25 CO instabus / DALI Gateway 802701

1. Using the application program

2. Product description

2.1 Essential information about DALI 2

2.2 *instabus* / DALI Gateway N 141 2

3. Functional overview

3.1 Introduction to functional overview 2
3.2 Functions, objects 2
3.3 DALI, power supply status 2
3.4 DALI, short circuit status 2
3.5 Direct mode 2
3.6 ECG 1-64 3
3.6.1 Switching On/Off 3
3.6.2 Dimming brighter / darker 3
3.6.3 Sending 8-bit dimming value 3
3.6.4 Dimming value limitations 3
3.6.5 Switching status 3
3.6.6. Dimming value status 3
3.6.7 Error status 3
3.6.8 CIN device identification 4
3.7 Group 1-16 4
3.7.1 Switching On/Off 4
3.7.2 Dimming brighter / darker 4
3.7.3 Sending 8-bit dimming value 4
3.7.4 Dimming value limitations 4
3.7.5 Switching status 4
3.7.6 Dimming value status 4
3.7.7 Lamp error status 4
3.7.8 ECG error status 4
3.8 8-bit Scene control 4
3.9 Effect control 4
3.10 Export / import 5
3.11 Documentation 5
3.12 Commissioning 5
3.13 Test ECGs 5
3.14 Test Groups 5
3.15 Test Scenes 5
3.16 Test Effects 5
3.17 Power supply / bus voltage failure 5
3.18 Power supply / bus voltage recovery 5

4. Communication objects

4.1 Introduction to communication objects 6
4.2 Objects for operating modes 7
4.3 Objects for status reports 7
4.4 Objects for scenes 8
4.5 Objects for effects 8
4.6 Objects for groups 8
4.7 Objects for ECGs 9

5. Parameters

5.1 Introduction to parameters 9
5.1.1 Parameter window overview 9
5.1.2 Standard buttons 9
5.2 Functions, objects 10
5.2.1 Essential information 10
5.2.2 Parameter description 10
5.3 General 13
5.3.1 Essential information 13
5.3.2 Parameter description 13
5.4 Groups 13
5.4.1 Essential information 13
5.4.2 Parameter description 14
5.5 ECGs 16
5.5.1 Essential information 16
5.5.2 Parameter description 17
5.6 Scenes 18
5.6.1 Scenes parameter window description 18
5.6.2 Parameter description 19
5.7 Effects 20
5.7.1 Essential information 20
5.7.2 Parameter description 21
5.8 Export / import 22
5.9 Commissioning 22
5.9.1 instabus coomissioning 22
5.9.2 Commissioning of the DALI devices 22
5.10 Test ECGs 24
5.11 Test Groups 24
5.12 Test Scenes 25
5.13 Test Effects 25

6. Appendix

6.1 Behaviour in event of 230V failure on N 141, DALI, KNX bus 27
6.2 Behaviour in event of 230V recovery on N 141, DALI, KNX bus 28

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25 CO instabus / DALI Gateway 802701

1. Using the application program

Product family: Lighting
Product type: Interface
Manufacturer: Siemens

Name: *instabus* / DALI Gateway N 141
Order no.: 5WG1 141-1AB01

2. Product description

2.1. Essential information about DALI

DALI (Digital Addressable Lighting Interface) is a bidirectional communications interface according to IEC 60929, of which the specifications were established by electronic ballast manufacturers. It enables not only the reception of, for example, switching and dimming commands, but also the sending of status information, such as the failure of a lamp or the reporting of a recognized error in the ballast. According to IEC 60929 up to 64 DALI devices can be attached to a DALI bus cable, to each of which an individual participant address can be assigned.

2.2. *instabus* / DALI Gateway N 141

The *instabus* / DALI Gateway N 141 is a 4 PU wide KNX EIB devices for DIN rail mounting with possibility to connect to KNX EIB via a bus terminal or via the contact system to a data rail affixed to the DIN rail. It has a DALI output, to which up to 64 DALI actuators (e.g. ECGs with DALI interface) can be attached. DALI sensors must not be attached to the output of the N 141.
The DALI actuators attached to an N 141 can be switched and dimmed individually or in groups. The N 141 also enables the recording and transmission of DALI status and error reports via KNX EIB. During commissioning with the ETS (engineering tool software) the individual DALI ECGs are assigned with an individual name, a group, scenes and other parameters.

3. Functional overview

3.1. Introduction to functional overview

The application program can only be loaded with the ETS3.
Type and number of communication objects are defined by the number of attached DALI devices, the parameter set groups as well as by the functions and objects activated via the “Functions, objects” parameter window.

3.2. Functions, objects

The basic functionality of the gateway can be expanded by additional functions and communication objects via the “Functions, object” parameter window. This includes time-limited switching on of lighting during the night (time-limited cleaning light in night operation), 8-bit scene control integrated into the gateway, an additional control of light effects and the determination whether and how the various status objects are to be transmitted.

3.3 DALI, power supply status

The status of the common power supply for the DALI gateway and the DALI bus cable is reported via the 1-bit DALI, “power supply status” status object. If the object value = “0”, there is a power supply. If the object value = “1”, the DALI power supply has failed. The gateway is then no longer able to function, and all DALI ECGs revert to the dimming status parameter setting in the event of DALI bus voltage failure.
Short-term buffering of the power supply for the gateway electronics ensures that a power supply failure is recognized and the telegram on the DALI power supply status can still be transmitted.

3.4. DALI, short circuit status

A short circuit in the DALI bus cable is reported via the 1-bit status object “DALI, short circuit status”. If the object value = “0”, there is no short circuit. If the object value = “1”, the DALI power supply has short-circuited. The gateway is then no longer able to function, and all DALI ECGs revert to the dimming status parameter setting in the event of DALI bus voltage failure.

3.5. Direct mode

The mains adapter integrated with the N 141 provides the power supply to the gateway electronics and produces the DALI bus voltage. It also enables gateway operation and direct on / off switching of all lights controlled via the DALI output of the N 141 even if the N 141 has not yet been started up with the ETS or if communication via the EIB is interrupted. To this end the N 141 has a button for switching on the “direct mode” or, respectively, switching back to “bus mode”

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bottom left on its front panel. When the button is pressed for the first time, the yellow light emitting diode (LED) is permanently illuminated to indicate direct mode. Then all lights controlled via the DALI bus cable can be switched on / off via the pair of buttons also located on the front panel of the N 141 in exactly the same way as via a bus button: one press on the upper button leads to switch-on, one press on the lower button leads to switch-off. The switching status of all attached lights is displayed via the LED integrated in the upper button. A flashing LED indicates whether an error has been recognized in the DALI cable. When the "direct mode" button is pressed a second time, the LED for indicating direct mode goes out and the N 141 is in bus mode again.
Time functions that have already been launched are interrupted by switching on the direct mode.

3.6. ECG 1-64
Only the objects for ECG are relevant when individually controlling the individual ECG. (Objects 124 to 251; see also item 4.)
An ECG can either be controlled individually or via a group. It is not possible to do both at the same time.

3.6.1. Switching on / off
UP to 64 DALI ECGs can be switched individually. In this connection the new switching status can be progressively brightened with an adjustable dimming time.

3.6.2. Dimming brighter / darker
Separate dimming of one particular DALI ECG is **not** possible. The dimming status of an individual DALI ECG can only be changed via a dimming value telegram (sending 8-bit dimming value).

3.6.3. Sending 8-bit dimming value
Up to 64 DALI ECGs can be individually dimmed to a transmitted 8-bit value. In this connection the new dimming status can be progressively brightened with an adjustable dimming time.

3.6.4. Dimming value limitations
If an ECG is assigned to a group, it "inherits" the "Switch-on value", "Minimum dimming value" and "Maximum dimming value" perimeters from this group.
If the "Switch-on value" parameter is set to "last value" for one group, the "maximum dimming value" set for this group is used as the switch-on value upon receipt of an ON telegram sent to an ECG that has been assigned to this group.
If an ECG is not assigned to any group, then the following dimming value limitations apply for it: "Switch-on value" = "Maximum dimming value" = 100%, "Minimum dimming value" = minimum dimming value of the ECG.

3.6.5. Switching status
The switching status (On / Off) of an individual DALI ECG can be both reported and queried via the 8-bit "ECG switching status" status object. In this process bit 0 to bit 5 contain the number of the DALI ECG. Via bit 6 = 1 it is reported that the ECG / the lamp is switched on. Bit 7 is reserved for future applications.
A change in the switching status will be automatically transmitted via this object only once it has been triggered via a switching command or, respectively, via an 8-bit dimming telegram and the automatic sending is released. No telegrams are dispatched via this status object in the event of switching status changes in the group.
If a send request is sent to this object, this request must contain the number of the DALI ECG in bit 0 to 5 and bit 6 and 7 must be set to "1". The switching status will always be transmitted upon a send request, irrespective of where it came from.

3.6.6. Dimming value status
The dimming status (0...100%) of an individual DALI ECG can be both reported and queried via the 16-bit "ECG dimming status" status object. In this process bit 8 to bit 13 contain the number of the DALI ECG. Via bit 14 = 1 it is displayed that the ECG / the lamp is switched on. Bit 15 is reserved for future applications. Bit 0 to bit 7 contain the current dimming status as an 8-bit value (0...100%).
A change in the dimming status will be automatically transmitted via this object only once it has been triggered via a switching command or, respectively, via a dimming value telegram and the automatic sending is released. No telegrams are dispatched via this status object in the event of brightness changes in the group.
If a send request is sent to this object, this request must contain the number of the DALI ECG in bit 8 to 13 and bit 14 and 15 must be set to "1". The dimming status will always be transmitted upon a send request, irrespective of where it came from.

3.6.7. Error status
The error status of an individual DALI ECG can be both reported and queried via the 8-bit "ECG error status" status object. In this process bit 0 to bit 5 contain the number of the DALI ECG. A lamp error is reported via bit 6 = 1 and an ECG error via bit 7 = 1.
If a send request is sent to this object, this request must contain the number of the DALI ECG in bit 0 to 5 and bit 6 and 7 must be set to "1".

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3.6.8. CIN device identification

DALI devices from the company OSRAM include a clear 16-figure identification number, the CIN device identification (CIN = Chip Identification Number). Light manufacturers can then select the CIN code and attach a sticker with the CIN code to their lights with integrated DALI ECG. One CIN can be assigned to each DALI ECG attached to the N 141, via which the ECG can be directly addressed during commissioning. In order to facilitate entry, the 16-figure CIN should be entered as eight 2-figure numbers.
(see also appendix item 5.5.2. and 5.9.2.)

3.7. Group 1-16

Only the objects for groups are relevant when controlling ECGs via groups. (Objects 12 to 123; see also item 4.)
An ECG can either be controlled individually or via a group. It is not possible to do both at the same time.

3.7.1. Switching on / off

The DALI devices attached to the gateway can be assigned to up to 16 groups.
When a switch-on telegram is sent to a group the parameter setting determines whether the parameter set dimming value or the value prior to switching off will be set. If the switch-on value is below the set minimum value, the minimum value is set; if the value is above the maximum value, the maximum value is set. Parameters can be used to set whether the newly set value is brightened gradually or comes on immediately. Switch-off telegrams always switch off. Depending on parameter setting, switch-on telegrams activate follow-up times.

3.7.2. Dimming brighter/darker

The “dimming time” feature is adjustable. After the start command is received gateway N 141 commences communication with the ECGs in order to change the dimming value in the indicated direction using the parameter set speed. If a stop command is received before the dimming process is completed, the dimming process is cancelled and the dimming value obtained is maintained. In time-switch operation, the follow-up time is (re) commenced if the device has not been switched off. Parameters can be used to set whether dimming can be used to switch on and off.

3.7.3. Sending 8-bit dimming value

The communication object with the description “Dimming value, group X” sets all ECGs of this group to the transmitted dimming value. Parameters can be set to determine whether this value comes on immediately or is brightened gradually. If this object contains the value 0, the corresponding group is switched off. Values smaller than the minimum value (with the exception of the value 0) and values bigger than the maximum value are limited to the minimum / maximum dimming value. A parameter can be used to determine whether a switched-off ECG takes over the received value immediately and switches on or only takes over the received value when there is an ON command. The parameter set switch-on value is then invalid. Depending on parameter setting, the dimming value telegrams also activate the follow-up times.

3.7.4. Dimming value limitations

A maximum and minimum dimming value can be parameter set via the limitation. For all switching and dimming procedures the dimming value can only be changed within the parameter set limits.

3.7.5. Switching status

The on/off status of each group can be sent via a “Switching status, group x communication” object upon a read request or automatically when the object value is changed.

3.7.6. Dimming value status

The “Dimming value status, group x” object is an 8-bit status object. It contains the current dimming value of the respective group. It can be sent and / or read independently.

3.7.7. Lamp error status

One recognized lamp failure in a participant in this group can be reported per group via the 1-bit "Group x status, lamp error” object or, respectively, the status can be queried at any time.

3.7.8. ECG error status

One recognized ECG failure in a participant in this group can be reported per group via the 1-bit "Group x status, ECG error” object or, respectively, the status can be queried at any time.

3.8. 8-bit Scene control

The application program makes it possible to parameterize up to 64 scenes, each of which can contain up to 16 groups. The saving and retrieving of scenes is effected via the 8-bit communication object “8-bit scene no. x, retrieve / save”.
Time functions cannot be executed within a scene.

3.9. Effect control

The application program contains a special effects control that can be used to produce running light effects or cyclically repeating coloured light effects. The retrieval and cancellation of a special effect is effected via the 8-bit communication object “Effect no. x, retrieve / cancel”.

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3.10. Export / import

The export mechanism makes it possible to save the parameter setting of an instabus / DALI Gateway N 141 in a file. The numbers and names of the DALI ECGs assigned upon commissioning are also exported to this file. These exported numbers, names and group allocations are only valid, however, for as long as no new initialization of ECGs is carried out on the associated instabus / DALI Gateway N 141 or, respectively, no other application has been loaded into the device. The export file can be used, for example, to import the parameter settings into another project data base or into a newer version of the application program.
The import function only imports data from the application program 25 CO instabus / DALI Gateway 802701. Conversion of the data of other application programs in order then to be able to load them into the N 141 are not part of the functional scope of the import function.

3.11. Documentation

The application program makes it possible to print out the entire parameter setting of the N 141.

3.12. Commissioning

Following download by means of ETS 3, all DALI ECGs that are attached to the Gateway N 141 can be established and displayed. An individual name of up to 30 characters long can then be assigned to every ECG and the ECGs can be allocated to the individual groups and tested.
The allocation will make in the commissioning window.
The identification will make by mouseclick or with CIN.
(see also appendix item 5.9.2.)
The individual name assigned in each case to an ECG and a group is automatically adopted as the object name in the ECG and group objects. By printing out the documentation it can be followed which ECG has which number and name / which group has which name and which ECGs are allocated to it.
The commissioning function also makes it possible to assign the new ECG with the predecessor's name and data following replacement of a defective ECG.

3.13. Test ECGs

The individual ECGs can be directly switched / dimmed to an adjustable value by way of a test immediately after commissioning, without EIB telegrams needing to be sent via group addresses.

3.14. Test Groups

The individual groups can be directly tested immediately after allocation of the ECGs and of a parameter download, without EIB telegrams needing to be sent via group addresses.

3.15. Test Scenes

The individual scenes can be directly tested immediately after allocation of the ECGs and of a parameter download, without EIB telegrams needing to be sent via group addresses.

3.16. Test Effects

The individual effects can be directly launched and cancelled immediately after allocation of the ECGs and of a parameter download, without EIB telegrams needing to be sent via group addresses.

3.17. Power supply / bus voltage failure

In the event of power supply failure the program always saves the current dimming values of all groups, so that these are available once the power supply has been recovered. The individual groups may assume different dimming values in the event of power supply failure. See also appendix item 6.

3.18. Power supply / bus voltage recovery

The dimming value that is set on power supply recovery can be adjusted via parameters.
A time delay can be set in order to avoid high bus loads on the EIB (if a setting has been made to have the current ECG and group status reports transmitted on bus voltage recovery). The status reports are only transmitted after this time has elapsed. See also appendix item 6.

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4. Communication objects

4.1 Introduction to communication objects

Maximum number of group addresses: 253
Maximum number of assignments: 253

The following illustration 1 shows the comm. objects in the standard setting (according to the delivery status of Gateway N 141), after a number of ECGs and groups have been parameter set.

Illustration 2 shows the comm. objects after all additional functions and a number of ECGs and groups have been parameter set.

Number	Name	Object Function	Length
0	Status direct mode	On / Off	1 bit
12	Switching, New group 01	On / Off	1 bit
13	Dimming, New group 01	Brighter / Darker	4 bit
14	Dimming value, New group 01	set 8-bit value	1 Byte
19	Switching, New group 02	On / Off	1 bit
20	Dimming, New group 02	Brighter / Darker	4 bit
21	Dimming value, New group 02	set 8-bit value	1 Byte
26	Switching, New group 03	On / Off	1 bit
27	Dimming, New group 03	Brighter / Darker	4 bit
28	Dimming value, New group 03	set 8-bit value	1 Byte
124	Switching, New ECG 01	On / Off	1 bit
125	Dimming value, New ECG 01	set 8-bit value	1 Byte
126	Switching, New ECG 02	On / Off	1 bit
127	Dimming value, New ECG 02	set 8-bit value	1 Byte
128	Switching, New ECG 03	On / Off	1 bit
129	Dimming value, New ECG 03	set 8-bit value	1 Byte

Illustration 1: Comm. objects in the standard setting

Number	Name	Object Function	Length
0	Status direct mode	On / Off	1 bit
1	Night mode	On / Off	1 bit
2	DALI power supply status	1=mains failure	1 bit
3	DALI short circuit status	1=short circuit	1 bit
4	ECG error status	Lamp/ECG Error	1 Byte
5	ECG switching status	On / Off	1 Byte
6	ECG dimming value status	Report status	2 Byte
7	8-bit Scene	recall / save	1 Byte
8	Effect	recall / stop	1 Byte
12	Switching, New group 01	On / Off	1 bit
13	Dimming, New group 01	Brighter / Darker	4 bit
14	Dimming value, New group 01	set 8-bit value	1 Byte
15	Dimming value status, New group 01	8-bit value	1 Byte
16	Switching status, New group 01	On / Off	1 bit
17	Status, New group 01	Lamp failure	1 bit
18	Status, New group 01	ECG failure	1 bit
19	Switching, New group 02	On / Off	1 bit
20	Dimming, New group 02	Brighter / Darker	4 bit
21	Dimming value, New group 02	set 8-bit value	1 Byte
22	Dimming value status, New group 02	8-bit value	1 Byte
23	Switching status, New group 02	On / Off	1 bit
24	Status, New group 02	Lamp failure	1 bit
25	Status, New group 02	ECG failure	1 bit
26	Switching, New group 03	On / Off	1 bit
27	Dimming, New group 03	Brighter / Darker	4 bit
28	Dimming value, New group 03	set 8-bit value	1 Byte
29	Dimming value status, New group 03	8-bit value	1 Byte
30	Switching status, New group 03	On / Off	1 bit
31	Status, New group 03	Lamp failure	1 bit
32	Status, New group 03	ECG failure	1 bit
124	Switching, New ECG 01	On / Off	1 bit
125	Dimming value, New ECG 01	set 8-bit value	1 Byte
128	Switching, New ECG 03	On / Off	1 bit
129	Dimming value, New ECG 03	set 8-bit value	1 Byte

Illustration 2: Comm. objects when all functions are activated

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4.2. Objects for operating modes

Obj.	Object name	Function	Type	Flag
0	Status direct mode	On / Off	1 Bit	CRT

This object is used to report that the gateway was switched from bus mode to direct mode via the “direct mode” button on its upper side (direct mode = On) or, respectively, that it has been switched back from direct mode to bus mode (direct mode = Off).

When direct mode is switched on (the associated yellow LED on the upper side of the gateway illuminates) the direct switching of all attached ECGs is released via the two buttons on the gateway upper side. In this process the switching status of the ECGs is displayed via the LED integrated in the upper button. This LED also serves to display an error independently of bus or direct mode. If a short-circuit in the DALI bus cable of a failure of the power supply of an ECG is detected or if there is no ECG attached to the gateway, the LED flashes to display the switching status.

In direct mode the gateway does not execute switching, dimming value or scene retrieval commands received via the bus, but saves them as the desired intended status. After switching back to bus mode (the yellow LED for displaying the direct mode on the upper side of the gateway is switched off) the gateway compares the actual statuses of the ECGs / groups with the saved planned statuses and automatically eliminates deviations.

1	Night mode	On / Off	1 Bit	CWTU

This object is used to activate / deactivate the “Night operation” operating mode via the bus for all groups. In the process the object can be sent, for example, by a button, a timer or a building automation system. If a log. 1 is received, the groups switch over to night mode.
In the “Night mode” operating mode a group (for which night mode has been parameter set) can no longer be switched on permanently, but only on a time-limited basis (e.g. cleaning light for 30 minutes). If the “Warn before switch-off during night mode” parameter (see “Group, parameters” parameter window) is set to “Yes”, after the parameter set ON period has elapsed the group’s dimming value will first be set to 50% of the previous value, fully dimmed after approx. 30 seconds and then the group is switched off. This means that the end of the ON period can be recognized and that the lighting can be switched on for another 30 minutes, for example, by pressing the light switch again.

4.3. Objects for status reports

Obj.	Object name	Function	Type	Flag
2	DALI power supply status	1=mains failure	1 Bit	CRT

The status of the power supply for the Gateway N 141 and for the DALI bus is sent via the group address concerning this object (0= no power supply failure; 1 = power supply failure).

It can be adjusted using the “DALI, status objects error” parameter in the “Functions, objects” window whether and when this object is to be sent in the event of a detected error.

3	DALI short circuit status	1=short circuit	1 Bit	CRT

A short circuit in the DALI cable is reported via the group address concerning this object (= = no short circuit; 1 = short circuit).

It can be adjusted using the “DALI, status objects error” parameter in the “Functions, objects” window whether and when this object is to be sent in the event of a detected error.

4	ECG error status	Lamp/ECG Error	1 Byte	CWT

The error status of all attached ECGs can be queried or automatically sent via this object.

It can be adjusted via the “ECG 1-64, status object error” parameter in the “Functions, objects” window whether and when this object is to be sent in the event of a detected error. In the process the following bit allocation is used:

Bit 7	6	5	4	3	2	1	0
ECG failure	Lamp failure	[ECG number-1]					

Bit 0 to bit 5 contain the number of the DALI ECG as a binary number in the 0...63 range, where the binary number 0 corresponds to ECG number 1, etc. The recognition of an error can, depending on the number of the ECGs, last up to 90 seconds.

5	ECG switching status	On / Off	1 Byte	CWT

The error status of all attached ECGs can be queried or automatically sent via this object.

It can be adjusted using the “ECG 1-64, status object switching” parameter in the “Functions, objects” window whether and when (upon request or automatically after a change) the current switching status is to be sent via this object. This takes place even with ECGs that have been allocated to a group. In the process the following bit allocation is used:

Bit 7	6	5	4	3	2	1	0
reserved	Status On/Off	[ECG number-1]					

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Obj.	Object name	Function	Type	Flag
6	ECG dimming value status	Report status	2 Byte	CWT

The switching and dimming status of all attached ECGs can be queried or automatically sent via this object.

It can be adjusted using the “ECG 1-64, status object dimming value” parameter in the “Functions, objects” window whether and when (upon request or automatically after a change) the current dimming value status is to be sent via this object. This takes place even with ECGs that have been allocated to a group. In the process the following bit allocation is used:

Bit 15	14	13	12	11	10	9	8
reserved	Status On/Off	[ECG number-1]					

Bit 7	6	5	4	3	2	1	0
8-bit value							

4.4 Object for scenes

Obj.	Object name	Function	Type	Flag
7	8bit Scene	recall / save	1 Byte	CW

Via this object the 8-bit scene is retrieved (i.e. recovered) or, respectively, saved, with the number x. In this process bit 0...5 contain the scene number x. If bit 7 = log. 1, the scene is saved, if bit 7 = log. 0, then it is recalled. Bit 6 is currently of no significance and must be set to log. 0.

4.5. Object for effects

Obj.	Object name	Function	Type	Flag
8	Effect	recall / stop	1 Byte	CW

Via this object the effect is retrieved (i.e. launched) or, respectively, cancelled with the number x. In this process bit 0...5 contain the effect number x. If bit 7 = log. 1, the effect is launched, if bit 7 = log. 0, then it is cancelled. Bit 6 is currently of no significance and must be set to log. 0.

4.6. Objects for groups

Obj.	Object name	Function	Type	Flag
12	Switching, New Group	On / Off	1 Bit	CW

The ECGs assigned to group 1 are switched via this object. The current switching status can be queried via this object if the Read flag is set. Switching status changes by means of "Brighter / darker" or “Set dimming value” are also taken into account.

Obj.	Object name	Function	Type	Flag
13	Dimming, New Group	Brighter / Darker	4 Bit	CW

The dimming telegrams for group 1 are received via this object.

14	Dimming value, New Group	set 8bit value	1 Byte	CW

A dimming value for group 1 is received via this object.

15	Dimming value status, New Group	8-bit value	1 Byte	CRT

This object is used as a send object for the current status (dimming value) of group 1. It can be adjusted via the “Group 1-16, status object dimming value” parameter in the “Functions, objects” window whether and when (upon request or automatically after a change) the current dimming value status is to be sent via this object. The “Send block time after status change value”, which can be adjusted from 1-60 seconds (see “Functions, objects” parameter window) ensures that no high bus load is produced due to rapidly consecutive dimming value status telegrams during dimming. Once one dimming value telegram has been sent, the next one will only be sent after the send block time has elapsed.

Sending of the dimming value status takes place independently of the "lamp error" and "ECG error" objects.

16	Switching status, New Group	On / Off	1 Bit	CRT

The current switching status of group 1 is sent via this object. It can be adjusted via the “Group 1-16, status object switching” parameter in the “Functions, objects” window whether and when (upon request or automatically after a change) the current switching status is to be sent via this object.

Sending of the dimming value status takes place independently of the "lamp error" and "ECG error" objects.

17	Status, New Group	Lamp failure	1 Bit	CRT

The status of the lamps from group 1 is sent via this object (0 = all lamps intact, 1 = one or several lamps defective). It can be adjusted via the “Group 1-16, status object lamp failure” parameter in the “Functions, objects” window whether and when (upon request or automatically after a change) the current lamp status is to be sent via this object.

18	Status, New Group	ECG failure	1 Bit	CRT

The status of the ECGs from group 1 is sent via this object (0 = all ECGs intact, 1 = one or several ECGs defective). It can be adjusted via the “Group 1-16, status object ECG failure” parameter in the “Functions, objects” window whether and when (upon request or automatically after a change) the current ECG status is to be sent via this object.

The above explanations correspondingly apply for communication objects 19 to 123 of groups 2 to 16.

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4.7 Objects for ECGs

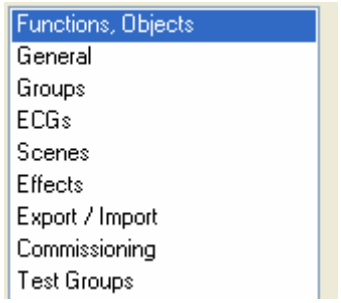
Obj.	Object name	Function	Type	Flag
124	Switching, New ECG 01	On / Off	1 Bit	CW
The DALI ECG "ECG *1*" is switched via this object. The name "ECG *1*" changes according to the name given in the parameter setting (through re-naming) for this ECG. When an "On command" is received, the parameter set switch-on value is switched on immediately or gradually brightened using the parameter set dimming time. If the ECG is allocated to a group, then only objects 19-123 are still relevant.				
125	Dimming value, New ECG 01	Set 8-bit value	1 Byte	CW
A dimming value for the DALI ECG "*ECG 1*" is received via this object. The name "*ECG 1*" changes according to the name given in the parameter setting (through re-naming) for this ECG. The target value is gradually brightened using the parameter set dimming time upon receipt on this object. If the ECG is allocated to a group, then only objects 19-123 are still relevant.				

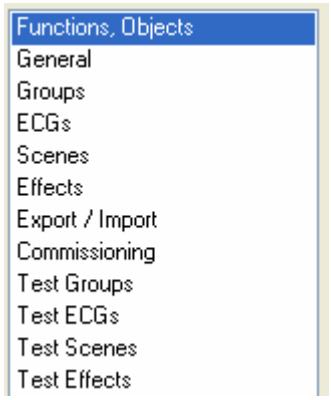
The above explanations correspondingly apply for communication objects 126 to 251 of ECGs 2 to 64.

5. Parameters

5.1. Introduction to parameters

5.1.1. Parameter window overview





The parameter windows listed above left are available on a device that has not yet been parameter set or, respectively, has been re-set to the standard settings. Further parameter windows are automatically added depending on parameter setting.
The maximum number of parameter windows available is listed above right.

5.1.2. Standard buttons

The buttons explained below are always visible on the lower edge of a selected parameter window.

Button
OK
The entered data are adopted and the current parameter window is closed.
Cancel
The entered data are not adopted (the previous data are kept) and the current parameter window is closed.
Default
All parameters of the current parameter window are re-set to the default settings of the delivery condition. There is a query before execution.
Docu
Printing of N 141 documentation with all parameter settings is initiated by pressing this button.
Help
Explanations concerning the parameters become visible depending on the current parameter window.

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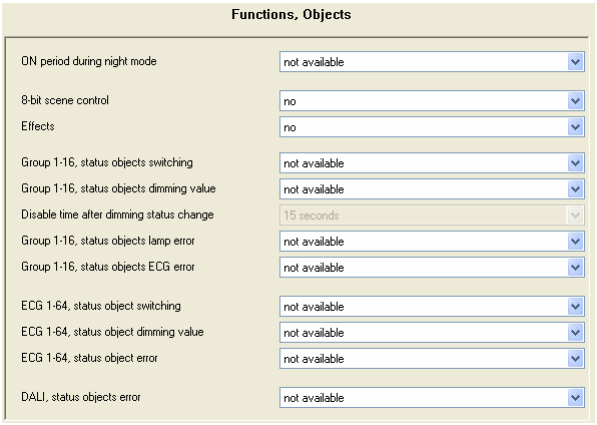
5.2. Functions, objects

5.2.1 Essential information



The basic functionality of the gateway can be expanded by additional functions and communication objects via the “Functions, object” parameter window. This includes time-limited switching on of lighting during the night (cleaning light), 8-bit scene control integrated into the gateway, an additional control of light effects and the determination whether and how the various status objects are to be transmitted.

5.2.2. Parameter description

Parameter	Settings
ON period during night mode	**not available** 5 minutes 10 minutes 15 minutes 20 minutes 30 minutes 45 minutes 60 minutes
This parameter is used to set whether and how long the lighting is to be switched on in a time-limited manner at night. If the parameter is set to not available, the lighting can be switched on permanently at night. If, on the other hand, the parameter is set to a time indication (e.g. to “30 minutes”), then communication object 1 “night operation” is automatically added to the comm. objects. If this object is set to log. 1, the lighting can only be switched on in a time-limited manner and is automatically switched off after the parameter set switch-off duration has elapsed. If a new On command is received before the On period has elapsed, this time function (night mode) is re-launched.	

Parameter	Settings
8-bit scene control	**yes** no
If this parameter is set to “Yes”, then communication object 7 “8-bit scene”, which is used to control the scene control integrated in the gateway, is supplemented. Additionally, a “Scenes” parameter window is supplemented in the selection list on the left-hand edge of the parameter window. Using the “Scenes” parameter window, it can be established for every scene which of the 16 light groups are to be integrated in the scene.	
Effects	**yes** no
If this parameter is set to “Yes”, then communication object 8 “Effect”, which is used to active the light effect control integrated in the gateway, is supplemented. Additionally, an “Effects” parameter window is supplemented in the selection list on the left-hand edge of the parameter window. The time lapse of up to 16 light effects (with up to 500 steps in total) can be established via the "Effects" parameter window.	
Group 1-16, status objects switching	**not available** only upon read request send on change of status send on change of status / after bus voltage recovery
This parameter is used to set whether one “Switching status” communication object is to be supplemented per group and when these objects are to be sent. The switching status is automatically sent with every status change when the parameter is set to “send on change of status”. With “send on change of status / after bus voltage recovery” the switching status is sent after bus voltage recovery if this changed before the bus voltage recovery. No automatic sending takes place with “send only upon read request”. Sending the status via a read request is possible with every parameter setting, with the exception of the “not available” parameter.	

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Parameter	Settings
Group 1-16, status objects dimming value	**not available** only upon read request send on change of status send on change of status / after bus voltage recovery
This parameter is used to set whether one “Dimming value status” is to be supplemented per group and when these objects are to be sent. The dimming value status is automatically sent with every status change when the parameter is set to “send on change of status”. With “send on change of status / after bus voltage recovery” the dimming status is sent after bus voltage recovery if this changed before the bus voltage recovery. No automatic sending takes place with “send only upon read request”. Sending the status via a read request is possible with every parameter setting, with the exception of the “not available” parameter.	
Disable time after dimming status change	1 second 2 seconds … **15 seconds** … 60 seconds
The “Send block time after status change value”, which can be adjusted from 1-60 seconds, ensures that no high bus load is produced due to rapidly consecutive dimming value status telegrams during dimming. Once one dimming value telegram has been sent, the next one will only be sent after the send block time has elapsed.	

Parameter	Settings
Group 1-16, status objects lamp error	**not available** only upon read request send on change of status send on change of status / after bus voltage recovery
This parameter is used to set whether one “Lamp error status” communication object is to be supplemented per group, via which an illumination failure in the group is to be reported and when these objects are to be sent. If “send on change of status” is selected, the “Lamp error status” object is automatically sent with every status change. With “send on change of status / after bus voltage recovery” the object is sent after bus voltage recovery if this changed before the bus voltage recovery. No automatic sending takes place with “send only upon read request”. Sending the status via a read request is possible with every parameter setting, with the exception of the “not available” parameter.	
Group 1-16, status objects ECG error	**not available** only upon read request send on change of status send on change of status / after bus voltage recovery
This parameter is used to set whether one “ECG error status” communication object is to be supplemented per group, via which an ECG or communication failure in the group is to be reported and when these objects are to be sent. If “send on change of status” is selected, the “ECG error status” object is automatically sent with every status change. With “send on change of status / after bus voltage recovery” the object is sent after bus voltage recovery if this changed before the bus voltage recovery. No automatic sending takes place with “send only upon read request”. Sending the status via a read request is possible with every parameter setting, with the exception of the “not available” parameter.	

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Parameter	Settings
ECG 1-64, status object switching	**not available** send only via send request on status object send on change of status send on change of status / after bus voltage recovery
This parameter is used to set whether comm. object 5 “ECG switching status” is to be supplemented, via which the switching status of every ECG can be queried or, respectively, is automatically reported and when it is to be sent. The switching status of an ECG is automatically sent with every status change when the parameter is set to “send on change of status”. With “send on change of status / after bus voltage recovery” the switching status of an ECG is sent after bus voltage recovery if this changed before the bus voltage recovery. No automatic sending takes place with “send only upon read request to status object”. Sending the status via a read request to the status object is possible with every parameter setting, with the exception of the "not available" parameter.	
ECG 1-64, status object dimming value	**not available** send only via send request on status object send on change of status send on change of status / after bus voltage recovery
This parameter is used to set whether comm. object 6 “ECG dimming value status” is to be supplemented, via which the dimming status of every ECG can be queried or, respectively, a change of dimming value is automatically reported (but only after the target value has been achieved and not during dimming) and when it is to be sent. The dimming status of an ECG is automatically sent with every status change when the parameter is set to “send on change of status”. With “send on change of status / after bus voltage recovery” the dimming status of an ECG is sent after bus voltage recovery if this changed before the bus voltage recovery. No automatic sending takes place with “send only upon read request to status object”. Sending the status via a read request to the status object is possible with every parameter setting, with the exception of the "not available" parameter.	

Parameter	Settings
ECG 1-64, status object error	**not available** send only via send request on status object send on change of status send on change of status / after bus voltage recovery
This parameter is used to set whether comm. object 4 “ECG error status” is to be supplemented, via which the switching status of every ECG can be queried or, respectively, a lamp failure or an ECG failure is automatically reported and when the object is to be sent. The error status of an ECG is automatically sent with every status change when the parameter is set to “send on change of status”. With “send on change of status / after bus voltage recovery” the object is sent after bus voltage recovery if this changed before the bus voltage recovery. No automatic sending takes place with “send only upon read request to status object”. Sending the status via a read request to the status object is possible with every parameter setting, with the exception of the “not available” parameter.	
DALI, status objects error	**not available** only upon read request send on change of status send on change of status / after bus voltage recovery
This parameter is used to set whether comm. object 2 “DALI, status power supply” and comm. object 3 “DALI, status short circuit” are to be supplemented, via which the status of the DALI bus voltage (failed or not) as well as of the DALI bus cable (short-circuited or not) can be queried or, respectively, every change of status can be automatically reported and when the objects are to be sent. The objects are automatically sent with every status change when the parameter is set to “send on change of status”. With “send on change of status / after bus voltage recovery” the object is sent after bus voltage recovery if this changed before the bus voltage recovery. No automatic sending takes place with “send only upon read request”. Sending the status via a read request is possible with every parameter setting, with the exception of the “not available” parameter.	

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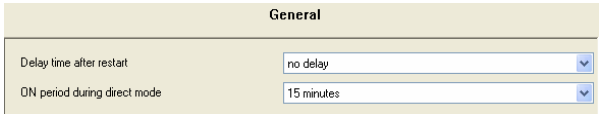
5.3 General

5.3.1. Essential information



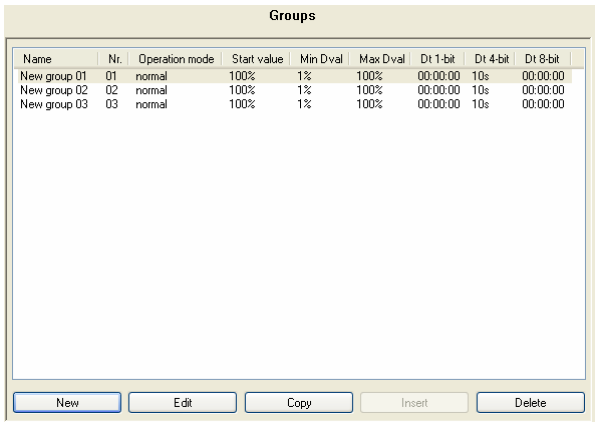
The “General” parameter window it used to set whether the gateway is to send status telegrams immediately or with a time delay after bus voltage recovery and whether the direct mode is to have a permanent or time-limited On period.

5.3.2. Parameter description

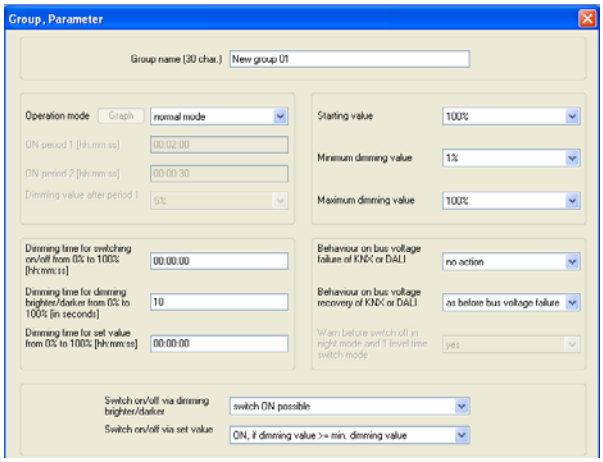
Parameter	Settings
Delay time after restart	**no delay** 2 seconds 3 seconds 4 seconds 5 seconds 10 seconds 20 seconds 30 seconds
If one of the group / ECG status parameters is set to automatic “send after bus voltage recovery”, the current status reports are automatically sent to the bus after bus voltage recovery. This can lead to high bus loads when several Gateways N 141 are used. With this parameter it is possible to delay the automatic sending and thus reduce the bus load on bus voltage recovery. If several Gateways N 141 are installed, these should be set to different delay values.	
ON period during direct mode	unlimited 5 minutes 10 minutes **15 minutes** 20 minutes 30 minutes 45 minutes 60 minutes
This parameter is used to set whether the direct mode has a permanent or time-limited On period and after what time, in the case of time-limited direct mode, bus mode will be switched back to automatically.	

5.4. Groups

5.4.1. Essential information



The “Groups” parameter window enables an overview of how many switching / dimming groups were assigned to the Gateway N 141. If the cursor is placed in the header, a line appears explaining the abbreviations used in the header. The list in this column can be re-sorted by clicking on a column heading.
A new group with pre-set parameters can be entered using the “New” button.
Following activation of the "New" button the parameter window underneath, “Group, parameters”, opens, via which the pre-set parameters can be changed.
A group and its parameter settings can be copied via the “Copy” button and then inserted as a new group via the “Insert” button.
A group can be completely deleted via the “Delete” button.



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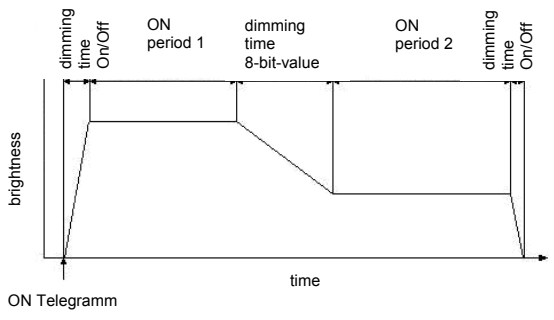
5.4.2 Parameter description

Parameter	Settings
Group name (30 char.)	
A name of a maximum 30 characters long can be assigned to a group via this parameter. This name is also used with the communication objects belonging to this group.	
Operation mode	**normal mode** normal / night mode permanent mode 1-level time switch mode 2-level time switch mode
This parameter enables switching between normal mode, normal / night mode, permanent mode and time switch mode. If the parameter is set to "Normal / night mode", the group is integrated with the night mode. No control parameters are created for the group on "permanent mode". The ECG is permanently switched on to the set On value. All other parameters, with the exception of behaviour in the event of bus voltage failure and recovery, cannot be set. However, the status objects are available. A time switch mode can be launched via an ON telegram, a dimming telegram (brighter/darker) or a dimming value telegram. The set On value is gradually brightened using the dimming time established via the "dimming time from 0%--100% on switching on/off [hh:mm:ss]" parameter. Darkening is effected following the elapse of On period 1 using the same dimming time as on switch-on. When "2-level time switch mode" is set the interim value (i.e. the dimming value following the elapse of On period 1) is gradually brightened using the dimming time established via the "dimming time from 0%-100% when setting dimming value [hh:mm:ss]" parameter.	
Graph	
Via the "Diagram" button it is possible, when "1-level time switch mode" and "2-level time switch mode" are set, to call up a window that shows the elapsed time of the parameter set time switch mode following receipt of an On telegram.	



Parameter	Settings
ON period 1 (hh:mm:ss)	**00:02:00**
Here the time is entered after which (in the case of 1-level time switch mode) the lighting is switched off or after which the interim dimming value is to be gradually achieved (in the case of 2-level time switch mode). The On period is a maximum of 15 hours (15:00:00). The set On period 1 commences only after the On dimming value has been achieved following the launch of the time switch mode via On / dimming / value telegrams. hh= for hours; mm= for minutes; ss= for seconds.	
ON period 2 (hh:mm:ss)	**00:00:30**
Here, in 2-level time switch mode, the time is entered that commences after the interim dimming value has been achieved (i.e. according to the dimming value after On period 1 has elapsed). When this time elapses the group is switched off. On period 2 is a maximum of 15 hours (15:00:00). hh= for hours; mm= for minutes; ss= for seconds.	
Dimming value after period 1	**5%** 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%
This parameter determines the interim value that is set after period 1. The parameter set value is limited to the range between minimum/maximum dimming value. For technical reasons, the percentages are rounded values, and have a precision of +/- 1%.	
Starting value (limited by minimum/maximum dimming value)	**100%**, 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 40%, 30%, 20%, 10%, last received dimming value dimming value at switching 0
This parameter indicates the On value on receipt of an ON switching telegram. The parameter set value is limited to the range between minimum and maximum dimming value. When switched on twice, not the switching on value but the maximum dimming value is switched on. For technical reasons, the percentages are rounded values, and have a precision of +/- 1%. Note on setting "last received dimming value": The minimum dimming value will always be switched onto when switching on, even if the last received dimming value < minimum dimming value (also applies for the value 0). This also applies even if there is no "last received dimming value".	
Minimum dimming value	0,5%, **1%** , 3%,5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 60%, 70%
The minimum dimming value is established via this parameter. Only as far as this value can be reached when darkening. For technical reasons, the percentages are rounded values, and have a precision of +/- 1%.	

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Parameter	Settings
Maximum dimming value	**100%**, 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 40%, 30%
The maximum dimming value is established via this parameter. Only as far as this value can be reached when brightening. For technical reasons, the percentages are rounded values, and have a precision of +/- 1%.	
Dimming time for switching on/off from 0% to 100% [hh:mm:ss]	**00:00:00**
This parameter establishes the dimming time in which the group gradually brightens to the On value following an ON telegram or, respectively, darkens to the Off value following an OFF telegram, in which process the set dimming time applies for dimming from 0% to 100%. The On or, respectively, Off value is switched on at setting 00:00:00 . The dimming time can be adjusted to a maximum 15 hours (15:00:00). hh= for hours; mm= for minutes; ss= for seconds.	
Dimming time for dimming brighter/darker from 0% to 100% [in seconds]	1-255 **10**
This parameter determines the time in which dimming from 0% to 100% is achieved during dimming.	
Dimming time for set value from 0% to 100% [hh:mm:ss]	**00:00:00**
This parameter determines the time in which the new value is achieved following receipt of an 8-bit dimming value. The set time applies for a dimming process from 0% to 100%. The new dimming value is switched on during setting. hh= for hours; mm= for minutes; ss= for seconds.	
Behaviour on bus voltage failure of KNX or DALI	**no action** starting value maximum dimming value minimum dimming value switch OFF
With this parameter it is established which dimming value the group is to assume if communication with the ECGs is no longer possible due to failure of the KNX bus voltage, failure of the power supply for the Gateway N 141 or due to short circuit/interruption of the DALI bus cable. The presupposition is that the power supply of the ECGs is still present. If this parameter is on “starting value” and if the “starting value” of the group is parameter set with “last value”, the group will be set to maximum brightness in the event of bus voltage failure. See appendix item 6.	

Parameter	Settings
Behaviour on bus voltage recovery of KNX or DALI	**as before bus voltage failure** starting value maximum dimming value minimum dimming value switch OFF
This parameter establishes which dimming value the group is to assume after both the KNX bus voltage and the power supply voltage are again present on Gateway N 141. This presupposes that the power supply for the ECGs of the group is already present. If this parameter is on “starting value” and if the “starting value” of the group is parameter set with “last value”, the group will be set to the dimming value before bus voltage failure in the event of bus voltage recovery. If the group was switched off when the bus voltage failed, in this case the maximum dimming value will be set. Should the power supply voltage of one ECG in the group be recovered at a later time, this will be set to the current dimming value of the group, where applicable, after a maximum of 30 seconds. See appendix item 6.	
Warn before switch off in night mode and 1-level time switch mode	**yes** no
This parameter is used to set whether the group is to indicate approximately 30 seconds before switch off that the group will soon be switched off by dimming to 50% of the previous dimming value in night mode or 1-level time switch mode.	
Switch on/off via dimming brighter/darker	**not possible** switch ON possible switch OFF possible switch ON and OFF possible
If a switched off group is to be switched on via the receipt of a relative “brighter” dimming value, this parameter must be set to “switch ON possible”. In this case the group is always switched on first, the minimum dimming value reached and then, from here, the group is brightened with the parameter set dimming time for dimming by the received relative dimming value. Switching off by darkening is not possible with this setting. If a group is to be switched off by dimming its brightness to a value below the minimum dimming value, this parameter must be set to “switch OFF possible”. Switching on by brightening is not possible with this setting. If both switching on and switching off the group under the basic conditions described above is to be possible, this parameter must be set to “switch ON and switch OFF possible”.	
Switch on/off via set value	**not possible** ON, if dimming value >= min. dimming value OFF, if dimming value < min. dimming value switch ON and OFF possible ON, if dimming value >= % and OFF, if dimming value = 0%
If, while switched off, switching on the group through the receipt of a dimming value that is as high or higher than the	

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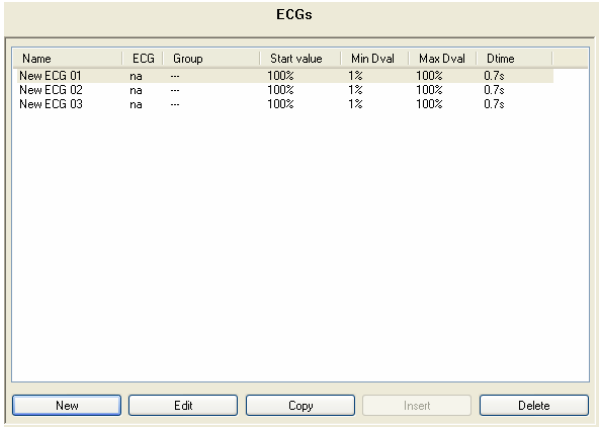
Parameter	Settings
minimum dimming value, is to be possible, this parameter must be set to “ON, if dimming value >= min. dimming value”. The group is then switched on and the dimming value, depending on the parameter set dimming time for dimming value setting, is either switched on immediately or gradually brightened. If the received dimming value is under the minimum dimming value, the group remains switched off. Switching off the group by setting the dimming value is not possible with this setting. If the group is switched on and this parameter is set to “OFF, if dimming value < min. dimming value”, the receipt of a telegram with a dimming value lower than the minimum dimming value for darkening (with the parameter set dimming time for setting the dimming value) leads to the minimum dimming value and then to the switching off of the group. Switching on the group by setting the dimming value is not possible with this setting. If this parameter is set to “switch ON and OFF possible”, the group is switched on if the received dimming value is higher than or equal to the minimum dimming value and it is switched off if the received dimming value is under the minimum dimming value. If this parameter is set to “ON, if dimming value > 0% and OFF, if dimming value = 0%”, every dimming value > 0% leads to the switching on of the group. If the dimming value is below the minimum dimming value, the group is dimmed to the minimum dimming value. Only following receipt of a dimming value = 0% is the group switched off.	

5.5. ECGs

5.5.1 Essential information



The “ECGs” parameter window enables an overview of how many DALI ECGs are attached to the Gateway and whether or, respectively, to which group an ECG has been assigned. If the cursor is placed in the header, a line appears explaining the abbreviations used in the header.
A new ECG with pre-set parameters can be entered using the “New” button.
Following activation of the "Change" button the parameter window (shown as followed), "ECG, parameters", opens, via which the pre-set parameters can be changed.
An ECG and its parameter settings can be copied via the “Copy” button and then inserted as a new ECG via the “Insert” button.
An ECG can be completely deleted via the “Delete” button.

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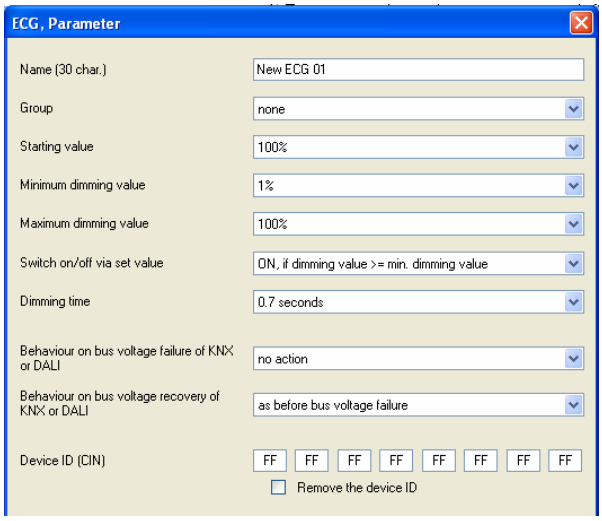

5.5.2. Parameter description

Parameter	Settings
Name (30 char.)	
A name of a maximum 30 characters long can be assigned to an ECG via this parameter. This name is also used with the communication objects belonging to this ECG.	
Group	**none** new group 01
The ECG can be assigned to a group via this parameter. In this case entry of all ensuing parameters (except the CIN) is deactivated, since the parameter setting of the group is then automatically assigned to the ECG.	
Starting value	**100%**, 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 40%, 30%, 20%, 10%, maximum dimming value last received dimming value dimming value at switching OFF
This parameter indicates the On value on receipt of an ON switching telegram. The parameter set value is limited to the range between minimum and maximum dimming value. For technical reasons, the percentages are rounded values, and have a precision of +/- 1%.	
Minimum dimming value	0.5%, **1%** , 3%,5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 60%, 70%
The minimum dimming value is established via this parameter. Only as far as this value can be reached when darkening. For technical reasons, the percentages are rounded values, and have a precision of +/- 1%.	

Parameter	Settings
Maximum dimming value	**100%**, 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 40%, 30%
The maximum dimming value is established via this parameter. Only as far as this value can be reached when brightening. For technical reasons, the percentages are rounded values, and have a precision of +/- 1%.	
Switch on/off via set value	**not possible** ON, if dimming value >= min. dimming value OFF, if dimming value < min. dimming value switch ON and OFF possible ON, if dimming value > 0% and OFF, if dimming value = 0%
This parameter is used to set whether and when switching on / off is to be possible via a received dimming value. If the parameter is set to “switch ON and switch OFF possible", switching on will take place at a dimming value >= min. dimming value and switching off at a dimming value < min. dimming value.	
Dimming time	jump, **0.7s**, 1.0s, 1.4s, 2.0s, 2.8s, 4.0s, 5.7s, 8.0s, 11.3s, 16.0s, 22.5s, 32.0s, 45,3s, 64.0s, 90.5s
This parameter prescribes the time in which a dimming process is to take place. This dimming time applies for setting the dimming value and for switching On. This dimming time does not apply for switching Off. In this process, the individual value of the dimming time is, in contrast to the “Group” dimming, independent of the set dimming value.	
Behaviour on bus voltage failure of KNX or DALI	**non action** starting value maximum dimming value minimum dimming value switch OFF
With this parameter it is established which dimming value the ECG is to assume if communication with the ECGs is no longer possible due to failure of the KNX bus voltage, failure of the power supply for the Gateway N 141 or due to short circuit/interruption of the DALI bus cable. The presupposition is that the power supply of the ECGs is still present. If this parameter is on “starting value”, the ECG is set to maximum brightness in the event of bus voltage failure. See also appendix item 6.	

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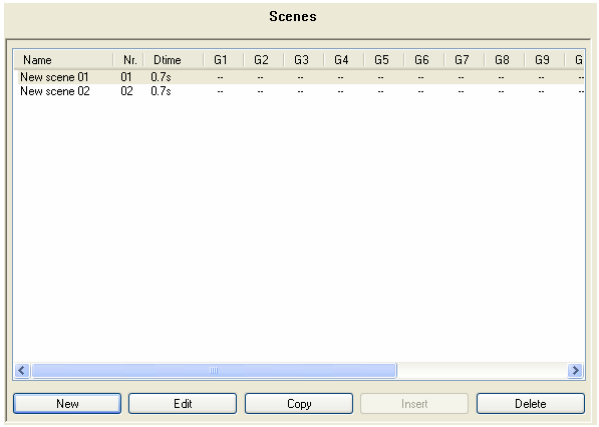
Parameter	Settings
Behaviour on bus voltage recovery of KNX or DALI	**as before bus voltage failure** starting value maximum dimming value minimum dimming value switch OFF
This parameter establishes which dimming value the ECG is to assume after both the KNX bus voltage and the power supply voltage are again present on Gateway N 141. This presupposes that the power supply for the ECGs is already present. If this parameter is on “starting value”, the ECG is set to the dimming value before bus voltage failure in the event of bus voltage recovery. If the ECG was switched off when the bus voltage failed, in this case the maximum dimming value will be set. See also appendix item 6.	
Device ID (CIN)	**16-figure ID**
The company OSRAM assigns every DALI device factory-side a clear 16-figure identification number (CIN = Chip Identification Number), which can be entered here and via which the device can be directly addressed during commissioning. This identification number should be entered as 8 two-figure numbers in order to make entry easier.	
Remove the device ID	
By click on the entry field the 16-figure CIN is set to the default value “FFFFFFFFFFFFFFFF” (i.e. “no device ID assigned”)	

5.6. Scenes

5.6.1 Scenes parameter window description



The “Scenes” parameter window enables an overview of how many scenes have already been parameter set and which groups are integrated in a scene in each case. If the cursor is placed in the header, a line appears explaining the abbreviations used in the header.
A new scene can be added using the “New” button. Following the marking of a scene and activation of the "Change" button the parameter window underneath, "Scene, parameters", opens, via which the groups belonging to a scene can be changed.
A scene and its parameter settings can be copied via the “Copy” button and then inserted as a new scene via the “Insert” button.
A scene can be completely deleted via the “Delete” button.

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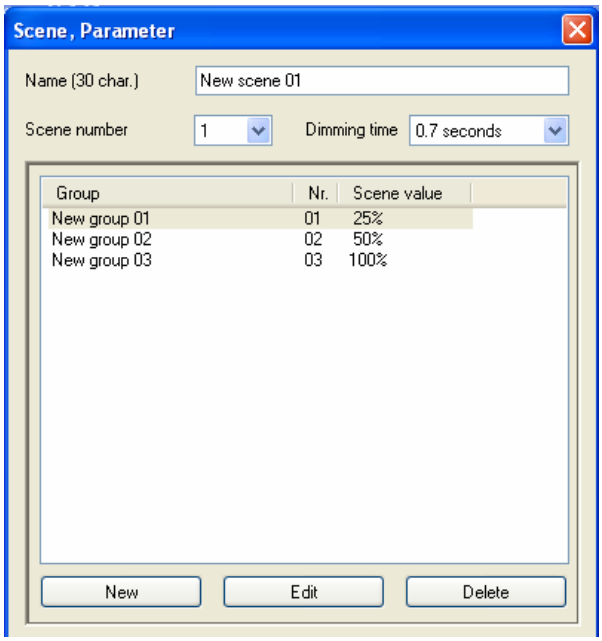


A new group can be added in the “Scene, parameters” window using the “New” button. Following the marking of a group and activation of the Change button the “Scene value” parameter window further down now opens.
A marked group can be deleted in the “Scene, parameters” window with the “Delete” button.

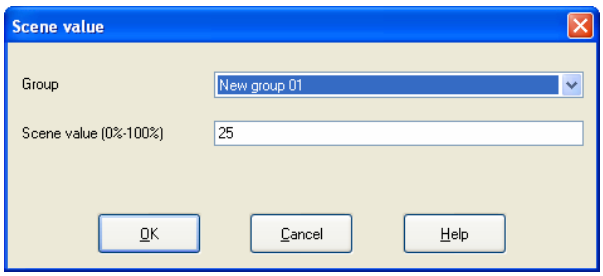
5.6.2 Parameter description

Note:
Time functions cannot be executed within a scene.

Parameter	Settings
Name (30 char.)	
A name of a maximum 30 characters long can be assigned to a scene via this parameter.	
Scene number	1-64
A number in the range of 1 to 64 (scene number) can be assigned to the scene via this parameter. If a certain scene is to be saved or recalled, comm. object 7 must contain the number [scene number 1].	

Parameter	Settings
Dimming time	jump **0.7 seconds** 1.0 seconds 1.4 seconds 2.0 seconds 2.8 seconds 4.0 seconds 5.7 seconds 8.0 seconds 11.3 seconds 16.0 seconds 22.6 seconds 32.0 seconds 45.3 seconds 64.0 seconds 90.5 seconds
This parameter “Dimming time” corresponds, when recalling a scene, to the time in which the dimming process for all lights together is completed. If for example the lights of channel 1 are at 50% and if 90% dimming is to take place in this scene and if the lights of channel 2 are to be dimmed from 100% to 20%, the dimming process should be completed simultaneously for both lights. Channel 1 will therefore have a flatter dimming curve than channel 2. The dimming time of a scene is independent of the dimming times set for the groups.	

Via the “Scene value” window the group belonging to the scene can be changed, as well as assigned a dimming value (scene value) to which the group in this scene is to be set. If another group than the group displayed on opening of the window is selected via the “Group” parameter, this leads to the deleting (replacement) of the previous group in the respective scene.



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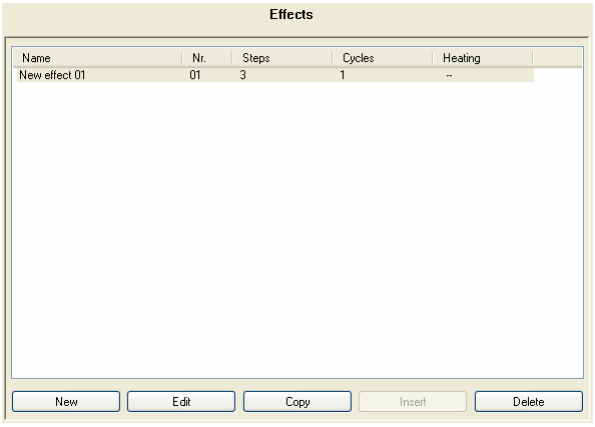
Parameter	Settings
Group	
All groups are listed. The already projected groups are identifiable by the changed group name (and the not yet projected groups by their name “New group xy”). Only the projected groups are set to the parameter set brightness when the scene is recalled. All non-projected groups are ignored when the scene is recalled.	
Scene value (0% - 100%)	0-100 % **100 %**
This value indicates the dimming value as a percentage which the group (if projected) assumes when this scene is recalled. The value can be projected for each group for the first time here. The data are overwritten on subsequent saving of the scene using a scene button. The application program automatically limits the entered value to the value range between minimum and maximum dimming value.	

Note:
If dimming times are constantly changed at very brief intervals (coloured light or effect control, rapidly changing scenes), this can lead to damage to the ECGs of some manufacturers in the long term. This problem is inexistent by using the new Osram ECGs (Type QTi).

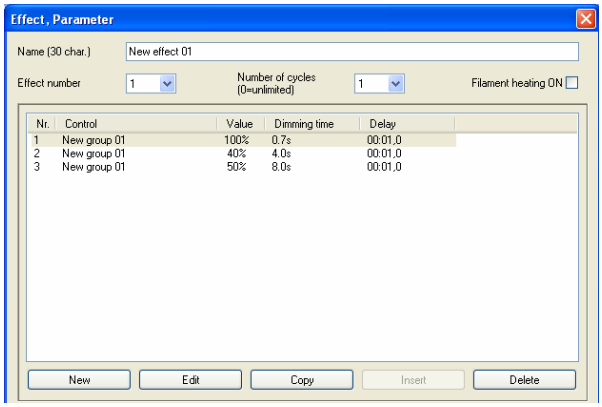
To avoid the Problem, you should follow the following instructions:
-By including groups in scenes or effects, the Dimming time in scenes or effects should be ever 0,7s. The Dimming time in the group is independent of this.
-By including ECGs in effects, the Dimming time in EVG should be the same as the Dimming time in the effects

5.7. Effects

5.7.1. Essential information



The “Effects” parameter window enables an overview of how many effects have already been parameter set and how many steps and run-throughs they consist of in each case. If the cursor is placed in the header, a line appears explaining the abbreviations used in the header.
A new effect can be added using the “New” button. Following the marking of an effect and activation of the "Change" button the parameter window underneath, "Effect, parameters", opens, via which the ECGS, groups, scenes belonging to an effect and the parameters belonging to a scene can be selected and changed.
An effect and its settings can be completely copied in the “Effects” window via the “Copy” button and then inserted as a new effect via the “Insert” button.
An effect can be completely deleted via the “Delete” button.



The “Effect, parameters” parameter window provides an overview of how many steps the effect consists of and what happens step by step: whether an individual ECG or a group are switched or dimmed or whether a scene is recalled and which interval should be observed following every step. If the cursor is placed in the header, a line appears explaining the abbreviations used in the header.
A new step can be added using the “New” button. Following the marking of a step and activation of the "Change" button the parameter window further down with the name of the effect being revised and the step number to be revised opens. The ECGs, groups, scenes and parameters belonging to a step can be selected and changed via this window. 16 effects with a total of 500 steps are possible.
A step and its settings can be completely copied in the “Effects, parameter” window via the “Copy” button and then inserted as a new step via the “Insert” button.
A step can be completely deleted via the “Delete” button.

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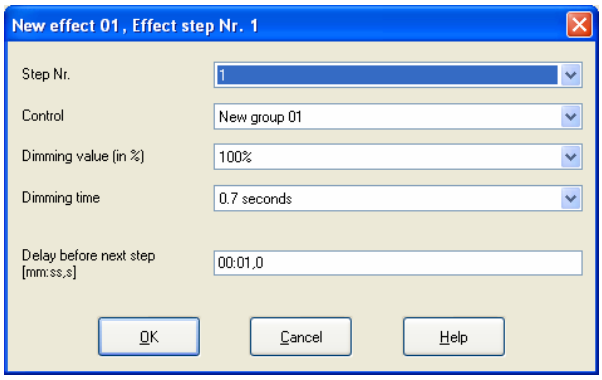
5.7.2 Parameter description

Parameter	Settings
Name (30 char.)	
A name of a maximum 30 characters long can be assigned to an effect via this parameter.	
Effect number	1-64
A number in the range of 1 to 64 (effect number) can be assigned to the effect via this parameter. If a certain effect is to be saved or recalled, comm. object 8 must contain the number [effect number 1].	
Number of cycles (0=unlimited)	0-500 **1**
With this parameter it is established how often the effect should run upon recall. If the parameter is set to "0", the effect runs until it is either stopped when its number is called up and bit 7 set to log. 0 or this takes place when another effect is called up.	
Filament heating ON	
Filament heating in ECGs can be switched on in advance via this parameter, so that rapid effects can be carried out even with fluorescent lamps. This presupposes that the ECG manufacturer support pre-heating, as is the case for example with OSRAM with ECGs of type QTi. The heating automatically switches itself off again after 15 minutes if the ECG has not been controlled within that time.	



Parameter	Settings
Step Nr.	**1**-500
This number is used for consecutive numbering of the individual effect steps. A total of up to 500 steps is possible.	
Control	List of names with all projected EGVs, groups and scenes.
This parameter is used to set which ECG or which group in this step is to be switched on or dimmed or which scene is to be launched.	

Parameter	Settings
Dimming value (in %)	**100%**, 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 45%, 40%, 35%, 30%, 25%, 20%, 15%, 10%, 5%
This parameter is only available if an ECG or a group is controlled. It sets the dimming value to which the ECG or group in this step is to be dimmed. For technical reasons, the percentages are rounded values, and have a precision of +/- 1%.	
Dimming time	jump **0.7 seconds** 1.0 seconds 1.4 seconds 2.0 seconds 2.8 seconds 4.0 seconds 5.7 seconds 8.0 seconds 11.3 seconds 16.0 seconds 22.6 seconds 32.0 seconds 45.3 seconds 64.0 seconds 90.5 seconds
The ECG or, respectively, group is dimmed to the dimming value set in the effect step using the dimming time set here. This dimming time can be different one to the dimming time assigned to the group, ECG or, respectively, scene. *Note:* *If dimming times are constantly changed at very brief intervals (coloured light or effect control, rapidly changing scenes), this can lead to damage to the ECGs of some manufacturers in the long term. This problem is inexistent by using the new Osram ECGs (Type QTi).* *To avoid the Problem, you should follow the following instructions:* *-By including groups in scenes or effects, the Dimming time in scenes or effects should be ever 0,7s. The Dimming time in the group is independent of this.* *-By including ECGs in effects, the Dimming time in EVG should be the same as the Dimming time in the effects.* *Different dimming times (both when brightening to a new value and during joint brightening to new values in scenes) lead to re-programming of the internal dimming time of all DALI ECGs attached to the Gateway N 141 when sending the dimming value / calling up a scene. This problem does not occur if the same dimming times are used for all scene recalls and where possible the standard dimming time of 0.7 seconds is used in the process.*	
Delay before next step [mm:ss,s]	00:01.0
This time indicates how long the interval following completion of this step is before the next step is launched.	

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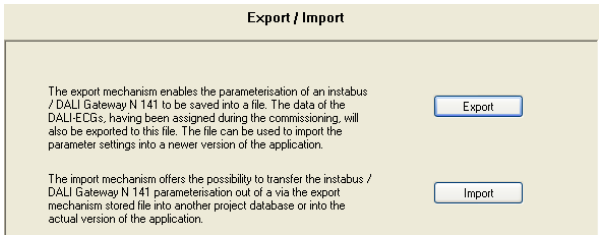
5.8. Export / import



The export mechanism makes it possible to save the parameter settings of an instabus/DALI Gateway N 141 to a file. The numbers and names of the DALI ECGs assigned upon commissioning are also exported to this file. These exported numbers, names and group allocations are only valid, however, for as long as no new initialization of ECGs is carried out on the associated instabus / DALI Gateway N 141 or, respectively, no other application has been loaded into the device.
The export file can be used, for example, to import the parameter settings into another project data base or into a newer version of the application program.

Note: The import function only imports data from the application program 25 CO instabus / DALI Gateway 802701. Conversion of the data of other application programs in order then to be able to load them into the N 141 are not part of the functional scope of the import function.

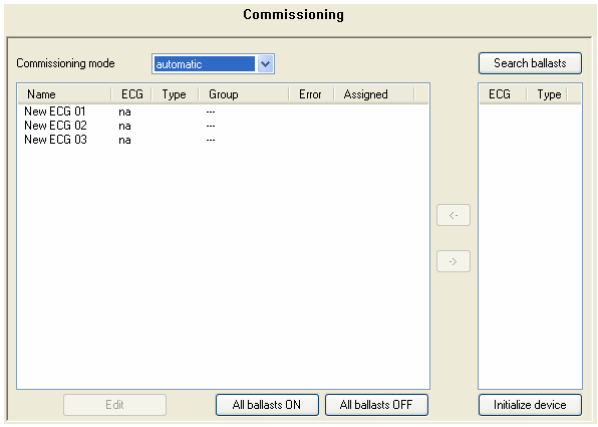
5.9. Commissioning

5.9.1 instabus commissioning

Commissioning for the instabus / DALI Gateway N 141 takes place using the steps described here:

a) The power supply must be present on the DALI devices. This also applies for power supply of instabus / DALI Gateway N 141. All DALI participants must be connected with the instabus / DALI Gateway N 141.
b) The physical address is loaded into the instabus / DALI Gateway N 141.
c) The application program is already loaded into the instabus / DALI Gateway N 141 factory-side. It is recommended to load projected data into the device partially. A complete download lasts approximately 6 minutes.
d) In commissioning mode (bus access present) the parameter window of the instabus / DALI Gateway N 141 to be commissioned is opened.
e) Following allocation of ECGs and setting of parameters the new data must be loaded into the instabus / DALI Gateways N 141 (see also item c).

5.9.2. Commissioning of the DALI devices



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Button	
Commissioning mode	**automatic** flash switch OFF
This parameter is used to set how an individual DALI device can be identified: “automatically” (by flashing or switching off, depending on the recognized luminant type that it attached to the DALI device), via “flashing” or via “switching OFF” the luminant attached to the DALI device.	
Search ballasts	
All DALI devices attached to the instabus/DALI Gateway N 141 and operational are searched for by pressing this button. A search process that could last for a number of minutes begins. The DALI devices found first appear in the narrow window on the right-hand side underneath the “Search DALI devices” button with the titles “ECG” and “Type” (type of the DALI device). Only figures from 1 to 64 are indicated as the ECG number of a DALI device (therefore always the short address +1). For a DALI device displayed in the left-hand window, to which no found device has yet been allocated, the ECG number is displayed as “na” (not allocated). *Note:* *If DALI devices with clear CIN identification are found and if these are already contained with their CIN in the left-hand window, the found device is allocated immediately and does not even appear on the right-hand side.* This search must also be carried out when DALI devices are replaced or supplemented. Further searches may follow after the first one, if for example further DALI devices have been installed or replaced. It can also be the case that DALI devices already found during commissioning are no longer present on the power supply in the event of a further search. This is displayed via an “X” in the error column. The table can be sorted according to every column, so that the defective DALI devices can be controlled in a very easy-to-view manner. With renewed searching the defective DALI devices, if they are now operational again, are also displayed again with an error flag. *Note:* *Before searching for DALI devices all installed DALI devices must be connected with the instabus / DALI Gateway N 141 and ready for operation.*	

Button
<-
Selection of the parameter set and the actual ECG takes place by selecting the desired ECG on the left-hand / right-hand side and clicking on the <- button with the mouse. It is also possible to carry out the allocation via a double click on one of the two selected ECGs. This button is only enabled if suitable entries are selected on both sides.
->
With this function it is possible to transfer an already allocated ECG back into the right-hand field as a non-allocated ECG. No actual ECG is then allocated to this parameter set ECG any longer when the parameters are downloaded into the instabus/DALI Gateway N 141. This process is also carried out in order to remove an ECG that has been marked as defective. A new ECG can then be allocated (ECG exchange). This button is only enabled when an allocated ECG is selected on the left-hand side.
Edit
With this button it is possible to edit the ECG marked on the left-hand side in another dialogue window. The manufacturer’s ID, name, etc. can be changed. See also chapter 5.5.2. Note: Please enquire whether the ECG manufacturer supports the manufacturer’s ID function. The company OSRAM already markets ECGs of the type QTi that include this function.
All ballasts ON
All ECGs attached to the instabus/DALI Gateway N 141 are switched on to maximum brightness.
All ballasts OFF
All ECGs attached to the instabus/DALI Gateway N 141 are switched off.
Initialize device
If two ECGs with the same incidental time are found (recognizable by: two lamps flash when selecting the ECG), this match can be cancelled by pressing the “Initialize device” button.

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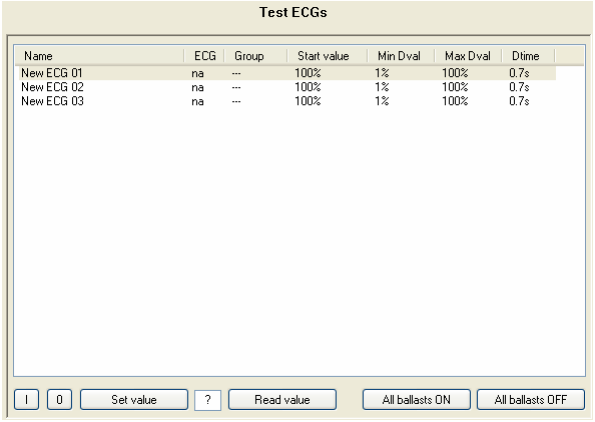
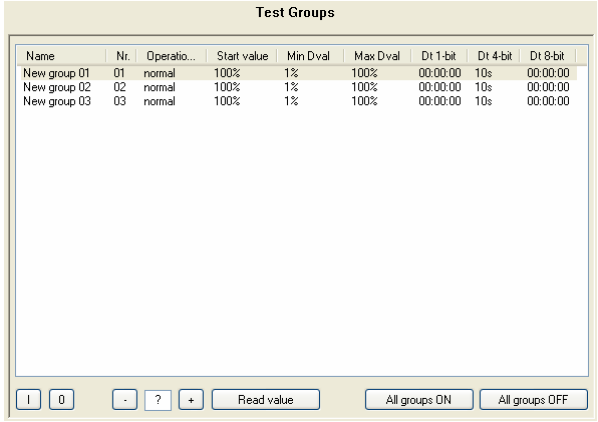
5.10. Test ECGs



Button
Name
An ECG name can be selected in the list of all ECGs that appears.
I / O (ON / OFF)
The selected ECG can be switched on or off as relevant via these two buttons.
Set value
After the value has been entered, this button should be activated in order to adopt the dimming value for the ECG.
0 (Entry / display field)
The current dimming value (as a percentage) is displayed in this field after the “Read value” button has been pressed. Moreover, a dimming value (as a percentage) can be entered in this field, which is then adopted by pressing the “Set value” button and sent to the selected device.
Read value
Reading of the current dimming value of the ECG is triggered via this button and is displayed here.
All ballasts ON
All ECGs can be switched on here.
All ballasts OFF
All ECGs can be switched off here.

5.11. Test Groups



Button
Name
The individual groups and their parameters are listed. The following functions in the selected group can be tested using the buttons: - Switch on / off - Brighten / dim - Read value. The group’s behaviour for the above named functions corresponds with a receipt upon the corresponding communication objects: Switch On/Off, brighten / darken, set dimming value. The dimming times that have already been parameter set are ignored in this process. The time function is likewise deactivated. However, no group addresses need to be assigned for the test yet. To this end only the power supplies for the DALI devices, DALI and the EIB need to be present, a physical address needs to be assigned to the N 141, and the DALI devices must be allocated to groups.
I / O (ON / OFF)
The selected group can be switched on or off as relevant via these buttons.
- / +
The selected group can be gradually brightened/darkened by 1/20 (5%) as relevant via these buttons.
0 (Display Field)
The current dimming value [%] is displayed in this filed after the “Read value” button has been pressed. A dimming value [%] can also be entered here, and sent using the buttons “+” or, respectively, "-".
Read value
Reading of the current dimming value of the selected group is initiated via this button.
All groups ON
All groups are switched on using this button
All groups OFF
All groups are switched off using this button.

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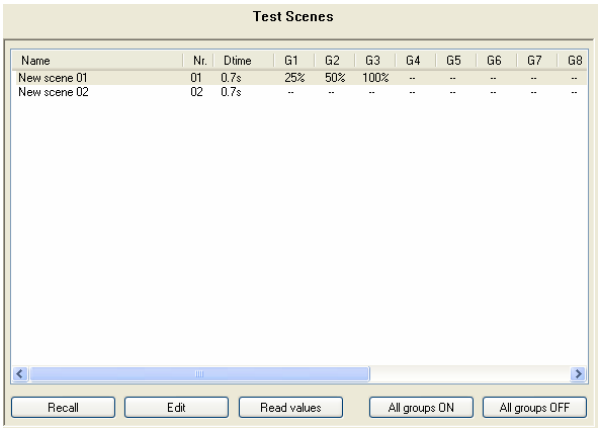
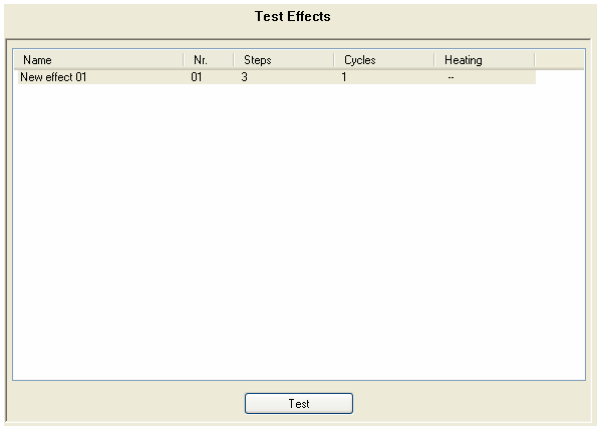
5.12. Test Scenes



Button
Name
An individual scene can be selected here.
Recall
The selected scene is recalled using this button. The integrated groups set the dimming values saved in the instabus/DALI Gateway N 141.
Edit
The “Scene”, parameters window to insert parameters for the selected scene is opened using this button.
Read value
The current dimming values of all groups are read and displayed using this button.
All groups ON
All groups can be switched on using this button (“Central On” for all groups).
All groups OFF
All groups can be switched off using this button (“Central Off” for all groups).

5.13. Test Effects



Button	Settings
Name (30 char.)	
An individual effect can be selected here.	
Fast motion	**1:1** 1:2 1:3 1:4 1:5 1:6 1:7 1:8 1:9 1:10
The effects test can be accelerated. In doing so all delay times surrounding the factor selected in this window are accelerated. In doing so, in the case of very rapid processes there may be an incorrect time lapse if the minimum times were calculated from 0.1 seconds. In this case a time limit of 0.1 seconds is indicated. If the manufacturer supports separate starting of the filament heating, this is automatically switched on for these tests.	
Cycle (display field)	**1/1**
The number of the current run-through (left-hand figure) and the parameter set number of run-throughs (right-hand figure) are displayed in this field.	
Filament heating ON (display field)	
This field displays whether the filament heating is switched on permanently (even when a fluorescent light is switched off). Note: This function is not supported by all ECGs.	
Start	
Using this button the selected effect is launched for testing with the factor of the set time motion.	

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Button
Stop
Using this button the launched effect is stopped with the factor of the set time motion.
Single Step
The individual effect steps can be controlled using this button. The process is commenced with the currently selected step. If no step is selected, the first step is automatically selected and executed.
Edit
A step can be edited here. The new settings are not, however, transferred into the Gateway N 141. A transfer only takes place via the downloading of parameters.

Space for notes

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6. Appendix

6.1. Behaviour in event of 230V failure on N 141, DALI, KNX bus

Mode	Parameter setting	230V at N141 DALI	KNX - Bus
Time switch mode / night mode	*"no action"*	with the original status "On" the consumer remains "On" without a time limit. with the original status "Off" the consumer remains "Off".	
	Switching value minimum dimming value maximum dimming value	Irrespective of original status, consumer jumps to the set parameter value and remains "On" **without a time limit**.	
	switch off	Consumer switches off / remains off	
Normal mode	*"no action"*	no change in the consumer status	
	Switching value minimum dimming value maximum dimming value	Consumer jumps to the set parameter value	
	switch off	Consumer switches off / remains off	

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6.2. Behaviour in event of 230V recovery on N 141, DALI, KNX bus

Mode	Parameter setting	230V at N141 DALI	KNX - Bus
Night mode	*as prior to bus voltage failure*	Consumers jumps to set parameter value and remains "On" **without a time limit**.	Consumers jumps to set parameter value and remains "On" **with a time limit**.
Time switch mode	*as prior to bus voltage failure*	Consumers jumps to set parameter value and remains "On" **with a time limit**.	
Night mode / time switch mode	*Switching value* *minimum dimming value* *maximum dimming value*	Consumer jumps, irrespective of original status, to the set parameter value and remains "On" **with a time limit**.	
	switch off	Consumer switches off / remains off	

Normal mode	*as prior to bus voltage failure*	Consumer status as prior to bus voltage failure
	Switching value *minimum dimming value* *maximum dimming value*	Consumer jumps to the set parameter value
	switch off	Consumer switches off / remains off

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