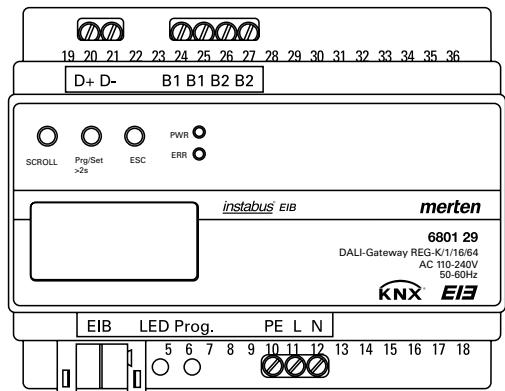


INSTABUS DALI gateway REG-K/1/16/64**Art. no. 680129****General**

The INSTABUS DALI gateway brings the lighting control specific DALI-Bus and the pluridisciplinary and cross-functional EIB/KNX bus together. Cost effective DALI ECGs can therefore be seamlessly integrated into an overall EIB/KNX architecture. DALI installations can benefit from the vast range of EIB/KNX user interfaces, sensors and building control devices available today. The DALI gateway serves both as DALI-Master device and power supply to all connected ECGs. Up to 64 ECGs allocated to up to 16 different groups can be connected per single DALI gateway. Additionally, up to 16 lighting scenes can be created from the different groups. The light intensities and failure warnings are available as status objects and can be visualized using any corresponding EIB/KNX display device. The commissioning of the DALI gateway (allocation of DALI ECGs to the various groups) is performed using the programming buttons and the display directly on the device. The setting of the different parameters and the programming of the scenes can also be performed with the buttons and the display, or alternatively using ETS. Scenes that have already been programmed can subsequently be changed at any time on the device. Finally, in addition to the EIB/KNX and the DALI interface, there are two binary inputs available on the device for connecting conventional switches, pushbuttons or movement sensors. This allows commissioning, test and operation of the DALI ECGs without the connection of the device to the EIB/KNX network.



The DALI gateway is a 6 units wide DIN Rail mounted device. The EIB/KNX connector is a standard EIB/KNX BUS connector. The DALI bus, the mains power and the binary inputs are fixed using screw connectors.

Device Type and Accessories

The following devices and accessories of this product group are available:

INSTABUS DALI gateway REG-K/1/16/64

Art. no. 680129

Package Contents

The delivery package of the INSTABUS DALI gateway REG-K/1/16/64 contains the following components:

- Device with connected bus connector
- 1x shrink sleeve 1,2 x 2cm for supplementary insulation of the bus wires
- Installation and Operating Instructions

Application Programs

Currently the following application programs are available for this device:

DaliControl 7303/1.0

Please refer to the application description for detailed information on the application program functionality.

INSTABUS DALI gateway REG-K/16/64**Art. no. 680129****Technical Data****Power Supplies**

- Mains Connector for 110 to 240 V, 50 to 60Hz, max. 0,1A
- Additional Power Supply via the **EIB** Bus

Operating Elements

- Programming Button to toggle between normal and addressing mode
- 3 buttons (SCROLL, Prg/Set, ESC) on display front to commission the device and set parameters

Display Elements

- Red LED to indicate EIB/KNX Normal-/Addressing Mode
- Green PWR-LED to signal device readiness (blinks when in normal operation mode)
- Red ERR-LED to signal fault status
- LC-Display, 2 lines with 12 characters each with menu for commissioning and setting of parameters.

Inputs

- 2 x passive binary input for connection of conventional pushbutton or movement sensor
9-32VDC or 8-26VAC, max wire length 15m

DALI-Bus

- Connection of up to 64 ECGs complying to IEC 60926
- DALI-Voltage 18-21VDC, short circuit proof
- It is not allowed to use other control devices (DALI-Master devices) within the same line.

Connectors

- **EIB** bus connector
- Mains Connector: screw connector 3x 1,5mm² single or threaded core
- DALI-Bus: screw connector 2x 1,5mm² single or threaded core
- Binary input: screw connector 2x 1,5mm² single or threaded core

Mechanical Data

- Casing: Plastic LEXAN UL-94-V0
- Measurements of casing:
Width: 106mm
Height: 55mm
Length: 86mm
- Weight: 200 g
- Mounting: on 35mm DIN rail

Electrical Safety

- Pollution Degree: 2
- Protection (EN 60529): IP20
- Protection Class: (IEC 1140) I
- Overvoltage Category: III
- Bus: SELV DC 24 V

EMC-Compliance

Complies with EN 50090-2-2, EN 61000-6-2, EN 61000-6-3

Environmental

- Operating Temperature: 0°C to +45°C
- Storage Temperature: -25°C to +70°C
- Rel. Humidity (non condensing): 5 % to 93 %

Certification

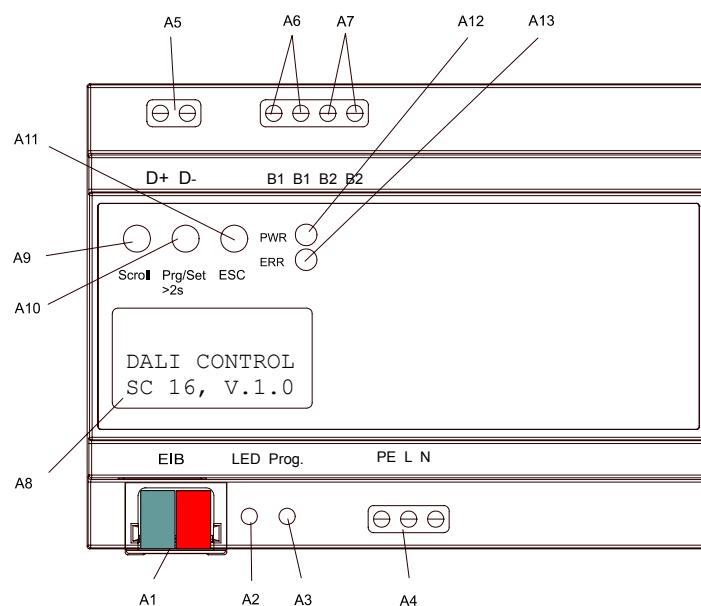
KNX/EIB registered

CE-Signage

According to EMC recommendations (domestic and commercial buildings), low voltage recommendations

INSTABUS DALI gateway REG-K/1/16/64**Art. no. 680129****Location and Function of the Control and Display Elements**

The connectors as well as the KNX/EIB programming button and LED are only accessible once the cover of the distribution panel removed. The operation of the programming buttons (SCROLL, Prg/Set, ESC), the control LEDs (PWR and ERR) as well as the menu display are accessible even with closed cover.



At the lower side of the casing the following connectors can be found (left to right):

- A1: EIB bus connector
- A2: EIB Programming LED
- A3: EIB Programming Button
- A4: Mains Connector
- A5: DALI-connector
- A6: Connector passive binary input 1
- A7: Connector passive binary input 2
- A8: Display 2x12 chars for DALI Commissioning
- A9: SCROLL-button
- A10: Prg/Set-button
- A11: ESC-button
- A12: Operating-LED (PWR)
- A13: Failure-LED (ERR)

At the upper side of the casing the following connectors can be found (left to right):

On the device front the following elements can be found:

The signage of the connectors on the casing is to be followed at all times!

Installation Notices and Warnings

- **Life Hazard through Electrical Shock**
- The device must only be installed and commissioned by qualified Electricians!
- The current country specific safety and accident prevention rules and regulations as well as the EIB guidelines must be respected at all times!
- The device is destined for fixed mounting in dry interior locations!
- When connecting the mains wires, the mains power must be switched off.
- The device must not be opened. Defective devices must be returned to the manufacturer.

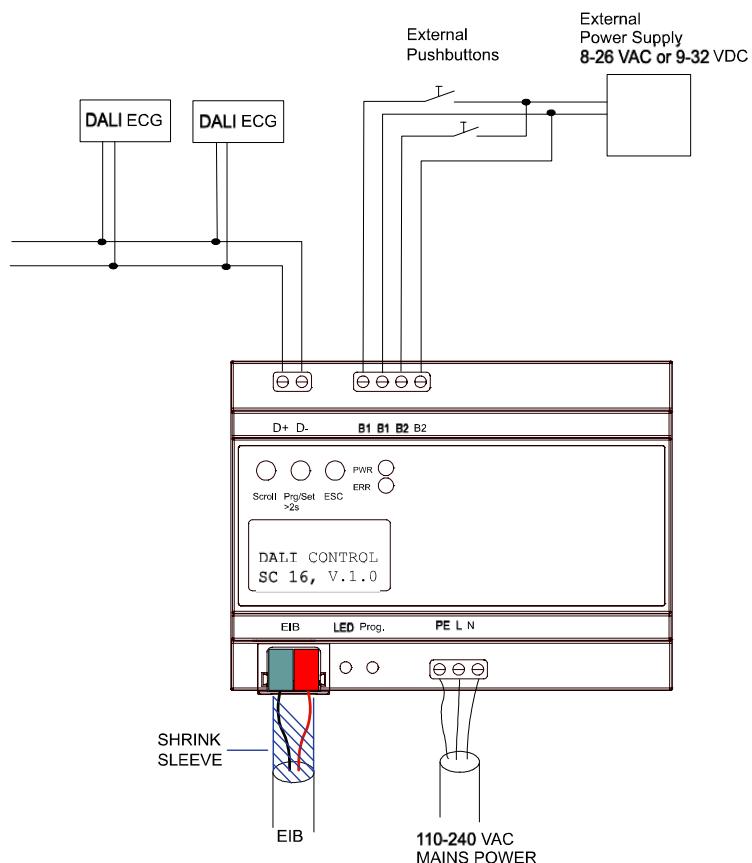
INSTABUS DALI gateway REG-K/16/64**Art. no. 680129****Mounting and Connection**

The INSTABUS DALI gateway REG-K/16/64 is designed to be mounted within distribution panels equipped with 35mm DIN rails. After simply snapping the device onto the rail, the DALI bus should be connected first. The DALI Control wires can be part of a 5-stranded cable also carrying the ECG power according to IEC90929 (the base insulation is sufficient). However each wire must be clearly marked and reliably identified. The maximum cable length for one entire DALI segment must not exceed 300m.

After connecting the DALI control wires, the optional external pushbuttons can be connected. The binary inputs are passive meaning that an auxiliary 8-26VAC or 9-32V DC voltage is required to operate the switches.

It is now possible to connect the 110-240 VAC 50/60 Hz mains wires to the lower right connector block according to the printed schema.

The EIB bus cable is connected using the featured bus connector that is already inserted in the block when the device is shipped. For proper insulation from the power block, it is necessary to wrap the EIB control wires from the cable end right to the EIB connector with the shrink sleeve that is part of the package.



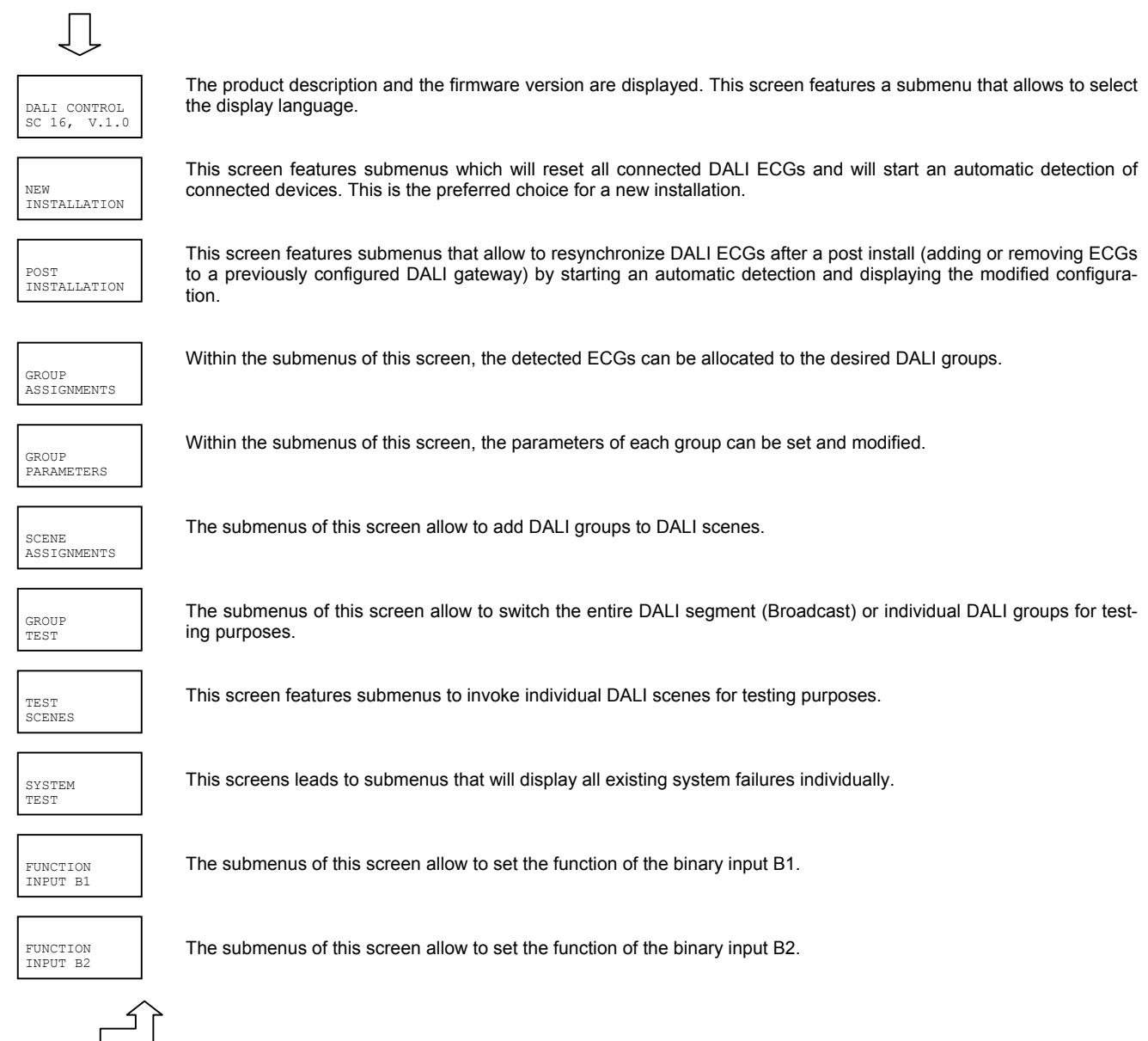
After complete connection of the device and activation of the mains power, the device will display its product name and the firmware version. The blinking green PWR light signals that the device is ready. If the device is started without being connected to the EIB and as long as no corresponding EIB application program has been downloaded, the red ERR-LED is lit. If the red ERR-LED is still ON after connecting the EIB (fed with its EIB power supply) and after download of the application program, a short circuit within the DALI segment is the probable error source (refer Submenu SYSTEM TEST). Please check the wiring of the DALI segment in such cases.

INSTABUS DALI gateway REG-K/1/16/64**Art. no. 680129****Operation and Menu Structure**

The connected DALI segment can entirely be commissioned with the three programming buttons (SCROLL, Prg/Set, ESC). Optional DALI parameters can also be set or changed with these buttons. The usage is menu driven. Depending on the current menu position, up to two submenu levels can be accessed. The currently selected menu item is shown in the display. The user navigates within the menu with short pushes of the buttons: the SCROLL button selects the next menu item within each level. A short push on the Prg/Set button selects the submenu, if it exists. The ESC button quits the current menu level and returns to the parent menu item.

Main Menu – Level 1

The main menu is structured as follows:

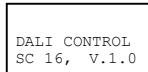


INSTABUS DALI gateway REG-K/1/16/64

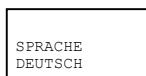
Art. no. 680129

If a function is to be activated or a parameter to be changed within a given submenu, it is necessary to switch to the so called programming mode by pushing the Prg/Set button for more than 2 seconds. Once the selected function or parameter is in programming mode, an Arrow symbol (→) appears in the display. Once the programming mode is active, the SCROLL button is used to change the setting or the parameter value. By pressing the Prg/Set button with a short push again, the programming mode is ended (EXIT and SAVE). The parameter is updated to the selected value or the selected function is activated. The ESC button quits the programming mode without saving.

Submenu DALI CONTROL – Level 2



The level 1 menu DALI CONTROL leads to the submenu SPRACHE (LANGUAGE) by pressing the Prg/Set key with a short push.

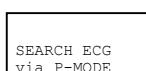


The currently active language is displayed within the submenu. By pressing the Prg/Set button for more than 2 seconds, the programming mode is activated. The SCROLL button navigates through the available languages: DEUTSCH, ENGLISCH (English), FRANZÖS. (Français), SPANISCH (Español), SCHWEDISCH (Svenska). Pressing the Prg/Set button with a short push this time, the new language is activated and the display changes accordingly. The default language on shipment is GERMAN.

Submenu NEW INSTALLATION – Level 2



A short push on the Prg/Set key leads from level 1 menu NEW INSTALLATION to the submenu SEARCH ECG via P-MODE.



A long push of the Prg/Set button switches the device to programming mode. Another push, but a short one this time, starts the initialisation and search processes. First, all ECGs connected to this DALI Segment are reset automatically, all previously assigned groups and parameters are deleted. Secondly, all ECGs are searched for by their randomly generated long address and identified in ascending order.

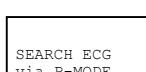


The search process can require several minutes depending on the number of connected ECGs. After completion of the search process, the number of discovered ECGs is shown on the display. By pushing the ESC button or by simply waiting for more than 30 seconds, the parent menu item is again activated.

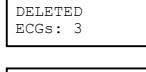
Submenu POST INSTALLATION – Level 2



A short push on the Prg/Set key leads from level 1 menu POST INSTALLATION to the submenu SEARCH ECG via P-MODE.



A long push of the Prg/Set button switches the device to programming mode. Another push, but a short one this time, starts the verification and search process. The connected ECGs are searched for by their long addresses. The result is compared with the previous configuration. If ECGs have been removed from the DALI-Segment, their corresponding entries and settings are automatically deleted from the DALI gateway. During the verification process, the number of deleted ECGs is summarized on the display.

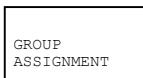


The Gateway then searches for new ECGs within the DALI-Segment. New ECGs are automatically reset and all previously assigned parameters are deleted. The search process can require several minutes depending on the number of connected ECGs. During the search process, the number of new ECGs that are discovered is summarized on the display.

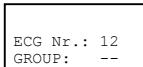


After completion of the verification and of the search process, the number of deleted and new ECGs are shown on the display (# deleted ECGs on the left / # new ECGs on the right). By pushing the ESC button or by simply waiting for more than 30 seconds, the parent menu item is again activated.

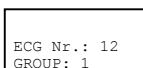


INSTABUS DALI gateway REG-K/1/16/64**Art. no. 680129**Submenu GROUP ASSIGNMENT – Level 2 and 3

A short push on the Prg/Set key leads from level 1 menu GROUP ASSIGNMENT to a submenu allowing to assign ECGs to one of the 16 DALI groups. Within the submenu, it is possible to create new assignments for ECGs or to modify existing ones.



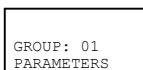
A short push on the SCROLL button navigates from one ECG to the next. The first display line shows the number of the selected ECG. The corresponding light will blink for as long as its ECG is selected. This allows to easily identify which number is assigned to which light.



A long push of the Prg/Set button switches the device to programming mode. A short push on the SCROLL-Button allows to select the group to which the ECG is to be assigned. Once the assignment completed, a short push on the Prg/Set button will confirm and save the selection. For a new installation, this task needs to be completed for each ECG that was discovered during the search process. By pushing the ESC button or by simply waiting for more than 30 seconds, the parent menu item is again activated.

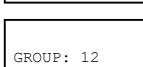
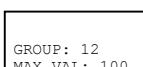
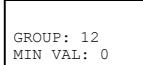
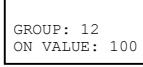
Submenu GROUP PARAMETERS – Level 2 and 3

A short push on the Prg/Set key leads from level 1 menu GROUP PARAMETERS to a submenu allowing to set all parameters of a DALI Group. It is recommended to set the group parameters within ETS and only use this function for quick modification of individual settings. Please note that each ETS download overwrites these manual settings.

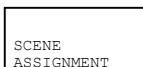


A short push of the SCROLL button navigates from one group to the next. The first display line indicates the current group number. A long push of the Prg/Set button switches the device to programming mode and the parameter type and its value are shown on the second display line. The following parameters can be modified directly on the device:

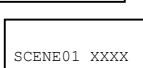
- Initial (ON) Value: 0 to 100% in 5% steps
- Lower Dimming Limit (MIN VAL): 0 to 40% in 5% steps
- Upper Dimming Limit (MAX VAL): 50 to 100% in 5% steps
- Dimming Duration for 0..100%: 5 sec. to 60 sec.



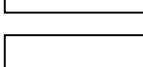
Once the programming mode is active, the first parameter (ON VALUE) is displayed. The parameter value can be changed with a short push of the SCROLL button. If no change is required, don't use the SCROLL button. A short push of the Prg/Set button saves the parameter value and jumps to the next parameter of this group (MIN VAL) which can in turn be modified or not. A short push again of the Prg/Set button saves the parameter value and jumps to the next parameter of this group (MAX VAL) which can in turn be modified or not. And finally another short push of the Prg/Set button saves the parameter value and jumps to the next parameter of this group (DURATION) which can in turn be modified or not. A short push of the Prg/Set button saves the value and jumps again to the first parameter (ON VALUE). It is possible to escape back to the next higher menu with the ESC button or by simply waiting for more than 30 seconds.

Submenu SCENE ASSIGNMENT – Level 2 and 3

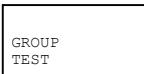
A short push on the Prg/Set key leads from level 1 menu SCENE ASSIGNMENT to a submenu allowing to associate DALI Groups to up to 16 DALI Scenes.



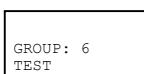
With a short push of the SCROLL button, it is possible to navigate from one scene to the next. The first display line shows the number of the currently selected scene. Symbols show which of the 16 groups are associated with this scene. An 'X' at the corresponding location means that the group is part of the scene, a '-' means that it is not. The four characters following the scene number represent groups 1 through 4, the 12 characters on line two represent groups 5 through 16.



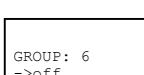
A long push of the Prg/Set button switches the device to programming mode. A blinking cursor on the first X shows that Group 1 is currently selected. A short push of the SCROLL button toggles between selected ('X') and not selected ('-'). A short push of the Prg/Set button moves the cursor to the next Group field, which in turn can be selected or not with the SCROLL button, etc. Once all 16 Groups have been moved through, the configuration is saved and immediately active. After completion of the last group, this submenu is closed automatically and the device returns to the next higher menu item. To avoid saving changes, don't complete the line, and use the ESC button instead, or simply wait for more than 30 seconds.

INSTABUS DALI gateway REG-K/1/16/64**Art. no. 680129**Submenu GROUP TEST – Level 2 and 3

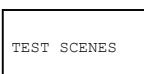
A short push on the Prg/Set key leads from level 1 menu GROUP TEST to a submenu allowing to switch individual DALI Groups or all DALI Groups (via broadcast) at the same time for testing purposes.



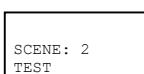
A short push on the SCROLL button within the submenu allows to navigate from one group to the next. The currently active group is shown on the first display line.



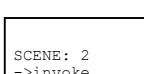
A long push on the Prg/Set button switches the device to programming mode. A short push on the SCROLL button sets the desired action (options $->on$ or $->off$), which then needs to be committed with a short push on the Prg/Set button. Pushing the ESC button or simply waiting for more than 30 seconds cancels the operation and leads back to the parent menu item.

Submenu TEST SCENES – Level 2 and 3

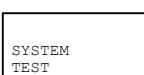
A short push on the Prg/Set key leads from level 1 menu TEST SCENES to a submenu allowing to switch individual DALI scenes for testing purposes or to save current lighting settings to a given scene number.



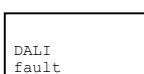
A short push on the SCROLL button navigates from one scene to the next. The currently active scene is shown on the first display line.



A long push on the Prg/Set button switches the device to programming mode. A short push on the SCROLL button sets the desired action (options $->invoke$ or $->save scene$), which then needs to be committed with a short push on the Prg/Set button. Pushing the ESC button or simply waiting for more than 30 seconds cancels the operation and leads back to the parent menu item.

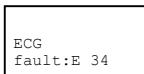
Submenu SYSTEM TEST – Level 2 and 3

A short push on the Prg/Set key leads from level 1 menu SYSTEM TEST to a submenu allowing to view individual failure messages.

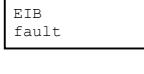
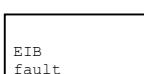


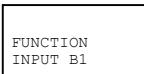
It is clearly shown on the display if there are failures or not. The following failure types are recognized and shown on the display and also signaled by the red failure LED (ERR):

- Short circuit on the DALI bus
- Lamp failure with indication of the ECG number
- ECG failure with indication of the ECG number
- EIB Bus not present

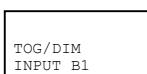


A short circuit on the DALI bus is a failure that prevents the device from recognizing any other failure that may be present. By contrast, all other failure types are detected simultaneously. With a short push on the SCROLL button, it is possible to navigate from one failure message to the next. Lamp and ECG failures show the ECG number, so that the error can be located immediately within the group. Pushing the ESC button or simply waiting for more than 30 seconds leads back to the parent menu item.



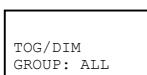
INSTABUS DALI gateway REG-K/1/16/64**Art. no. 680129**Submenu FUNCTION INPUT B1 – Level 2 and 3

A short push on the Prg/Set key leads from level 1 menu FUNCTION INPUT B1 to a submenu allowing to select the function of the conventional pushbutton or presence detector connected to the binary input B1.

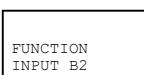


A short push on the SCROLL button navigates from one function to the next. The first display line shows the selected function. The following functions are available:

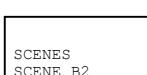
- ON pushbutton issues ON command
- OFF pushbutton issues OFF command
- TOGGLE pushbutton toggles between ON and OFF
- ON/DIM short push on the button issues ON command, long push dims up and issues a stop telegram when pushbutton is released.
- OFF/DIM short push on the button issues OFF command, long push dims down and issues a stop telegram when pushbutton is released.
- TOG/DIM short push toggles between ON and OFF, long push dims up or down and issues a stop telegram when pushbutton is released. (Single Button Dimming)
- SCENE pushbutton invokes a scene



A long push on the Prg/Set button switches the device to programming mode. A short push on the SCROLL button allows to select the group or the scene with which the function is to be associated. A short push on the Prg/Set button confirms the selection and exits. Pushing the ESC button or simply waiting for more than 30 seconds cancels the operation and leads back to the parent menu item.

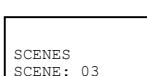
Submenu FUNCTION INPUT B2 – Level 2 and 3

A short push on the Prg/Set key leads from level 1 menu FUNCTION INPUT B2 to a submenu allowing to select the function of the conventional pushbutton or presence detector connected to the binary input B2.



A short push on the SCROLL button navigates from one function to the next. The first display line shows the selected function. The following functions are available:

- ON pushbutton issues ON command
- OFF pushbutton issues OFF command
- TOGGLE pushbutton toggles between ON and OFF
- ON/DIM short push on the button issues ON command, long push dims up and issues a stop telegram when pushbutton is released.
- OFF/DIM short push on the button issues OFF command, long push dims down and issues a stop telegram when pushbutton is released.
- TOG/DIM short push toggles between ON and OFF, long push dims up or down and issues a stop telegram when pushbutton is released. (Single Button Dimming)
- SCENE pushbutton invokes a scene



A long push on the Prg/Set button switches the device to programming mode. A short push on the SCROLL button allows to select the group or the scene with which the function is to be associated. A short push on the Prg/Set button confirms the selection and exits. Pushing the ESC button or simply waiting for more than 30 seconds cancels the operation and leads back to the parent menu item.

INSTABUS DALI gateway REG-K/1/16/64**Art. no. 680129****First Installation of a DALI Segment**

Once the wiring of the device has been completed according to the above instructions, the DALI segment can be commissioned directly with the device independently of the EIB system. As long as the EIB is not connected and application program is not loaded, the red failure LED (ERR) will be lit, but the commissioning can proceed nevertheless. Here are the steps to follow:

1. For a first installation, it is necessary to start by searching for all connected DALI ECGs using the menu NEW INSTALLATION. Once all devices are discovered, the display shows (ESC) right after the number of discovered ECGs to prompt the user to press the ESC button to exit this menu while giving him a chance to read or make a note of the number.
2. In a second step, all discovered devices have to be individually assigned to DALI groups, using the GROUP ASSIGNMENT menu. The basic commissioning is completed with this second step.

Testing:

- Using the menu GROUP TEST, individual groups can be switched ON and OFF for testing and quality control purposes.

Optional Settings:

- If pushbuttons are connected to the inputs of the DALI gateway, the menu FUNCTION INPUT B1 and B2 allow to select the desired function for each input. This allows basic operation of the DALI segment in case the EIB is not operational at that point (e. g. for Construction Site Operation). Subsequently the binary inputs can be used as a cost effective complement to the system for example to connect conventional presence or movement detectors or simply pushbuttons.
- Finally it is possible to assign groups to scenes using the menu SCENE ASSIGNMENT

This completes the commissioning of the DALI Segment. The EIB programming and commissioning can be started from that point on using ETS and the DaliControl application program.

In case of claims goods should be returned to our Service Center:

Merten GmbH & Co. KG

Lösungen für intelligente Gebäude

Service Center

Fritz-Kotz-Straße 8

Industriegebiet Bomig-West

D-51674 Wiehl

Telefon: +49 2261 702-204

Telefax: +49 2261 702-136

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For technical questions please contact our InfoLine:

Phone: +49 1805 212581* oder +49 800 63783640

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E-Mail: infoline@merten.de

*kostenpflichtig / fee required

DaliControl 7303/1.0

Using the application program

Application program:

Program name: DaliControl 7303/1.0
Product family: 1.3 Interfaces/Gateways
Product type: 1.3.13 DALI gateway
Manufacturer: Merten

suitable for:

Product name: INSTABUS DALI gateway REG-K/1/16/64
Art. no.: 680129

Function description

General information

The DALI gateway connects the EIB installation bus, which covers all utilities, to the DALI bus, which is designed solely for lighting control. Cost-effective digital electronic input units with DALI interface can therefore be integrated into an EIB complete system in the form of a subsystem and operated by a wide range of available EIB devices.

The DALI gateway is used as DALI master and power supply for the connected electronic input units. Up to 64 electronic input units can be switched and dimmed in 16 groups for each gateway. Additionally, up to 16 lightscenes can be programmed and retrieved at the individual groups. Brightness values and error messages are available as status objects on the EIB and can be visualised using appropriate display units. DALI commissioning (assignment of the DALI electronic input units to the individual groups) is carried out with the help of the integrated display and the control keys. The setting of the individual group parameters and the assignment of the scenes can also be carried out using the device's control keys or, alternatively, directly in ETS. Scenes that have already been programmed can be modified by the user at the device at all times.

In addition to the EIB and the DALI interfaces, the device has two passive inputs for connecting conventional push-buttons or movement detectors directly to the device.

Commissioning, testing as well as operating the DALI devices via the passive binary inputs can also be carried out without connecting the EIB line (e.g. "building site operation").

As a REG-K device (6 modules), the DALI gateway is suitable for installation on DIN rails in standard sub-distribution boards. The bus is connected using a bus terminal. Network, DALI and push-button cables are connected using screw terminals on the device.

The application program DaliControl 7303/1.0 is available for operating the device.

Communication objects

A maximum of 95 communication objects are available for the communication of the device via the *EIB*. In parts, the objects are displayed or hidden, depending on how the parameters are set. The communication objects can be linked using 95 associations with 95 group addresses.

5 objects are assigned to each of the 16 DALI groups.

The objects for group 1 are:

Obj	Function	Object name	Type	Flags
0	On/Off	Switch, group 1	1 bit	CWT

The lamps assigned to DALI group 1 are switched to the set switch ON or switch OFF value using this object. Whether switching is carried out immediately or dimmed to the final value when the object is received can be set in the parameters. The dimming time can be adjusted independent of the dimming time when the dimming telegram is received.

1	Brighter/Darker	Dim, group 1	4 bit	CWT
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The lamps assigned to DALI group 1 are dimmed up or down using this object. The dimming time required to dim from 0% to 100% can be set in the parameters.

2	Value	Value, group 1	1 byte	CWT
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The lamps assigned to DALI group 1 are set to a brightness value using this object. Whether the value is accepted immediately or dimmed to the final value when the object is received can be set in the parameters. The dimming time can be adjusted independent of the dimming time when the dimming telegram is received.

3	On/Off Value	Status, group 1 Status, group 1	1 bit 1 byte	CRT
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The status of the lamps assigned to DALI group 1 can be provided using this object. Whether a 1 bit status (On/Off) or a 1 byte value status is transmitted, can be set in the parameters. The object type changes, depending on the parameter settings. The requirement for sending the object can be adjusted.

4	Error	Error status, group 1	1 bit	CRT
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This object is used for information about the error status within a DALI group. Whether only a lamp malfunction, a malfunction of the electronic input unit or both types of malfunction result in an error status can be set in the parameters. An object value of 0 means that no malfunction has occurred within the group. A value of 1 means that at least one malfunction has been detected within the group. The requirement for sending the object can be adjusted.

Like objects 0 to 4 for DALI group 1, objects 5 to 9 are assigned to DALI group 2 in the same way. The same applies to objects 10 to 14 for DALI group 3 etc. up to objects 75 to 79 for DALI group 16.

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Objects 80 to 88 are required for retrieving and programming set lightscenes. Whether scenes with 1 bit telegrams or 1 byte telegrams are retrieved can be set in the parameters. Bear in mind that the assignment of the individual DALI groups to the various scenes at the device is carried out using the operating menu (cf. also operating and installation instructions).

If 1 bit scenes are used, objects 80 to 88 are displayed.

Obj	Function	Object name	Type	Flags
80	Call up a scene	Scenes 1/2	1 bit	CW

This object is used to call up scene 1, when a '0' telegram is received and to call up scene 2, when a '1' telegram is received. The object can also be used to save the set lighting state in scene 1 or 2. For this purpose, the programming mode object (no. 88) must be set to 1 before a telegram is received.

81	Call up a scene	Scenes 3/4	1 bit	CW
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This object is used to call up scene 3, when a '0' telegram is received and to call up scene 4, when a '1' telegram is received. The object can also be used to save the set lighting state in scene 3 or 4. For this purpose, the programming mode object (no. 88) must be set to 1 before a telegram is received.

82	Call up a scene	Scenes 5/6	1 bit	CW
----	-----------------	------------	-------	----

This object is used to call up scene 5, when a '0' telegram is received and to call up scene 6, when a '1' telegram is received. The object can also be used to save the set lighting state in scene 5 or 6. For this purpose, the programming mode object (no. 88) must be set to 1 before a telegram is received.

83	Call up a scene	Scenes 7/8	1 bit	CW
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This object is used to call up scene 7, when a '0' telegram is received and to call up scene 8, when a '1' telegram is received. The object can also be used to save the set lighting state in scene 7 or 8. For this purpose, the programming mode object (no. 88) must be set to 1 before a telegram is received.

84	Call up a scene	Scenes 9/10	1 bit	CW
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This object is used to call up scene 9, when a '0' telegram is received and to call up scene 10, when a '1' telegram is received. The object can also be used to save the set lighting state in scene 9 or 10. For this purpose, the programming mode object (no. 88) must be set to 1 before a telegram is received.

85	Call up a scene	Scenes 11/12	1 bit	CW
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This object is used to call up scene 11, when a '0' telegram is received and to call up scene 12, when a '1' telegram is received. The object can also be used to save the set lighting state in scene 11 or 12. For this purpose, the programming mode object (no. 88) must be set to 1 before a telegram is received.

86	Call up a scene	Scenes 13/14	1 bit	CW
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This object is used to call up scene 13, when a '0' telegram is received and to call up scene 14, when a '1' telegram is received. The object can also be used to save the set lighting state in scene 13 or 14. For this purpose, the programming mode object (no. 88) must be set to 1 before a telegram is received.

87	Call up a scene	Scenes 15/16	1 bit	CW
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This object is used to call up scene 15, when a '0' telegram is received and to call up scene 16, when a '1' telegram is received. The object can also be used to save the set lighting state in scene 15 or 16. For this purpose, the programming mode object (no. 88) must be set to 1 before a telegram is received.

88	Programming mode	Save scenes	1 bit	CWT
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After receiving a '1' telegram via this object, the device is set to programming mode. If programming mode is activated, the setting for the current lighting state in the respective scene is saved when one of the objects 80 to 87 is received. After saving, programming mode is deactivated and a '0' telegram is sent back to object 88. The programming mode is automatically closed 60 seconds after receiving a '1' telegram at object 88. After that, the reception of one of the telegrams 80 to 87 is once more interpreted as retrieving a scene.

If 8 bit scenes are used, then only object 88 is displayed.

Obj	Function	Object name	Type	Flags
88	Call up/save scenes	Scenes 1-16	1 byte	CW

This object is used to call up the respective scene from scenes 1 to 16, when a telegram is received with a value between 0 and 15. If the uppermost bit is also set (meaning a value from 128 to 143), the set lighting state is saved in the respective scene.

Call up	Save
Scene 1	0 128
Scene 2	1 129
Scene 3	2 130
Scene 4	3 131
Scene 5	4 132
Scene 6	5 133
Scene 7	6 134
Scene 8	7 135
Scene 9	8 136
Scene 10	9 137
Scene 11	10 138
Scene 12	11 139
Scene 13	12 140
Scene 14	13 141
Scene 15	14 142
Scene 16	15 143

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Objects 89 and 90 can be used to make the signal of the voltage-free push-button input available also to the EIB. The assignment of the push-button function is carried out at the device or by using the operating menu (cf. also operating and installation instructions). Bear in mind that even when setting parameters for the push-button as a dimming push-button for DALI groups for the EIB, only the switch object (short operation of the button) is available. When setting parameters for the push-button for calling up DALI scenes, the corresponding object has no function.

Obj	Function	Object name	Type	Flags
89	On/Off	Switch, input 1	1 bit	CRT
This object is used to make a switch signal available, depending on the assigned push-button function of voltage-free input 1.				
90	On/Off	Switch, input 2	1 bit	CRT
This object is used to make a switch signal available, depending on the assigned push-button function of voltage-free input 2.				

Objects 91 to 94 are used for information about fault conditions within the entire DALI segment. The objects are always sent when changes occur. They can however also be retrieved.

The following complete fault objects are available:

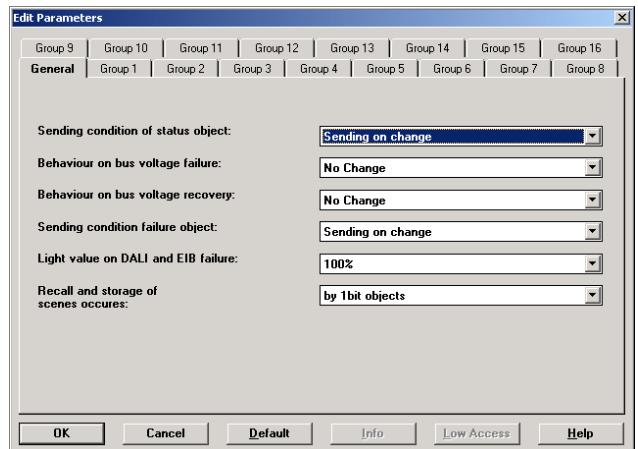
Obj	Function	Object name	Type	Flags
91	Error	Error status, all errors	1 bit	CRT
This object is used for information about the error status of the DALI segment, independent of the error type. The value 0 means that no error occurred. The value 1 means that there is an error in the segment.				
92	Error	Error status, DALI bus	1 bit	CRT
This object is used for information about the error status of the DALI short circuit. The value 0 means that no error occurred. The value 1 means that a DALI short circuit has occurred.				
93	Error	Error status, total Lamp malfunction	1 bit	CRT
This object is used for information about the error status regarding lamp malfunctions within the DALI segment. The value 0 means that no error occurred. The value 1 means that a malfunction has occurred in at least one of the lamps in the segment.				
94	Error	Error status, total Electronic input unit malfunction	1 bit	CRT
This object is used for information about the error status related to electronic input unit malfunctions within the DALI segment. The value 0 means that no error occurred. The value 1 means that a malfunction has occurred in at least one of the electronic input units in the segment.				

Parameters

For a better overview, the parameters in the application are spread out over various pages.

The following parameters are available:

General page:



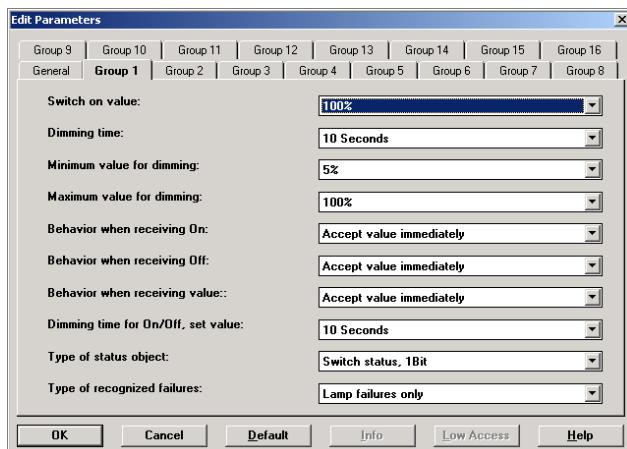
Parameters	Settings
Send condition light status	Only send on demand Send on change
Here the send condition for the light status of the DALI groups (4 th communication object of each group) are set.	
Behaviour on bus voltage failure	No change Switch to error value Switch off
Here you can set which lighting condition should be set in the case of an EIB bus voltage failure.	
Behaviour on bus voltage recovery	No change Switch to error value Switch off
Here you can set which lighting condition should be set on EIB bus voltage recovery.	
Send condition error status	Only send on demand Send on change
Here the send condition for the error status of the DALI groups (5 th communication object of each group) are set. The entire error statistics (objects no. 91 to 94) are always only sent on change.	
Light value on DALI and EIB errors	0 % 5 % 10 % (continued in steps of 5%)... 90 % 95 % 100 %
Here you can set which light value is to be set in the case of a DALI or EIB fault.	

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The scenes are called up and saved:	using 1 bit objects using 1 byte objects
Here you can set whether the scenes are called up and saved using 1 bit or 1 byte objects. The respective communication objects are displayed, depending on the setting.	

For each group, only one page is available for setting the group-specific parameters.

Groups 1 - 16:



Parameters	Settings
Value on being switched on:	0 % 5 % 10 % (continued in steps of 5%)... 90 % 95 % 100 %
Here the parameter settings are made for the light value set in the respective DALI group on receiving a '1' telegram.	
Dimming time	5 seconds 10 seconds 15 seconds 20 seconds 30 seconds 40 seconds 60 seconds
Here the setting is made for the time it should take to dim from 0% to 100% on receiving a dimming telegram (dimming speed).	
Minimum dimming value:	0% 5% 10% 15% 20% 25% 30%
The minimum dimming value is set here. The setting 0% means that the dimmer can also be used to switch off the light. You can always switch on the light using the dimmer.	

Minimum dimming value	50% 55% 60% (continued in steps of 5%)... 90% 95% 100%
The maximum dimming value is set here.	
Switching on behaviour	Apply value immediately Dim to the value
Here you can set whether the switch ON value should be applied immediately or whether to dim up to the switch ON value on receiving a '1' telegram.	
Switch off behaviour	Apply value immediately Dim to the value
Here you can set whether to switch off or dim to the OFF value on receiving a '0' telegram.	
Behaviour on setting the value	Apply value immediately Dim to the value
Here you can set whether the light value should be applied immediately or whether to dim up or down to the value on receiving a 1 byte telegram.	
Dimming time for On/Off, Setting the value:	10 seconds 15 seconds 20 seconds 30 seconds 40 seconds 1 minute 2 minutes 3 minutes 4 minutes 5 minutes 10 minutes 15 minutes 20 minutes
Here you can set the time for dimming from 0% to 100% on receiving an 'On', 'Off' or 'Set value' telegram, if the parameter was set to "Dim to the value".	
Type of status object	Switch status, 1 bit Value status, 0..100%
Here you can set whether the status object should only provide the ON/OFF switch status or the value status 0..100% for the respective DALI group.	
Recognisable error types:	No error status Only lamp malfunction Only electronic input unit malfunction Lamp and electronic input unit malfunctions
Here you can set for which malfunctions the error object of each respective group provides an error status.	