

DaliControl gc16

Order number: 4101-145-11

General use

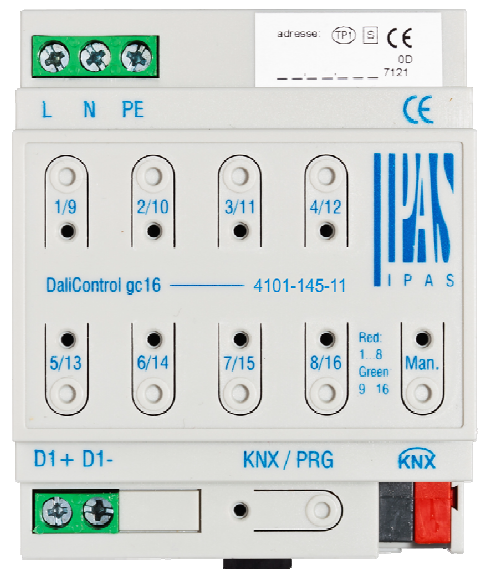
The IPAS DALI Gateway DaliControl gc16 is a device used to control ECGs with a DALI interface (in accordance with EN 62386) via the KNX installation bus. The device transforms switch and dim commands from the connected KNX system into DALI telegrams and status information from the DALI bus into KNX telegrams.

The DaliControl gc16 is a so-called category 1 device (according to EN 62386-103). This means the device must only be used in DALI segments with connected ECGs and **not** with other DALI control devices within the segment (no multi-master operation). The required power supply for the up to 64 connected ECGs comes directly from the DaliControl gc16. An additional DALI power supply is **not** required and **not** permitted.

The device comes in a 4TE wide DIN Rail casing so it can be directly integrated into the mains distribution box.

In addition to the pure gateway function, the DaliControl gc16 also offers numerous additional functions

- Addressing of up to 16 DALI groups
- Flexible DALI commissioning concept in the ETS5
- Coloured light control with the help of device type 8 ECGs
- Coloured light control depending on ECG sub-type:
 - Colour temperature (DT-8 Sub-Type Tc)
 - XY colour (DT-8 Sub-Type XY)
 - RGB (DT-8 Sub-Type RGBWAF)
 - HSV (DT-8 Sub-Type RGBWAF)
 - RGBW (DT-8 Sub-Type RGBWAF)
 - The DT-8 sub-type PrimaryN is **not** supported.
- Support of time scheduling programmes to control groups according to values and/or colour.
- Different operating modes such as permanent mode, night-time mode or staircase mode
- Integrated operating hours counter for each group with an alarm for when the maximum life-span has been reached
- Individual fault recognition with objects for each light/ECG
- Complex fault analysis at group/device level with number of faults and fault rate calculation
- Fault threshold monitoring with individually configurable threshold values
- Scene module for extensive scene programming
- "Quick exchange function" for easy replacement of individual faulty ECGs
- Manual control of group and broadcast telegrams via control buttons on the device (see application program description for operating instructions)
- Signalling of a fault status via LEDs on the device (see application program description)



DALI devices for individual battery emergency lights of device type DT-1 can be read by DaliControl gc16 and switched and controlled via DALI telegrams. However, DALI commands to start and export test results are **not** supported. We recommend using the DaliControl e64 for DT-1 devices.

The special surface for the configuration of DALI segments is designed as DCA (Device Control App) for the ETS5.

Please remember to install the corresponding etsapp in addition to the product database knxprod. The etsapp is available for download on the IPAS website or from Konnex.

Device types and accessories

At present the following DaliControl device types are available:

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DaliControl e64	Order number: 4101-145-01

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Scope of delivery

The following individual components are included in the delivery of the DaliControl gc16 device:

- Complete device with connected bus connector
- 1x heat shrinkable tubing 1.2 x 2cm for additional insulation of the bus cable
- Operating and mounting instructions
- Delivered in break-proof individual packaging

Application programs

At present the following application programs are available for the DaliControl gc16 device:

DaliControl gc16-01-0110

For function of the application program see application program description.

Installation advice

- **Risk of death by electric shock**
- The device is intended for interior installation in dry rooms.
- The device must only be installed and commissioned by an accredited electrical engineer.
- Please follow country-specific safety and accident prevention rules as well as all current KNX guidelines.
- Please follow country-specific rules and regulations for the planning and construction of installations, especially with regard to emergency lighting systems.
- For the installation, the device must be switched to zero potential.
- Do not open the device! Faulty devices must be returned to the manufacturer.

Technical data

Power supply

- Operating voltage 110 to 240 V, 50 to 60Hz AC or DC
- Maximum power consumption 9W, average power consumption 5W
- Bus power supply via KNX bus line, SELV 24V, ca. 5mA

Connectors

- Mains connector L N PE: Screw connector 3x 1- 2.5mm² single or threaded core
- DALI-Bus D+, D- : Screw connector 2x 1-2.5 mm² single or threaded core
- Bus line: Bus connector KNX, screwless 0.6...0.8mm, single core

Control elements

- Programming button to toggle between normal and addressing mode of the KNX
- 1 x button Man. to activate manual mode
- 8x buttons to toggle between groups in manual mode and to execute broadcast and service functions
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Display elements

- LED red: Indicates normal/addressing mode
- LED red/green/blue: Indicates manual mode and error message
- 8x LED red: Indicates group status and error messages

DALI-Bus output

- Connection of up to 64 ECGs in accordance with EN 62386
- DALI voltage ca. 16 VDC, short circuit proof max. 250mA, basic insulation (no SELV)
- Category-1 device (in accordance with EN 62386-103). No other control devices (DALI-Master) must be used.

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- Additional DALI power supply is not required or permitted.

Mechanical data

- DaliControl e64 casing: Plastic ABS – V0
- Dimensions REG casing 4TE:
 - Width: 72mm
 - Height: 55mm
 - Length: 86mm
- Weight: ca. 150 g
- Mounting: 35mm DIN rail

Electrical safety

- Pollution class: 2
- Protection type (in accordance with EN 60529): IP20
- Protection type (in accordance with IEC 1140): I
- Overvoltage category: III
- KNX bus: SELV DC 24 V
- DALI bus: 16V DC, 250mA basic insulation (no SELV)

EMC requirements

Complies with EN40428, EN61000-6-2 and EN61000-6-3

Environmental conditions

- Weather resistance: EN60721-3-3 class 3k5
- Environmental conditions during operation: -5°C to +45°C
- Storage temperature -25°C bis +70°C
- Rel. humidity (non condensing): 5 % to 93 %

Certification

KNX certified

CE-signage

According to EMC guidelines (residential and commercial buildings), low voltage guidelines

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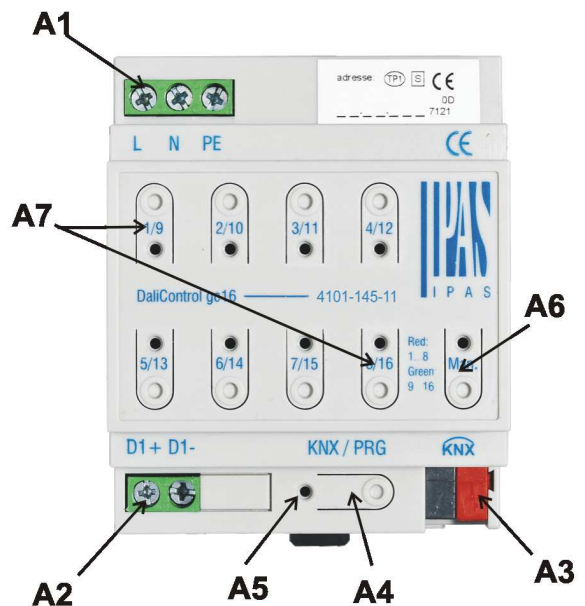
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Location and function of display and control elements

The device connectors as well as the programming button and programming LED that are required for KNX commissioning, are only accessible in the distribution box when the cover is removed.

The buttons required to activate manual control and to operate groups and commands as well as the status and control LEDs are accessible when the cover is closed.

- A1: Mains connection
- A2: DALI output
- A3: KNX bus connector
- A4: Programming button normal/addressing mode
- A5: Programming LED to display normal/addressing mode
- A6: Operating button/signal LED RGB manual mode
- A7: 8x operating button/signal LED red group control/status, broadcast and service functions



You must always follow the pin assignment as labelled on the casing!

Mounting and wiring

As an REG device the DaliControl gc16 is suitable for mounting in distribution boxes on 35 mm DIN rails. To mount the device it must be angled to slide onto the DIN rail from above and then locked into place with a downward movement. Please make sure that the security latch at the bottom side of the device snaps into place and that the device is firmly attached to the rail.

To dismantle the device, the security latch can be pulled downwards with a suitable tool and then the device can be removed from the rail.

After the device has been inserted, the cable for the DALI bus should be attached to the upper left connector first. In accordance with EN 62386, the DALI control lines can be carried in a 5-wired cable together with the power supply (simple basic insulation is sufficient). However, please make sure that these are labelled clearly. For the entire DALI installation of a segment, a maximum cable length of 300m must not be exceeded. (Recommended cross-sectional area 1.5mm²).

The power supply is connected to the top left-hand side connector in the order indicated on the casing.

To connect the KNX cable, a standard bus connector is plugged into the respective entry on the device. **Attention: Please make sure that there is double basic insulation between the KNX installation and the power supply. To do so, please insulate the wires of the KNX cable up to the bus connector with the enclosed shrinkable tubing.**

Once the connection is complete and the power supply is turned on, you can start commissioning the DALI segment and programming with ETS. For all further processes, please see the application program description.