allowed_Command of the associated Binary Input object.

25.1.1.4.3 *Occupancy_Hold_Time*

Same value as the property Occupancy_Hold_Time of the associated Binary Input object.

25.1.1.4.4 *Light_Hystereris*

Same value as the property Light_Hystereris of the associated Binary Input object.

25.1.1.4.5 *Light_Hystereris_Minimum*

Same value as the property Light_Hystereris_Minimum of the associated Binary Input object.

25.1.1.4.6 *Light_Raw_Value*

Same value as the property Light_Raw_Value of the associated Binary Input object.

25.1.1.4.7 *Light_Calibration_Measured_Value*

Same value as the property Light_Calibration_Measured_Value of the associated Binary Input object.

25.1.1.4.8 *Light_Calibration_Sensor_Value*

Same value as the property Light_Calibration_Sensor_Value of the associated Binary Input object.

25.1.1.5 Description

A description of the object.

25.1.1.6 Status_Flags

This property indicates the general “reliability” of the object.

25.1.1.7 Reliability

This property indicates whether the operation of the object is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.

25.1.1.8 Out_Of_Service

It indicates whether the algorithm that the object represents is in service.

25.1.1.9 Units, Min_Pres_Value, Max_Pres_Value, Resolution

The Units, Min_Pres_Value, Max_Pres_Value and Resolution for the Present_Value.

Name	Units	Min_Pres_Value	Max_Pres_Value	Resolution
Allowed_Command	no-units	0	3	1
Buttons_Allowed_Command	no-units	0	3	1
Occupancy_Hold_Time	seconds	1	2540	1
Light_Hystereris	percent	0	25	1
Light_Hystereris_Minimum	no-units	0	255	1
Light_Raw_Value	no-units	0		1
Light_Calibration_Measured_Value	luxes	0		1
Light_Calibration_Sensor_Value	no-units	0		1

26 BACnet Interface - Analog Value - Room Light Control

26.1 Analog Value - Room Light Control

Some Room Light Control parameters are also available via these objects. Those values are also available via the proprietary properties of the associated Loop object.

26.1.1 Room Light Control

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	REAL	R
Description	28	CharacterString	R
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Reliability	103	BACnetReliability	R
Out_Of_Service	81	BOOLEAN	W
Units	117	BACnetEngineeringUnits	R
Min_Pres_Value	69	REAL	R
Max_Pres_Value	65	REAL	R
Resolution	106	REAL	R

26.1.1.1 Object_Identifier

The object instance number is represented as 9CRRIL.

- “9” the prefix is the number 9.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “RR” represents the Room Light Control, numbers 00-15.
- “IL” represents the parameter, numbers 00-99.

Number	Name
00	Value
01	Controlled_Variable_Value
02	Setpoint
03	Hold_Time
04	Ignore_Time
05	Occupied_Level
06	Unoccupied_Level
07	Step_Value
08	Lamp_2_Offset
09	Lamp_2_Limit
10	Override
11	Setpoint_Occupied
12	Setpoint_Unoccupied
13	Deadband_Setpoint
14	Warning_Time
15	Warning_Command_Value
16	Occupied_Command_Value
17	Unoccupied_Command_Value
18	Minimum_Intensity
19	Maximum_Intensity
20	Override_Timeout
21	Demand_Response_Value

26.1.1.2 *Object_Name*

The name of the parameter with the name of the Room Light Control as a prefix.

26.1.1.3 *Object_Type*

ANALOG VALUE (2).

26.1.1.4 *Present_Value*

The value of the parameter.

26.1.1.4.1 *Value*

The light intensity in percentages for the Room Light Control.

Same value as the property Present_Value of the associated Loop object.

26.1.1.4.2 [Controlled_Variable_Value](#)

The current value of the light sensor.

Same value as the property `Controlled_Variable_Value` of the associated Loop object.

26.1.1.4.3 [Setpoint](#)

The value of the current setpoint in lux.

Same value as the property `Setpoint` of the associated Loop object.

26.1.1.4.4 [Hold_Time](#)

The hold time in seconds used for the occupancy state. The occupancy state remains in the occupied state for the hold time when the value of `Occupancy_Variable_Value` changes to be unoccupied.

Valid values are between 0 and 2 400 seconds (40 minutes) with an interval of 10 seconds.

Same value as the property `Hold_Time` of the associated Loop object.

26.1.1.4.5 [Ignore_Time](#)

The ignore time in seconds used for the occupancy state. Once the occupancy state changes to unoccupied the ignore time is used to temporarily ignore the occupied change of the `Occupancy_Variable_Value`.

Valid values are between 0 and 2 400 seconds (40 minutes) with an interval of 10 seconds.

Same value as the property `Ignore_Time` of the associated Loop object.

26.1.1.4.6 [Occupied_Level](#)

The output light intensity when entering the occupied state.

Same value as the property `Occupied_Level` of the associated Loop object.

26.1.1.4.7 [Unoccupied_Level](#)

The output light intensity when entering the unoccupied state.

Same value as the property `Unoccupied_Level` of the associated Loop object.

26.1.1.4.8 [Step_Value](#)

The maximum value in percent that the Room Light Control can change its output per second, during constant light control.

Valid values are between 0 and 100 % with an interval of 0.5 %.

Same value as the property `Step_Value` of the associated Loop object.

26.1.1.4.9 [Lamp_2_Offset](#)

The offset between the primary and the secondary output.

Valid values are between 0 and 100 % with an interval of 0.5 %.

Same value as the property Lamp_2_Offset of the associated Loop object.

[26.1.1.4.10Lamp_2_Limit](#)

The value where the secondary output becomes the same as the primary output.

Valid values are between 0 and 100 % with an interval of 0.5 %.

Same value as the property Lamp_2_Limit of the associated Loop object.

[26.1.1.4.11Override](#)

The value of the output override in percent (0 - 100%). When the value is NaN the override is disabled.

Same value as the property Override of the associated Loop object.

[26.1.1.4.12Setpoint_Occupied](#)

The setpoint of desired light illuminance of the room when the occupancy state is occupied.

Valid values are between 0 and 65 534 lux with an interval of 1 lux.

Same value as the property Setpoint_Occupied of the associated Loop object.

[26.1.1.4.13Setpoint_Unoccupied](#)

The setpoint of desired light illuminance of the room when the occupancy state is unoccupied. It is also possible to use a relative setpoint to the Setpoint_Occupied, for this a negative is used that will represent a percentage to reduce from the Setpoint_Occupied.

Valid values are between 0 and 65 534 lux with an interval of 1 lux. When relative setpoint is used the valid values are between -100 and 0 % with an interval of 1 %.

Same value as the property Setpoint_Unoccupied of the associated Loop object.

[26.1.1.4.14Deadband_Setpoint](#)

The dead band in lux used by the current setpoint.

Valid values are between 0 and 65 534 lux with an interval of 1 lux.

Same value as the property Deadband_Setpoint of the associated Loop object.

[26.1.1.4.15Warning_Time](#)

The warning time in seconds used for the occupancy state. The Warning_Command is executed before the Unoccupied_Command which is executed after the Warning_Time, when the value of Occupancy_Variable_Value changes to be unoccupied.

Valid values are between 0 and 2 400 seconds (40 minutes) with an interval of 10 seconds.

Same value as the property Warning_Time of the associated Loop object.

26.1.1.4.16Warning_Command_Value, Occupied_Command_Value, Unoccupied_Command_Value

Name	Value Range	Unit
Disabled	0	
Direct Value	0 - 100	Percent
Max Level		
Off		
Min Level		
Recall Scene	0 - 15	Scene number
Start Daylight Harvesting		
Stop Daylight Harvesting		
Relinquish		

Same value as the property Warning_Command_Value, Occupied_Command_Value or Unoccupied_Command_Value of the associated Loop object.

26.1.1.4.17Minimum_Intensity

Minimum intensity of the Room Light Control output.

Valid values are between 0 and 100 % with an interval of 0.5 %.

Same value as the property Minimum_Intensity of the associated Loop object.

26.1.1.4.18Maximum_Intensity

Maximum intensity of the Room Light Control output.

Valid values are between 0 and 100 % with an interval of 0.5 %.

Same value as the property Maximum_Intensity of the associated Loop object.

26.1.1.4.19Override_Timeout

The override timeout in seconds used when unoccupied. The override remains active for this time, before returning to the unoccupied state.

Valid values are between 0 and 72 000 seconds (20 hours) with an interval of 300 seconds.

Same value as the property Override_Timeout of the associated Loop object.

26.1.1.4.20Demand_Response_Value

The demand response allows limiting the illuminance of the room. A negative value reduces the illuminance of the room by this value in percentages. A positive value increases the illuminance of the room by this value in percentages. When daylight harvesting is active, the setpoint is decreased or increased by this value in percentages.

Valid values are between -100 and 100 percent with an interval of 1 percent.

Same value as the property Demand_Response_Value of the associated Loop object.

26.1.1.5 Description

A description of the object.

26.1.1.6 Status_Flags

This property indicates the general “reliability” of the object.

26.1.1.7 Reliability

This property indicates whether the operation of the object is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.

26.1.1.8 Out_Of_Service

It indicates whether the algorithm that the object represents is in service.

26.1.1.9 Units, Min_Pres_Value, Max_Pres_Value, Resolution

The Units, Min_Pres_Value, Max_Pres_Value and Resolution for the Present_Value.

Name	Units	Min_Pres_Value	Max_Pres_Value	Resolution
Value	no-units	0	REAL MAXIMUM	REAL EPSILON
Controlled_Variable_Value	no-units	0	REAL MAXIMUM	REAL EPSILON
Setpoint	no-units	0	REAL MAXIMUM	REAL EPSILON
Hold_Time	seconds	0	2400	10
Ignore_Time	seconds	0	2400	10
Occupied_Level	no-units	0	REAL MAXIMUM	REAL EPSILON
Unoccupied_Level	no-units	0	REAL MAXIMUM	REAL EPSILON
Step_Value	percent	0	100	0.5
Lamp_2_Offset	percent	0	100	0.5
Lamp_2_Limit	percent	0	100	0.5
Override	percent	0	1	REAL EPSILON
Setpoint_Occupied	luxes	0	65534	1
Setpoint_Unoccupied	no-units	-100	65534	1
Deadband_Setpoint	luxes	0	65534	1
Warning_Time	seconds	0	2400	10
Warning_Command_Value	no-units	0	255	1
Occupied_Command_Value	no-units	0	255	1
Unoccupied_Command_Value	no-units	0	255	1
Minimum_Intensity	percent	0	100	0.5
Maximum_Intensity	percent	0	100	0.5
Override_Timeout	seconds	0	72000	300
Demand_Response_Value	percent	-100	100	1

27 BACnet Interface - Multi-State Value Object - Value of Lamp, Group and Channel

27.1 Multi-State Value Object - Value of Lamp, Group and Channel

Some Lamps, Groups and Channels parameters are also available via these objects. Those values are also available via the properties values of the associated Analog Output object.

As Multi-State Value Present_Value starts at one (1), see the Present Value section since the values of this object may be different from the associated property values of the Analog Output object.

27.1.1 Lamp, Group and Channel

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	Unsigned	W
Description	28	CharacterString	W
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Out_Of_Service	81	BOOLEAN	R
Number_Of_States	74	Unsigned	R
State_Text	110	BACnetARRAY[N]of CharacterString	R

27.1.1.1 Object_Identifier

The object instance number is represented as TCLLII.

- “T” is the type of object as follows, 0 for DALI lamps, 1 for DALI groups and 2 for DALI channels.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “LL” represents for lamp objects, numbers 00-63, for group objects, numbers 00-15 and for channel objects, number 00.
- “II” represents the parameter, numbers 00-99.

Number	Name
00	Reliability

27.1.1.2 *Object_Name*

The name of the parameter with the name of the associated Analog Output object as a prefix.

27.1.1.3 *Object_Type*

MULTISTATE_VALUE (19).

27.1.1.4 *Present_Value*

The value of the parameter.

27.1.1.4.1 *Reliability*

The current reliability of the associated lamp, group or channel.

Represents the value of the property Reliability of the associated Analog Output object.

Name	Value	Description
NO_FAULT_DETECTED	1	No fault has been detected
NO_OUTPUT	7	No DALI device is connected to the output object
UNRELIABLE_OTHER	8	An error has been reported by the DALI lamp
COMMUNICATION_FAILURE	13	DALI device is offline

27.1.1.5 *Description*

Description of the associated Analog Output object.

Writing this value updates the associated Analog Output object name.

28 BACnet Interface - Multi-State Value Object - Room Light Control

28.1 Multi-State Value Object - Room Light Control

Some Room Light Control parameters are also available via these objects. Those values are also available via the values of the associated Loop object.

As Multi-State Value Present_Value starts at one (1), see the Present Value section since the values of this object may be different from the associated property values of the Loop object.

28.1.1 Room Light Control

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	Unsigned	W
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Out_Of_Service	81	BOOLEAN	W
Number_Of_States	74	Unsigned	R
State_Text	110	BACnetARRAY[N]of CharacterString	R

28.1.1.1 Object_Identifier

The object instance number is represented as 9CRRIL.

- “9” the prefix is the number 9.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “RR” represents the Room Light Control, numbers 00-15.
- “IL” represents the parameter, numbers 00-99.

Number	Name
00	Mode
01	Auto_Mode
02	Occupancy_State
03	Command
04	Warning_Command_Command
05	Occupied_Command_Command
06	Unoccupied_Command_Command
07	Daylight_Harvesting_Active
08	Occupied_Mode
09	Demand_Response_State
10	Occupied_Mode_Command_Enable

28.1.1.2 Object_Name

The name of the parameter with the name of the Room Light Control as a prefix.

28.1.1.3 Object_Type

MULTISTATE_VALUE (19).

28.1.1.4 Present_Value

The value of the parameter.

28.1.1.4.1 Mode

The current mode of the Room Light Control.

Represents the value of the property Mode of the associated Loop object.

Name	Value	Description
Disabled	1	The Room Light Control is disabled
Enabled	2	The Room Light Control is enabled

28.1.1.5 Auto_Mode

Represents the value of the property Auto_Mode of the associated Loop object.

Inactive (1): The Room Light Control is currently overridden or is disabled.

Active (2): The Room Light Control is not currently overridden and is active.

28.1.1.6 Occupancy_State

Indicates the current occupancy state of the Room Light Control.

Represents the value of the property Occupancy_State of the associated Loop object.

Inactive (1): The occupancy state is unoccupied.

Active (2): The occupancy state is occupied.

28.1.1.7 Command

Allows to execute commands on the Room Light Control.

Represents the value of the property Command of the associated Loop object.

28.1.1.7.1 NO COMMAND (1)

No command is executed.

28.1.1.7.2 START DEMAND RESPONSE (2)

Starts the demand response.

28.1.1.7.3 STOP DEMAND RESPONSE (3)

Stops the demand response.

28.1.1.7.4 START DAYLIGHT HARVESTING (4)

Starts the daylight harvesting.

28.1.1.7.5 STOP DAYLIGHT HARVESTING (5)

Stops the daylight harvesting.

28.1.1.7.6 START OVERRIDE (6)

Starts the override.

28.1.1.7.7 STOP OVERRIDE (7)

Stops the override.

28.1.1.7.8 ENABLE (8)

Enables the Room Light Control.

28.1.1.7.9 DISABLE (9)

Disables the Room Light Control.

28.1.1.8 Warning_Command_Command, Occupied_Command_Command and Unoccupied_Command_Command

Represents the value of the properties Warning_Command_Command, Occupied_Command_Command and Unoccupied_Command_Command of the associated Loop object.

Name	Value	Description
Disabled	1	The command is disabled.
Direct Value	2	Direct light value.
Max Level	3	Recall Max Level.
Off	4	Off.
Min Level	5	Recall Min Level.
Recall Scene	6	Recall Scene.
Start Daylight Harvesting	7	Start the Room Light Control daylight harvesting.
Stop Daylight Harvesting	8	Stop the Room Light Control daylight harvesting.
Relinquish	9	Relinquish the priority.

28.1.1.9 Daylight_Harvesting_Active

This property indicates whether the daylight harvesting control is currently active or not.

Represents the value of the property Daylight_Harvesting_Active of the associated Loop object.

Name	Value	Description
Inactive	1	The daylight harvesting control is currently inactive.
Active	2	The daylight harvesting control is currently active.

28.1.1.10 Occupied_Mode

The current occupancy mode.

Represents the value of the property Occupied_Mode of the associated Loop object.

Unoccupied (1): The Room Light Control is unoccupied.

Occupied (2): The Room Light Control is occupied.

28.1.1.11 Demand_Response_State

The current state of the demand response.

Represents the value of the property Demand_Response_State of the associated Loop object.

Inactive (1): The demand response is inactive.

Active (2): The demand response is active.

28.1.1.12 Occupied_Mode_Command_Enable

It allows enabling and disabling the execution of the occupancy command when Occupied_Mode is modified.

Represents the value of the property Occupied_Mode_Command_Enable of the associated Loop object.

Name	Value	Description
NO_COMMAND	1	No command is executed.
UNOCCUPIED_COMMAND	2	Only unoccupied command is executed.
OCCUPIED_COMMAND	3	Only occupied command is executed.
ALL	4	Both Unoccupied and Occupied commands are executed.

[28.1.1.13 Status_Flags](#)

This property indicates the general “reliability” of the object.

[28.1.1.14 Reliability](#)

This property indicates whether the operation of the Present_Value or the operation of the object is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.

[28.1.1.15 Out_Of_Service](#)

It indicates whether the algorithm that the object represents is in service.

29 BACnet Interface - Multi-State Value Object - Commander

29.1 Multi-State Value Object - Commander

Some Commander parameters are also available via these objects.

29.1.1 Commander

List of available properties for these objects.

Property Identifier	Property ID	Property Datatype	Conformance Code
Object_Identifier	75	BACnetObjectIdentifier	R
Object_Name	77	CharacterString	R
Object_Type	79	BACnetObjectType	R
Present_Value	85	Unsigned	W
Status_Flags	111	BACnetStatusFlags	R
Event_State	36	BACnetEventState	R
Out_Of_Service	81	BOOLEAN	W
Number_Of_States	74	Unsigned	R
State_Text	110	BACnetARRAY[N]of CharacterString	R

29.1.1.1 Object_Identifier

The object instance number is represented as 7CCII.

- “7” the prefix is the number 7.
- “C” represents the DALI channel number, 0, 1, 2, or 3.
- “CC” represents the Commander, numbers 00-15.
- “II” represents the parameter, numbers 00-99.

Number	Name
00	Command

29.1.1.2 Object_Name

The name of the parameter with the name of the Commander as a prefix.

29.1.1.3 Object_Type

MULTISTATE_VALUE (19).

29.1.1.4 Present_Value

The value of the parameter.

29.1.1.4.1 *Command*

Allows to execute commands on the Commander.

29.1.1.4.1.1 NO COMMAND (1)

No command is executed.

29.1.1.4.1.2 START (2)

Starts the Commander.

29.1.1.4.1.3 STOP (3)

Stops the Commander.

29.1.1.5 *Status_Flags*

This property indicates the general “reliability” of the object.

29.1.1.6 *Reliability*

This property indicates whether the operation of the Present_Value or the operation of the object is reliable. The values are as follows:

- NO_FAULT_DETECTED (0) - No fault has been detected.

29.1.1.7 *Out_Of_Service*

It indicates whether the algorithm that the object represents is in service.

30 BACnet Interface - ReinitializeDevice Service

30.1 ReinitializeDevice Service

The password corresponds to the factory default IP network hostname.

The following Reinitialized State of Device are supported: COLDSTART, WARMSTART, and ACTIVATE_CHANGES.

31 BACnet Interface - DeviceCommunicationControl Service

31.1 DeviceCommunicationControl Service

The password corresponds to the factory default IP network hostname.

32 DMX512 (sACN / Art-Net)

The DMX512 network control receiver allows controlling DALI lighting over an IP network using DMX512 over Ethernet protocols. It supports lighting level control, scene recalls, DT8 colour temperature, and commander start/stop.

Two DMX512 over Ethernet protocols are supported: sACN (E1.31) and Art-Net.

32.1 sACN (E1.31)

Streaming ACN (sACN), defined by ANSI E1.31, is a protocol for transporting DMX512 data over Ethernet using multicast or unicast UDP. The DALION listens for sACN universe data on the configured universe number.

- Universe range: 1–63999

32.2 Art-Net

Art-Net is a protocol for transporting DMX512 data over Ethernet using broadcast or unicast UDP. The DALION listens for Art-Net DMX data on the configured port-address.

- Port-Address range: 0–32767 (Net << 8 | Sub-Net << 4 | Universe)

32.3 Channel Mapping

The 512-slot DMX universe is divided into 4 blocks of 128 slots, one block per DALI channel:

Block	Slots	DALI Channel
0	0-127	Channel 1
1	128-255	Channel 2
2	256-383	Channel 3
3	384-511	Channel 4

Within each block, the slot offsets are mapped as follows:

Offset	Function
0-63	Lamp levels (64 lamps)
64-79	Group levels (16 groups)
80	Broadcast level
81-96	Scene recall per group (16 groups)
97	Scene recall broadcast
98-113	DT8 colour temperature per group (16 groups)
114	DT8 colour temperature broadcast
115	Commander start (block 0 only, global)
116	Commander stop (block 0 only, global)
117-127	Reserved

32.3.1 Slot Value Format

All slot values are unsigned bytes (0–255). The interpretation depends on the slot function:

32.3.1.1 Lamp, Group, and Broadcast Levels (offsets 0–80)

The value is scaled to a lighting percentage: $\text{level} = \text{value} \times 100 / 255$. A value of 0 turns the light off, 255 sets it to 100%. Changes are applied on every new value (level-triggered).

32.3.1.2 Scene Recall (offsets 81–97)

The value selects a scene to recall. A value of 0 performs no action. Values 1–16 recall scenes 1 through 16. Values above 16 are ignored. Scene recalls are edge-triggered: the scene is recalled once when the value changes.

32.3.1.3 DT8 Colour Temperature (offsets 98–114)

The value is linearly interpolated between the configured DT8 Mirek Min and DT8 Mirek Max: $\text{mirek} = \text{DT8 Mirek Min} + \text{value} \times (\text{DT8 Mirek Max} - \text{DT8 Mirek Min}) / 255$. With the default settings (153–370), a value of 0 corresponds to 6500 K and 255 corresponds to 2700 K. Changes are applied on every new value (level-triggered).

32.3.1.4 Commander Start / Stop (offsets 115–116)

The value selects a commander. A value of 0 performs no action. Values 1–64 start (offset 115) or stop (offset 116) commanders 1 through 64. These slots are global and only active in block 0. Commander commands are edge-triggered: the command is executed once when the value changes.

33 Modbus TCP

The Modbus TCP network control receiver allows controlling DALI lighting over an IP network using the Modbus TCP protocol. It supports lighting level control, scene recalls, DT8 colour temperature, and commander start/stop.

The DALION acts as a Modbus TCP server. A Modbus TCP client writes to holding registers to control the DALI lighting.

33.1 Holding Registers

The DALION exposes 512 holding registers. Each holding register corresponds to a slot in the channel map. The register values range from 0 to 255.

33.2 Holding Register Mapping

The 512 holding registers are divided into 4 blocks of 128 registers, one block per DALI channel:

Block	Registers	DALI Channel
0	0-127	Channel 1
1	128-255	Channel 2
2	256-383	Channel 3
3	384-511	Channel 4

Within each block, the register offsets are mapped as follows:

Offset	Function
0-63	Lamp levels (64 lamps)
64-79	Group levels (16 groups)
80	Broadcast level
81-96	Scene recall per group (16 groups)
97	Scene recall broadcast
98-113	DT8 colour temperature per group (16 groups)
114	DT8 colour temperature broadcast
115	Commander start (block 0 only, global)
116	Commander stop (block 0 only, global)
117-127	Reserved

33.2.1 Register Value Format

All register values are unsigned bytes (0–255). The interpretation depends on the register function:

33.2.1.1 Lamp, Group, and Broadcast Levels (offsets 0–80)

The value is scaled to a lighting percentage: $\text{level} = \text{value} \times 100 / 255$. A value of 0 turns the light off, 255 sets it to 100%. Changes are applied on every new value (level-triggered).

33.2.1.2 Scene Recall (offsets 81–97)

The value selects a scene to recall. A value of 0 performs no action. Values 1–16 recall scenes 1 through 16. Values above 16 are ignored. Scene recalls are edge-triggered: the scene is recalled once when the value changes.

33.2.1.3 DT8 Colour Temperature (offsets 98–114)

The value is linearly interpolated between the configured DT8 Mirek Min and DT8 Mirek Max: $\text{mirek} = \text{DT8 Mirek Min} + \text{value} \times (\text{DT8 Mirek Max} - \text{DT8 Mirek Min}) / 255$. With the default settings (153–370), a value of 0 corresponds to 6500 K and 255 corresponds to 2700 K. Changes are applied on every new value (level-triggered).

33.2.1.4 Commander Start / Stop (offsets 115–116)

The value selects a commander. A value of 0 performs no action. Values 1–64 start (offset 115) or stop (offset 116) commanders 1 through 64. These registers are global and only active in block 0. Commander commands are edge-triggered: the command is executed once when the value changes.

34 Room Light Control

The Room Light Control (abbreviated *RLC*) functionality allows automatic control of room lighting based on occupancy and illuminance, using occupancy sensors and light sensors.

34.1 Occupancy Sensors

One or multiple occupancy sensors allow turning on, reducing, or turning off the lighting in a room based on occupancy.

The occupancy sensors determine the occupied state of the room. If multiple sensors are used, the room is considered occupied if at least one detects movement; otherwise, it is unoccupied.

When the state changes to occupied, the Occupied Command is executed. When it changes to unoccupied, the Unoccupied Command is executed.

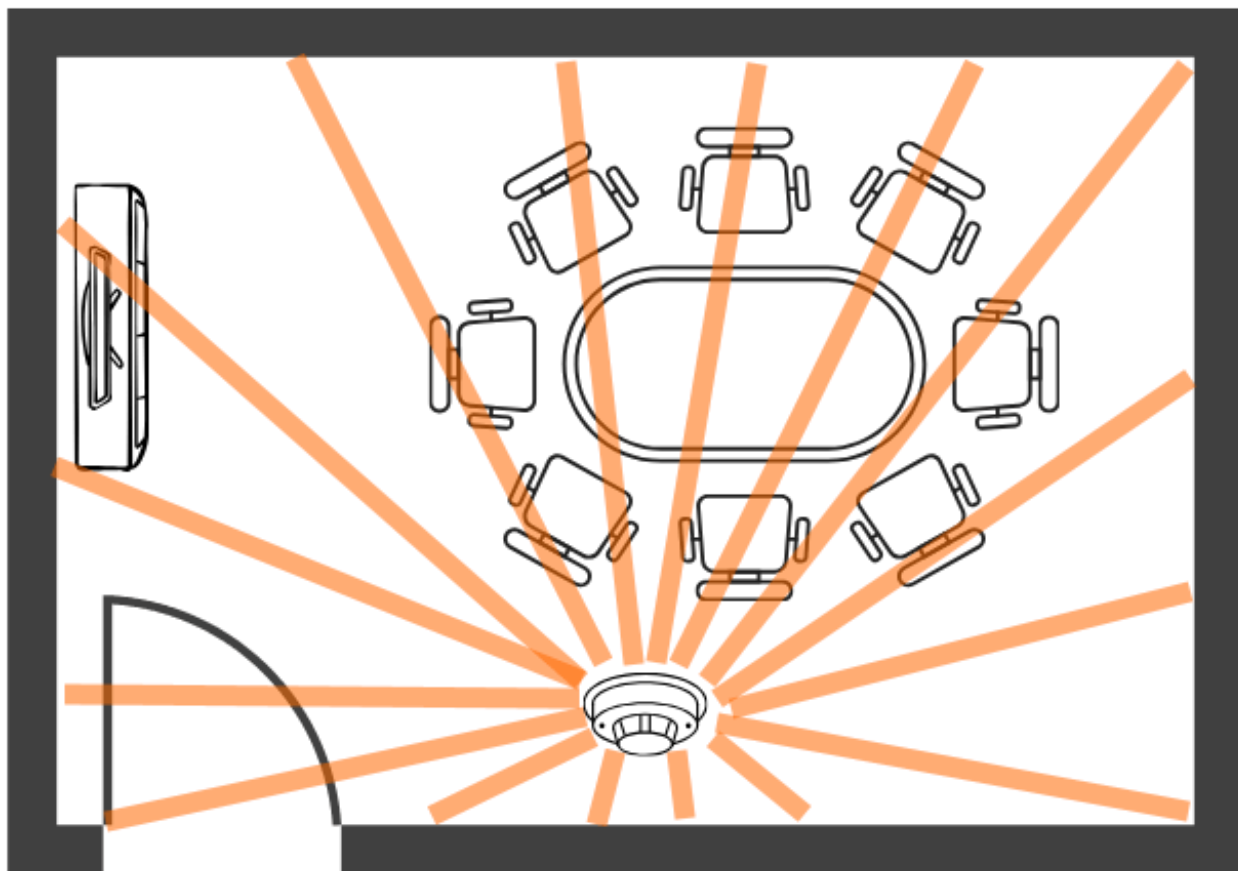
Related BACnet properties: *Occupancy_Variable_Value*.

34.1.1 Sensor placement

For good occupancy detection, it is essential to install occupancy sensors according to the manufacturer recommendations. Sensor models from different vendors differ in detection technologies and coverage.

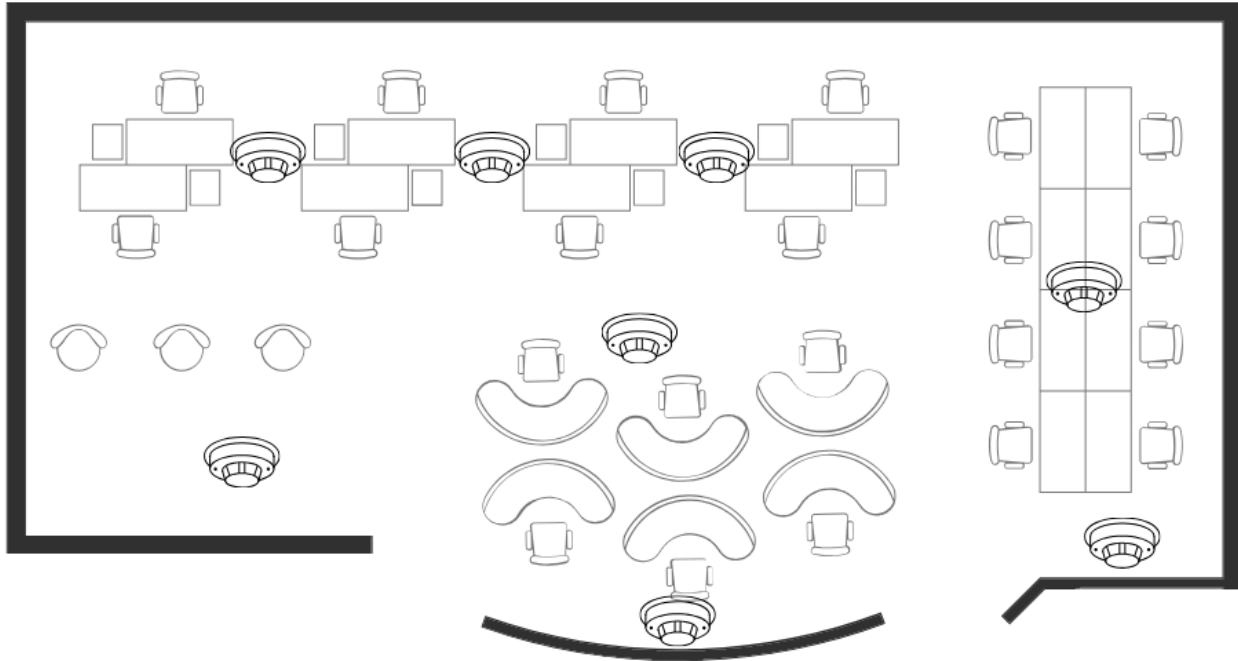
Here are some general recommendations for occupancy sensor placement.

For effective monitoring, sensors should be placed to cover all room entrances. To ensure immediate detection, the sensor should face the door at a perpendicular angle, as shown in the diagram below. The sensor should be positioned so that its detection field does not extend outside an open door, which could result in detecting passersby instead of people entering the room.



In settings where the view of a sensor might be blocked by obstacles like cubicle walls, using dual technology sensors or adding extra PIR sensors can help maintain a clear line of sight. Dual technology sensors are recommended for areas with limited movement, such as private offices, open offices, restrooms with stalls, and libraries. However, they are not ideal for places with continuous movement, such as hallways and warehouses.

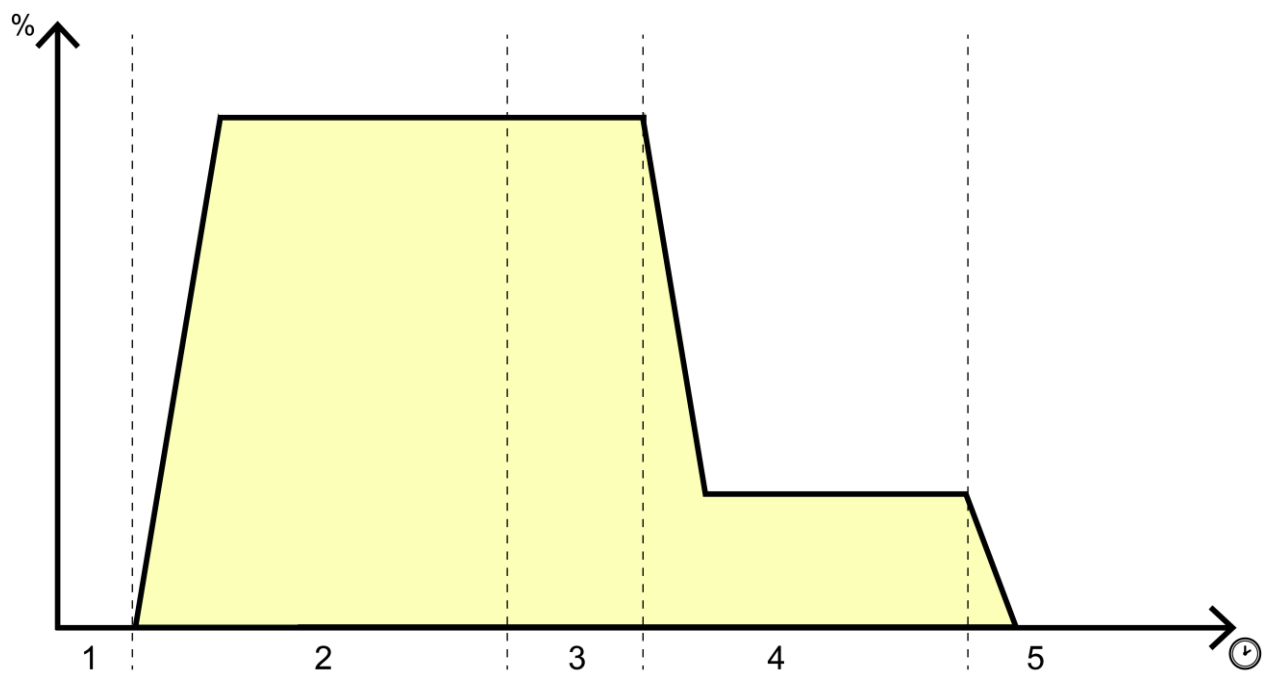
For larger rooms, multiple sensors may be required to cover the entire area. Sensors should cover all room entrances as well as all areas where a person could be, as illustrated in the diagram below.



34.1.2 Occupancy Process

One or more occupancy sensors allow reducing or completely turning off the lighting in a room based on its occupancy state.

Related BACnet properties: *Occupancy_Variable_Value*, *Occupied_Mode*, *Override_Timeout*, *Occupied_Mode_Command_Enable*, *Occupied_Command_Command*, *Occupied_Command_Value*, *Warning_Command_Command*, *Warning_Command_Value*, *Unoccupied_Command_Command*, *Unoccupied_Command_Value*, *Ignore_Time* and *Hold_Time*.



1. Ignore Time (motion detected)
2. Room is occupied (Occupied Command)
3. Hold Time (no motion detected)
4. Unoccupied Warning (Warning Command)
5. Room is unoccupied (Unoccupied Command)

34.1.3 Occupancy - Hold Time

The duration the Room Light Control remains in the occupied state depends on the time since the last detected occupancy event from the sensors.

The occupancy sensor includes a hold time setting that can be configured within the sensor. This hold time is added to the hold time of the Room Light Control.

Related BACnet properties: *Hold_Time*, *Occupancy_Variable_Value*.

34.1.4 Occupancy - Walk Through Mode

When Walk Through Mode is enabled, an occupancy shorter than 1/8 of the Hold Time shortens the Hold Time to 1/4 of its value. This prevents a brief visit, such as walking through the room, from keeping the lights on for the full Hold Time. This option is disabled by default.

34.1.5 Occupancy - Ignore Time

Once the occupancy state changes to unoccupied, the ignore time is used to temporarily ignore changes to occupied from the occupancy sensors.

Related BACnet properties: *Ignore_Time*, *Occupancy_Variable_Value*.

34.1.6 Occupied Command

The Occupied Command is executed when the room transitions to the occupied state.

The Occupied Command is inhibited if it is a direct lighting command and it can be determined that it would reduce the lighting power in the room.

Related BACnet properties: *Occupied_Command_Command*, *Occupied_Command_Value*, *Occupancy_Variable_Value*.

34.1.7 Unoccupied Command

The Unoccupied Command is executed when the room transitions to the unoccupied state.

The Unoccupied Command is inhibited if it is a direct lighting command and it can be determined that it would increase the lighting power in the room.

Related BACnet properties: *Unoccupied_Command_Command*, *Unoccupied_Command_Value*, *Occupancy_Variable_Value*.

34.1.8 Unoccupied Warning

When the room transitions to the unoccupied state, a Warning Command can be executed to alert the occupant that the light may soon turn off.

When using a direct value as the command, the command is inhibited if the command value is greater than the current output value.

The Warning Command can also be set to Blink Warning. The lights then blink off briefly and return to their previous level, instead of dimming to a warning level.

Once the Warning Time is completed, the Unoccupied Command is executed.

During the Warning Time, the occupant of the room has the opportunity to prevent the execution of the Unoccupied Command by canceling the warning delay. To cancel the warning delay, a light command must be sent to the Room Light Control group. If an occupancy sensor is present, the occupant can move to ensure the sensor detects movement. A button that communicates with the same group can also cancel the warning delay.

Related BACnet properties: *Warning_Time*, *Warning_Command_Command* and *Warning_Command_Value*, *Occupancy_Variable_Value*.

34.2 Occupied Mode - Day / Night Mode

The Occupied Mode differs from the occupancy state of the sensor. It is typically used to automatically adjust the lighting control based on whether it is day or night.

During the day, when the room is occupied, daylight harvesting may be active. At night, the lights may simply be turned off.

In night mode, the Override Timeout can be used to automatically turn off the lights after a delay. This allows, for example, an occasional occupant outside of regular hours to turn on the lights with a wall switch and have them automatically turn off after a set time. The Warning Command followed by the Unoccupied Command is executed after the Override Timeout.

Occupied Mode is normally updated twice a day to enable and disable the Override Timeout. This can be done using a local schedule or through BACnet.

Changes to the Occupied Mode can also be configured to automatically execute or not the Occupied, Unoccupied, and Warning commands.

Related BACnet properties: *Occupied_Mode*, *Occupied_Mode_Command_Enable*, *Override_Timeout*, *Occupied_Command_Command*, *Occupied_Command_Value*, *Unoccupied_Command_Command*, *Unoccupied_Command_Value*, *Warning_Command_Command*, *Warning_Command_Value*.

34.2.1 Occupied Mode - Occupied (Day Mode)

When entering this mode, the Occupied Command is normally executed.

When the Occupied Mode is set to occupied, the Override Timeout is disabled.

34.2.2 Occupied Mode - Unoccupied (Night Mode)

When entering this mode, the Unoccupied Command is normally executed.

When the Occupied Mode is set to unoccupied, the Override Timeout is enabled.

34.2.3 Power Up Occupied Mode

The Power Up Occupied Mode selects the Occupied Mode state applied at power up. When set to Occupied, the Room Light Control starts in the occupied state after a power up; when set to Unoccupied, it starts in the unoccupied state. The default is Unoccupied. The state is applied silently at power up, without executing the Occupied or Unoccupied commands.

34.2.4 Override Timeout

When the Occupied Mode is in unoccupied (night mode), a wall switch or a network command can temporarily override the light level of the room. When a command directly affects the lights of an output of the Room Light Control, a timer is started. When the timer elapses, the room returns to unoccupied, and the Warning Command followed by the Unoccupied Command is executed.

Related BACnet properties: *Override_Timeout*, *Occupied_Mode*, *Warning_Command_Command*, *Warning_Command_Value*, *Unoccupied_Command_Command* and *Unoccupied_Command_Value*.

34.2.5 Override Only on Exact Output

By default, any command that reaches an output of the Room Light Control starts the Override Time, including commands that reach the output only through lamps shared with other groups. When Override Only on Exact Output is enabled, the Override Time starts only for commands sent directly to a configured output. Commands from other groups sharing the same lamps only stop the daylight harvesting, without starting the Override Time. This option is disabled by default.

Related BACnet properties: *Override_Only_On_Exact_Output*.

34.3 Light Sensors

Light sensors are devices that measure the current illuminance and make this value available to the Room Light Control.

Related BACnet properties: *Controlled_Variable_Value*.

34.3.1 Sensor placement

To ensure accurate and effective performance of the light sensor, it must be installed and positioned carefully.

Place the sensor where it can reliably measure the combined levels of natural and artificial light in the area.

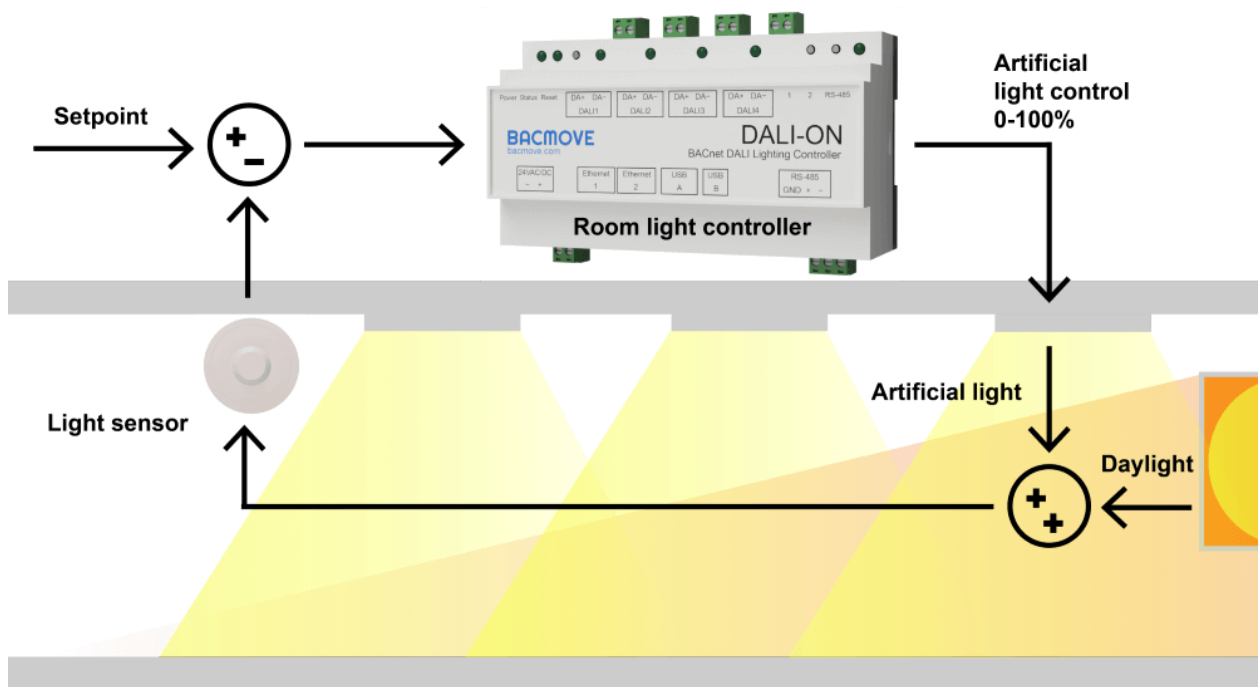
Avoid installing the sensor near windows, walls, or directly under or over artificial light sources, as these positions can lead to skewed readings caused by uneven lighting or reflections.

Proper placement is essential for achieving balanced and consistent lighting control that matches the desired illumination levels for the room.

34.3.2 Daylight Harvesting

Daylight harvesting use natural light to offset the artificial lighting needed to illuminate a room This strategy help reduce energy consumption.

Related BACnet properties: *Controlled_Variable_Value*, *Setpoint_Occupied* and *Setpoint_Unoccupied*.



34.3.3 Setpoint

The setpoint is the desired illuminance level for the room.

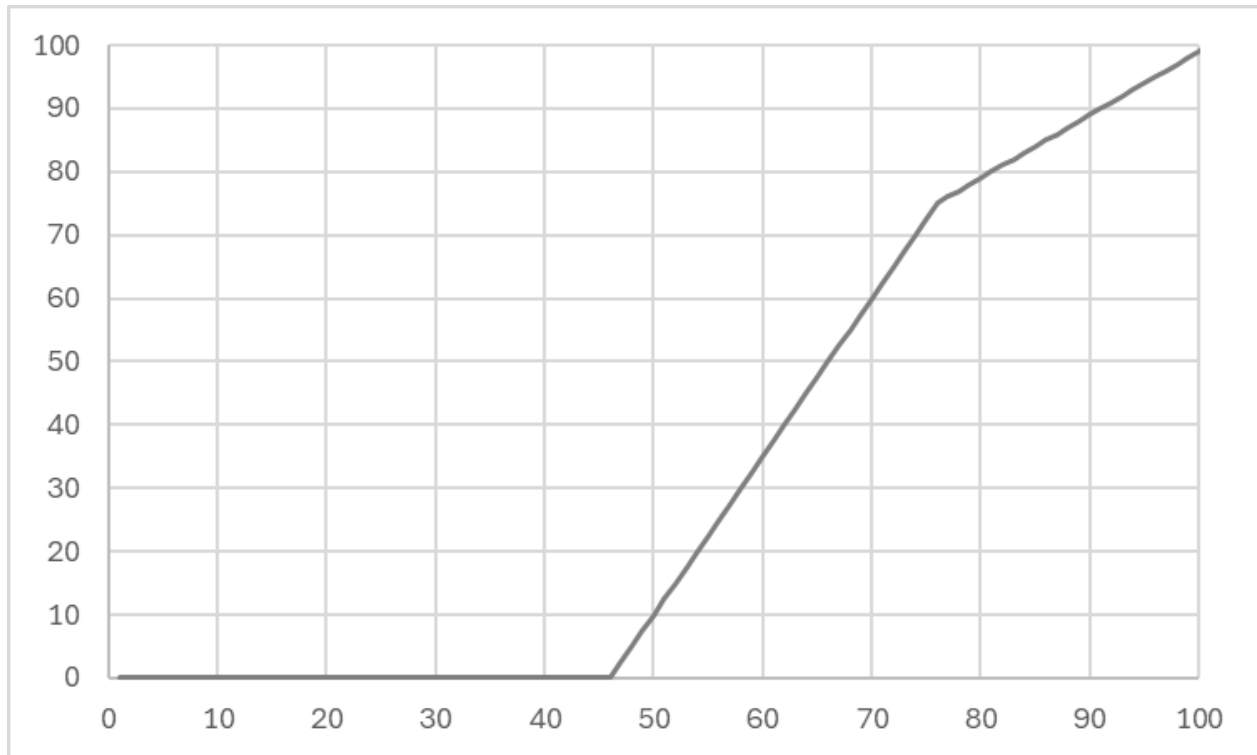
Different setpoints can be used depending on the occupancy state of the room.

Related BACnet properties: *Setpoint_Occupied* and *Setpoint_Unoccupied*.

34.3.4 Multiple Lighting Zones

The multiple lighting zones functionality allows managing two separate lighting zones within a single Room Light Control. Typically, the Output 1 zone is located toward the interior of the building, while the Output 2 zone is closer to the windows. Depending on the level of natural light entering the room, the Output 1 zone may need to be brighter to maintain even illumination across the area.

The configuration property *Lamp_2_Offset* sets the maximum variance between the two lighting zones. The *Lamp_2_Limit* property defines the light level at which the output values for both zones become equal.



In this example, the *Lamp_2_Offset* is set to 45, and the *Lamp_2_Limit* is set to 75.

34.4 Manual Control

Manually controlling a group using DALI, BACnet, or the web interface that is configured as an output of a Room Light Control can affect the operation of the Room Light Control.

34.4.1 Occupied Mode - Day / Night Mode

During the night mode, the Override Timeout delay may be started.

34.4.2 Daylight Harvesting

Daylight harvesting may be stopped, allowing manual control.

34.4.3 Unoccupied Warning

Manual control may stop the Unoccupied Warning timer and prevent the Warning and Unoccupied Command from being executed.

34.5 Room Light Control Profiles

A Room Light Control Profile is a shared, named set of behaviour parameters that a Room Light Control can follow instead of its own parameters. A profile groups the occupancy commands, the hold, ignore and warning times, and the daylight harvesting settings. Up to 32 profiles are shared by all Room Light Controls.

Each Room Light Control can follow one profile while its Occupied Mode is occupied and another while it is unoccupied. When no profile is assigned for the occupied mode, the Room

Light Control uses its own parameters. When no profile is assigned for the unoccupied mode, it uses the same profile as the occupied mode.

Related BACnet properties: *Profile_Occupied_Mode*, *Profile_Occupied_Mode_Name*, *Profile_Unoccupied_Mode* and *Profile_Unoccupied_Mode_Name*.

34.6 Linked Occupancy

Linked Occupancy lets one Room Light Control hold up to four other Room Light Controls while its own occupancy state is occupied. Each linked target can be held in the Warning Hold or in the Occupied state.

A Room Light Control can also be held by external occupancy and warning-hold inputs sent over BACnet. See *External Occupancy and Warning Hold*.

Related BACnet properties: *Linked_Occupancy_Target_RLC_1* to *Linked_Occupancy_Target_RLC_4* and *Linked_Occupancy_Target_RLC_Mode_Mask*.

34.7 External Occupancy and Warning Hold

External systems can report occupancy or hold a Room Light Control over BACnet using four external occupancy writer slots and four external warning-hold writer slots. Each external system owns one slot, so slots do not overwrite one another, and the Room Light Control stays held while any slot is set.

An auto-expiry timeout can be configured, in minutes, for these inputs. A writer must re-assert its slot within the timeout or the slot clears itself. When the timeout is zero, the slots stay set until cleared.

Related BACnet properties: *External_Occupancy_1* to *External_Occupancy_4*, *External_Warning_Hold_1* to *External_Warning_Hold_4* and *External_Occupancy_Timeout*.

34.8 External Light Level

The light level in lux can also be written over BACnet for daylight harvesting, instead of using a DALI light sensor. While set, the external value overrides the light sensors. The value expires with the auto-expiry timeout of the external inputs, and a negative value clears it.

Related BACnet properties: *External_Light_Level*, *External_Occupancy_Timeout*.

34.9 Test Mode

A test mode is available to facilitate quick walk testing.

While this mode is active, the time delays of the occupancy sensors and Room Light Control are shortened.

After 15 minutes, the test mode automatically deactivates, and the delays of the Room Light Control and sensors return to their normal operating parameters.

34.9.1 Test Mode Timings Settings

The test mode delay settings can also be configured.

Settings	Units	Limit	Default Value	Description
Active Time	seconds	0 - 2400	900	The number of seconds the test mode is active.
Occupancy Sensor - Hold Time	seconds	1 - 2540	5	The hold time of the sensor.
RLC - Hold Time	seconds	0 - 1200	5	The hold time of the Room Light Control.
RLC - Ignore Time	seconds	0 - 1200	5	The ignore time of the Room Light Control.
RLC - Override Time	seconds	0 - 2400	10	The override time of the Room Light Control.
RLC - Warning Time	seconds	0 - 1200	5	The warning time of the Room Light Control.
RLC - Step Value	percent	0 - 100	0.5	The step value of the Room Light Control.

34.10 Demand Response

Demand response allows limiting the light level in the room.

Related BACnet properties: *Demand_Response_Value*.

34.11 Dynamic Color Recipe Graph

A Room Light Control can follow a Dynamic Color Recipe graph for time-based brightness and colour transitions. The graph assignment is a Room Light Control parameter, so a Commander step can switch the graph of a Room Light Control. Refer to *Dynamic Color Recipes*.

The circadian rhythm state and the assigned graph can be monitored and selected over BACnet.

Related BACnet properties: *Circadian_Active*, *Dynamic_Color_Recipe_Graph*, *Dynamic_Color_Recipe_Graph_Name* and *Dynamic_Color_Recipe_Graph_Enabled*.

34.12 Schedules

For internal schedules, a Commander can be used as the schedule destination to manage the Occupied Mode (Day / Night Mode) of the Room Light Control.

When using an external schedule via BACnet, the Command property of the Room Light Control is used to control the Occupied Mode (Day / Night Mode).

With the help of Commanders for internal schedules and BACnet properties for external schedules, it is possible to deactivate inputs, detectors, and more.

34.13 Web Interface

34.13.1 Room Light Control

This page lists all available Room Light Control. It also shows the current states of occupancy, light sensors, and outputs.

It displays real-time feedback from sensors, current output levels, active modes, and timers. This helps confirm that the system is working as expected and allows quick troubleshooting during testing or commissioning.

It also allows manually executing commands for the Room Light Control, such as starting or stopping daylight control, enabling or disabling commands, starting or stopping test mode, and more.

34.13.2 Room Light Control Configuration

This page allows configuring a Room Light Control. Refer to the associated BACnet Loop object for more details about the available parameters.

34.13.3 Room Light Control States

This page displays the internal states and timers of the Room Light Control, providing useful insights into its operation and status to help understand its functioning.

34.14 BACnet Interface

To visualize the states and configure the Room Light Control, use the Loop objects.

The properties of the Loop objects are also available via the objects; *Analog Value - Room Light Control* and *Multi-State Value Object - Room Light Control*.

34.15 Parameters Copy

It is possible to copy the parameters of a Room Light Control to another one.

34.16 Control Presets

Control presets allow configuring the Room Light Control for specific predefined situations. Once a preset is applied, all parameters such as timings, commands, and lighting levels can still be adjusted.

The button commands are configured in their respective input devices, but the Room Light Control also defines how manual commands affect its operation.

For occupancy based shut off, the lighting level temporarily drops before turning off completely. This acts as a visual warning, giving occupants time to move, press a button, or take any other action to keep the lights on.

An override time may be configured, allowing schedules or external triggers to activate night mode. It ensures the lights automatically turn off after a delay if they were manually turned on during night mode.

34.16.1 OCCUPANCY AUTO

Occupancy Auto On, Auto Full Off

In this mode, the occupancy sensor is used for automatic turn on at 100% and automatic full shut off of the lighting.

34.16.2 OCCUPANCY AUTO PARTIAL

Occupancy Auto Partial On, Auto Full Off

In this mode, the occupancy sensor is used for partial automatic turn on at 50% and automatic full shut off of the lighting.

34.16.3 OCCUPANCY SHUT OFF

Occupancy Auto Full Off

In this mode, the occupancy sensor is only used for full automatic full shut off of the lighting. Lights must be turned on by other means, such as a button or a schedule.

34.16.4 OCCUPANCY AUTO DAYLIGHT

Occupancy Auto Daylight, Auto Full Off

In this mode, the occupancy sensor is used to automatically start daylight harvesting control and to perform automatic full shut off of the lighting.

34.16.4.1 Preset Parameters

34.16.4.1.1 Occupancy

	OCCUPANCY AUTO	OCCUPANCY AUTO PARTIAL	OCCUPANCY SHUT OFF	OCCUPANCY AUTO DAYLIGHT
Occupied Command	Recall Max Level	Direct Value	Disabled	Start Daylight Harvesting
Occupied Command - Value		50%		
Unoccupied Command	Off	Off	Off	Off
Unoccupied Command - Value				
Warning Command	Direct Value	Direct Value	Direct Value	Direct Value
Warning Command - Value	25%	25%	25%	25%
Warning Time	120 seconds	120 seconds	120 seconds	120 seconds
Hold Time	10 minutes	10 minutes	10 minutes	10 minutes
Ignore Time	0 seconds	0 seconds	0 seconds	0 seconds
Override Time	30 minutes	30 minutes	30 minutes	30 minutes
Occupied Mode Command Enable	Unoccupied and Occupied Command	Unoccupied and Occupied Command	Unoccupied and Occupied Command	Unoccupied and Occupied Command

34.16.4.1.2 Daylight Harvesting

OCCUPANCY AUTO DAYLIGHT	
Setpoint Unoccupied	0
Setpoint Occupied	500
Deadband	20
Step Value	4
Minimum Intensity	20
Maximum Intensity	100
Lamp 2 Offset	0
Lamp 2 Limit	0

35 Dynamic Color Recipes

Dynamic Color Recipes (abbreviated *DCR*) adjust brightness and color automatically over time.

They can be used for circadian schedules, RGBWAF color transitions, and smooth fade-based lighting scenes.

It works together with Room Light Control and uses the same room outputs.

35.1 Recipe Graphs

Dynamic Color Recipes are configured with graphs. A graph defines how room lighting should evolve across the day.

35.1.1 Graph availability

The available graph count depends on the product model:

- 4 DALI channels model: 16 graphs.
- 1 DALI channel model: 4 graphs.

Each graph contains 8 support points and can be assigned to one or many Room Light Controls.

35.1.2 Support points

A support point defines:

- A reference time.
- A target brightness.
- A target color.

You can combine several points to create gradual morning, daytime, and evening transitions.

35.1.3 Color types

The graph color type determines how color values are interpreted.

Color Type	Value	Description
TC	0	DT8 color temperature Tc value (mirek/mired)
XY	1	DT8 x/y coordinates
RGBWAF	2	DT8 Red, Green, Blue, White, Amber, Free Colour

For TC, user-facing values are in Kelvin (K).

Protocol conversion note:

Tc is in mirek (also called mired):

Mirek = 1000000 / Kelvin.

Kelvin = 1000000 / Mirek.

Example: 4000 K corresponds to 250 mirek.

35.1.4 Time types

Each support point uses one time type.

Time Type	Description
Fixed	Uses a fixed configured time
Sunrise	Uses sunrise time with optional offset
Sunset	Uses sunset time with optional offset

35.2 Recipe Operation

Dynamic Color Recipes transition smoothly between active support points.

Interpolation is updated every 60 seconds.

For sunrise and sunset based points, offset and clamp settings can be used to keep transitions within a preferred time window.

35.3 Interaction With Room Light Control

35.3.1 Daylight Harvesting

Dynamic Color Recipes and Daylight Harvesting are mutually exclusive in operation.

- Starting Dynamic Color Recipes stops daylight harvesting.
- Starting daylight harvesting stops Dynamic Color Recipes.

35.3.2 Manual Override

Manual control of the room output temporarily stops Dynamic Color Recipes for that room.

35.3.3 Occupancy commands

Dynamic Color Recipes can be started or stopped through Room Light Control command logic.

Related BACnet properties: *Command*, *Occupied_Command_Command*, *Warning_Command_Command*, *Unoccupied_Command_Command*, *Occupied_Mode_Command_Enable*.

35.3.4 Fade behavior

An optional graph fade time can be used to apply smoother transitions when a new recipe target is applied.

35.4 Configuration Workflow

1. Select a recipe graph.
2. Choose the color type.
3. Configure support points for key moments of the day.
4. Assign the graph to the target Room Light Control.
5. Validate behavior during occupied and unoccupied periods.

35.5 Web Interface

35.5.1 Dynamic Color Recipes

Use this page to configure graphs, support points, color type, and transition behavior.

35.5.2 Room Light Control mapping

Use this page to assign a recipe graph to each Room Light Control.

35.6 BACnet Interface

For compatibility, BACnet command names use circadian terminology. These commands control Dynamic Color Recipes through the Loop object for Room Light Control.

Related BACnet object: *Loop Object - Room Light Control*.

35.6.1 Loop command values

Command	Value
START CIRCADIAN	29
STOP CIRCADIAN	30

35.6.2 Occupancy command values

These commands are also available in the occupancy command enumerations.

Command	Value
Start Circadian	10
Stop Circadian	11

35.7 Parameters Copy

When Room Light Control parameters are copied, verify the destination room behavior and confirm the expected recipe graph assignment.

36 Schedule

The schedules support both time-based events and astronomical time clock events, allowing commands to be automatically executed according to user-defined programming.

It is crucial to ensure that the local time and daylight saving time settings are correctly configured. Accurate time settings are key for the precise calculation of astronomical events, allowing commands to be executed at the correct moments relative to sunrise and sunset.

For astronomical events, the local latitude and longitude must be configured. These events can occur at either sunrise or sunset. In addition, an offset and boundary time can be set. The offset allows the event to trigger up to 120 minutes before or after the sunrise or sunset time. The boundary defines the earliest and latest times for the astronomical event to take place.

37 Commander

The Commanders allow sending multiple commands in sequence. The sequence can be executed once, executed a number of times or executed until stopped manually.

The Commanders can be started or stopped from a schedule, a DALI-2 button, the occupancy of a Room Light Control, BACnet or the web interface.

The commands can be used to control one of the following:

- Control the light intensity of a group or channel.
- Send a command to a group or channel (Recall Scene, Recall Min Level, etc.).
- Control the colour of group or channel.
- Enable or disable a DALI-2 sensor or button.
- Send a command to a Room Light Control (Start Daylight Harvesting, Stop Demand Response, etc.).
- Enable or disable a schedule.
- Start or stop the execution of another commander.

Commanders / Commander 01

Commander 01 Save

Parameters

Name
Commander 01
Name of the commander. 16 characters maximum.

Execute Count
1
Number of execution.

Steps

	Destination Type	Destination	Value	Delay (s)
1	Input - Command	In 4-31 OC-1 (Channel 4 / Input Device 31)	Sensor Command Allowed - Off Disable	0
2	Group, Channel	Group 4-01 (Channel 4 / Group 01)	80	0
3	RLC - Command	RLC 49 (RLC 49)	Start Daylight Harvesting	0
4	Group, Channel - Command	Group 4-02 (Channel 4 / Group 02)	Recall Scene 1	0
5	Disabled			

37.1 Specifications

There are 64 commanders that can execute up to 12 commands each.

Considering that a command can be configured to start another commander, the total number of commands for a single commander Start can be extended beyond the limitation of 12 command for a single commander.

37.2 Parameters

37.2.1 Name

The name of the commander is limited to 16 characters.

37.2.2 Execute Count

The number of executions of the commander. This also allows disabling the commander.

37.2.3 Steps

The list of commands to be executed.

37.2.3.1 Destination Type

The destination type.

Destination Type	Description
Disabled	Disabled
Group, Channel	Group intensity
Group, Channel - Command	Command for a group
Group, Channel - Colour	Group colour
Lamp	Lamp intensity
Lamp - Command	Command for a lamp
Lamp - Colour	Lamp colour
Input Device	Command for sensor and button
RLC - Command	Command for a Room Light Control
Schedule - Command	Command for a Schedule
Commander - Command	Command for a Commander
Commanders - Command	Command for the Commanders
Remote Link	Sends a button short press into a Link ID

37.2.3.1.1 Disabled

The step is ignored.

37.2.3.1.2 Group, Channel

The value is the light intensity for a group or channel.

37.2.3.1.3 Group, Channel - Command

For the list of available commands refer to the section “Multi-State Output Object - Command Control of Lamp, Group and Channel”.

37.2.3.1.4 Group, Channel - Colour

The value is the light intensity and colour for a group or channel.

37.2.3.1.5 Lamp

The value is the light intensity for a single lamp.

37.2.3.1.6 Lamp - Command

For the list of available commands refer to the section “Multi-State Output Object - Command Control of Lamp, Group and Channel”.

37.2.3.1.7 Lamp - Colour

The value is the light intensity and colour for a single lamp.

37.2.3.1.8 Input - Command

Allows to enable or disable a DALI-2 sensor or button.

37.2.3.1.9 RLC - Command

For the list of available commands refer to the property section “Command” of the “Loop Object - Room Light Control”.

37.2.3.1.10 Schedule - Command

Allows to enable or disable a schedule.

37.2.3.1.11 Commander - Command

Allows to start or stop a specific Commander. The destination is a single Commander and the value is the command Start or Stop for this Commander.

37.2.3.1.12 Commanders - Command

Allows to start or stop a Commander.

37.2.3.1.13 Remote Link

Sends a short press event into a Link ID (1-32767). Virtual buttons on any controller of the same Link Network that follow this Link ID execute it, exactly like a shared DALI push button short press. See [Remote Link](#).

The value is the Link ID. In the web interface this field is currently labelled **Link Group**, although the value is the Link ID used everywhere else.

37.2.3.2 Fade Time

The fade time used by the command with the destination type Group, Channel.

37.2.3.3 Delay

The delay in seconds before the execution of the step.

38 Remote Link

Remote Link shares lighting control between DALI channels and controllers on the same Ethernet IP network.

The occupancy, warning hold, light level and manual commands of a Room Light Control, together with the actions of a DALI push button, can control lamps and actions on any channel on the network.

Values are shared by broadcast on the local network (UDP). Every controller on the same subnet and on the same Link Network receives them, so no point-to-point address needs to be configured. Remote Link is best-effort: a sender broadcasts a value when it changes and re-sends it periodically (heartbeat) so a controller that joins later stays up to date.

38.1 Concepts

38.1.1 Link Network

The Link Network (0-255) groups the controllers that share values. A controller only sends to and receives from other controllers set to the same Link Network. Link Network 0 is the default.

38.1.2 Link ID

A Link ID (1-32767) is a shared channel that carries one value or event. A controller sends a value into a Link ID and any controller receiving from the same Link ID (on the same Link Network) acts on it. Controllers that do not follow the Link ID ignore it.

38.2 Sharing a Push Button

A DALI push button can share its input events into a Link ID so that virtual buttons on other controllers execute them. This is configured on the button itself, from DALI Commissioning. The **Send to Link ID** option publishes the button events, leaving it empty keeps the button local.

38.3 Web Interface

Remote Link is configured from the web interface under **Automation** → **Remote Link**, which groups four sub-pages:

- **Link Network** — selects the Link Network this controller belongs to.
- **RLC Links (Send)** — publishes Room Light Control values into Link IDs.
- **Virtual Buttons (Receive)** — executes button events received from Link IDs.
- **Link Monitor** — a diagnostic view of the Link IDs seen on the network.

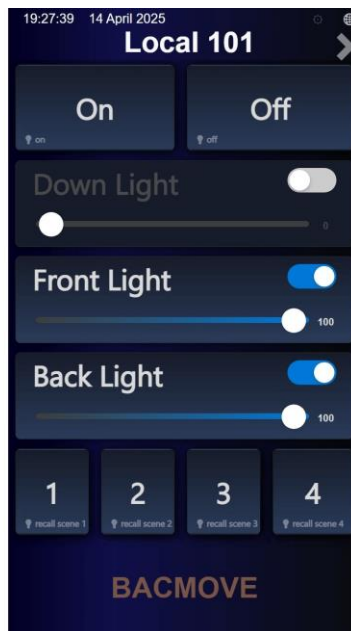
See [Automation](#) for the detailed pages.

39 View

The Views feature allows the creation of custom dashboards for the visualization and control of the lighting system. Each view can be configured to match the specific control and monitoring needs of a room or zone.

A view is composed of a grid layout with a maximum of 6 rows and 6 columns. Each cell within the grid can display a text label, a live value, an interactive button, or a lighting control command.

When a row contains unconfigured cells, the configured cells automatically expand to occupy the full width of the row.



Navigation links can be added to the top bar to enable quick access to other views.

Predefined color themes are available to adjust the visual appearance of the views.

A configuration button can be added to any view, allowing direct access to the main configuration interface.

It is also possible to create dedicated views for the display and configuration of events of internal schedules.

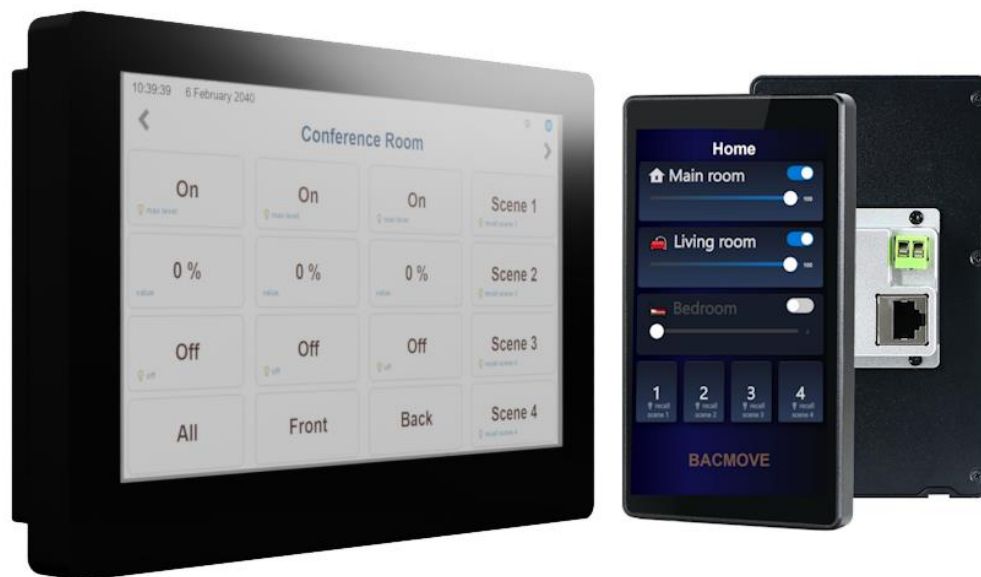
19:07:22 14 April 2025

Schedule

Weekly Schedule

SU	MO	TU	WE	TH	FR	SA
1 ☀️ +30m 0	☀️ +30m 0	☀️ +30m 0	☀️ +30m 0	☀️ +30m 0	☀️ +30m 0	☀️ +30m 0
2 🌙 -30m 100	🌙 -30m 100	🌙 -30m 100	🌙 -30m 100	🌙 -30m 100	🌙 -30m 100	🌙 -30m 100
3 23:00 70	23:00 70	23:00 70	23:00 70	23:00 70	23:00 70	23:00 70
4						
5						
6						

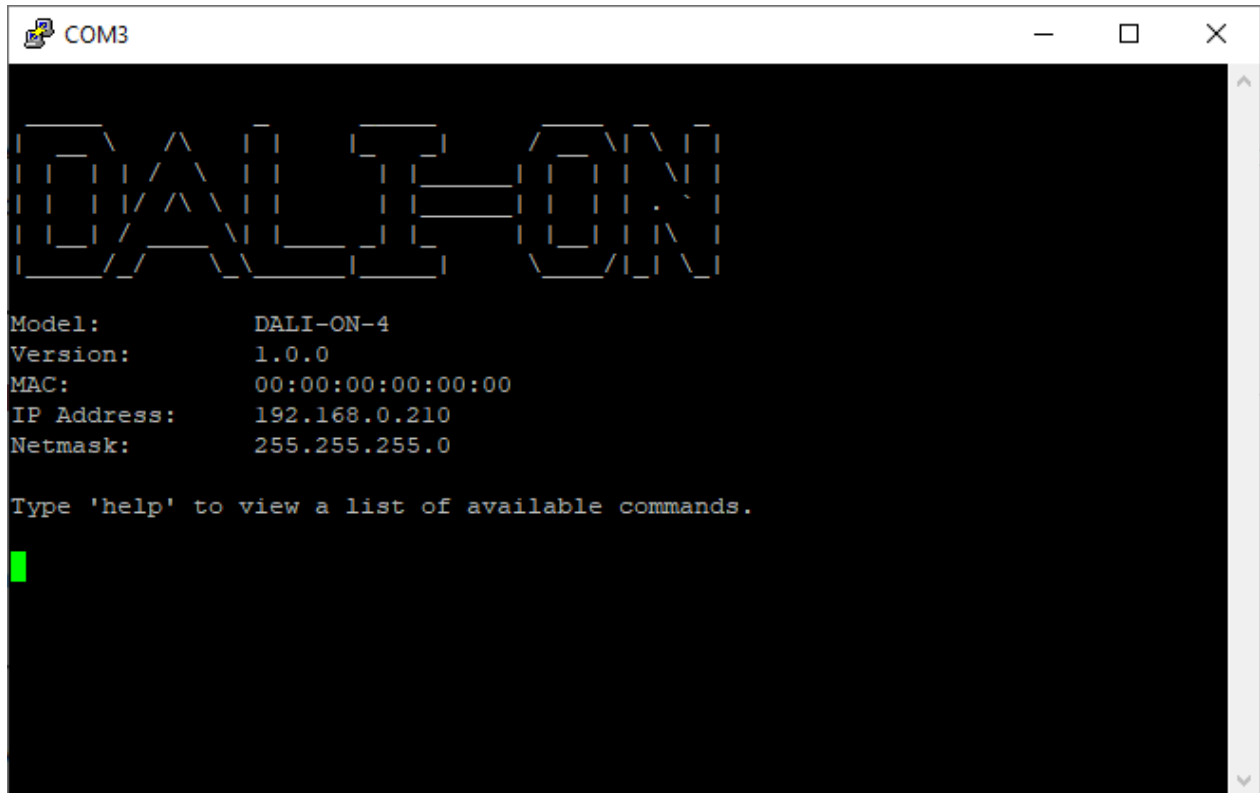
Companion touch panels with wall-mount brackets are available for displaying views.



40 USB Console

40.1 USB Connector

The DALION has a Mini-B USB connector. Once connected to a computer, access to a serial command-line interface is available.



The command-line interface is accessible with serial console software such as PuTTY on a computer.

Several commands are available to view and change the settings, as well as to view system statistics.

Please note that strings cannot contain spaces.

40.2 Serial Console Settings

Name	Value
Speed (baudrate)	115200
Data bits	8
Stop bits	1
Parity	None

40.3 Commands General

40.3.1 help

Lists the available commands.

40.3.2 version

Displays the system version.

40.3.3 reboot

Reboots the system.

40.3.4 factorydefault

Clears all settings and commissioning data.

40.3.5 date

Displays the date and time of the system.

40.3.6 ping

Pings an IPv4 address. Follow this command with an IPv4 address.

40.3.7 status

Displays the status of the system.

40.3.8 ip [addr|a]

Displays the IP network information.

Ex.: `ip a`

40.4 Commands Statistics

40.4.1 stip

Displays the statistics of the IP network.

40.4.2 stbacnetip

Displays the statistics of the BACnet/IP.

40.4.3 stdali

Displays the statistics of the DALI.

40.4.4 stdalianalyzer [channel](#)

Displays the statistics of the DALI analyzer for the specified channel.

Ex.: `stdalianalyzer 1`

40.4.5 sttcp

Displays the statistics of the TCP network.

40.4.6 studp

Displays the statistics of the UDP.

40.4.7 starp

Displays the statistics of the ARP.

40.4.8 sticmp

Displays the statistics of the ICMP protocol.

40.4.9 starptable

Displays the ARP table.

40.4.10 steth

Displays the Ethernet registers.

40.4.11 logread

Displays the system log.

40.5 [Commands System Settings](#)

40.5.1 setsystem

Modifies the system settings. Follow this command with one of the following parameters. Follow the parameter with the value to assign.

Ex.: `setsystem username admin`

[40.5.1.1 username](#)

Username (16 characters maximum).

[40.5.1.2 password](#)

Password (16 characters maximum).

40.6 Commands IP Settings

40.6.1 setip

Modifies the IP settings. Follow this command with one of the following parameters. Follow the parameter with the value to assign.

Ex.: `setip source static`

40.6.1.1 *source [static|dhcp]*

IP source, DHCP or static.

Ex.: `setip source static`

40.6.1.2 *address*

IPv4 address.

Ex.: `setip address 192.168.0.100`

40.6.1.3 *netmask*

Netmask.

Ex.: `setip netmask 255.255.255.0`

40.6.1.4 *gateway*

Default gateway.

Ex.: `setip gateway 192.168.0.1`

40.6.1.5 *speed [Auto|10F|10H|100F|100H]*

Link speed.

Ex.: `setip speed auto`

40.6.1.6 *dns1*

First domain name server.

Ex.: `setip dns1 8.8.8.8`

40.6.1.7 *dns2*

Second domain name server.

40.6.1.8 *hostname*

Hostname (32 characters maximum).

40.7 Commands BACnet/IP Settings

40.7.1 setbacnetip

Modifies the BACnet/IP settings. Follow this command with one of the following parameters. Follow the parameter with the value to assign.

Ex.: `setbacnetip deviceid 1000`

40.7.1.1 deviceid

The BACnet Device ID.

Ex.: `setbacnetip deviceid 1000`

40.7.1.2 devicename

The BACnet Device name (32 characters maximum).

Ex.: `setbacnetip devicename DALION`

40.7.1.3 devicedescription

The BACnet Device description (32 characters maximum).

40.7.1.4 devicelocation

The BACnet Device location (32 characters maximum).

40.7.1.5 apdutimeout

APDU timeout in milliseconds (default: 3000).

40.7.1.6 apduretries

The number of APDU retries (default: 3).

40.7.1.7 udpport

UDP Port (default: 47808).

40.7.1.8 bbmdip

BBMD IPv4 address.

40.7.1.9 bbmdport

BBMD UDP port.

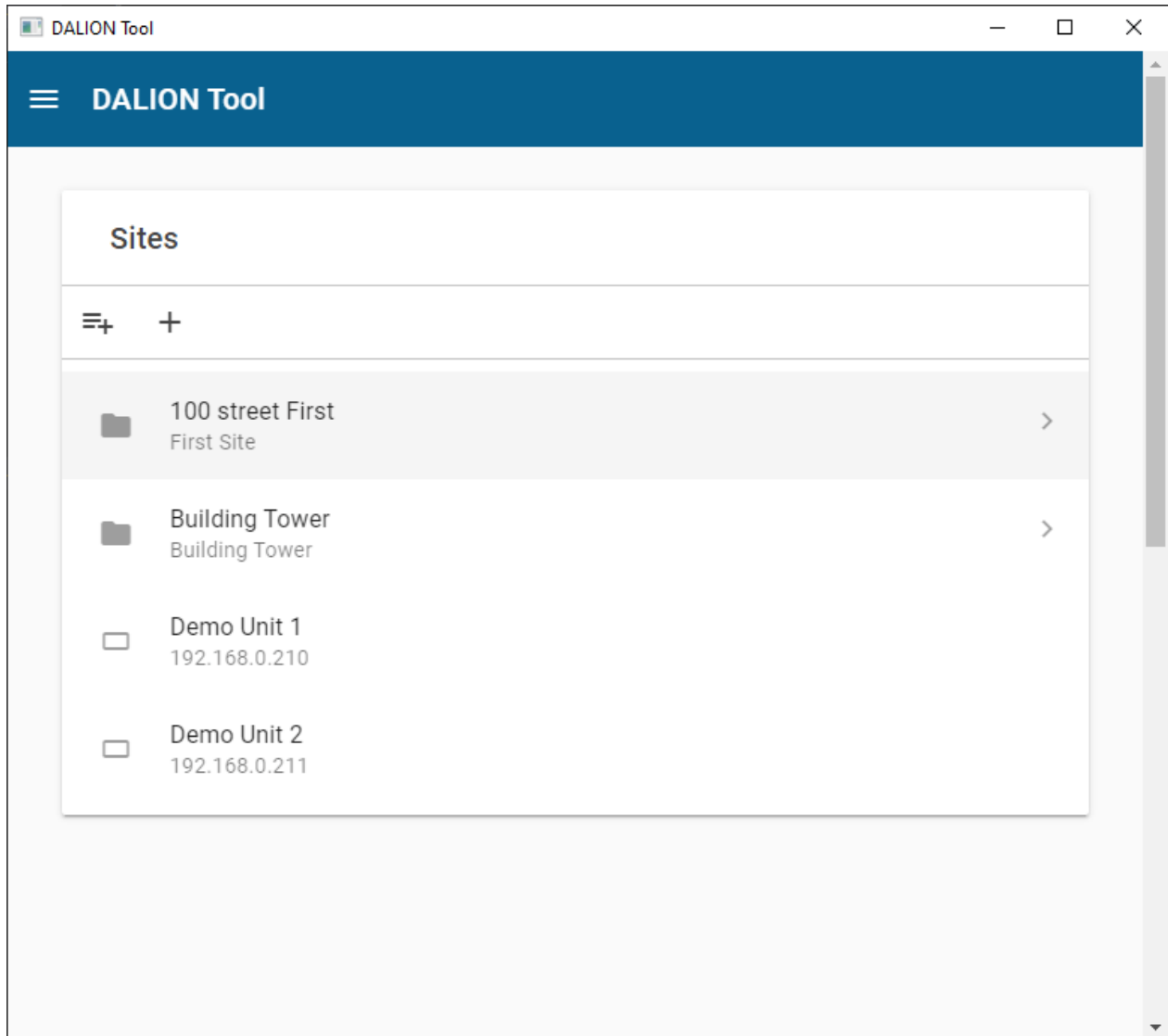
40.7.1.10 fddelay

Foreign device registration delay in seconds.

41 DALION Tool

41.1 Overview

The DALION Tool software for is a Windows graphic tool to help with configurations and setups of the DALION lighting controller.



41.1.1 Installation

- Download the DALION Tool from the website bacmove.com
- Install the DALION Tool on the computer by following the instruction in the installation setup software.

41.2 Menu

41.2.1 Home

The main window of the DALION Tool.

41.2.2 About

Displays the version of the DALION Tool.

41.3 Sites

The DALION Tool can keep the network configuration and credentials of several DALION for easier access later.

41.3.1 Folder

The folders allow storing similar DALION together. For example, folders can be created for each floor of a building.

41.3.1.1 *Add folder*

This button allows to create a new folder in the current folder.

41.3.1.2 *Rename folder*

This button allows renaming the current folder.

41.3.1.3 *Delete folder*

This button allows deleting the current folder.

41.3.1.4 *Name*

A friendly name for the folder.

41.3.1.5 *Description*

A description of the folder and displayed below its name.

41.3.2 Device

The DALION device. Multiple DALION can be present in a folder. A device defines the network configuration and credentials to access a DALION.

41.3.2.1 *Add device*

This button allows to create a new device.

41.3.2.2 *Name*

A friendly name for the DALION.

41.3.2.3 *Description*

A description of the DALION and displayed below its name.

41.3.2.4 *IP Address*

The network IP address of the DALION.

41.3.2.5 Username

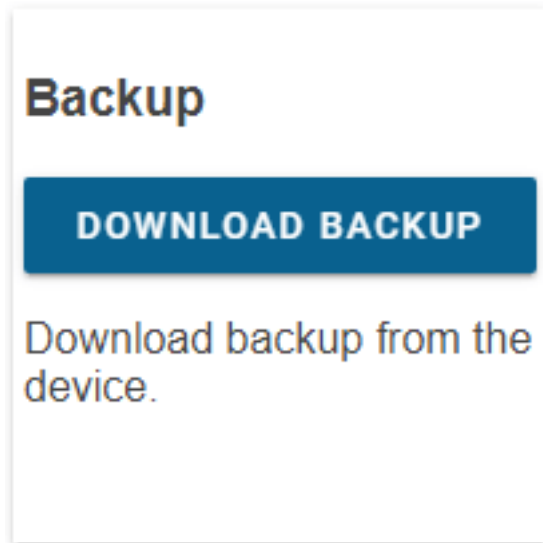
The username used to connect to the DALION.

41.3.2.6 Password

The password used to connect to the DALION.

41.4 Download Backup

The Download Backup allows downloading to the computer a backup file of the DALION settings and assignments from a DALION.



41.4.1 Preparations

- Download and install the latest version of the DALION Tool.
- Connect the computer with DALION Tool to the same network as the DALION to download backup from.

41.4.2 Download

- Press the **Download Backup** button in the DALION Tool.
- Select a folder on the computer where the backup file will be downloaded to.
- Wait for the download to complete.

41.5 Restore Backup

The Restore Backup allows uploading from the computer a backup file of the DALION settings and assignments to a DALION.

Restore

RESTORE BACKUP

Download backup to the device.

41.5.1 Preparations

- Download and install the latest version of the DALION Tool.
- Connect the computer with DALION Tool to the same network as the DALION to upload the backup to.

41.5.2 Restore

- Press the **Restore Backup** button in the DALION Tool.
- Select a DALION backup file on the computer that will be uploaded to the DALION.
- Wait for the upload to complete.

41.6 Firmware Upgrade

The firmware upgrades are intended to provide security and functional updates to ensure that the DALION is always up to date. With the DALION Tool, it is possible to supply the DALION with the new firmware.

Firmware Upgrade

FIRMWARE UPGRADE

Upgrade the device
firmware.

41.6.1 Warnings



- MAKE SURE THE DALION HAS A STABLE POWER SUPPLY DURING THE FIRMWARE UPGRADE.
- DO NOT REMOVE THE POWER SUPPLY FROM THE DALION DURING THE FIRMWARE UPGRADE.

41.6.2 Preparations

- Download and install the latest version of the DALION Tool.
- Download the latest version of the DALION firmware.
- Connect the computer with DALION Tool to the same network as the DALION to upgrade.

41.6.3 Upgrade

- Press the **Firmware Upgrade** button in the DALION Tool.
- Select the previously downloaded DALION firmware from the computer.
- Wait for the upgrade to complete.

41.7 Pre-Commissioning

This option is not yet available.

Pre-commissioning

PRE-COMMISSIONING

Perform lamps pre-commissioning from CSV file.

42 Remote CLI Tool

42.1 Overview

The DALION Remote CLI (command-line interface) Tool is a Windows tool to help with multiple configurations and setups of the DALION lighting controller.

42.2 Commands

A list of the available commands and parameters.

42.2.1 help

Lists the available commands and parameters.

Example

```
--help
```

42.2.2 version

Displays the tool version.

Example

```
--version
```

42.2.3 ip

IP address of the DALION controller.

Example

```
--ip 192.168.0.210
```

42.2.4 channel

DALI channel number between 1 and 4. It is possible to use a single channel or have multiple channels.

Example

```
# single channel
--channel 1
# multiple channels
--channel [1, 2]
```

42.2.5 channelcsvfile

This parameter is a path to a CSV (comma-separated values) file. CSV file can be created in a spreadsheet software like Microsoft Excel or directly as a text file.

It is possible to use a single channel or have multiple channels.

Example

```
# single channel
--channelcsvfile "[\\C:\\channel1_lamps.csv\\]"
# multiple channels
--channelcsvfile "[\\C:\\channel1_lamps.csv\\", \\C:\\channel2_lamps.csv\\]"
```

42.2.6 channelgroupscsvfile

This parameter is a path to a CSV (comma-separated values) file. CSV file can be created in a spreadsheet software like Microsoft Excel or directly as a text file.

It is possible to use a single channel or have multiple channels.

Example

```
# single channel
--channelgroupscsvfile "[\\C:\\channel1_groups.csv\\]"
# multiple channels
--channelgroupscsvfile "[\\C:\\channel1_groups.csv\\", \\C:\\channel2_groups.csv\\]"
```

42.2.7 channelinputscsvfile

This parameter is a path to a CSV (comma-separated values) file. CSV file can be created in a spreadsheet software like Microsoft Excel or directly as a text file.

It is possible to use a single channel or have multiple channels.

Example

```
# single channel
--channelinputscsvfile "[\\C:\\channel1_inputs.csv\\]"
# multiple channels
--channelinputscsvfile "[\\C:\\channel1_inputs.csv\\", \\C:\\channel2_inputs.csv\\]"
```

42.2.8 action

Action to perform on the DALION.

Action	Description
setup_channel	Pre-commissioning of DALI lamps
get_backup	Download backup files from the controller
put_backup	Upload backup files to the controller
push_firmware	Allows upgrading of the controller firmware

42.2.9 firmwarefile

Path to a firmware file.

42.2.10 backupfileouttype

Type of backup output; directory or zip. The default value is directory.

42.2.10.1 directory

Backup files are created in the directory.

42.2.10.2 zip

A ZIP file containing all the backup is created in the directory.

42.2.11 backupconfig

Select the backup. By default all backups are used. Multiple configurations can be passed.

Value	Description
systemconfig	Controller system configuration
dali1	Configuration and commissioning of DALI channel 1
dali2	Configuration and commissioning of DALI channel 2
dali3	Configuration and commissioning of DALI channel 3
dali4	Configuration and commissioning of DALI channel 4

Example

```
--backupconfig "[\"systemconfig\", \"dali2\"]"
```

42.2.12 backupfileout

The directory where the backup files are copied.

Example

```
backupfileout "C:\backup\"
```

42.2.13 backupfilein

The ZIP or TAR configuration file to upload to the controller.

Example

```
backupfilein "C:\backup\backup_DALION.zip"
```

42.3 Channel Lamps CSV File Format

The format of the CSV file is as follows.

```
#DALION DALI CHANNEL CSV,,,,,,,,,
#dali-channel-csv-version: 1,,,,,,,,,
#channel,lampIndex,shortAddress,name,groups,powerOnLevel,systemFailureLevel,m
inLevel,maxLevel,fadeRate,fadeTime,scenes
4,1,1,AABBCC,"[1,4]",10,30,0.1,100,4,2,"[100, 20, null, 80]"
```

42.3.1 First line

File description.

```
#DALION DALI CHANNEL CSV,,,,,,,,,,
```

42.3.2 Second line

File content version. The version number should be 1.

```
#dali-channel-csv-version: 1,,,,,,,,,
```

42.3.3 Third line

File content header. Should have the following columns.

```
#channel,lampIndex,shortAddress,name,groups,powerOnLevel,systemFailureLevel,minLevel,maxLevel,fadeRate,fadeTime,scenes
```

Column
channel
lampIndex
shortAddress
name
groups
powerOnLevel
systemFailureLevel
minLevel
maxLevel
fadeRate
fadeTime
scenes

42.3.4 Columns

The lamp data columns.

42.3.4.1 *channel*

The DALI channel number of the DALION, starting at zero (0).

42.3.4.2 *lampIndex*

The DALI lamp index in the DALION starting at zero (0). Number between 0 and 63.

42.3.4.3 *shortAddress*

The DALI lamp short address between 0 and 63. A value of null can be used not to modify the short address.

42.3.4.4 *name*

The name of the DALI lamp that will appear in the DALION and BACnet network.

42.3.4.5 *groups*

The DALI groups that the lamp takes part of. The format is “[GROUP_NUMBER, GROUP_NUMBER]”. Replace GROUP_NUMBER by any group number between 0 and 15.

DALI default value is “[]”.

42.3.4.6 *powerOnLevel*

The DALI lamp parameter “POWER ON LEVEL” in percent. For DALI MASK use the value null.

DALI default value is **100**.

42.3.4.7 *systemFailureLevel*

The DALI lamp parameter “SYSTEM FAILURE LEVEL” in percent. For DALI MASK use the value null.

DALI default value is **100**.

42.3.4.8 *minLevel*

The DALI lamp parameter “MIN LEVEL” in percent. For DALI MASK use the value null.

42.3.4.9 *maxLevel*

The DALI lamp parameter “MAX LEVEL” in percent. For DALI MASK use the value null.

DALI default value is **100**.

42.3.4.10 *fadeRate*

The DALI lamp parameter “FADE RATE”. Should be a number between 1 and 15.

DALI default value is **7**.

Value	Fade Rate (steps/seconds)
1	358
2	253
3	179
4	127
5	89.4
6	63.3
7	44.7
8	31.6
9	22.4
10	15.8
11	11.2
12	7.9
13	5.6
14	4.0
15	2.8

[42.3.4.11 fadeTime](#)

The DALI lamp parameter “FADE TIME”. Should be a number between 0 and 15.

DALI default value is **0**.

Value	Fade Time (seconds)
0	No fade
1	0.7
2	1.0
3	1.4
4	2.0
5	2.8
6	4.0
7	5.7
8	8.0
9	11.3
10	16.0
11	22.6
12	32.0
13	45.3
14	64.0
15	90.5

42.3.4.12 scenes

The values in percent of the different light intensity scenes of the lamp. For DALI MASK use the value null. The format is "[SCENE_VALUE, SCENE_VALUE]". Replace SCENE_VALUE by the scene value in percent. Each index represents the value of the scene X for that index.

DALI default value is "[]".

42.4 Channel Groups CSV File Format

The format of the CSV file is as follows.

```
#DALION DALI CHANNEL GROUPS CSV,,
#dali-channel-groups-csv-version: 1,,
#channel,groupIndex,name
0,0,"DALI 1-4-BD1-G0"
```

42.4.1 First line

File description.

```
#DALION DALI CHANNEL GROUPS CSV,,
```

42.4.2 Second line

File content version. The version number should be 1.

```
#dali-channel-groups-csv-version: 1,,
```

42.4.3 Third line

File content header. Should have the following columns.

```
#channel,groupIndex,name
```

Column
channel
groupIndex
name

42.4.4 Columns

The group data columns.

42.4.4.1 channel

The DALI channel number of the DALION, starting at zero (0).

42.4.4.2 groupIndex

The DALI group index in the DALION starting at zero (0). Number between 0 and 15.

42.4.4.3 *name*

The name of the DALI group that will appear in the DALION and BACnet network.

42.5 Channel Inputs CSV File Format

The format of the CSV file is as follows.

```
#DALIION DALI CHANNEL INPUTS CSV,,,,,,,,,,,,,,,,,,,,,
#dali-channel-inputs-csv-version: 1,,,,,,,,,,,,,,,,,,,,,
#channel,inputIndex,shortAddress,name,numberOfInstances,instancesType,instancesResolution,instancesClassButtonRepeatTime,instancesClassButtonOptions,instancesClassButtonPressTime,instancesClassButtonDestination,instancesClassButtonCommand,instancesClassButtonValue1,instancesClassButtonValue2,instancesClassOccupancySensorHoldTime,instancesClassOccupancySensorDeadTime,instancesClassOccupancySensorReportTime,instancesClassLightSensorHysteresis,instancesClassLightSensorHysteresisMin
0,1,7,Input Button 1,7,"[1, 1, 1, 1, 1, 1, 1, 1]", "[0, 0, 0, 0, 0, 0, 0, 0]", "[1, 1, 1, 1, 1, 1, 1, 1]", "[0, 0, 0, 0, 0, 0, 0, 0]", "[0, 0, 0, 0, 0, 0, 0, 0]", "[1, 1, 1, 1, 1, 1, 1, 1]", "[1, 1, 1, 1, 1, 1, 1, 1]", "[0, 0, 0, 0, 0, 0, 0, 0]", "[0, 0, 0, 0, 0, 0, 0, 0]", "[0, 0, 0, 0, 0, 0, 0, 0]", "[0, 0, 0, 0, 0, 0, 0, 0]", "[0, 0, 0, 0, 0, 0, 0, 0]", "[0, 0, 0, 0, 0, 0, 0, 0]"
```

42.5.1 First line

File description.

```
#DALION DALI CHANNEL INPUTS CSV,,,,,,,,,,,,,,,,,,,,,
```

42.5.2 Second line

File content version. The version number should be 1.

```
#dali-channel-inputs-csv-version: 1,,,,,,,,,,,,,
```

42.5.3 Third line

File content header. Should have the following columns.

```
#channel,inputIndex,shortAddress,name,numberOfInstances,instancesType,instancesResolution,instancesClassButtonRepeatTime,instancesClassButtonOptions,instancesClassButtonPressTime,instancesClassButtonDestination,instancesClassButtonCommand,instancesClassButtonValue1,instancesClassButtonValue2,instancesClassOccupancySensorHoldTime,instancesClassOccupancySensorDeadTime,instancesClassOccupancySensorReportTime,instancesClassLightSensorHysteresis,instancesClassLightSensorHysteresisMin
```

Column
channel
inputIndex
shortAddress
name
numberOfInstances
instancesType
instancesResolution
instancesClassButtonRepeatTime
instancesClassButtonOptions
instancesClassButtonPressTime
instancesClassButtonDestination
instancesClassButtonCommand
instancesClassButtonValue1
instancesClassButtonValue2
instancesClassOccupancySensorHoldTime
instancesClassOccupancySensorDeadTime
instancesClassOccupancySensorReportTime
instancesClassLightSensorHysteresis
instancesClassLightSensorHysteresisMin

42.5.4 Columns

The input data columns.

42.5.4.1 *channel*

The DALI channel number of the DALION, starting at zero (0).

42.5.4.2 *inputIndex*

The DALI input index in the DALION starting at zero (0). Number between 0 and 31.

42.5.4.3 *shortAddress*

The DALI lamp short address between 0 and 63. A value of null can be used not to modify the short address.

42.5.4.4 *name*

The name of the DALI input that will appear in the DALION and BACnet network.

42.5.4.5 *numberOfInstances*

The number of instances.

42.5.4.6 *instancesType*

The type of instance. The format is “[INSTANCE_TYPE, INSTANCE_TYPE]”. Replace INSTANCE_TYPE by one of the following supported instance type numbers.

Name	Number
Push-Button	1
Occupancy Sensor	3
Light Sensor	4

42.5.4.7 *instancesResolution*

The instance resolution number. The format is “[INSTANCE_RESOLUTION, INSTANCE_RESOLUTION]”. Replace INSTANCE_RESOLUTION by the instance resolution number.

42.5.4.8 *instancesClassButtonRepeatTime*

For push-button. The instance repeat time. The format is “[REPEAT_TIME, REPEAT_TIME]”. Replace REPEAT_TIME by the instance repeat time.

42.5.4.9 *instancesClassButtonOptions*

For push-button. The instance options. The format is “[OPTIONS, OPTIONS]”. Replace OPTIONS by the instance options.

42.5.4.10 *instancesClassButtonPressTime*

For push-button. The instance press time. The format is “[PRESS_TIME, PRESS_TIME]”. Replace PRESS_TIME by the instance press time.

42.5.4.11 *instancesClassButtonDestination*

For push-button. The instance destination. The format is “[DESTINATION, DESTINATION]”. Replace DESTINATION by the instance destination.

42.5.4.12 instancesClassButtonCommand

For push-button. The instance command. The format is “[COMMAND, COMMAND]”. Replace COMMAND by the instance command.

42.5.4.13 instancesClassButtonValue1

For push-button. The instance value 1. The format is “[VALUE_1, VALUE_1]”. Replace VALUE_1 by the instance value 1.

42.5.4.14 instancesClassButtonValue2

For push-button. The instance value 2. The format is “[VALUE_2, VALUE_2]”. Replace VALUE_2 by the instance value 2.

42.5.4.15 instancesClassOccupancySensorHoldTime

For occupancy sensor. The instance hold time. The format is “[HOLD_TIME, HOLD_TIME]”. Replace HOLD_TIME by the instance hold time.

42.5.4.16 instancesClassOccupancySensorDeadTime

For occupancy sensor. The instance dead time. The format is “[DEAD_TIME, DEAD_TIME]”. Replace DEAD_TIME by the instance dead time.

42.5.4.17 instancesClassOccupancySensorReportTime

For occupancy sensor. The instance report time. The format is “[REPORT_TIME, REPORT_TIME]”. Replace REPORT_TIME by the instance report time.

42.5.4.18 instancesClassLightSensorHysteresis

For light sensor. The instance hysteresis. The format is “[HYSTERESIS, HYSTERESIS]”. Replace HYSTERESIS by the instance hysteresis.

42.5.4.19 instancesClassLightSensorHysteresisMin

For light sensor. The instance hysteresis minimum. The format is “[HYSTERESIS_MIN, HYSTERESIS_MIN]”. Replace HYSTERESIS_MIN by the instance hysteresis minimum.

42.6 Example of command

42.6.1 DALI Pre-comminising configuration

To perform offline pre-commissioning of DALI lamps of a channel the following parameters are used.

Parameters	Value
action	setup_channel
ip	IP address of the controller
channel	Channel to modify
channelcsvfile	CSV file for the DALI lamps
channelgroupscsvfile	CSV file for the DALI groups
channelinputscsvfile	CSV file for the DALI inputs

Example

```
lwgwu-cli.exe --action setup_channel --ip 192.168.0.210 --channel 1 --channel
csvfile ["C:\\channel1.csv\\"]
```

42.6.2 Download Backup

To download the backup files from the controller the following parameters are used.

Parameters	Value
action	get_backup
ip	IP address of the controller
backupfileouttype	Type of backup output
backupconfig	Backup config files to download
backupfileout	Directory where the backup is copied

Example

```
lwgwu-cli.exe --action get_backup --ip 192.168.0.210 --backupfileouttype zip
--backupfileout "C:\\backup\\"
```

42.6.3 Upload Backup

To upload a backup file to the controller the following parameters are used.

Parameters	Value
action	put_backup
ip	IP address of the controller
backupfilein	Path to the backup file to upload

Example

```
lwgwu-cli.exe --action put_backup --ip 192.168.0.210 --backupfilein "C:\\back
up\\backup_DALI-ON.zip"
```

42.6.4 Firmware Upgrade



- MAKE SURE THE DALION HAS A STABLE POWER SUPPLY DURING THE FIRMWARE UPGRADE.
- DO NOT REMOVE THE POWER SUPPLY FROM THE DALION DURING THE FIRMWARE UPGRADE.

To upgrade the firmware of the controller the following parameters are used.

Parameters	Value
action	push_firmware
ip	IP address of the controller
firmwarefile	Path to the firmware file to upload

Example

```
lwgwu-cli.exe --action push_firmware --ip 192.168.0.210 --firmwarefile "C:\\firmware\\DALION_1.0.0.bin"
```

43 API

43.1 Overview

Definition of the DALION API.

Any programming language capable of sending HTTP GET requests can interact with the DALI lamps through the DALION.

The data are transferred in the JSON format and with URL parameters.

For example, the HTTP GET requests can be sent via a command line script with the cURL command.

```
curl -X "GET" "http://192.168.0.210/api/v100/dali_devices.ssi?action=set_level&ch=1&sa=3&da=1000"
```

43.2 Requests

43.2.1 Sets lamp, group or channel light intensity

Allows modifying the light intensity of a lamp or multiple lamps.

This request uses the DALI short address of the lamp. The short address of a lamp index can be retrieved with the request `get` or `get_device`.

To modify a lamp light intensity with its lamp index the request `set_device` must be used.

43.2.1.1 Request URL

```
/api/v100/dali_devices.ssi?action=set_level&ch={channel}&sa={short-address}&da={value-in-percent}
```

43.2.1.2 Parameters

Name	Value
action	set_level
ch	The number of the DALI channel, 1-4
sa	The DALI short address, 0-63. Multiple addresses can be passed in an array [sa, sa, ...]. The array must be URL encoded.
gi	The DALI group, 0-15 or -1 for the broadcast. Multiple groups can be passed in an array [gi, gi, ...]. The array must be URL encoded.
da	The value in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.1.3 Examples

Sets to 100% the light intensity of the DALI lamp with the short address 3 on the channel 1.

```
/api/v100/dali_devices.ssi?action=set_level&ch=1&sa=3&da=1000
```

Sets to 100% the light intensity of the DALI group 3 on the channel 1.

```
/api/v100/dali_devices.ssi?action=set_level&ch=1&gi=3&da=1000
```

Sets to 70% the light intensity of the groups 1 and 10 on the channel 1.

```
/api/v100/dali_devices.ssi?action=set_level&ch=1&gi=%5B1%2C%2010%5D&da=700
```

Sets to 20% the light intensity of the entire DALI channel 1.

```
/api/v100/dali_devices.ssi?action=set_level&ch=1&gi=-1&da=200
```

43.2.2 Get the list of lamps and control devices

Allows retrieving the list of the devices for a channel.

43.2.2.1 Request URL

```
/api/v100/dali_devices.ssi?action=get&ch={channel}
```

43.2.2.2 Parameters

Name	Value
action	get
ch	The number of the DALI channel, 1-4

43.2.2.3 Response

The list of the assigned and unassigned DALI lamps, the list of the assigned and unassigned DALI-2 control devices.

```
{
  "type": "dali_devices",
  "action": "get",
  "data": {
    "status": 0,
    "mode": 0,
    "devices": {
      "devices": [{
        "ii": "0",
        "na": "Lamp 1-00",
        "sa": 3,
        "fl": 1,
        "dt": [6, 255],
        "al": 0,
        "si": 0
      }]
    },
    "unassigned_devices": {
      "devices": []
    },
    "control_devices": {
```

```

"devices": [{
  "ii": "0",
  "na": "Input 1-00",
  "sa": 1,
  "fl": 1,
  "it": "26",
  "dt": 0,
  "al": 0,
  "si": 32,
  "os": 255,
  "ls": 52
}, {
  "ii": "1",
  "na": "Input 1-01",
  "sa": 3,
  "fl": 1,
  "it": "27",
  "dt": 0,
  "al": 0,
  "si": 32,
  "os": 0,
  "ls": 128
}]
},
"unassigned_control_devices": {
  "devices": []
}
}
}

```

43.2.2.3.1 action

get

43.2.2.3.2 data

Contains the DALI devices lists.

43.2.2.3.2.1 status

Value	Description
0	The DALI channel scan is currently inactive
1	The DALI channel scan has been launched and some command might not be available

43.2.2.3.2.2 mode

Value	Description
0	The DALI channel is available
1	The commands affecting DALI lamps are disabled

43.2.2.3.2.3 devices

Contains the list of assigned lamps.

43.2.2.3.2.4 devices

The list of assigned lamps.

43.2.2.3.2.5 ii

The lamp index, 0-63.

43.2.2.3.2.6 na

The name of the lamp.

43.2.2.3.2.7 sa

The DALI short address of the lamp.

43.2.2.3.2.8 fl

The flags of the lamp.

Value	Description
0	No lamp assigned for this index
1	A lamp is assigned for this index

43.2.2.3.2.9 dt

An array of the DALI supported device types of the lamp.

Value	Name
0	Fluorescent
1	Self-contained emergency
2	Discharge HID
3	Low-voltage halogen
4	Incandescent lamp
5	Conversion to DC voltage
6	LED
7	Switching relay
8	Colour
255	Not specified

43.2.2.3.2.10 al

The actual light intensity of the lamp in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.2.3.2.11 si

The actual status information of the lamp.

The value 255 means communication failure with the lamp. Otherwise when the bit 2 is set it means the lamp has a problem. The other value means that the lamp is functioning normally.

43.2.2.3.2.12 unassigned_devices

The list of the unassigned devices discovered after a scan of the channel.

43.2.2.3.2.13 control_devices

The list of the control devices.

43.2.2.3.2.14 it

The supported instances type by the control device. Each bit indicates if a type is supported or not.

Bit	Type
1	Push Buttons
3	Occupancy Sensor
4	Light Sensor

43.2.2.3.2.15 os

The actual occupancy state of the sensor.

Value	Name
0	Unoccupied
255	Occupied

43.2.2.3.2.16 ls

The actual light value of the sensor.

43.2.2.3.2.17 unassigned_control_devices

The list of the unassigned control devices discovered after a scan of the channel.

43.2.2.4 Examples

Gets the DALI devices of the first channel.

```
/api/v100/dali_devices.ssi?action=get&ch=1
```

43.2.3 Get lamp information

Allows retrieving the information of a lamp.

43.2.3.1 Request URL

```
/api/v100/dali_devices.ssi?action=get_device&ch={channel}&di={device-index}
```

43.2.3.2 Parameters

Name	Value
action	get_device
ch	The number of the DALI channel, 1-4
di	The lamp index, 0-63

43.2.3.3 Response

The response contains the values as well as other information like the value limitation, name, etc.

```
{
  "type": "dali_devices",
  "action": "get_device",
  "data": {
    "device": {
      "name": "Lamp 1-00",
      "types": ["6", "255"],
      "variables": [{
        "ty": "nb10",
        "id": "dval",
        "tx": "Actual Level %",
        "va": "0",
        "ph": "",
        "mi": "0",
        "ma": "1000",
```

```

    "st": "1"
  }, {
    "ty": "tx",
    "id": "na",
    "tx": "Name",
    "va": "Lamp 1-00",
    "ph": ""
  }, {
    "ty": "nb10",
    "id": "dvpl",
    "tx": "Power On Level %",
    "va": "1000",
    "ph": "MASK",
    "mi": "0",
    "ma": "1000",
    "st": "1"
  }, {
    "ty": "nb10",
    "id": "dvsl",
    "tx": "System Failure Level %",
    "va": "1000",
    "ph": "MASK",
    "mi": "0",
    "ma": "1000",
    "st": "1"
  }, {
    "ty": "nb10",
    "id": "dvn1",
    "tx": "Minimum Level %",
    "va": "1",
    "ph": "",
    "mi": "1",
    "ma": "1000",
    "st": "1"
  }, {
    "ty": "nb10",
    "id": "dvxl",
    "tx": "Maximum Level %",
    "va": "1000",
    "ph": "",
    "mi": "10",
    "ma": "1000",
    "st": "1"
  }, {
    "ty": "se",
    "id": "dvfr",

```

```

"tx": "Fade Rate steps/s",
"va": "7",
"op": [{
  "va": 1,
  "tx": "358"
}, {
  "va": 2,
  "tx": "253"
}, {
  "va": 3,
  "tx": "179"
}, {
  "va": 4,
  "tx": "127"
}, {
  "va": 5,
  "tx": "89.4"
}, {
  "va": 6,
  "tx": "63.3"
}, {
  "va": 7,
  "tx": "44.7"
}, {
  "va": 8,
  "tx": "31.6"
}, {
  "va": 9,
  "tx": "22.4"
}, {
  "va": 10,
  "tx": "15.8"
}, {
  "va": 11,
  "tx": "11.2"
}, {
  "va": 12,
  "tx": "7.9"
}, {
  "va": 13,
  "tx": "5.6"
}, {
  "va": 14,
  "tx": "4.0"
}, {
  "va": 15,

```

```

        "tx": "2.8"
    }
  ], {
    "ty": "se",
    "id": "dvft",
    "tx": "Fade Time seconds",
    "va": "0",
    "op": [{
      "va": 0,
      "tx": "No fade"
    }, {
      "va": 1,
      "tx": "0.7"
    }, {
      "va": 2,
      "tx": "1.0"
    }, {
      "va": 3,
      "tx": "1.4"
    }, {
      "va": 4,
      "tx": "2.0"
    }, {
      "va": 5,
      "tx": "2.8"
    }, {
      "va": 6,
      "tx": "4.0"
    }, {
      "va": 7,
      "tx": "5.7"
    }, {
      "va": 8,
      "tx": "8.0"
    }, {
      "va": 9,
      "tx": "11.3"
    }, {
      "va": 10,
      "tx": "16.0"
    }, {
      "va": 11,
      "tx": "22.6"
    }, {
      "va": 12,
      "tx": "32.0"
    }
  ]
}

```

```

    }, {
      "va": 13,
      "tx": "45.3"
    }, {
      "va": 14,
      "tx": "64.0"
    }, {
      "va": 15,
      "tx": "90.5"
    }
  ]
}, {
  "ty": "nb",
  "id": "dvgr",
  "tx": "Groups",
  "va": "0",
  "ph": "",
  "mi": "0",
  "ma": "65535",
  "st": "1"
}, {
  "ty": "nb",
  "id": "dvsa",
  "tx": "Short Address",
  "va": "1",
  "ph": "",
  "mi": "0",
  "ma": "63",
  "st": "1"
}, {
  "ty": "nb",
  "id": "dvrrh",
  "tx": "Run Hours (seconds)",
  "va": "7440",
  "ph": "",
  "mi": "0",
  "ma": "2147483647",
  "st": "1"
}, {
  "ty": "nb",
  "id": "dvbi",
  "tx": "Burn-In (seconds)",
  "va": "0",
  "ph": "",
  "mi": "0",
  "ma": "2147483647",
  "st": "1"
}

```

```

    }, {
      "ty": "lt",
      "id": "bo",
      "tx": "BACnet Object",
      "va": "Analog Output/Input 0"
    }, {
      "ty": "lt",
      "id": "re",
      "tx": "Reliability",
      "va": "0 (no-fault-detected)"
    }
  ]
}
}
}

```

43.2.3.3.1 action

get_device

43.2.3.3.2 data

Contains the information of the DALI device.

43.2.3.3.3 name

The name of the lamp.

43.2.3.3.4 types

An array of the DALI supported device types of the lamp.

Value	Name
0	Fluorescent
1	Self-contained emergency
2	Discharge HID
3	Low-voltage halogen
4	Incandescent lamp
5	Conversion to DC voltage
6	LED
7	Switching relay
8	Colour
255	Not specified

43.2.3.3.5 variables

An array of lamp variables.

43.2.3.3.6 id

43.2.3.3.6.1 dval

The actual light intensity in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.3.3.6.2 na

The name of the lamp.

43.2.3.3.6.3 dvpl

The Power On Level in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.3.3.6.4 dvsl

The System Failure Level in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.3.3.6.5 dvnl

The Minimum Level in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.3.3.6.6 dvxl

The Maximum Level in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.3.3.6.7 dvfr

The Fade Rate value.

Value	Fade Rate (steps/seconds)
1	358
2	253
3	179
4	127
5	89.4
6	63.3
7	44.7
8	31.6
9	22.4
10	15.8
11	11.2
12	7.9
13	5.6
14	4.0
15	2.8

43.2.3.3.6.8 dvft

The Fade Time value.

Value	Fade Time (seconds)
0	No fade
1	0.7
2	1.0
3	1.4
4	2.0
5	2.8
6	4.0
7	5.7
8	8.0
9	11.3
10	16.0
11	22.6
12	32.0
13	45.3
14	64.0
15	90.5

43.2.3.3.6.9 dvgr

It represents the DALI variables “GROUP_0_8” and “GROUP_9_15” concatenated in a 16 bit.

43.2.3.3.6.10 dvsa

The DALI short address of the lamp.

43.2.3.3.6.11 dvrh

Number of seconds where the lamp was on.

43.2.3.3.6.12 dvbi

Number of seconds remaining to the burn-in.

43.2.3.3.6.13 bo

The BACnet object associated with the lamp.

43.2.3.3.6.14 re

The reliability of the lamp.

43.2.3.4 Examples

Get the lamp 0 for the channel 1.

```
/api/v100/dali_devices.ssi?action=get_device&ch=1&di=0
```

43.2.4 Set lamp information

Allows setting the information of a lamp, group or channel.

43.2.4.1 Request URL

```
/api/v100/dali_devices.ssi?action=set_device&ch={channel}&di={device-index}&device={device-data}
```

43.2.4.2 Parameters

Name	Value
action	set_device
ch	The number of the DALI channel, 1-4
di	The lamp index, 0-63
gi	The DALI group, 0-15 or -1 for the broadcast
device	The variable of the lamp to modify. Multiple variables can be passed in an array [data, data, ...]. The array must be URL encoded.

43.2.4.2.1 device

The array of the device information to modify. The array must be URL encoded.

43.2.4.2.1.1 id

Refers to the id of the get_device request.

43.2.4.2.1.2 va

Refers to the value of the get_device request.

Uses the same data type as the value from the request get_device. Most values are of the type string.

43.2.4.3 Response

```
{
  "type": "dali_devices",
  "action": "set_device",
  "data": {
    "type": "sni",
    "result": "success",
    "result_code": 0
  }
}
```

43.2.4.4 Examples

Sets the name of the lamp 0 for the channel 1.

```
/api/v100/dali_devices.ssi?action=set_device&ch=1&di=0&device=[{"id":"%22id%22","va":"%22va%22","type":"%22Lamp-00%22"}]
```

Sets the name of the group 0 for the channel 1.

```
/api/v100/dali_devices.ssi?action=set_device&ch=1&gi=0&device=[{%22id%22:%22na%22,%22va%22:%22Group-00%22}]
```

Sets the actual light intensity to 100% for the lamp 0 of the channel 1.

```
/api/v100/dali_devices.ssi?action=set_device&ch=1&di=0&device=[{%22id%22:%22dval%22,%22va%22:%221000%22}]
```

43.2.5 Get groups

Allows retrieving the information of the groups.

43.2.5.1 Request URL

```
/api/v100/dali_devices.ssi?action=get_groups&ch={channel}
```

43.2.5.2 Parameters

Name	Value
action	get_groups
ch	The number of the DALI channel, 1-4

43.2.5.3 Response

The response contains the values as well as other information like the values limitation, names, etc.

```
{
  "type": "dali_devices",
  "action": "get_groups",
  "data": {
    "status": 0,
    "devices": {
      "devices": [{
        "ii": "0",
        "na": "Lamp 1-00",
        "fl": 1,
        "gr": 1
      }, {
        "ii": "1",
        "na": "Lamp 1-01",
        "fl": 1,
        "gr": 2
      }, {
        "ii": "2",
        "na": "Lamp 1-02",
        "fl": 1,
        "gr": 4
      }, {
        "ii": "3",
```

```

    "na": "Lamp 1-03",
    "fl": 1,
    "gr": 7
  }],
  "groups": [{
    "ii": "-1",
    "na": "Channel 1",
    "fl": 0,
    "al": 76,
    "si": 4
  }, {
    "ii": "0",
    "na": "Group 1-00",
    "fl": 0,
    "al": 50,
    "si": 4
  }, {
    "ii": "1",
    "na": "Group 1-01",
    "fl": 0,
    "al": 100,
    "si": 4
  }, {
    "ii": "2",
    "na": "Group 1-02",
    "fl": 0,
    "al": 100,
    "si": 4
  }, {
    "ii": "3",
    "na": "Group 1-03",
    "fl": 0,
    "al": 0,
    "si": 0
  }, {
    "ii": "4",
    "na": "Group 1-04",
    "fl": 0,
    "al": 0,
    "si": 0
  }, {
    "ii": "5",
    "na": "Group 1-05",
    "fl": 0,
    "al": 0,
    "si": 0
  }

```

```

    }, {
      "ii": "6",
      "na": "Group 1-06",
      "fl": 0,
      "al": 0,
      "si": 0
    }, {
      "ii": "7",
      "na": "Group 1-07",
      "fl": 0,
      "al": 0,
      "si": 0
    }, {
      "ii": "8",
      "na": "Group 1-08",
      "fl": 0,
      "al": 0,
      "si": 0
    }, {
      "ii": "9",
      "na": "Group 1-09",
      "fl": 0,
      "al": 0,
      "si": 0
    }, {
      "ii": "10",
      "na": "Group 1-10",
      "fl": 0,
      "al": 0,
      "si": 0
    }, {
      "ii": "11",
      "na": "Group 1-11",
      "fl": 0,
      "al": 0,
      "si": 0
    }, {
      "ii": "12",
      "na": "Group 1-12",
      "fl": 0,
      "al": 0,
      "si": 0
    }, {
      "ii": "13",
      "na": "Group 1-13",
      "fl": 0,

```

```

    "al": 0,
    "si": 0
  }, {
    "ii": "14",
    "na": "Group 1-14",
    "fl": 0,
    "al": 0,
    "si": 0
  }, {
    "ii": "15",
    "na": "Group 1-15",
    "fl": 0,
    "al": 0,
    "si": 0
  }
]
}
}
}

```

43.2.5.3.1 action

get_groups

43.2.5.3.2 data

Contains the information of the DALI groups.

43.2.5.3.3 devices

The list of assigned devices.

43.2.5.3.3.1 ii

The lamp index, 0-63.

43.2.5.3.3.2 na

The name of the lamp.

43.2.5.3.3.3 fl

The flags of the lamp.

Value	Description
0	No lamp assigned for this index
1	A lamp is assigned for this index

43.2.5.3.3.4 gr

It represents the DALI variables “GROUP_0_8” and “GROUP_9_15” concatenated in a 16 bit.

43.2.5.3.4 groups

The list of groups.

43.2.5.3.4.1 ii

The group index, 0-15 and -1 for the channel broadcast.

43.2.5.3.4.2 na

The name of the group.

43.2.5.3.4.3 fl

The flags of the group.

43.2.5.3.4.4 al

The actual light intensity of the group in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.5.3.4.5 si

The actual status information of the group.

43.2.5.4 Examples

Gets the groups for the channel 1.

```
/api/v100/dali_devices.ssi?action=get_groups&ch=1
```

43.2.6 Get scenes

Allows retrieving the information of the scenes.

43.2.6.1 Request URL

```
/api/v100/dali_devices.ssi?action=get_scenes&ch={channel}
```

43.2.6.2 Parameters

Name	Value
action	get_scenes
ch	The number of the DALI channel, 1-4

43.2.6.3 Response

The response contains the scenes values for each assigned lamps as well as other information about the lamps like their names.

```
{
  "type": "dali_devices",
  "action": "get_scenes",
  "data": {
    "status": 0,
    "devices": {
      "devices": [{
        "ii": "0",
        "na": "Lamp 1-00",
        "fl": 1,
```

```

    "sn": [1000, 100, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1]
  }, {
    "ii": "1",
    "na": "Lamp 1-01",
    "fl": 1,
    "sn": [1000, 100, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1]
  }, {
    "ii": "2",
    "na": "Lamp 1-02",
    "fl": 1,
    "sn": [1000, 100, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1]
  }, {
    "ii": "3",
    "na": "Lamp 1-03",
    "fl": 1,
    "sn": [1000, 100, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1]
  }
]
}
}
}

```

43.2.6.3.1 action

get_scenes

43.2.6.3.2 data

Contains the DALI scenes information.

43.2.6.3.3 devices

The list of assigned devices.

43.2.6.3.3.1 ii

The lamp index, 0-63.

43.2.6.3.3.2 na

The name of the lamp.

43.2.6.3.3.3 fl

The flags of the lamp.

Value	Description
0	No lamp assigned for this index
1	A lamp is assigned for this index

43.2.6.3.3.4 sn

An array of the values for the 16 scenes. The light intensity of each scene in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.6.4 Examples

Gets the scenes for the channel 1.

```
/api/v100/dali_devices.ssi?action=get_scenes&ch=1
```

43.2.7 Set scenes

Allows modifying the scenes.

43.2.7.1 Request URL

```
/api/v100/dali_devices.ssi?action=set_scenes&ch={channel}&devices={data}
```

43.2.7.2 Parameters

Name	Value
action	set_scenes
ch	The number of the DALI channel, 1-4
devices	The scene data for each lamp

43.2.7.2.1 devices

Contains the scene values for each assigned lamp.

```
{
  "devices": [{
    "ii": "0",
    "sn": [1000, 100, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1]
  }, {
    "ii": "1",
    "sn": [1000, 100, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1]
  }, {
    "ii": "2",
    "sn": [1000, 100, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1]
  }, {
    "ii": "3",
    "sn": [1000, 100, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1]
  }
]}
```

43.2.7.2.1.1 ii

The lamp index, 0-63.

43.2.7.2.1.2 sn

An array of the values for the 16 scenes. The light intensity of each scene in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%. A value of -1 represents DALI MASK.

43.2.7.3 Examples

Sets the scenes for the channel 1.

43.2.8 Recall, store and delete scenes for groups or channel

43.2.8.1 Request URL

43.2.8.2 Parameters

43.2.8.3 Examples

```
/api/v100/dali_devices.ssi?action=delete_scene&ch=1&gi=10&si=2
```

Allows modifying the colour of a lamp or multiple lamps of the DALI type 8.

274 | 278

43.2.9.1 Request URL

```
/api/v100/dali_devices.ssi?action=set_colour&ch={channel}&sa={short-address}&cid={colour-id}&ctype={colour-type}&cvalue={colour-value}
```

43.2.9.2 Parameters

Name	Value
action	set_colour
ch	The number of the DALI channel, 1-4
sa	The DALI short address, 0-63. The addresses must be passed in an array [sa, sa, ...]. The array must be URL encoded.
gi	The DALI group, 0-15 or -1 for the broadcast. The groups must be passed in an array [gi, gi, ...]. The array must be URL encoded.
cid	The colour to modify
ctype	The type of colour
cvalue	The colour value

43.2.9.2.1 cid

Indicates the colour to modify.

Value	Description
d8ac	Actual Level
d8tp	Power On Level
d8tf	System Failure Level
d8s0	Scene 0
d8s1	Scene 1
d8s2	Scene 2
d8s3	Scene 3
d8s4	Scene 4
d8s5	Scene 5
d8s6	Scene 6
d8s7	Scene 7
d8s8	Scene 8
d8s9	Scene 9
d8s10	Scene 10
d8s11	Scene 11
d8s12	Scene 12
d8s13	Scene 13
d8s14	Scene 14
d8s15	Scene 15
d8tw	Warmest Tc
d8tc	Coolest Tc

43.2.9.2.2 ctype

Indicates the type of colour.

Value	Description
16	xy-coordinate
32	colour temperature Tc
64	primary N
128	RGBWAF

43.2.9.2.3 cvalue

Indicates the value of the colour. This value is in the JSON format and it must be URL encoded.

```
{
  "11": 900,
  "xx": 400,
```

```

"xy": 65535,
"tc": 333,
"p0": 400,
"p1": 65535,
"p2": 65535,
"p3": 65535,
"p4": 65535,
"p5": 65535,
"rr": 144,
"rg": 1,
"rb": 255,
"rw": 255,
"ra": 255,
"rf": 255,
"ll_isMask": false,
"xx_isMask": false,
"xy_isMask": true,
"tc_isMask": false,
"p0_isMask": false,
"p1_isMask": true,
"p2_isMask": true,
"p3_isMask": true,
"p4_isMask": true,
"p5_isMask": true,
"rr_isMask": false,
"rg_isMask": false,
"rb_isMask": true,
"rw_isMask": true,
"ra_isMask": true,
"rf_isMask": true
}

```

43.2.9.2.3.1 ll

The level of light intensity in percent multiplied by 10. For example; 0 = 0%, 1 = 0.1%, 1000 = 100%.

43.2.9.2.3.2 xx

The x, 0-65535, value for the type *xy-coordinate*.

43.2.9.2.3.3 xy

The y, 0-65535, value for the type *xy-coordinate*.

43.2.9.2.3.4 tc

The value, 0-65535, for the type *colour temperature Tc*. The unit of the value is Mirek. To value is given by the formula;

$$M = 1\,000\,000 / T,$$

where M is the Mirek value, T is the colour temperature in Kelvin.

43.2.9.2.3.5 p0, p1, p2, p3, p4, p5

The value, 0-65535, of the level 0, 1, 2, 3, 4 or 5 for the type *primary N*.

43.2.9.2.3.6 rr

The value, 0-255, of the red level for the type *RGBWAF*.

43.2.9.2.3.7 rg

The value, 0-255, of the green level for the type *RGBWAF*.

43.2.9.2.3.8 rb

The value, 0-255, of the blue level for the type *RGBWAF*.

43.2.9.2.3.9 rw

The value, 0-255, of the white level for the type *RGBWAF*.

43.2.9.2.3.10 ra

The value, 0-255, of the amber level for the type *RGBWAF*.

43.2.9.2.3.11 rf

The value, 0-255, of the freecolour level for the type *RGBWAF*.

43.2.9.2.3.12 xx_isMask

Indicates that the associated value is the DALI MASK value.

43.2.9.3 Examples

Sets to 4000 Kelvin the groups 1 on the channel 1.

```
/api/v100/dali_devices.ssi?&action=set_colour&ch=1&sa=%5B5%5D&cid=d8ac&ctype=
32&cvalue=%7B%2211%22%3A921%2C%22xx%22%3A250%2C%22xy%22%3A65535%2C%22tc%22%3A
250%2C%22p0%22%3A250%2C%22p1%22%3A65535%2C%22p2%22%3A65535%2C%22p3%22%3A65535
%2C%22p4%22%3A65535%2C%22p5%22%3A65535%2C%22rr%22%3A250%2C%22rg%22%3A0%2C%22r
b%22%3A255%2C%22rw%22%3A255%2C%22ra%22%3A255%2C%22rf%22%3A255%2C%2211_isMask%
22%3Afalse%2C%22xx_isMask%22%3Afalse%2C%22xy_isMask%22%3Atrue%2C%22tc_isMask%
22%3Afalse%2C%22p0_isMask%22%3Afalse%2C%22p1_isMask%22%3Atrue%2C%22p2_isMask%
22%3Atrue%2C%22p3_isMask%22%3Atrue%2C%22p4_isMask%22%3Atrue%2C%22p5_isMask%22
%3Atrue%2C%22rr_isMask%22%3Afalse%2C%22rg_isMask%22%3Afalse%2C%22rb_isMask%22
%3Atrue%2C%22rw_isMask%22%3Atrue%2C%22ra_isMask%22%3Atrue%2C%22rf_isMask%22%3
Atrue%7D
```