

01 07 EIB-Gateway DALI 801805

Use of the application program

Product family: Lighting
Product type: Interface
Manufacturer: Siemens

Name: EIB-Gateway DALI GE 141
Order no.: 5WG1 141-4AB01

Functional description

DALI = Digital Addressable Lighting Interface
The EIB-Gateway DALI GE 141 can control up to 16 channels and together with the application program 01 07 EIB-Gateway DALI 801805 offers the following functions per channel:

Switch On / Off

In the event of an "On" telegram, the parameterisation determines whether a set brightness value is selected or the value prior to switching off. If the starting value lies below the set minimum value, the minimum value is set; if it lies above the maximum value, the maximum value is set. It can be set via parameters whether to dim or jump to the new value. "Off" telegrams always switch off. Depending on the parameter assignments, "On" telegrams activate overshoot periods.

Dimming

The "Dimming time" can be adjusted. On receipt of the starting command, the EIB-Gateway DALI GE 141 initiates communication with the ECGs in order to modify the brightness in the indicated direction at an adjustable speed. If a stop command should be received before the end of the dimming process, the process is interrupted and the achieved brightness value is maintained. The overshoot time is (re)started in time switch mode, if it has not been switched off. It can be selected via parameters whether it is possible to switch on and off via dimming.

Send dimming status (8-bit)

The communication object with the designation "8-bit Value / Value Channel x" sets the ECGs of this channel to a defined value. It can be set whether to jump or dim to this value. If this object receives the value '0', the corresponding channel switches off. Values smaller than the minimum value, with the exception of the value '0', and values greater than the maximum value are limited to the minimum or maximum dimming value. If the ECGs should be switched off, it is possible to specify via a parameter whether the dimmer immediately accepts the received value and switches on or only adopts the received value after an "On" command. The set starting value is then invalid. The

value telegrams also activate overshoot periods depending on the parameter settings.

Value status

The object is an 8-bit status object. It contains the current brightness value of the respective channel. It can send and/or be read automatically.

On / Off status

The On / Off status of each channel can be sent via a communication object on read request or automatically after a change in the object.

Lamp error status

A status communication object for the lamp error is available for each channel. If a luminaire that is connected to this channel has a defective lamp, this object is set to '1'.

ECG error status

A status communication object for the ECG error is available for each channel. If a **luminaire** that is connected to this channel has a defective ECG, this object is set to '1'.

Power supply error status

A status communication object for the power supply error of DALI is available. If the supply voltage of DALI is missing, this object is set to 1.

DALI short circuit error status

A status communication object for the DALI short circuit is available. If the DALI interface is short-circuited, this object is set to 1.

Brightness limits

A maximum and minimum brightness level can be parameterised via the limit. The brightness value can only be modified within the set limits for all switching/dimming processes.

Scenes

The application program enables 16 scenes to be parameterised, which contain up to 16 channels of the EIB-Gateway DALI GE 141.

Communication objects for recalling and storing are available for each scene.

Bus voltage failure

On bus voltage failure, the program always stores the current brightness values of all channels, so that they are available again on bus voltage recovery. The channels can adopt different brightness values on bus voltage failure.

01 07 EIB-Gateway DALI 801805**Bus voltage recovery**

The brightness value that is selected on bus voltage recovery can be set via parameters.

Commissioning the DALI ECGs

Using ETS2 from version 1.3 onwards, the ECGs can be assigned to the individual channels, tested and put into operation.

Testing the channels

The individual channels can be tested directly immediately after the assignment of the ECGs, without EIB telegrams needing to be sent via group addresses.

Testing the scenes

The individual scenes can be tested directly immediately after the assignment of the ECGs, without EIB telegrams needing to be sent via group addresses.

Maximum number of group addresses: 253

Maximum number of associations: 253

Note

- The application program can be downloaded from ETS2 version 1.3 onwards.
- The view of the objects can be arranged individually i.e. this view can vary.

Communication objects

Phys. Addr. Product		Order number		Program	
no.	Object name	Function	Type		
01.01.001	EIB-Gateway DALI GE 141	SWG1 141-4AB01	01 07 EIB-Gateway DALI 801805		
0	Switch, Channel 1	On / Off	1 Bit		
1	Dimming, Channel 1	Brighter / Darker	4 Bit		
2	Value, Channel 1	8-bit Value	1 Byte		
3	Status, Channel 1	8-bit Value	1 Byte		
4	Status, Channel 1	On / Off	1 Bit		
5	Status, Channel 1	Lamp Error	1 Bit		
6	Status, Channel 1	ECG Error	1 Bit		
112	Scene 1/2	Scene recall	1 Bit		
120	Scene 1/2	Scene save	1 Bit		
128	Status DALI	Power Supply Fault	1 Bit		
129	Status DALI	Short circuit	1 Bit		

Obj	Object name	Function	Type	Flags
0	Switch, Status Channel 1	On / Off	1 Bit	CW
The actuators that are assigned to channel 1 are switched via this object. If the read flag is set, the current switching state can be queried via this object. Changes in the switching state can also be considered by "Dimming" or "Set brightness value".				

Obj	Object name	Function	Type	Flags
1	Dimming Channel 1	Brighter / Darker	4 Bit	CW
The dimming telegram for channel 1 is received via this object.				
2	Value Channel 1	8-bit Value	1 Byte	CW
A brightness value for channel 1 is received via this object.				
3	Status Channel 1	8-bit Value	1 Byte	CRT
This objects acts as the sending object for the current status (brightness value) of channel 1, which can be read out via the bus (e.g. for the visualisation). With the corresponding parameter setting ("Sending of dimming status object: on change of dimming value"), this object sends the current brightness value after a change in the value. It is possible to limit the number of telegrams with the parameter "Min. disable time for sending dimming status".				
4	Status Channel 1	On / Off	1 Bit	CRT
The current switching state of channel 1 can be queried via this object. In the parameter setting "Sending switch status: on change in status", the current switching state is sent automatically via this object after a change in the state.				
5	Status Channel 1	Lamp Error	1 Bit	CRT
In the parameter setting "Sending of error status object: on change in status", the current error status of the lamp (0=OK and 1=error) is sent automatically via this object after a change. When the parameter setting "Sending of error status object: using read request on status object only" is selected, the current status of this error object can only be sent after a read request. The detection of an error can last up to 30 seconds depending on the number of ECGs.				
6	Status Channel 1	ECG Error	1 Bit	CRT
In the parameter setting "Sending of error status object: on change in status", the current error status of the ECGs (0=OK and 1=error) is sent automatically via this object after a change. When the parameter setting "Sending of error status object: using read request on status object only" is selected, the current status of this error object can only be sent after a read request. The detection of an error can last up to 30 seconds depending on the number of ECGs.				

This applies to communication objects 7 to 112 as well as for channels 2 to 16.

01 07 EIB-Gateway DALI 801805

Obj	Object name	Function	Type	Flags
112	Scene 1 / 2	Scene recall	1 Bit	CW

Scenes 1 and 2 are recalled via the group addresses in this object. On receipt of a '0' telegram, the channels that are assigned to scene 1 are set to the saved value.
Scene 2 is set accordingly on receipt of a '1' telegram.

This applies to communication objects 114 to 120 as well as for scenes 3 to 16.

Obj	Object name	Function	Type	Flags
120	Scene 1 / 2	Scene save	1 Bit	CW

Scenes 1 and 2 are programmed via the group addresses in this object. On receipt of a '0' telegram, the current brightness values of the channels which are assigned to scene 1 are stored.
Scene 2 is programmed accordingly on receipt of a '1' telegram.

This applies to communication objects 122 to 128 as well as for scenes 3 to 16.

Obj	Object name	Function	Type	Flags
128	Status DALI	PS error	1 Bit	CRT

In the parameter setting "Sending of error status object: on change in status", the current error status of this object (0=OK and 1=error) is sent automatically via this object after a change.
When the parameter setting "Sending of error status object: using read request on status object only" is selected, the current status of this error object can only be sent after a read request.
The status of the DALI power supply is issued via the group addresses at this object (0=OK and 1=error).

129	Status DALI	Short circuit	1 Bit	CRT
-----	-------------	---------------	-------	-----

In the parameter setting "Sending of error status object: on change in status", the current error status of this object (0=OK and 1=error) is sent automatically via this object after a change.
When the parameter setting "Sending of error status object: using read request on status object only" is selected, the current status of this error object can only be sent after a read request.
The status of the DALI-Gateway is issued via the group addresses at this object (0=OK and 1=DALI short circuit).

Parameters

General

Note:

The function and the parameters apply to channels 1-16 together.

Parameters	Settings
Sending switch status	using read request on status object only on change in status
In the parameter setting "using read request on status object only", the object value "On / Off, Status Channel x" can only be read out after a read request. For the parameter setting "on change in status", the current switching state is sent automatically via the status communication object "On / Off; Status Channel x" after a change.	
Sending of dimming status object	using read request on status object only on change of dimming value
In the parameter setting "using read request on status object only", the object value "8-bit Value; Status Channel x" can only be read out after a read request. In the parameter setting "Sending switch status: on change in status", the current switching state is sent automatically via the status communication object "8-bit Value; Status Channel x" after a change. While dimming up or down also intermediate value can be transmitted and not only the finale status value	

01 07 EIB-Gateway DALI 801805

Parameters	Settings
Min. disable time for sending dimming status	2 seconds 3 seconds 4 seconds 5 seconds 7 seconds 10 seconds 15 seconds
The minimum disable time can be set for the dynamic sending of the value status. When using heating controllers or several channels, the highest possible value (10 / 15 seconds) should be selected, as otherwise excessively high bus loads may arise. After the final dimming value has been reached, this time will be waited before transmitting the present status value	
Delay time after bus voltage recovery	no delay 2 seconds 3 seconds 4 seconds 5 seconds 10 seconds 20 seconds 30 seconds
If one of the two parameters "Send switch status" or "Send status object of the dimming value" is set to send automatically after a change, the current status signals are sent automatically on the bus after bus voltage recovery. The use of several EIB interfaces DALI GE 141 can result in a high bus load. With this parameter, it is possible to delay the automatic sending and to reduce the bus load on bus voltage recovery. Different values should be entered for the individual EIB interfaces DALI GE 141.	
Behaviour on bus voltage failure	not switching starting value maximum dimming value minimum dimming value switch off
This parameter defines which brightness value is adopted by the ECGs when communication is no longer possible with the ECGs due to bus voltage failure on the EIB, supply voltage failure for the EIB-Gateway DALI GE 141 or due to shorting/disruption of the DALI. A prerequisite is that the ECGs have already been assigned to a channel and the power supply of the ECGs is still present. If this parameter is set to "Starting value" and the starting value of a channel is set to "last value", the corresponding channel is set to maximum brightness on bus voltage failure.	

Parameters	Settings
Behaviour on bus voltage recovery	as before bus voltage failure starting value maximum dimming value minimum dimming value switch off
This parameter defines which brightness values are adopted by the channels when neither the EIB bus voltage nor the supply voltage are applied at the EIB-Gateway DALI GE 141. This requires the power supply for the ECGs to be already present. If this parameter is set to "Starting value" and the starting value of a channel is set to "last value", the corresponding channel is set to the brightness value that was selected prior to bus voltage failure. If the channel was switched off on bus voltage failure, the maximum brightness value is set in this case. If the voltage of an ECG should recover at a later period, the current brightness value of the relevant channel is selected after a maximum of 30 seconds.	
Sending of error status object	using read request on status object only on change in status
In the parameter setting "using read request on status object only", the object value "Lamp Error/ECG Error; Status Channel x, power supply status, DALI short circuit" can only be read out after a read request. In the parameter setting "Sending switch status: on change in status", the current switching state is sent automatically via the status communication object "Lamp Error/ECG Error; Status Channel x, power supply status, DALI short circuit" after a change.	

Channel-related parameters

Note:

The function and parameters of channels 1-16 are identical.

01 07 EIB-Gateway DALI 801805

Parameters	
Channel	
The channel name Channel 1 appears in the adjacent channel selection window. This text can be overwritten and then becomes the channel name. The selection of the individual channels is carried out by clicking on the ▼ button and then selecting the required channel with the mouse.	
New	
A new channel with the default values (e.g. Channel 2) is created by clicking on this button.	
Copy	
The current selected channel together with any parameter settings is copied by clicking on this button. The "Insert" button is activated.	
Insert	
This function inserts a new channel with the copied values. The designation is e.g. Channel 5.	
Delete	
If this function is selected, the channel that is displayed in the channel selection window is deleted.	

Parameters	Settings
Starting value (limited by minimum/ maximum dimming value)	100% , 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 40%, 30%, 20%, 10%, last value
This parameter indicates the starting value on receipt of a switching signal ("On"). The configured value is limited by the program to the range between the minimum/maximum dimming value.	
Minimum dimming value	0.5% , 1%, 3%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 60%, 70%
The minimum dimming value can be defined via this parameter. When dimming darker, the brightness value can therefore only adopt this dimming value as the minimum level.	
Maximum dimming value	100% , 95%, 90%, 85%, 80%, 75%, 70%, 65%, 60%, 55%, 50%, 40%, 30%
The maximum dimming value can be defined via this parameter. When dimming brighter, the brightness value can therefore only adopt this dimming value as the maximum level.	

Parameters	Settings
Switching on possible via dimming	Yes No
If it should be possible to switch on via dimming when in the OFF state, this setting must be enabled in the parameter.	
Switching off possible via dimming	Yes No
If the brightness level is dimmed down to the minimum value while in the ON state, it is possible to define via this parameter whether the switch/dimming actuator switches off the lighting.	
Dimming time from 0% to 100% in seconds (1-255)	1-255 10
This parameter indicates the period in which a dimming process takes place from 0% to 100%. This dimming time only applies on receipt of the 4 bit communication object "Dimming".	

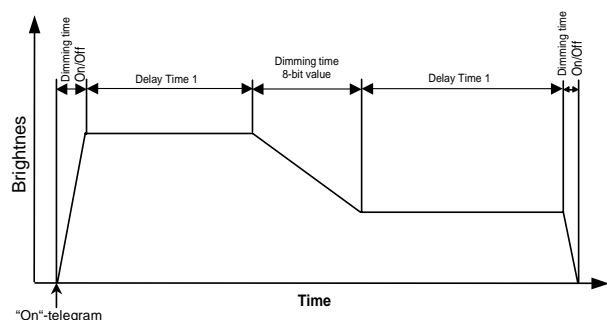
Parameters	Settings
Dimming time (0-100%) when receiving On/Off telegram (hh:mm:ss)	00:00:00
This parameter defines the dimming period in which the channel dims to the ON/OFF value on receipt of an "On/Off" telegram received via the bus. The time is based on a change in the brightness from 0% to 100%. In the setting "00:00:00", the channel jumps to the ON/OFF value. The maximum value is here 15 hours (15:00:00). hh= for hours; mm= for minutes; ss= for seconds.	

Parameters	Settings
8-bit dimming value	accept immediately only accept on On
This parameter specifies whether the channel carries out a dimming 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 channel is already switched on.	
Dimming time (0-100%) when receiving 8-bit value (hh:mm:ss)	00:00:00
The dimming time indicates the period in which a dimming process from 0% to 100% takes place. It only applies on receipt of an 8-bit dimming value. In the setting "00:00:00", the channel jumps to this value. hh= for hours; mm= for minutes; ss= for seconds.	

01 07 EIB-Gateway DALI 801805

Parameters	Settings
Operating mode	Normal mode 1 level time switch 2 level time switch
This parameter enables toggling between normal and time switch mode. The channel dims to the OFF value with the ramp defined in the parameter "Dimming time (0-100%) when receiving On/Off telegram". In the setting "2 level time switch", the intermediate value is set with the value defined in the parameter "Dimming time (0%-100%) when receiving 8-bit value".	
Delay 1 (hh:mm:ss)	00:02:00
The period for switching off (for 1 level time switch) or for setting the intermediate brightness value (for 2 level time switch) is set here. The maximum value here is 15 hours (15:00:00). In the event of "On/Off/Dimming/Value" telegrams, delay period 1 is (re)started when the dimming value is achieved. hh= for hours; mm= for minutes; ss= for seconds.	
Delay 2 (hh:mm:ss)	00:00:30
The period for switching off (after setting the intermediate brightness value) (for 2 level time switch) is set here. The maximum value here is 15 hours (15:00:00). hh= for hours; mm= for minutes; ss= for seconds.	
Brightness value after 1st delay	5% 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%
This parameter specifies the intermediate value which is selected after level 1 has elapsed. The set value is limited by the program to the range between the minimum/maximum dimming value.	

In the settings "1 level time switch" or "2 level time switch", it is possible via the "Graph" button to view the time sequence of the brightness values on receipt of an "On" telegram.



Scene-related parameters

Parameters	Settings
Scene	The scene name Scene 1 appears in the adjacent scene selection window. This text can be overwritten and then becomes the scene name. The selection of the individual scenes is carried out by clicking on the ▾ button and then selecting the required scene with the mouse.
New	A new scene with the default values (e.g. Scene 2) is created by clicking on this button.
Copy	The current selected scene together with any parameter settings is copied by clicking on this button. The "Insert" button is activated.
Insert	This function inserts a new scene with the copied values. The designation is e.g. Scene 5.

01 07 EIB-Gateway DALI 801805

Parameters	Settings
Delete	
If this function is selected, the scene that is displayed in the scene selection window is deleted.	
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" is the period for concluding the dimming process for all the lamps together when the corresponding scene is recalled. This means that if the lamps of channel 1 are set at 50% and should be dimmed to 90% in this scene and the lamps of channel 2 should be dimmed from 100% to 20%, the same time is required for the dimming processes. Channel 1 thus indicates a smoother dimming curve than channel 2. This dimming time is not dependent on the dimming times that have been set for the channels.	
Channels	
The individual channels are listed. The channel name assigned in the channel-related parameter setting is indicated for the configured channels. It is possible to integrate the individual channels into the respective scene whereby the free field behind the parameter is activated for assigning the value. Only the activated channels are set to the selected brightness when the scene is recalled. All the other channels are not taken into consideration when the scene is recalled.	
Value	0-100 100
This value indicates as a percentage the brightness level which the channel (if activated) adopts when this scene is recalled. The value can be configured for each channel for the first time. The data is overwritten when this scene is stored. The application program limits the input to the values between the minimum and maximum dimming value.	

Commissioning the ECGs

The commissioning of the EIB-Gateway DALI GE 141 takes place following the steps described below:

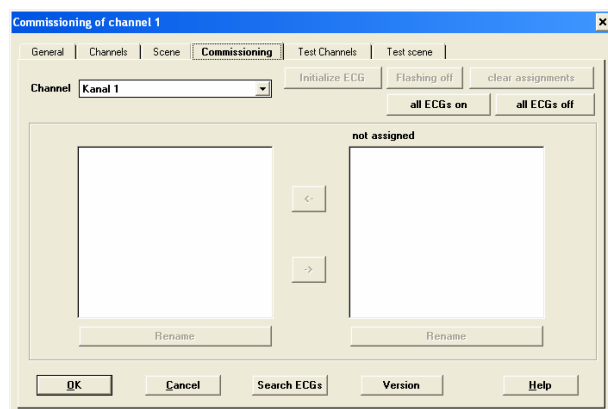
1. The power supply must be present at the ECGs that are connected to the DALI. This also applies to the power supply of the EIB-Gateway DALI GE 141. All DALI devices must be linked to the EIB-Gateway DALI GE 141.
2. The physical address is downloaded to the EIB-Gateway DALI GE 141.
3. The configured application program is downloaded to the EIB-Gateway DALI GE 141.
4. The parameter window for commissioning the EIB-Gateway DALI GE 141 is opened in the "Commissioning/Test" mode of ETS.

Three additional tabs now appear in the parameter window

- Commissioning
- Test Channels
- Test Scene

01 07 EIB-Gateway DALI 801805

Commissioning



Parameters

Search ECGs

By pressing this button, it is possible to find all the ECGs that are connected to the EIB-Gateway DALI GE 141 and are ready for operation. A search process starts that can last several minutes. The ECGs that are found first appear in the right-hand field with the title "unassigned".

This search must be carried out also if ECGs exchanged or supplemented became.

Assignment of the ECGs to the individual channels

When an ECG is selected that has not yet been assigned, its lamp starts to flash.

If an ECG is selected, it is possible to assign a unique name for this ECG by pressing the button "Rename".

The channel must now be selected (as described under "Channel").

Using the button <, the unassigned ECG is allocated to the required channel. An unlimited number of ECGs (up to 64) can be assigned to a channel. DALI is limited to 64 devices. Each ECG can only be assigned to one channel.

Previously assigned ECGs can be reset to "unassigned" by selecting and pressing the button ->.

Channel

The channel name appears in the adjacent channel selection window.

The selection of the individual channels is carried out by clicking on the ▼ button and then selecting the required channel with the mouse.

Initialize ECG

If two ECGs have been found with the same random number (detected by two lamps flashing when the ECG is selected), this match can be removed by pressing the button "Initialize ECG".

Flashing off

The lamp stops flashing when this button is pressed.

This function can also be achieved if another ECG is selected as this device starts to flash.

Parameters

Delete associations

This function enables the electronic ballasts that have already been assigned to the channels to lose their associations and be "unassigned" again. Following a transfer of data into the EIB interface DALI GE 141, the electronic ballasts are no longer assigned to the channels. After selecting this function, a dialog window is opened with the following prompt "Delete association / Are you sure?" which must be confirmed.

All electronic ballasts ON

All the electronic ballasts connected to the EIB interface DALI GE 141 are switched on with maximum brightness.

All electronic ballasts OFF

All the electronic ballasts connected to the EIB interface DALI GE 141 are switched off.

Version

The current firmware status is read out from the EIB interface DALI GE 141 when this function is triggered.

Documentation


Parameters

Docu

By pressing this button (displayed on following pages: General / Channels / Scene), the documentation of this device together with all the settings can be printed out.

Note:

If the parameter dialog is closed after the

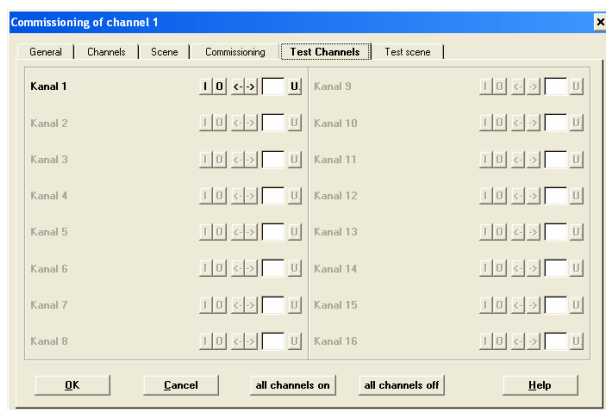
commissioning with "Cancel" or , the commissioning data aren't saved in the ETS

The data are loaded into the EIB Gateway DALI, however.

To avoid this inconsistency, exit the dialog with "OK".

01 07 EIB-Gateway DALI 801805

Test Channels



Parameters

Channels

The individual channels are listed. The channel name assigned in the channel-related parameter setting is indicated for the configured channels.

The following functions can be tested using the respective button for each channel:

- I Switch channel on
- O Switch channel off
- <- Dim channel brighter by 1/16
- > Dim channel darker by 1/16

100 A value between 0 – 100% can be entered. The values are however limited by the maximum and minimum dimming values.

After entering the value, the TAB key on the keyboard should be pressed to transfer the value to the channel.

A It is possible to read out the current brightness value of this channel with this button and to display it in the value window.

The behaviour of the channels for the above functions corresponds to a receipt of a telegram at the corresponding communication object "Switch On / Off", "Dim brighter / darker" or "Set value".

No group addresses need to be assigned for these functions. Only the power supply for the ECGs, DALI and the EIB are required for commissioning as well as the allocation of the physical address. The ECGs must also be assigned to the channels.

Parameters

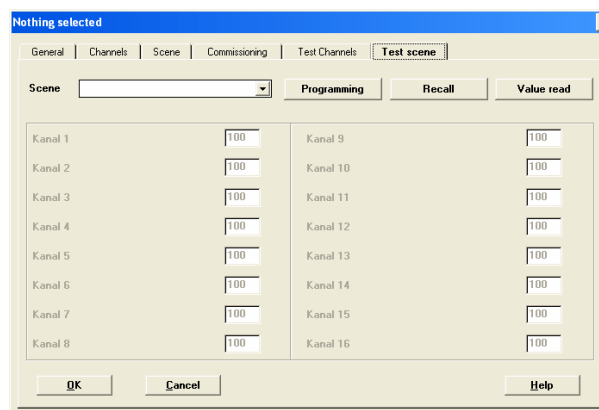
All channels ON

All the channels can be switched on with this button (central ON of all the channels).

All channels OFF

All the channels can be switched off with this button (central OFF of all the channels).

Test Scene



Parameters

Settings

Scene

The name of the scene appears in the adjacent scene selection window.

The selection of the individual scenes is carried out by clicking on the ▼ button and then selecting the required scene with the mouse.

Channels

The individual channels are listed. The channel name that was previously assigned in the channel-related parameter setting is indicated for the configured channels.

Value

0-100

100

The value can be entered for each channel. The application program limits the input to values between the minimum and maximum dimming value.

Programming

The values of the channels in the EIB-Gateway DALI GE 141 that are linked to this scene are stored with this button.

Recall

The scene with the set dimming time is recalled with this button. The integrated channels set the brightness values that are stored in the EIB-Gateway DALI GE 141.

Value read

The stored values of the channels in the EIB-Gateway DALI GE 141 that are linked to this scene are queried and displayed with this button.

Adopt value

The current brightness values of all the channels are read out and displayed with this button.