07 B0 KNX / DALI Gateway 981C0C

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1   Using the application program

Product family: Lighting
Product type: Interface
Manufacturer: Siemens

Name: KNX / DALI Gateway N 141/02
Order no.:   5WG1 141-1AB02

2   Product description

2.1   Essential information about DALI

DALI (Digital Addressable Lighting Interface) is a bidirectional communications interface in accordance with IEC 60929, whose specification has been defined by manufacturers of electronic ballasts. It not only enables the receipt of e.g. switching and dimming commands but also the sending of status information such as the failure of a lamp or the report of a detected error in the electronic ballast. According to IEC 60929 up to 64 DALI devices can be connected to a DALI line and can each be assigned an individual device address.

2.2   KNX / DALI Gateway N 141/02

The KNX / DALI gateway N 141/02 is a 4 MU wide, DIN-rail mounted KNX device with one DALI interface to which up to 64 DALI actuators (e.g. DALI ballasts) can be connected to. It is not allowed to connect DALI sensors to the DALI interface of the N 141/02.
The KNX / DALI Gateway N 141/02 enables communicating with up to 64 DALI devices including detection and transmission of DALI status and failure information via KNX. DALI actuators can be switched and dimmed either individually or in groups. If a DALI actuator is assigned to one of the 16 groups it cannot be controlled individually anymore. An individual name, a group, parameters and scenes (refer to the application program description) are assigned to the individual DALI electronic ballasts during commissioning with the ETS (Engineering Tool Software).

The KNX / DALI Gateway N 141/02 can be used to control DALI actuators in emergency luminaires. Self-contained emergency luminaires containing two DALI devices (ballast and an inverter, each with a DALI interface) only up to 32 self-contained emergency luminaires may be connected to a N 141/02. The gateway automatically detects if a self-contained emergency luminaire contains two or only one DALI actuators. Self-contained emergency luminaires with two DALI interfaces and "normal" luminaires with only one DALI interface may be connected to the N 141/02, but the total number of 64 DALI devices may not be exceeded.

Self-test of the inverters of self-contained emergency luminaires can be started and the test result reported via the bus. The type of test (function test, short duration test or long duration test) that has to be started or has started can be commanded or queried by the new 8-bit object "Start test". A test result will be reported automatically at the end of a test or can be queried via the new 3-byte object "Test result".

Via the object "Emergency operation" all luminaires controlled by a N 141/02 can be dimmed to the set "Dimming value on emergency" even when they are not effected by any mains or DALI power failure. By this all luminaires may be dimmed to the same brightness level as all self-contained emergency luminaires.
During "Emergency Operation" all luminaires will not respond to any on/off or dim commands and cannot be commissioned.

Note: If individual communication with each individual DALI device is not required and you wish for example to simply connect a group of dimmable fluorescent lamps in parallel and control them in the same way as you would previously have connected and controlled dimmable electronic control gear (ECG) with a 1...10 V interface, this is also possible with the switching/dimming actuator N 525E. Status and error signals are also detected by the N 525E and transmitted, whereby these signals are assigned to the respective group and not to an individual DALI device.

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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 configured groups as well as by the functions and objects activated via the "Functions" and "Objects" parameter windows.

3.2 Functions, objects

The basic functionality of the gateway can be expanded by additional functions and communication objects via the "Functions" and "Objects" parameter windows. 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 Direct mode

The power supply unit integrated in the N 141/02 supplies the gateway electronics and generates the DALI voltage. Additionally, it enables the operation of the gateway and a direct switching of all lamps controlled over its DALI interface even if the N 141/02 has not yet been commissioned with the ETS or if the communication via the KNX bus has been interrupted. For this purpose, the N 141/02 has a pushbutton located bottom left on its front plate for switching-on the "Direct mode" as well as for switching back to the "Bus mode". When this pushbutton has been pressed for the first time the yellow light emitting diode (LED) lights up permanently to indicate direct mode. Then all lamps controlled via DALI can be switched On or Off all together via the relevant two pushbuttons on the front plate of the gateway: pressing briefly the upper pushbutton switches the channel On while pressing briefly the lower push button switches the channel Off. A red LED integrated in the upper push button is used to indicate the On state of the lamps by a continuous light and to indicate a DALI cable error by flashing.

Detected faults are displayed using this blink code:

1x blinking	Connecting AC 230V to DALI wire is not permitted
2x blinking	DALI short circuit
3x blinking	DALI voltage too low!
4x blinking	no load / no DALI devices found

If the direct mode button is pressed for a second time, the yellow LED to indicate direct mode is extinguished and the N 141/02 is switched to "Bus mode".

Time functions that have already been launched are interrupted by switching on the direct mode.

3.4 Power supply status of DALI devices

If it is detected (by scanning of the connected DALI devices) that their power supply is missing, this is transmitted via the object "Mains failure at DALI devices" (0= no mains failure; 1 = mains failure at DALI devices).

It can be configured using the parameter "Send mains failure at DALI devices if number of DALI devices with mains failure >=" in the "Functions" window when this object is to be sent in the event of a detected error.

3.5 N141/02 power supply status

The status of the common power supply for the DALI gateway N141/02 and the DALI cable is reported via the 1-bit "N141/02 power supply failure" status object. If the object value = "0", power is supplied. If the object value = "1", the power supply to the N141/02 and to DALI have 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 N141/02 power supply status can still be transmitted.

3.6 DALI short circuit status

A short circuit in the DALI cable is reported via the 1-bit status object "DALI short circuit". 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 control the DALI devices, and all DALI ECGs revert to the dimming status parameter setting in the event of DALI bus voltage failure.

3.7 ECG 1-64

An ECG can either be controlled individually or via a group. It is not possible to do both at the same time.

Only the objects for ECG are relevant when individually controlling the individual ECG. (Objects 140 to 631; see also section 4.)

3.7.1. Switching on / off

Up to 64 DALI ECGs can be switched individually. The desired switching state can be reached via dimming using a configurable dimming time.

3.7.2. Dimming brighter / darker

Up to 64 DALI ECGs may be individually dimmed. The parameter "Dimming time" can be configured.

After receiving the dimming start command the gateway N 141/02 communicates with the ECGs to dim them with the configured dimming time to the desired value. If a stop command is received before completion of the dimming process, the dimming process is aborted and the dimming value reached is maintained. In timer mode unless on off command was received the follow-

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up time is started. Switching on / off via dimming can be configured via a parameter.

3.7.3. Sending 8-bit dimming value
Up to 64 DALI ECGs can be individually dimmed to a transmitted 8-bit value. The desired dimming value can be reached using a configurable dimming time.

3.7.4. 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 "minimum 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.

3.7.5. Switching status
The switching status (On / Off) of an individual DALI ECG can be both reported and queried via the 8-bit "Status switching, luminaire xy" 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 turning On/Off by dimming brighter/darker or, respectively, via an 8-bit dimming telegram and if automatic sending is enabled. 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.

3.7.6. Dimming value status
The dimming status (0...100%) of an individual DALI ECG can be both reported and queried via the 16-bit "Status dimming value, luminaire xy" 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.

3.7.7. Failure status
The failure status of an individual DALI ECG can be both reported and queried via the 8-bit "Failure status, luminaire xy" 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".

3.7.8. 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 141/02, via which the ECG can be directly addressed during commissioning. In order to facilitate entry, the 16-digit CIN should be entered as eight 2-digit numbers.

3.8   Group 1-16
Only the objects for groups are relevant when controlling ECGs via groups. (Objects 12 to 139; see also section 4.)
An ECG can either be controlled individually or via a group. It is not possible to do both at the same time.

3.8.1. 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 configured dimming value or the value prior to switching off will be set. If the switch-on value is below the configured 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 desired value is jumped or gradually dimmed to. Switch-off telegrams always switch off. Depending on parameter setting, switch-on telegrams activate follow-up times.

3.8.2. Dimming brighter/darker
The "dimming time" feature is adjustable. After the start command is received gateway N 141/02 commences communication with the ECGs in order to change the dimming value in the indicated direction using the configured dimming time. 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

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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.

3.8.3. 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 configured switch-on value is then invalid. Depending on parameter setting, the dimming value telegrams also activate the follow-up times.

3.8.4. Dimming value limitations

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

Note:

Status annunciations may be delayed by up to six (6) seconds after a switching or dimming command has been completed.

3.8.5. Switching status

The on/off status of each group can be sent via a "Status switching, group x" object upon a read request or automatically when the object value is changed.

3.8.6. Dimming value status

The "Status dimming value, 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.

3.8.7. Lamp error status

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

3.8.8. ECG error status

One recognized ECG failure in a participant in this group can be reported per group via the 1-bit "Status

ECGs, Group x" object or, respectively, the status can be queried at any time.

3.8.9 Failure status

The failure status of a group can be reported or read via the 8-bit status object „Failure status, Group x".

The error code contains information about the number of defective ECGs / converters and lamps. Additionally it shows if lamps and/or ECGs for emergency lighting have failed.

3.9 8-bit Scene control

The application program makes it possible to parameterize up to 16 scenes, each of which can contain up to 16 groups and/or up to 64 ECG's. The saving and retrieving of scenes is effected via the 8-bit communication object "8-bit scene, retrieve / save".

Time functions cannot be executed within a scene.

3.10 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. Recalling and stopping of a special effect is effected via the 8-bit communication object "Effect, recall / stop".

3.11 Export / import

The export mechanism makes it possible to save the parameter setting of a KNX / DALI Gateway N 141/02 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 KNX / DALI Gateway N 141/02 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 07 B0 KNX / DALI Gateway 981Cxx. Conversion of the data of other application programs in order then to be able to load them into the N 141/02 are not part of the functional scope of the import function.

3.12 Documentation

The application program makes it possible to print out the entire parameter setting of the N 141/02.

3.13 Commissioning

Note:

The application program can only be imported by ETS 3 starting with version 3.0 f.

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Following download by means of ETS 3, all DALI ECGs that are attached to the Gateway N 141/02 can be established and displayed. An individual name of up to 50 characters long can then be assigned to every ECG and the EBS can be allocated to the individual groups and tested.

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.

Note:

If during a download an ECG cannot be contacted either because it is missing or the installation is faulty this ECG is not downloaded to. ECGs that could not be downloaded to are annunciated with an ECG error. This also applies to dummy ECGs.

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.

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

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

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

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

3.18 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.

Note:

The default configuration for power supply failure is "no action". For power supply recovery it is "as before power failure".
If there is a power supply failure at the N141/02 with the default settings for power supply failure and recovery shortly after a switching (e.g. all ballasts on or off) or dimming action then it is possible that after power recovery not all ballasts are reset to the state "as before power failure".
The period "shortly" is determined by the number of connected ballasts and the split of the connected ballasts between single ballasts and groups and may be up to approximately one minute long.

3.19 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 KNX (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.

3.20 Support of ECGs with integrated constant light level control and directly connected brightness sensor
ECGs with integrated constant light level control and directly connected brightness sensor are supported as follows:
• Switching on/off
  The lamp switches on to maximum brightness and then dims to the calibrated value.
• Dimming brighter/darker
  Dimming brighter/darker (dimming with stop telegram) shifts the set point of the constant light level control.
The following limitations apply to these ECGs:
• „Normal Mode" is the only permissible selection as „Operation Mode".
• The parameters „Starting value", „Dimming value on emergency", „ Dimming time for switching on/off from 0% to 100% [hh:mm:ss] ", „ Dimming time for dimming brighter/darker from 0% to 100% [in seconds] ", „ Dimming time for set value from 0% to 100% [hh:mm:ss] ", „Switch On/Off via dimming brighter/darker", „Switch on/off via set value" and „Accept dimming value" are deactivated and have no effect.
• These ECGs cannot be assigned to groups as the status of the individual ECGs can be different.
• These ECGs cannot be assigned to scenes.

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Currently, these ECGs with integrated constant light level control and directly connected brightness sensor are supported:

Tridonic   PCA 1/49 T5
            Excel one4all IP - Smart-LS

4   Communication objects

4.1   Introduction to communication objects

Maximum number of group addresses: 1023
Maximum number of assignments: 1023

The communication objects can be grouped into
(a) general communication objects

Obj	Object name	Function	Type	Flag
1	Status direct mode	On / Off	1 Bit	CRT
2	Night mode	On / Off	1 Bit	CWTU
3	8-bit Scene	recall / store	1 Byte	CW
4	Effect	recall / stop	1 Byte	CW
5	Mains failure at DALI devices	1=mains failure	1 Bit	CRT
6	N 141/02 power supply failure	1=power supply failure	1 Bit	CRT
7	DALI short circuit	1=short circuit	1 Bit	CRT
8	Emergency op-eration	On / Off	1 Bit	CWT
9	Status switching, luminaire no. xy	Return status code	1 Byte	CWT
10	Status switching / dimming value, luminaire no. xy	Return status code	2 Byte	CWT
11	Failure status, luminaire no. xy	Return error code	1 Byte	CWT

(b) communication objects for DALI groups 1 to 16

Obj	Object name	Function	Type	Flag
12	Switching, Group 01	On / Off	1 Bit	CW
13	Dimming, Group 01	Brighter / Darker	4 Bit	CW
14	Dimming value, Group 01	8-bit value	1 Byte	CW
15	Status switching, Group 01	On / Off	1 Bit	CRT
16	Status dimming value, Group 01	8-bit value	1 Byte	CRT
17	Status lamps, Group 01	1 = lamp failure	1 Bit	CRT
18	Status ECGs, Group 01	1 = ECG failure	1 Bit	CRT
19	Failure status, Group 01	Report error code	4 Byte	CRT

...

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The description of the communication objects 12 to 19 also applies to the communication objects 20 to 139 of groups 2 to 16 (max. 16 DALI groups supported).
…

Obj	Object name	Function	Type	Flag
132	Switching, Group 16	On / Off	1 Bit	CW
133	Dimming, Group 16	Brighter / Darker	4 Bit	CW
134	Dimming value, Group 16	8-bit value	1 Byte	CW
135	Status switching, Group 16	On / Off	1 Bit	CRT
136	Status dimming value, Group 16	8-bit value	1 Byte	CRT
137	Status lamps, Group 16	1 = lamp failure	1 Bit	CRT
138	Status ECGs, Group 16	1 = ECG failure	1 Bit	CRT
139	Failure status, Group 16	Report error code	4 Byte	CRT

(c) communication objects for individual luminaires (1 to 64)

Obj	Object name	Function	Type	Flag
140	Switching, *"Luminaire 01"*	On / Off	1 Bit	CW
141	Dimming, *"Luminaire 01"*	Brighter / Darker	4 Bit	CW
	Setpoint adjustment, *"Luminaire 01"*			
142	Dimming value, *"Luminaire 01"*	8-bit value	1 Byte	CW
143	Status switching, *"Luminaire 01"*	On / Off	1 Bit	CRT
144	Status dimming value, *"Luminaire 01"*	8-bit value	1 Byte	CRT
145	Failure status, *"Luminaire 01"*	Report error code	1 Byte	CRT
146	Start test, *"Inverter 01"*	Start test / report status	1 Byte	CWRT
147	Test result, *"Inverter 01"*	Report test type / result	3 Byte	CRT

…
The description of the communication objects 140 to 147 also applies to the communication objects 148 to 651.
…

Obj	Object name	Function	Type	Flag
644	Switching, *"Luminaire 64"*	On / Off	1 Bit	CW
645	Dimming, *"Luminaire 64"*	Brighter / Darker	4 Bit	CW
	Setpoint adjustment, *"Luminaire 64"*			
646	Dimming value, *"Luminaire 64"*	8-bit value	1 Byte	CW
647	Status switching, *"Luminaire 64"*	On / Off	1 Bit	CRT
648	Status dimming value, *"Luminaire 64"*	8-bit value	1 Byte	CRT
649	Failure status, *"Luminaire 64"*	Report error code	1 Byte	CRT
650	Start test, *"Inverter 64"*	Start test / report status	1 Byte	CWRT
651	Test result, *"Inverter 64"*	Report test type / result	3 Byte	CRT

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4.2 General objects

Obj	Object name	Function	Type	Flag
1	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 DALI devices is released via the two buttons on the gateway upper side. In this process the switching status of the DALI devices 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 or a failure of the power supply of an DALI device is detected or if there is no DALI device attached to the gateway, the LED flashes to display a failure.

In direct mode the gateway does not execute switching, dimming value or scene recall commands received via the bus, but stores 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 luminaires / groups with the saved planned statuses and automatically eliminates deviations.

Obj	Object name	Function	Type	Flag
2	Night mode	On / Off	1 Bit	CWTU

This object is used to activate / deactivate the "Night mode" operating mode via the bus for all groups. This 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 "Night mode" a group (for which night mode has been released by the set parameter) 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 switching-off during night mode" parameter (see "Group, parameters" parameter window) is set to "Yes", after the configured ON-period has elapsed the group's dimming value will first be set to 50% of the previous value, dimmed darker during 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.

Obj	Object name	Function	Type	Flag
3	8-bit Scene	recall / store	1 Byte	CW

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

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

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

Obj	Object name	Function	Type	Flag
5	Mains failure at DALI devices	1=mains failure	1 Bit	CRT

If it is detected (by scanning of the connected DALI devices) that their power supply is missing, this is transmitted via the group address linked to this object (0= no mains failure; 1 = mains failure at DALI devices).

It can be configured using the "DALI, status objects failure" parameter in the "Objects" window whether and when this object is to be sent in the event of a detected error.

If in case of a mains failure at the DALI devices connected to this gateway all emergency luminaries connected to other gateways shall also dim to the value defined by the parameter "Dimming value on emergency" the group address assigned to this object 5 must also be assigned to the object 8 "Emergency operation" of this gateway and to the objects 5, 6 and 8 of all other KNX/DALI gateways (see appendix section 6).

Note: If a phase power monitor is used to detect a mains failure at the DALI devices the object used for the transmission of this information has to be linked to the same group address as assigned to objects 5 and 8 of this and of all other gateways.

Obj	Object name	Function	Type	Flag
6	N141/02 power supply failure	1=power supply failure	1 Bit	CRT

The status of the mains power supply for the Gateway N 141/02 and its integrated power supply for the DALI bus is sent via the group address linked to this object (0= no power supply failure; 1 = power supply failure).

It can be adjusted using the "DALI, status objects failure" parameter in the "Objects" window whether and when this object is to be sent in the event of a detected failure.

If in case of a DALI power failure at one gateway all emergency luminaries connected to this gateway and also those connected to other gateways shall dim to the value defined by the parameter "Dimming value on emergency" the group address assigned to this object 6 must also be assigned to the object 8 "Emergency operation" of this gateway and to the objects 6 and 8 of all other KNX / DALI gateways (see appendix section 6).

Obj	Object name	Function	Type	Flag
7	DALI short circuit	1=short circuit	1 Bit	CRT

A short circuit of the DALI bus is reported via the group address linked to this object (0=no short circuit; 1=short circuit).

It can be adjusted using the "DALI, status objects failure" parameter in the "Objects" window whether and when this object is to be sent in the event of a detected failure.

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Obj	Object name	Function	Type	Flag
8	Emergency operation	On / Off	1 Bit	CWT

The group address which is assigned to the object no. 5 "N 141/02 power supply failure" and the object no. 6 "Mains failure at DALI devices" must be also assigned to this object and to the objects no. 5, 6 and 8 of all other KNX / DALI gateways. If one KNX / DALI gateway detects a power or mains failure, this is reported via the group address of either the object no. 6 "N 141/02 power supply failure" or the object no. 5 "Mains failure at DALI devices" with the logical value "1". This gateway and all other KNX / DALI gateways receiving this group address at the object "Emergency operation" the logical value "1" (1= Emergency operation ON) will dim all their luminaires to the dimming value defined by the parameter "Dimming value on emergency".

When the KNX / DALI gateway which detected the mains failure at the DALI devices returns to normal operation after mains recovery this is reported via the group address at its object no. 5 with the logical value "0". If there is no other KNX / DALI gateway still having detected a mains failure at the DALI devices and when the time defined by the parameter "Gateway prolong. time on emergency op. OFF" is over then this gateway and all other KNX / DALI gateways having received via the group address assigned to the object "Emergency operation" the logical value "0" (0= Emergency operation OFF) will dim all their luminaires to the dimming value set by the parameter "Behaviour on emergency operation OFF".

Obj	Object name	Function	Type	Flag
9	Status switching, luminaire no. xy	Return status code	1 Byte	CWT

The switching status of each attached luminaire can be queried or automatically sent via this object.

It can be adjusted using the "Luminaire no. xy, switching status object" parameter in the "Objects" window whether and when (upon request, automatically after a change, or upon bus voltage recovery) the current switching status is to be sent via this object. This takes place even with luminaires 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	Lamp Off/On	[Luminaire number-1]					

Bit 0 to bit 5 contain the number of the luminaire as a binary number in the 0...63 range, where the binary number 0 corresponds to luminaire number 1, etc. The recognition of a failure can, depending on the number of the luminaires, last up to 90 seconds.

Note:
To read the switching status a value containing the luminaire number and bits 6 and 7 both set to 1 has to be sent to the corresponding group address.

Obj	Object name	Function	Type	Flag
10	Status switching / dimming value, luminaire no. xy	Return status code	2 Byte	CWT

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

It can be adjusted using the "Luminaire no. xy, switching / dimming value status object" parameter in the "Objects" window whether and when (upon request, automatically after a change, or upon bus voltage recovery) the current status information is to be sent via this object. This takes place even with luminaires 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
1 = status request	Lamp On/Off	[Luminaire number-1]					

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

Note:
To read the switching status a value containing the luminaire number and bits 14 and 15 both set to 1 has to be sent to the corresponding group address.

Obj	Object name	Function	Type	Flag
11	Failure status, luminaire no. xy	Return error code	1 Byte	CWT

The failure status of each attached luminaire can be queried or automatically sent via this object.

It can be adjusted via the "Luminaire no. xy, failure status object" parameter in the "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	[Luminaire number-1]					

Note:
To read the switching status a value containing the luminaire number and bits 6 and 7 both set to 1 has to be sent to the corresponding group address.

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4.3 Objects per group (1…16)

The description of the communication objects 12 to 19 also applies to the communication objects 20 to 139 of groups 2 to 16 (max. 16 DALI groups supported).

Note:
The name „*Group 01*" in the object names is replaced by the name for the group entered in the parameter window.

Obj	Object name	Function	Type	Flags
12	Switching, *"Group 01"*	On / Off	1 Bit	CW
All luminaires assigned to group 1 are switched via this object.				
13	Dimming, *"Group 01"*	Brighter / Darker	4 Bit	CW
The dimming telegrams for all luminaires assigned to group 1 are received via this object.				
14	Dimming value, *"Group 01"*	8-bit value	1 Byte	CW
A dimming value for all luminaires assigned to group 1 is received via this object.				
15	Status switching, *"Group 01"*	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 objects switching" parameter in the "Objects" window whether and when (upon request, automatically after a change, or upon bus voltage recovery) the current switching status is to be sent via this object.				
16	Status dimming value, *"Group 01"*	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 objects dimming value" parameter in the "Functions, objects" window whether and when (upon request, automatically after a change, or upon bus voltage recovery) 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 "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.				
17	Status lamps, *"Group 01"*	1 = 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 objects lamp failure" parameter in the "Objects" window whether and when (upon request, automatically after a change, or upon bus voltage recovery) the current lamp status is to be sent via this object.				

Obj	Object name	Function	Type	Flags
18	Status ECGs, *"Group 01"*	1 = 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 objects ECG failure" parameter in the "Objects" window whether and when (upon request, automatically after a change, or upon bus voltage recovery) the current ECG status is to be sent via this object.				
19	Failure status, *"Group 01"*	Report error code	4 Byte	CRT
This object transmits the quantity of ballasts and inverters assigned to this group and the quantity and type of failures that have been detected in this group.				

This object will be transmitted as set by the parameter "Group 1-16, status objects failure code".

The different bytes of this object have the following meaning:

Bit 31	Bit 30	Bit 29…Bit 24
Norm ECG	Emer. ECG	Number of defective ballasts (ECG) / inverters

Bit 23	Bit 22	Bit 21…Bit 16
Norm. lamp	Emer. lamp	Number of defective lamps

Bit 15	Bit 14	Bit 13…Bit 8
Def. invert.	n.u.	Number of inverters

Bit 7	Bit 6	Bit 5 …Bit 0
n.u.	n.u.	Number of ballasts (ECG)

"Number of ballasts" (bit 0…5) contains the total number of ballasts belonging to this group.

"n.u." means "not used" and is reserved for future use.

"Number of inverters" (bit 8…12) contains the number of inverters of self-contained emergency luminaires belonging to this group.

"Defective inverter" (bit 13) signals (if set to the logical value "1") that there is at least one defective inverter in this group.

"Number of defect lamps" (bit 16…21) contains the number of lamps that have been detected as defective in this group.

"Emergency lamp" (bit 22) signals (if set to the logical value "1") that there is at least one defective emergency lamp.

"Normal lamp" (bit 23) signals (if set to the logical value "1") that there is at least one defective "normal" lamp.

"Number of defective ballasts (ECG) / inverters" (bit 24…29) contains the number of ballasts and inverters that have been detected as defective in this group.

" Emergency ECG" (bit 30) signals (if set to the logical value "1") that there is at least one emergency luminaire with a defective ballast.

"Normal ECG" (bit 31) signals (if set to the logical value "1") that there is at least one normal luminaire with a defective ballast.

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4.4 Objects per individually addressable (ungrouped) luminaire (1…64)

The description of the communication objects 140 to 147 also applies to the communication objects 148 to 651.
Up to 64 individually addressable luminaires with a DALI ballast or 64 emergency luminaires with one DALI device or 32 emergency luminaires with two DALI devices are supported.

Note:
The names „*Luminaire 01*" and „*Inverter 01*" in the object names are replaced by the corresponding names for the ECG respectively the inverter entered in the parameter window.

Obj	Object name	Function	Type	Flags
140	Switching, *"Luminaire 01"*	On / Off	1 Bit	CW
	"Luminaire 01" can be switched individually via this object. The name "*Luminaire 01*" changes dependent on the name set via the configuration of this ECG. When an On command is received the ECG immediately jumps to the configured On value or dims to that value using the configured dimming time. If the ECG is assigned to a group then only objects 12 to 139 are relevant.			
141	Dimming, *"Luminaire 01"* Setpoint adjustment, *"Luminaire 01"*	Brighter / Darker	4 Bit	CW
	The dimming telegrams for the individual dimming of luminaire x are received via this object. The name "*Luminaire 01*" changes dependent on the name set via the configuration of this ECG. If the ECG is assigned to a group then only objects 12 to 139 are relevant. If the configuration „Fluorescent lamp with brightness control" is selected, then the object name changes from Dimming to Setpoint adjustment.			
142	Dimming value, *"Luminaire 01"*	8-bit value	1 Byte	CW
	A dimming value for the individual dimming of luminaire x is received via this object. The name "*Luminaire 01*" changes dependent on the name set via the configuration of this ECG. When a dimming value is received the ECG dims to that value using the configured dimming time. If the ECG is assigned to a group then only objects 12 to 139 are relevant.			

Obj	Object name	Function	Type	Flags
143	Status switching, *"Luminaire 01"*	On / Off	1 Bit	CRT
	The current switching status of luminaire x is sent via this object. It can be adjusted via the "Ungrouped Luminaire 1-64, status objects switching" parameter in the "Objects" window whether and when (upon request, automatically after a change, or upon bus voltage recovery) the current switching status is to be sent via this object.			
144	Status dimming value, *"Luminaire 01"*	8-bit value	1 Byte	CRT
	This object is used as a send object for the current status (dimming value) of luminaire x. It can be adjusted via the "Ungrouped luminaire 1-64, status objects dimming value" parameter in the "Objects" window whether and when (upon request, automatically after a change, or upon bus voltage recovery) the current dimming value status is to be sent via this object. The "Disable time after dimming status change", which can be adjusted between 2 and 60 seconds (see "Functions" 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.			
145	Failure status, *"Luminaire 01"*	Report error code	1 Byte	CRT

The information if the lamp is defect, the ballast or the inverter (in case of an individually addressable self-contained emergency luminaire) is transmitted via this object. This object will be transmitted as set by the parameter "Ungrouped luminaire 1-64, status objects failure code" in the "Objects" window.
The different bits of this object have the following meaning:

Bit 7	6	5	4	3	2	1	0
n.u.	n.u.	n.u.	n.u.	n.u.	Inv. defect	ECG defect	Lamp defect

"Lamp defect" signals that the lamp is defect.
"ECG defect" signals that the ballast is defect.
"Inv. defect" signals that the inverter is defect.
"n.u." means "not used" and is reserved for future use.

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Obj	Object name	Function	Type	Flags
146	Start test, *"Inverter 01"*	Start test / report status	1 Byte	CWRT

Via this object the test of a self-contained emergency luminaire can be started and it can be queried or sent automatically if a test has been started (test active).

The setting of the parameter "Sending test status" in the "Functions" window defines, if and when the test status has to be sent.

The following bit assignment is used for this object:

Bit 7	6	5	4	3	2	1	0
n.u.	n.u.	Long durat. test active	Start long durat. test	Short durat. test active	Start short durat. test	Funct. test active	Start funct. test

If bit 0 is set to log. "1" a function test will be started.

If bit 1 is set to log. "1" the luminaire is in the function test mode.

If bit 2 is set to log. "1" a short duration test will be started.

If bit 3 is set to log. "1" the luminaire is in the short duration test mode.

If bit 4 is set to log. "1" a long duration test will be started.

If bit 5 is set to log. "1" the luminaire is in the long duration test mode.

The KNX/DALI gateway will ignore any values written to bits 1, 3, 5, 6 & 7 and it will ignore the telegram/command if more than one of bits 0, 2 & 4 is set to log. "1" or if all bits are set to log. "0".

Obj	Object name	Function	Type	Flags
147	Test result, *"Inverter 01"*	Report test type / result	3 Byte	CRT

The test result of a self-contained luminaire can be queried or sent automatically via this object.

The setting of the parameter "Sending test result" in the parameter window "Functions" defines, if and when the test result has to be sent.

The following bit assignment is used for this object:

Bit 23	22	21	20	19	18	17	16
			Test result				

Bit 15	14	13	12	11	10	9	8
Dur. test failed	Func. test failed	Dur. test max. delay exc. failure	Func. test max. delay exc. failure	Emer. lamp failure	Batt. failure	Batt. durat. failure	Circ. failure

Bit 7	6	5	4	3	2	1	0
n.u.	n.u.	n.u.	n.u.	Test failed	End of long durat. test	End of short durat. test	End of Funct. test

If bit 0 is set to log. "1" the end of a function test is signalled.

If bit 1 is set to log. "1" the end of a short duration test is signalled.

If bit 2 is set to log. "1" the end of a long duration test is signalled.

If bit 3 is set to log. "1" the test failed. Bit 8 to 15 signal why it

failed. When the test passed bit 8 to 15 are set to "0".

Bit 4 to 7: "n.u." means "not used" and is reserved for future use.

Bit 8 "Circuit failure": a hardware failure of the inverter has been detected.

Bit 9 "Battery duration failure": indicates that the battery failed to maintain its output for the rated duration.

Bit 10 "Battery failure": indicates an open circuit or low voltage failure of the battery

Bit 11 "Emergency lamp failure": indicates that the lamp attached to the inverter has failed

Bit 12 "Function test max. delay exceeded failure": indicates that the inverter was unable to perform the function test within the maximum timeout period.

Bit 13 "Duration test max. delay exceeded failure": indicates that the inverter was unable to perform the duration test within the maximum timeout period.

Bit 14 "Function test failed": indicates a Function Test Failure.

Bit 15 "Duration test failed": indicates a Duration Test Failure.

Bit 16…23 "Test result": This byte contains the battery charge status as a value between 0 and 255 (= 0…100%) at the end of a function test. It contains at the end of a duration test either the time (as a multiple of 2 minutes) of the duration test without battery failure (bit 3 = 0) or the time until the battery failed (bit 3 = 1).

If the error status of the inverter could not be retrieved then test failure (bit 3 = 1) is indicated and all bits 8...15 are set to log. "1". In this case the value of the test result (bits 16…23) has no meaning.

If a test failure (bit 3 = 1) is indicated and all bits 8...15 are set to log. "0" then the value of the test result (bits 16…23) is dependent on these error states:

0xfe: error on reading the battery load state after function test or battery test.

0xfd: error while receiving results of the short duration test

0xfc: Unforeseen end of the short duration test (no valid test result available)

0xfb: Unforeseen end of the short duration test (no valid test result available)

0xfa: error while receiving result of long duration test

0xf9: Unforeseen end of the function test (no valid test result available)

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5 Parameters

5.1 Introduction to parameters

5.1.1. Parameter window overview

```
Functions
Objects
Groups
ECGs
Self-contained emergency ECGs
Scenes
Effects
Import / Export
Commissioning
Test Groups
Test ECGs
Test Scenes
Test Effects
```
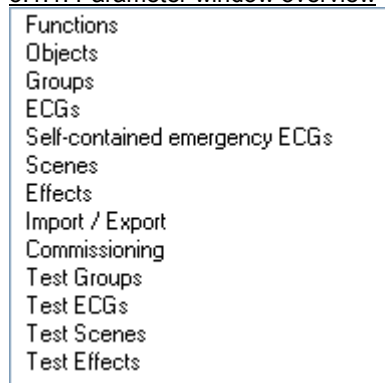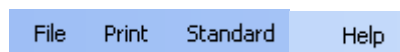
The overview of parameter windows lists the maximum available parameter windows. Depending on configuration parameter windows (e.g. scenes, effects) may automatically be removed from this list.

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

```
File    Print    Standard    Help
```

Button
File
Save: Saves the current configuration. Different from the OK button the window is not closed. If the Cancel button is pressed then only those changes since the last Save via this menu selection are discarded. Export: Initiates the export function (see 5.8) Import: Initiates the import function (see 5.8) Close: Closes the Plug-in like the OK button
Print
Print: The configuration is printed.
Preview: A preview of the configuration printout is presented.
Standard
Load default values of current page
Load default values of all pages
Help
Dependent on the current window explanations on the parameters are presented.

5.2 Functions

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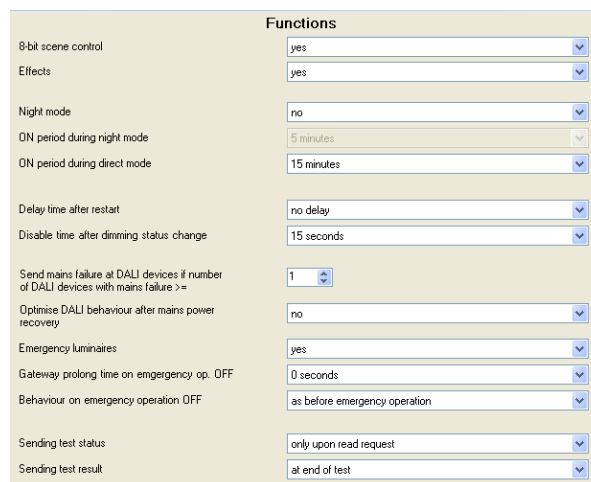
The basic functionality of the gateway can be expanded by additional functions via the "Functions" parameter window. This includes time-limited switching on of lighting during the night (cleaning light), 8-bit scene control integrated into the gateway, an additional control of light effects and the determination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

5.2.2. Parameter description

Parameter	Settings
8-bit scene control	**yes**
	no
If this parameter is set to "Yes", then communication object 7 "8-bit scene", which is used to 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.	

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Parameter	Settings
Night mode	**yes** no
This parameter is used to set whether the lighting is to be switched on in a time-limited manner at night or not. If the parameter is set to "no", the lighting can be switched on permanently at night. If, on the other hand, the parameter is set to "yes", then communication object 2 "Night mode" 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 set ON-period has elapsed. If a new On command is received before the On period has elapsed, this time function (night mode) is re-triggered.	
ON period during night mode	**5 minutes** 10 minutes 15 minutes 20 minutes 30 minutes 45 minutes 60 minutes
This parameter is only visible if the parameter "Night mode" is set to "Yes". It is used to set how long the lighting is to be switched on in a time-limited manner if the object "Night mode" is set to "ON".	
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, the device will automatically switch back to bus mode.	

Parameter	Settings
Delay time after restart	**no delay** 2 seconds 3 seconds 4 seconds 5 seconds 10 seconds 20 seconds 30 seconds 35 seconds ... [5 second increments] 4 minutes 15 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 141/02 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 141/02 are installed, these should be set to different delay values. <u>Note</u>: The selected delay time after restart increases the duration of a download and on power recovery the duration of the "Behaviour on bus voltage recovery of KNX or DALI".	
Disable time after dimming status change	2 seconds 3 seconds 4 seconds 5 seconds 7 seconds 10 seconds **15 seconds** 20 seconds 30 seconds 45 seconds 60 seconds
The disable time for the dynamic sending of the dimming value status can be set with this parameter. When using brightness controllers or several channels, a disable time ≥ 15 seconds should be selected as excessive bus loads may otherwise arise. Once the final value has been reached, the status is sent once this interval has elapsed.	
Send mains failure at DALI devices if number of DALI devices with mains failure >=	1-64 **1**
If the number of DALI devices experiencing a power failure is larger than the value set with this parameter then the communication object 5 "Mains failure at DALI devices" is set to 1 = "mains failure", otherwise it is set to 0 = "no mains failure".	
Optimise DALI behaviour after mains power recovery	yes **no**
After operating power has resumed some DALI ballasts need a short pause in the DALI communication, which is activated when this parameter is set to "Yes".	

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Parameter	Settings
Emergency luminaires	**yes** no
If emergency luminaires will be connected to the gateway this parameter has to be set to "Yes". Then the following 4 parameters will become visible.	
Gateway prolong time on emergency op. OFF	**0 seconds** 10 seconds 30 seconds 1 minute 2 minutes 5 minutes 10 minutes 15 minutes 20 minutes
This parameter defines the time after which a luminaire which was set to emergency operation ON will be switched or dimmed to the value defined by the parameter "Behaviour on emergency operation OFF" when the object "Emergency operation" has been reset to the logical value "0".	
Behaviour on emergency operation OFF	**as before emergency operation** starting value maximum dimming value minimum dimming value switch OFF last received dimming value
This parameter defines which dimming values the groups and luminaires adopt when the emergency operation is finished. If this parameter is set to "starting value" and the starting value of a group is selected as "last value", the corresponding group or luminaire is set on "emergency operation OFF" to the last received dimming value. If the group or luminaire was switched OFF on "emergency operation ON", the minimum dimming value is set in this case.	
Sending test status	**only upon read request** on change of status
In the parameter setting "Sending test status: only upon read request", the current value of the object "Start test" is sent upon a read request only. In the setting "Sending test status: on change of status", the current value of the object "Start test" is sent automatically after a change. There is no automatic sending of the test status after bus voltage recovery, even if it changed in accordance with the parameterisation.	
Sending test result	only upon read request **at end of test**
In the parameter setting "Sending test result: at end of test", the current value of the object "Test result" is sent automatically when a test is finished. In the parameter setting "Sending test result: only upon read request", the current value of the object "Test result" is only sent upon a read request.	

5.3 Objects

5.3.1 Essential information

The basic functionality of the gateway can be expanded by additional communication objects via the "Objects" parameter window.

5.3.2. Parameter description

Parameter	Settings
Group 1-16, status objects switching	**not available** send 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 "Status switching" 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** send 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 "Status dimming value" communication object 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.	
Group 1-16, status objects lamp failure	**not available** send 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 "Status lamps" communication object (see object no. 17) is to be supplemented per group, via which a lamp 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 "Status lamps" 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 failure	**not available** send 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 "Status ECGs" communication object (see object no. 18) is to be supplemented per group, via which an ECG 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 "Status ECGs" 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.	

Parameter	Settings
Group 1-16, staus objects failure code	**not available** send only upon read request send on change of status / after bus voltage recovery
This parameter is used to set whether one 4 byte "Failure status" communication object (see object no. 19) is to be supplemented per group, via which a detailed failure information of the group is to be reported and when these objects are to be sent. In the parameter setting "send only upon send request", the current status of the object "Failure status, Group xy" is only sent upon a send request. In the parameter setting "send on change of status / after bus voltage recovery" the current status of the object "Failure, Group xy" is sent automatically after a change and after bus voltage recovery.	
Ungrouped luminaire 1-64, status objects switching	**not available** send 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 "Status switching" communication object (see object no. 143) is to be supplemented per luminaire 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.	
Luminaire no. xy, status object switching	**not available** send only upon read request send on change of status / after bus voltage recovery
This parameter is used to set whether one single 1 byte "status switching, Luminaire no. xy," communication object (see object no. 9) is to be supplemented, via which the switching of each luminaire is to be reported and when this object is to be sent. In the parameter setting "send only upon read request", the current status of the object no. 9 is only sent upon a read request. In the setting "send on change of status / after bus voltage recovery", the current status of the object no. 9 is sent automatically after a change and after bus voltage recovery.	

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Parameter	Settings
Ungrouped luminaire 1-64, status objects dimming value	**not available** send 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 "Status dimming value" communication object (see object no. 144) is to be supplemented per luminaire 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.	
Luminaire no. xy, status object switching / dimming value	**not available** send only upon read request send on change of status / after bus voltage recovery
This parameter is used to set whether one single 2 byte "status switching / dimming value, Luminaire no. xy" communication object (see object no. 10) is to be supplemented, via which the switching and the dimming value status of each luminaire is to be reported and when this object is to be sent. In the parameter setting "send only upon read request", the current status of the object no. 10 is only sent upon a read request. In the setting "send on change of status / after bus voltage recovery", the current status of the object no. 10 is sent automatically after a change and after bus voltage recovery.	
Ungrouped luminaire 1-64, status objects failure code	**not available** send only upon read request send on change of status / after bus voltage recovery
This parameter is used to set whether a 1 byte "Failure status, luminaire xy" communication object (see object no. 143) is to be supplemented per luminaire, via which a detailed failure information of the luminaire is to be reported and when these objects are to be sent. In the parameter setting "send only upon read request", the current value of the object no. 143 is only sent upon a send request. In the parameter setting "send on change of status / after bus voltage recovery", the current value of the object no. 143 is sent automatically after a change and after bus voltage recovery.	

Parameter	Settings
Luminaire no. xy, status object failure code	**not available** send only upon read request send on change of status / after bus voltage recovery
This parameter is used to set whether one single 1 byte "Failure status, Luminaire no. xy" communication object (see object no. 11) is to be supplemented, via which the failure status of each luminaire is to be reported and when this object is to be sent. In the parameter setting "send only upon read request", the current status of the object no.11 is only sent upon a read request. In the setting "send on change of status / after bus voltage recovery", the current status of the object no. 10 is sent automatically after a change and after bus voltage recovery.	
DALI, status objects failure	send on change of status send only upon read request **send on change of status / after bus voltage recovery**
This parameter is used to set when comm. Object 5 "Mains failure at DALI devices", comm. object 6 "N 141/02 power supply failure" and comm. object 7 "DALI short circuit" are to be sent via which a N 141/02 power supply failure and the status of the DALI bus voltage (failed or not) as well as the status of the DALI bus (short-circuited or not) can be queried or, respectively, every change of status can be automatically reported. 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".	

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5.4 Groups
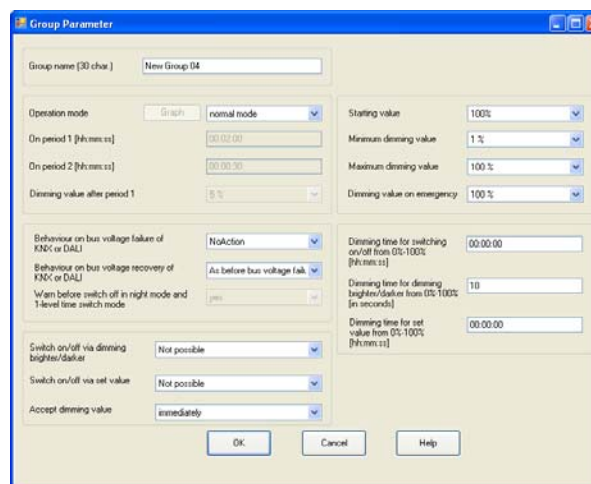
5.4.1. Essential information

The "Groups" parameter window enables an overview of how many switching / dimming groups were assigned to the Gateway N 141/02. When the cursor is placed in the first row under the column header "Name", a line appears explaining the abbreviations used in the header.

A new group with pre-set parameters can be entered using the "New" button.

Double-clicking on a list entry or on the "Edit" button the parameter window "Group, parameters" (see below) 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.

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. When "1-level time switch mode" respectively "2-level time switch mode" is set and On period 1 respectively On period 2 has expired the output is dimmed down with a dimming time set by the parameter "dimming time from 0%--100% on switching on/off [hh:mm:ss]" for switching on/off. 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.	

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Parameter	Settings
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 configured time switch mode following receipt of an On telegram. 	
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**
hh= for hours; mm= for minutes; ss= for seconds. 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). When On period 2 is set to 00:00:00 then the time for the interim dimming value does not automatically elapse, i.e. the group is not automatically switched off. The diagram does not reflect this setting.	
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 configured 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%.	

Parameter	Settings
Behaviour on bus voltage failure of KNX or DALI	**no action** starting value maximum dimming value minimum dimming value dimming value on emergency 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 141/02 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 configured with "last value", the group will be set to maximum brightness in the event of bus voltage failure. See appendix item 6.	
Behaviour on bus voltage recovery of KNX or DALI	**as before bus voltage failure** starting value maximum dimming value minimum dimming value switch OFF last received dimming value
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 141/02. 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 configured 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 minimum 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.	

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Parameter	Settings
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 configured 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 > 0% 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 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 configured 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 configured 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.	

Parameter	Settings
Accept dimming value	**immediately** only when ON
This parameter specifies whether the luminaire carries out a dimming value telegram received via the bus when it is in the OFF state (accept immediately) or whether it stores the dimming value and selects the value after the next ON telegram. The dimming value is then also accepted immediately if the luminaire / group is already switched on.	
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 off
This parameter indicates the On value on receipt of an ON switching telegram. The configured 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%, 100%
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%.	
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 value on emergency	**100%,** 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 45%, 40%, 35%, 30%, 25%, 20%, 15%, 10%, 5%, no change
This parameter defines the dimming value of the luminaire / group on receipt of an "Emergency operation ON" telegram.	

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Parameter	Settings
Dimming time for switching on/off from 0%-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%-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%-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.	

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. When the cursor is placed in the first row under the column header "Nr.", a line appears explaining the abbreviations used in the header.

A new ECG with pre-set parameters can be entered using the "New" button.

Double-clicking on a list entry or on the "Edit" button the parameter window "ECG, parameters" (see below) 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 (50 char.)	
A name of a maximum 50 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 number	**none** 1, 2, ... 16
Group numbers only appear for those groups that have been created.	
The ECG can be assigned to a group via this parameter. In this case entry of all ensuing parameters (except the CIN, DALI device type, fluorescent lamp, and emergency luminaire) is deactivated, since the parameter setting of the group is then automatically assigned to the ECG. The diagram is activated if time switch mode is selected.	
When "None" is selected the ECG is marked with n.a. (= not assigned) in the ECG list.	
Group name	**none**
Only those group names appear that have been created.	
The ECG can be assigned to a group via this parameter. The name of the assigned group is displayed. This name may be up to 30 characters long. The name displayed (e.g. the default name) of the assigned group can only be changed via the "Group" parameter window.	
If the ECG is not assigned to a group "none" will be displayed.	

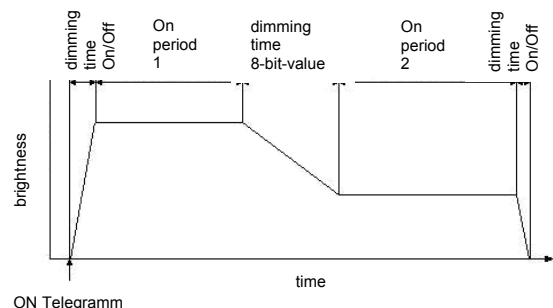| Parameter	Settings
Operation mode	**normal mode** normal / night mode permanent mode 1-level time switch mode 2-level time switch mode
This parameter enables switching between normal mode, normal / night mode, permanent mode and time switch mode.	
If the parameter is set to "Normal / night mode", the 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 configured time switch mode following receipt of an On telegram.	

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.	

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Parameter	Settings
On period 2 **[hh:mm:ss]**	00:00:30

hh= for hours; mm= for minutes; ss= for seconds.

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 ballast is switched off.

On period 2 is a maximum of 15 hours (15:00:00).

When On period 2 is set to 00:00:00 then the time for the interim dimming value does not automatically elapse, i.e. the ballast is not automatically switched off. The diagram does not reflect this setting.

Parameter	Settings
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 configured 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%.

Parameter	Settings
Behaviour on bus voltage failure of KNX or DALI	no action starting value maximum dimming value minimum dimming value dimming value on emergency 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 141/02 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 minimum brightness in the event of bus voltage failure.
See also appendix item 6.

Parameter	Settings
Behaviour on bus voltage recovery of KNX or DALI	no action **as before bus voltage failure** starting value maximum dimming value minimum dimming value switch OFF last received dimming value

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 141/02. 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.

Parameter	Settings
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.

Parameter	Settings
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 configured 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".

Parameter	Settings
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 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 configured 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 configured 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

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Parameter	Settings
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.	
Accept dimming value	**immediately** only when ON
This parameter specifies whether the luminaire carries out a dimming value telegram received via the bus when it is in the OFF state (accept immediately) or whether it stores the dimming value and selects the value after the next ON telegram. The dimming value is then also accepted immediately if the luminaire / group is already switched on.	
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 device assignment (ECG # = x)	
Remove the device ID	
By clicking on the entry field the 16-figure CIN is set to the default value "FFFFFFFFFFFFFFFF" (i.e. "no device ID assigned"). After removing the device ID the parameter text changes to "Remove the device ID". Also this is the parameter text when no ECG has been assigned.	
Starting value	**100%**, 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 40%, 30%, 20%, 10%, last received dimming value, dimming value at switching OFF
This parameter indicates the On value on receipt of an ON switching telegram. The configured 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%. 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%, 100%
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%.	
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%.	

Parameter	Settings
Dimming value on emergency	**100%**, 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 45%, 40%, 35%, 30%, 25%, 20%, 15%, 10%, 5%, no change
This parameter defines the dimming value of the luminaire / group on receipt of an "Emergency operation ON" telegram on object 8 ("Emergency operation").	
Dimming time for switching on/off from 0%-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%-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%-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.	
DALI device type	**0=Flourescent lamp** 1=Self-contained emergency lighting 2=Discharge lamp 3=Low voltage halogen lamp 4= Incandescent lamp (dimmer) 5=10V Converter 6=LED module 7 = switching function
This parameter sets the corresponding lamp type of a DALI device. Note: *Any DALI device with an unknown DALI type can be discovered and assigned to one of the supported DALI types.*	
Fluorescent lamp	**without additional function** with brightness control
This parameter becomes visible if the parameter "DALI device type" has been set to "0". If a brightness sensor is directly connected to the DALI ballast for local brightness control by the DALI ballast, dimming brighter / darker will lead to a corresponding set-point shifting if this parameter is set to "with brightness control". This shift-	

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Parameter	Settings
ing is only temporarily valid until the lamp is switched off. If the lamp is switched on again the calibrated set-point will be used for brightness control.	
Emergency luminaire	self-contained with 1 DALI device **self-contained with 2 DALI devices**
This parameter becomes visible if the parameter "DALI device type" has been set to "1". By this parameter an emergency luminaire can be marked as a self-contained emergency luminaire with either one or two DALI devices.	
Emergency luminaire	**no** central-battery supplied
This parameter becomes visible if the parameter "DALI device type" has not been set to "1". With this parameter a luminaire can be marked as an emergency luminaire with one DALI device powered by a central battery or other source of emergency power in case of emergency. When the ballast of a luminaire marked as an emergency luminaire is assigned to a group, then the failure of the lamp or of the ballast of this luminaire is marked in the failure status of the group it is assigned to. Bit 22 (lamp for emergency luminaire failed) respectively Bit 30 (ballast for emergency luminaire failed) are set. See information on object 19.	

5.6   Self-contained emergency ECGs

5.6.1 Essential information

The parameter window "Self-contained emergency ECGs" enables an overview of how many DALI ECGs in emergency luminaires are attached to the Gateway and whether or, respectively, to which group an ECG has been assigned. When the cursor is placed in the first row under the column header "Nr.", a line appears explaining the abbreviations used in the header.
A new ECG with pre-set parameters can be entered using the "New" button.
Double-clicking on a list entry or on the "Edit" button the parameter window "ECG, emergency luminaire parameters" (see below) 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.

Note:

To avoid concurrent testing of all self-contained emergency ECGs and to avoid overlapping of different tests the ECGs are automatically configured such that the tests start staggered over time. The time offset depends on the DALI short address assigned to the specific ECG.

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5.6.2. Parameter description

| Parameter	Settings
Name (50 char.)	
A name of a maximum 50 characters long can be assigned to an emergency luminaire (ECG) via this parameter. This name is also used with the communication objects belonging to this emergency luminaire (ECG).	
Group number	none 1, 2, ... 16
Group numbers only appear for those groups that have been created. Via this parameter the emergency luminaire (ECG) can be assigned to a group or marked as a stand-alone emergency luminaire.. An emergency luminaire can only be assignd to one group. Up to 64 luminaires may be assigned to a group. When an emergency luminaire is assigned to a group all parameters for this group automatically apply to this emergency luminaire. When "None" is selected the ECG is marked with n.a. (= not assigned) in the ECG list.	
Group name	none
Only those group names appear that have been created. The emergency luminaire (ECG) can be assigned to a group via this parameter. The name of the assigned group is displayed. This name may be up to 30 characters long. The name displayed (e.g. the default name) of the assigned group can only be changed via the "Group" parameter window. If the ECG is not assigned to a group "none" will be displayed.	

Parameter	Settings
Emergency value of inverter	5% 10% 15% 20% 25% …. 85% 90% 95% 100%
This parameter is faded-in only when the parameter "Emergency luminaire" has been set to "Yes, self-contained". It defines the dimming value of the luminaire / group in case of an AC 230V power failure. This value is downloaded by the gateway into the inverter of the luminaire.	
Inverter prolong time on emergency op. OFF	**0 seconds** 30 seconds 1 minute 2 minutes 5 minutes 10 minutes 15 minutes 20 minutes
This parameter is faded-in only when the parameter "Emergency luminaire" has been set to "Yes, self-contained". At mains recovery the supply of the lamp from battery will be continued for the time defined by this parameter.	
Interval of short duration tests (weeks)	**0**, 1, 2, 3, ... 27
This parameter is faded-in only when the parameter "Emergency luminaire" has been set to "Yes, self-contained". The selected value defines the time interval between two short duration tests. This value is stored in the gateway which controls the timer for this interval. The short duration test is started the first time automatically after the download into the gateway according to the set interval. If this parameter is set to 0 (= "never") no short duration test will be executed.	
Interval of long duration tests (weeks)	0, 1, 2, 3, ... **52**
This parameter is faded-in only when the parameter "Emergency luminaire" has been set to "Yes, self-contained". The selected value defines the time interval between two long duration tests. This value is downloaded by the gateway into the inverter of the self-contained luminaire. The test is started the first time automatically after the download according to the set interval. If this parameter is set to 0 (= "never") no duration test will be executed.	

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| Parameter	Settings
Interval of function tests (days)	0, 1, 2, 3, 4, 5, 6, 7, **8**, 9, ... 28
This parameter is faded-in only when the parameter "Emergency luminaire" has been set to "Yes, self-contained". The selected value defines the time interval between two function tests. This value is downloaded by the gateway into the inverter of the self-contained luminaire. The test is started the first time automatically after the download according to the set interval. If this parameter is set to 0 (= "never") no function test will be executed.	
Duration of short duration tests	5 minutes 10 minutes 15 minutes 20 minutes 30 minutes 45 minutes 60 minutes
This parameter is faded-in only when the parameter "Emergency luminaire" has been set to "Yes, self-contained". The selected value defines the duration of a short duration test.	

Note:
Self-contained emergency ballasts automatically switch over to their battery when mains power fails.
In exceptional situations, e.g. during the building phase, it may be required to turn off the power to the emergency luminaires but without the self-contained emergency luminaires switching into emergency mode.
The KNX-DALI Gateway N141/02 supports this.
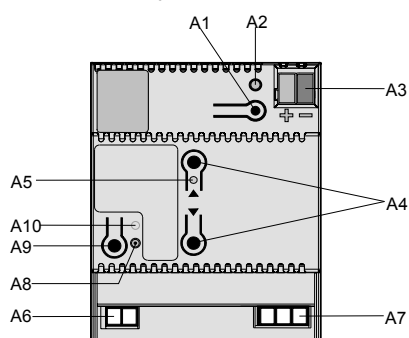
When the „Off"-button of the button pair A4 is pressed for more than 10 seconds, then the KNX-DALI Gateway N141/02 sets an inhibit flag in the emergency ballasts. This action is acknowledged by briefly flashing LED A5. If power is turned off within 15 minutes after setting the inhibit flag, e.g. by switching off the circuit breakers, then the emergency ballasts do not enter the emergency mode and are turned off until power resumes. After power resumed the emergency ballasts run in normal operation mode and the inhibit flag is reset.

5.7   Scenes

5.7.1 Scenes parameter window description
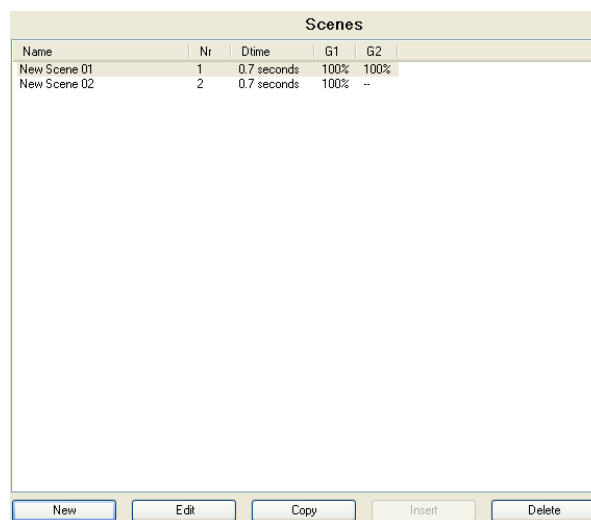
The "Scenes" parameter window enables an overview of how many scenes have already been configured and which groups are integrated in a scene in each case. When the cursor is placed in the first row under the column header "Name", a line appears explaining the abbreviations used in the header.
A new scene can be added using the "New" button.
Double-clicking on a list entry or on the "Edit" button the parameter window "Scene, parameters" (see below) 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.
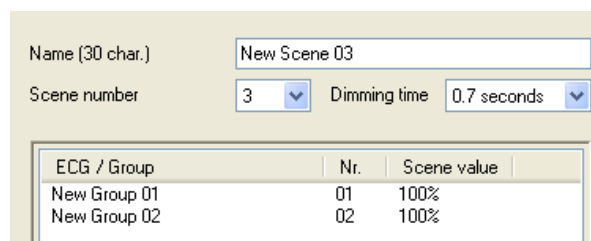
A new group or ECG can be added in the "Scene, parameters" window using the "New" button. Double-clicking on a list entry or on the "Edit" button the "Scene value" parameter window further down now opens.
A marked group or ECG can be deleted in the "Scene, parameters" window with the "Delete" button.

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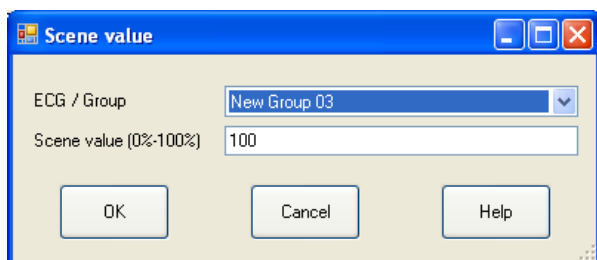
Via the "Scene value" window the group/ECG belonging to the scene can be changed, as well as assigned a dimming value (scene value) to which the group/ECG in this scene is to be set. If another group/ECG than the group/ECG displayed on opening of the window is selected via the "ECG/Group" parameter,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

5.7.2 Parameter description

Note:

Time functions cannot be executed within a scene.

Parameter	Settings
Name (50 char.)	
A name of a maximum 50 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 3 must contain the number [scene number 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
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.

Note:

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 141/02 when sending the dimming value / calling up a scene. If dimming times are constantly changed at very brief intervals (this can occur for example in the case of coloured light control via rapidly changing scenes), this can lead to damage to the ECGs of some manufacturers in the long term. 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.

ECG / Group
All groups / ECGs assigned to a scene are listed. In total up to 16 groups and up to 64 ECGs can be assigned. 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/ECGs are set to the configured brightness when the scene is recalled. All non-projected groups/ECGs 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.	

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5.8   Effects

5.8.1. Essential information

The "Effects" parameter window enables an overview of how many effects have already been configured and how many steps and run-throughs they consist of in each case.

When the cursor is placed in the first row under the column header "Name", a line appears explaining the abbreviations used in the header.

A new effect can be added using the "New" button.

Double-clicking on a list entry or on the "Edit" button opens the parameter window "Effect, parameters" (see below).

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.
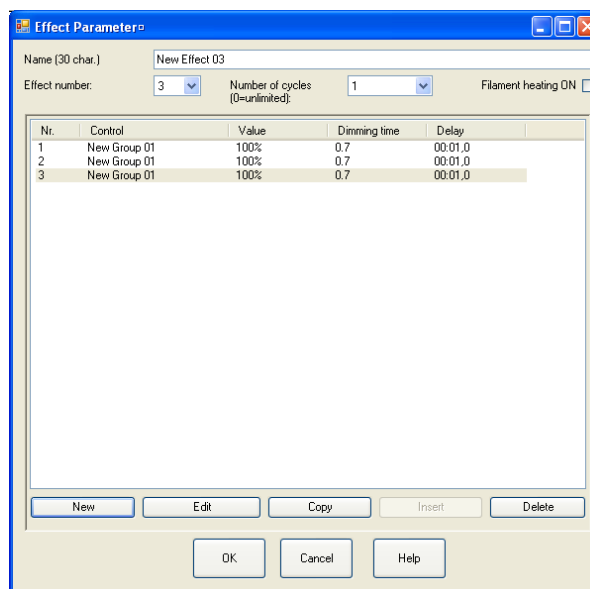
The "Effect, parameters" parameter window provides an overview of how many steps the effect consists of and what happens step by step: whether an individual ECG or a group are switched or dimmed or whether a scene is recalled and which interval should be observed following every step. If the cursor is placed in the header, a line appears explaining the abbreviations used in the header.

A new step can be added using the "New" button.

Double-clicking on a list entry or on the "Edit" button opens the parameter window further down with the name of the effect being revised and the step number to be revised. 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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5.8.2 Parameter description

Parameter	Settings
Name (50 char.)	
A name of a maximum 50 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 4 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.	
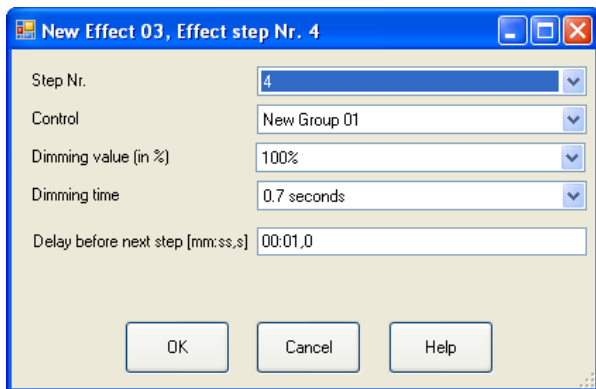
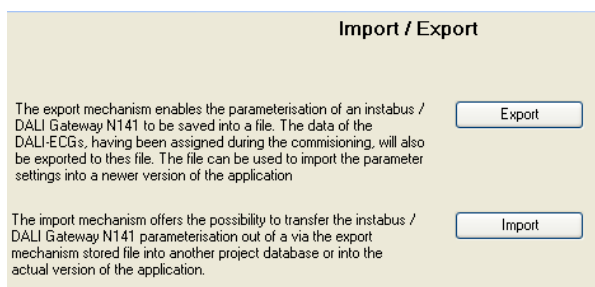| Parameter	Settings
Step Nr.	**1**-500
This number is used for consecutive numbering of the individual effect steps. A total of up to 500 steps is possible.	
Control	List of names with all projected ECGs, groups and scenes.
This parameter is used to set which ECG or which group in this step is to be 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:* *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 141/02 when sending the dimming value / calling up a scene. If dimming times are constantly changed at very brief intervals (this can occur for example in the case of coloured light or effect control via rapidly changing scenes), this can lead to damage to the ECGs of some manufacturers in the long term. 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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5.9 Export / import

The export mechanism makes it possible to save the parameter settings of a KNX/DALI Gateway N 141/02 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 KNX / DALI Gateway N 141/02 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.

A checksum protects the file containing the exported configuration against tampering. The import mechanism will not accept a file with an invalid checksum.

After the configuration has been successfully exported the following window appears.
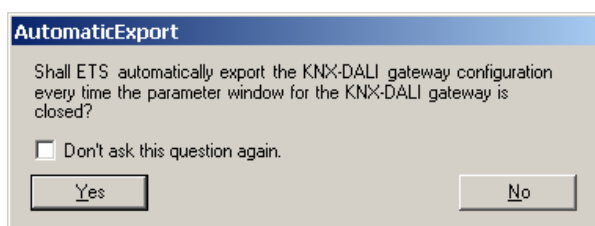
If the question is answered with „Yes" the current configuration settings are saved automatically into the same export file just created or used when the parameter window is closed.

Note:

The import function only imports data from the application program 07 B0 KNX/DALI Gateway 981Cxx (x=1…7, i.e. its own application). Conversion of the data of other application programs in order then to be able to load them into the N 141/02 are not part of the functional scope of the import function.

Conversions of configurations of the GE 141 (802311) and N 141 (802701) to the configuration of the N 141/02 have to be done using an external conversion program. This program support the following conversions as far as the individual parameters can be transferred:

GE141	802311	→	N141/02	981C03
N141	802701	→	N141/02	981C03

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5.10   Commissioning

5.10.1 instabus commissioning

Commissioning of the KNX / DALI Gateway N 141/02 takes these steps described here:
a) The power supply must be present on the DALI devices. This also applies for power supply of the KNX / DALI Gateway N 141/02. All DALI participants must be connected with the KNX /DALI Gateway N 141/02.
b) The physical address is loaded into the KNX / DALI Gateway N 141/02.
c) The configuration is loaded into the KNX / DALI Gateway N141/02.
d) The parameter window is opened while the bus connection is active. It may take up to one minute before a message appears if the KNX / DALI Gateway is not connected to the bus.

5.10.2. Commissioning of the DALI devices
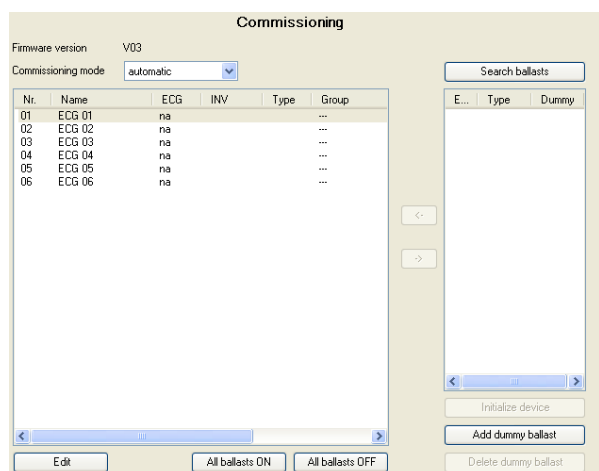
When searching for ballasts (ECGs) not all expected ballasts may appear in the list in the right window. In such a case use the button „Add dummy ballast" to add a ballast (ECG) and assign it as a place holder to a luminaire before commissioning. After a download the KNX-DALI gateway annuciates an ECG error for a dummy ECG. After missing ballasts have been installed or the installation of ballasts has been corrected the ballasts have to be assigned to their associated luminaires instead of the respective dummy ECGs. The new configuration has to be downloaded to the KNX-DALI gateway.
Use the button "Delete dummy ballast" to delete a place holder.

The column "Dummy" in the list on the right displays if a ballast was added as a place holder.
The firmware version of the KNX/DALI Gateway (in the screen shot: V03) is displayed in the Commissioning window when a connection exists to the KNX/DALI Gateway.

Button	
Commissioning mode	**automatic** flash switch OFF switch ON function test
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", via "switching OFF", or via "switching ON" the luminant attached to the DALI device.	
Search ballasts	
All DALI devices attached to the KNX/DALI Gateway N 141/02 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). 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 KNX / DALI Gateway N 141/02 and ready for operation. 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. Note: DALI devices that support several DALI device types appear in the right-hand side window with the type identifier "MASK". When such a device is assigned to a configured DALI device then the DALI device type selected for this configured DALI device is used if this DALI device type is supported by the found DALI device. Otherwise, DALI device type 0 (= fluorescent lamp) is used. To avoid a false assignment this security question appears: "*The DALI device supports more than one DALI device type. It will be controlled as the DALI device type configured in the ETS parameters. Continue assignment?*"	

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Button
<-
Selection of the configured 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 configured ECG any longer when the parameters are downloaded into the KNX/DALI Gateway N 141/02. 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 device ID function. The company OSRAM already markets ECGs of the type QTi that include this function.
All ballasts ON
All ECGs attached to the KNX/DALI Gateway N 141/02 are switched on to maximum brightness.
All ballasts OFF
All ECGs attached to the KNX/DALI Gateway N 141/02 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.
Add dummy ballast
Delete dummy ballast
When searching for ballasts (ECGs) not all expected ballasts may appear in the list in the right window. In such a case use the button „Add dummy ballast" to add a ballast (ECG) and assign it as a place holder to a luminaire before commissioning. After a download the KNX-DALI gateway annuciates an ECG error for a dummy ECG. After missing ballasts have been installed or the installation of ballasts has been corrected the ballasts have to be assigned to their associated luminaires instead of the respective dummy ECGs. The new configuration has to be downloaded to the KNX-DALI gateway.   The column "Dummy" in the list on the right displays if a ballast was added as a place holder.   The N141/02 announces an ECG failure while a dummy ECG is missing.   A dummy ECG can be removed by clicking on the "Delete dummy ballast" button.   Note: Luminaires with dummy ECGs will not be controlled via the bus in the test dialogs for ECGs, groups, scenes or effects.

5.11 Test Groups

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, dim brighter / darker, set dimming value. The dimming times that have already been configured 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 KNX need to be present, a physical address needs to be assigned to the N 141/02, and the DALI devices must be allocated to groups.

Select an entry in the group list to execute these functions via the buttons:

Button
I / O (ON / OFF)
The selected group can be switched on or off as relevant via these buttons.
Set value
After the value has been entered, this button should be activated in order to adopt the dimming value for the group.
- / +
The selected group can be gradually brightened/darkened by about 1/20 (5%) as relevant via these buttons.

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Button
? (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 button "Set value".
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.

5.12   Test ECGs

Note:

Double-clicking on an entry in the list opens the parameter window for configuration of the ECG parameters.

Select an entry in the group list to execute these functions via the buttons:

Button
I / O (ON / OFF)
The selected ECG can be switched on or off as relevant via these two buttons.
- / +
The selected group can be gradually brightened/darkened by about 1/20 (5%) as relevant via these buttons.
Set value
After the value has been entered, this button should be activated in order to adopt the dimming value for the ECG.
? (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.

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5.13   Test Scenes
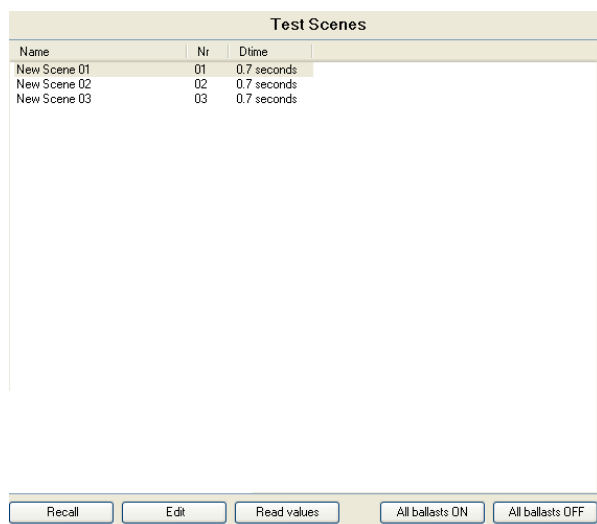
Double-clicking on a list entry or on the "Edit" button opens the parameter window for scene parameters.

Button
Recall
The selected scene is recalled using this button. The integrated groups and ECGs set the dimming values saved in the KNX/DALI Gateway N 141/02.
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 and ECGs are read and displayed using this button. This allows for setting the scene with wall switches or by other means and then reading this setting back into the configuration. The values read can be adopted or changed for the scene before saving or downloading into the N141/02.
All ballasts ON
All ballasts can be switched on using this button ("Central On" for all groups).
All ballasts OFF
All ballasts can be switched off using this button ("Central Off" for all groups).

5.14   Test Effects
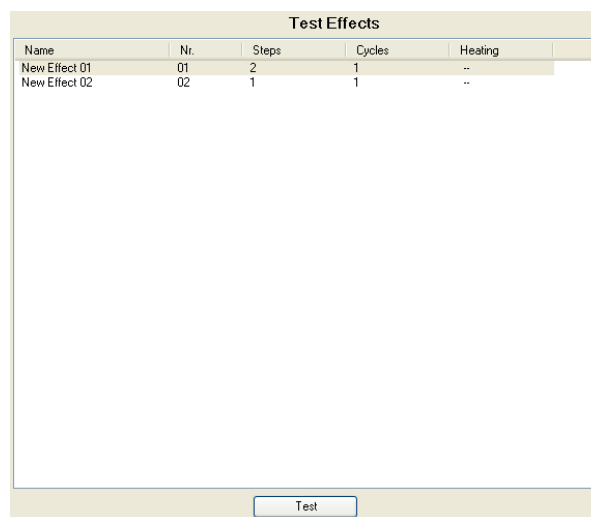
Double-clicking on an entry in the list or on the „Test" button opens the configuration window for testing of effects.
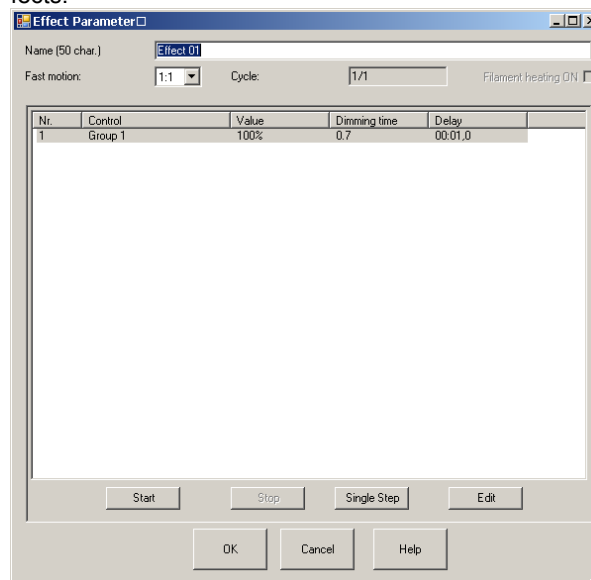
After selection of an entry in the list these functions can be executed by clicking on the respective buttons.

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Button	Settings
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 applies. 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 configured 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.	
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 141/02. A transfer only takes place via the downloading of parameters.	

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6 Appendix

6.1 Behaviour in event of 230V recovery at N 141/02, voltage recovery on DALI, KNX bus

Operation Mode	Behavior on bus voltage failure of KNX or DALI	Starting Value	230 V recovery *	KNX Recovery
normal mode	no action		no action	
	starting value	dimming value at switching off	set to min (not time limited)	set value to w, if no switch off value available (it is cleared on voltage failure) set to min (not time limited)
		last received dimming value	set to min (not time limited)	set to last received value, if no value or 0 has been the last received value since last voltage failure set to min (not time limited)
		x %	set to x % (not time limited)	
	maximum dimming value		set to max (not time limited)	
	minimum dimming value		set to min (not time limited)	
	as before bus voltage failure		no action	
	switch OFF		switch off	
time switch mode / night mode	no action		no action	
	starting value	dimming value at switching off	set to min (time limited)	set value to w, if no switch off value available (it is cleared on voltage failure) set to min (time limited)
		last received dimming value	set to min (time limited)	set to last received value, if no value or 0 has been the last received value since last voltage failure set to min (time limited)
		x %	set to x % (time limited)	
	maximum dimming value		set to max (time limited)	
	minimum dimming value		set to min (time limited)	
	as before bus voltage failure		no action	
	switch OFF		switch off	

* On 230V recovery, night mode luminaires are switched on not time limited

Definitions:

w = value at last switch off
y = value when arriving Emergency ON
max = maximum dimming value
min = minimum dimming value

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6.2 Behaviour in event of 230V failure on N 141/02, DALI, KNX bus

Operation Mode	Behavior on bus voltage failure of KNX or DALI	Starting Value	Dimming value on emergency	230 V Failure	KNX Failure
normal mode	no action			no action	
	starting value	dimming value at switching off		set to min (not time limited)	set value to w, if no switch off value available (it is cleared on voltage failure) set to min (not time limited)
		last received dimming value		set to min (not time limited)	set to last received value, if no value or 0 has been the last received value since last voltage failure set to min (not time limited)
		x %		set to x % (not time limited)	
	maximum dimming value			set to max (not time limited)	
	minimum dimming value			set to min (not time limited)	
	dimming value on emergency		no change	no action	
			x %	set to x % (not time limited)	
	switch OFF			switch off	
time switch mode / night mode	no action			no action	
	starting value	dimming value at switching off		set to min (not time limited)	set value to w, if no switch off value available (it is cleared on voltage failure) set to min (not time limited)
		last received dimming value		set to min (not time limited)	set to last received value, if no value or 0 has been the last received value since last voltage failure set to min (not time limited)
		x %		set to x % (not time limited)	
	maximum dimming value			set to max (not time limited)	
	minimum dimming value			set to min (not time limited)	
	dimming value on emergency		no change	no action	
			x %	set to x % (not time limited)	
	switch OFF			switch off	

Definitions:

w = value at last switch off

y = value when arriving Emergency ON

max = maximum dimming value

min = minimum dimming value

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6.3   Behaviour on emergency OFF

Operation Mode	Behaviour on emergency OFF	Starting Value	Emergency OFF
normal mode	as before emergency operation ON		set value to dimming value when "Emergency ON" commenced; *(starting with firmware version 5)* If dimming value was zero when "Emergency ON" commenced, then set value to min for emergency lamps or for groups containing one or more emergency lamps. *(up to firmware version 4)* If dimming value was zero when "Emergency ON" commenced, then set value to min.
	last received dimming value		set to last received value; if no value was received since last voltage failure or the value was zero then set the value to min
	starting value	dimming value at switching off	set value to dimming value when the last switching off command was received, if no switch off value is available (it is cleared on voltage failure) set the value to min. If the lamp was turned on when „Emergency ON" commenced, restore that state.
		last received dimming value	set to last received value; if no value or zero has been the last received value since last voltage failure set to min
		x %	set to x %
	maximum dimming value		set to max
	minimum dimming value		set to min
	switch OFF		switch off
time switch mode / night mode	as before emergency operation ON		set value to dimming value when "Emergency ON" commenced; if this value was zero then set value to min (time limited)
	last received dimming value		set to last received value, if no value or zero has been the last received value since last voltage failure set to min (time limited)
	starting value	dimming value at switching off	set value to dimming value when the last switching off command was received; if no switch off value available (it is cleared on voltage failure) set to min (time limited)
		last received dimming value	set to last received value; if no value or zero has been the last received value since last voltage failure set to min (time limited)
		x %	set to x % (time limited)
	maximum dimming value		set to max (time limited)
	minimum dimming value		set to min (time limited)
	switch OFF		switch off

Definitions:

max = maximum dimming value

min = minimum dimming value

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