Operating instructions

KNX Universal Dimmer 4CH
Art. no. IXUDS0004NC-IND

Panasonic
Life Solutions India Pvt. LTD.
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Thane-400 607, Maharashtra, India

23.04.2025
82402735

Table of contents

1 Safety instructions

Electrical devices may be mounted and connected only by electrically skilled persons.

Serious injuries, fire or property damage are possible. Please read and follow the manual fully.

Danger of electric shock. Always disconnect before carrying out work on the device or load. In so doing, take all the circuit breakers into account, which support dangerous voltages to the device and or load.

Danger of electric shock. Device is not suitable for disconnection from supply voltage because mains potential even is applied on the load when the output is switched off. Always disconnect before carrying out work on the device or load. To do so, switch off all associated circuit breakers.

Risk of destruction of the dimmer and load if the set operating mode and load type do not match. Set the correct dimming principle before connecting or exchanging the load.

Fire hazard. For operation with inductive transformers, each transformer must be fused on the primary side in accordance with the manufacturer's instructions. Only safety transformers according to EN 61558-2-6 may be used.

These instructions are an integral part of the product, and must remain with the end customer.

2 Device components

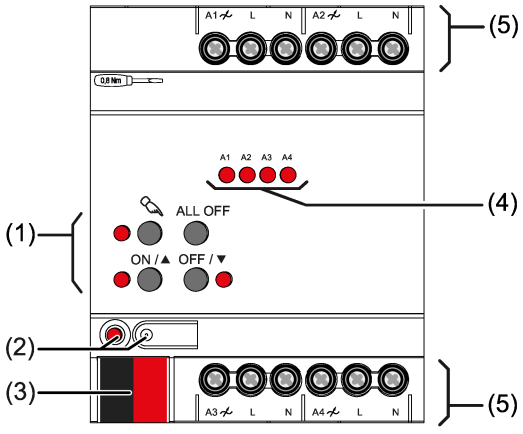

Figure 1: Device components

(1) Button field for manual operation
(2) Programming button and LED
(3) KNX connection
(4) Status LEDs for outputs
(5) Load connections

3 Function

System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite for proper understanding.

The function of this device depends upon the software. Detailed information on software versions and the respective scope of functions as well as the software itself can be obtained from the manufacturer's product database.

The device can be updated. Firmware can be easily updated with the KNX Service app (additional software).

The device is KNX Data Secure capable. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project. Detailed technical knowledge is a prerequisite. A device certificate, which is attached to the device, is required for safe commissioning. During mounting, the device certificate must be removed from the device and stored securely.

The device is planned, installed and commissioned with version 5.7.3 or higher of the ETS.

Intended use

- Switching and dimming of
  incandescent lamps,
  HV halogen lamps,
  dimmable HV-LED lamps,
  dimmable inductive transformers with LV halogen or LV LED lamps,
  dimmable electronic transformers with LV halogen or LV LED lamps
- Operating in KNX systems
- Mounting on DIN rail according to DIN EN 60715 in sub-distribution unit

If inductive or electronic transformers are connected, observe the data of the transformer manufacturer on loads and the dimming principle.

HV-LED lamps generate high pulsed currents, when they are operated in the leading edge phase control.

Our dimmers take into account the different electronic characteristics of most LED lamps found on the market. However, it cannot be guaranteed that in individual cases the desired results may not be achieved.

Product characteristics

- Outputs can be operated manually, construction site mode
- Feedback in manual mode and in bus mode
- Disabling of individual outputs manually or by bus
- Status feedback

- KNX Data Secure compatible
- Updateable with KNX Service App Panasonic Life Solutions India

Dimming operation characteristics

- Automatic or manual selection of the dimming principle suitable for the load
- Protected against no-load, short-circuit and overheating
- Signal in the event of a short-circuit
- Feedback of the switching position and the dimming value
- Parameterisable switch-on and dimming behaviour
- Time functions: switch-on delay, switch-off delay, staircase lighting timer with run-on time
- Light scene operation
- Status indicator of the outputs via LED
- Operating hours counter
- Mains failure longer than approx. 5 seconds leads to switch-off of the dimming actuator. Depending on the parameter setting, the connected load is calibrated after mains voltage return.
- Increase in output power possible through parallel switching of multiple outputs
- Power extension possible by means of power boosters.

Delivery state: Construction site mode, outputs can be operated using button field.

Flickering of the connected lamps due to undershoot of the specified minimum load or through centralised pulses from the power stations. This does not represent any defect in the device.

Logic function characteristics

- Logic gate
- Transformer (conversion)
- Disabling element
- Comparator
- Limit value switch

4 Operation

Operating elements

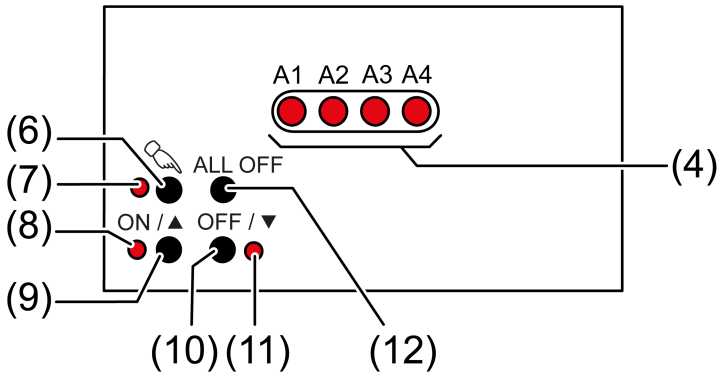

Figure 2: Operating elements

(4) Status LEDs for outputs
- on: output switched on, 1...100%
- flashes slowly (1 Hz): short-circuit or manual mode
- flashes quickly (2 Hz): overload, mains voltage failure or firmware update

(6) Button
- Manual operation

(7) LED
- on: continuous manual mode

(8) LED **ON**/▲
- on: selected output on, 1...100%
- flashes: Firmware update

(9) Button **ON**/▲
- Switch on/increase brightness

(10) Button **OFF**/▼
- Switch off/reduce brightness

(11) LED **OFF**/▼
- on: Selected output off
- flashes: Firmware update

(12) Button **ALL OFF**
- Switching off all outputs

The LEDs (4) optionally indicate the states of the outputs only temporarily (parameter-dependent).

Operating modes

- Bus operation: operation via push-button sensors or other bus devices
- Temporary manual control: manual control locally with keypad, automatic return to bus control

– Continuous manual mode: exclusively manual operation on the device

ⓘ No bus operation is possible in manual mode.

ⓘ After a bus failure and restoration the device switches to bus operation.

ⓘ The manual mode can be disabled in ongoing operation via a bus telegram.

Switching on temporary manual operation mode

Operation using the button field is programmed and not disabled.

- Press ✋|→ (6) button briefly.
  LED ✋|→ (7) flashes, LED **A1...** (4) of the first configured output flashes.

  Short-time manual operation is switched on.

ⓘ After 5 s without a button actuation, the actuator returns automatically to bus operation.

Switching off temporary manual operation mode

The device is in short-term manual mode.

- No button-press for 5 s.

  - or -

- Press ✋|→ (6) button briefly as many time as necessary until the actuator leaves the short-time manual mode.
  Status LED **A1...** (4) no longer flash, but rather indicate the output status.

  Short-time manual operation is switched off.

  When switching off the manual control, the outputs, depending on the programming, switch to the active position, e.g. forced position, logic operation.

Switching on permanent manual operation mode

Operation using the button field is programmed and not disabled.

- Press the ✋|→ (6) button for at least 5 s.

  LED ✋|→ (7) lights, LED **A1...** (4) of the first configured output flashes.

  Continuous manual mode is switched on.

Switching off permanent manual operation mode

The device is in permanent manual operation mode.

- Press the ✋|→ (6) button for at least 5 s.
  LED ✋|→ (7) is off.

  Continuous manual mode is switched off. Bus operation is switched on.

When switching off the manual control, the outputs, depending on the programming, switch to the active position, e.g. forced position, logic operation.

Operating the outputs

The device is in permanent or temporary manual operation mode.

- Press the button ✎ (6) briefly as many times as necessary until the desired output is selected.

  The LED of the selected output **A1...** (4) flashes.

  The LEDs **ON**/▲ (8) and **OFF**/▼ (11) indicate the status.

- Operate output with **ON**/▲ (9) button or **OFF**/▼ (10) button.
  Short: switch on/off.
  Long: dim brighter/darker.
  Release: Stop dimming.

  The LEDs **ON**/▲ (8) and **OFF**/▼ (11) indicate the status.

ⓘ Short-term manual mode: After running through all of the outputs the device exits manual mode after another brief actuation.

Switching off all outputs

The device is in permanent manual operation mode.

- Press the button **ALL OFF** (7).

  All outputs are shut off.

Disabling outputs

The device is in permanent manual operation mode. The bus control can be disabled (ETS parameter).

- Press the button ✎ (6) repeatedly until the LED **A1...** (4) of the desired output flashes.
- Press the **ON**/▲ (9) and **OFF**/▼ (10) buttons simultaneously for approx. 5 s.

  Selected output is disabled.

  The status LED **A1...** (4) of the selected output flashes quickly.

ⓘ A disabled output can be operated in manual mode.

Re-enabling outputs

The device is in permanent manual operation mode. One or more outputs were disabled in manual mode.

- Press the button ✋|→ (6) repeatedly until the output to be unlocked is selected.
- Press the **ON**/▲ (9) and **OFF**/▼ (10) buttons simultaneously for approx. 5 s.

  Disabling is deactivated.

LED **A1...** (4) of the selected output flashes slowly.

5 Information for electrically skilled persons

DANGER!

Mortal danger of electric shock.

Disconnect the device. Cover up live parts.

5.1 Mounting and electrical connection

Mount device

In secure operation (prerequisites):

- Secure commissioning has been activated in the ETS.
- Device certificate entered/scanned or added to the ETS project. A high resolution camera should be used to scan the QR code.
- Document all passwords and keep them safe.

Observe the ambient temperature. Ensure sufficient cooling.

- Maintain a distance of 18 mm, 1 HP when operating multiple dimmers or power units within the same control cabinet.
- Mount device on DIN rail.
- In secure operation: The device certificate must be removed from the device and stored securely.

Connect device

- Connect bus line with KNX device connection terminal observing the correct polarity.
- Attach the cover cap to the KNX connection as protection against hazardous voltages.

CAUTION!

Danger of destruction. 400 V are shorted when outputs switched in parallel are connected to different outer phase conductors.

The device will be destroyed.

Always connect outputs switched in parallel to the same outer phase conductor.

Delivery state: The outputs can be operated with manual control.

In the "Universal" operating mode, the dimming actuator only calibrates itself again after disconnection of the load and also after commissioning using the ETS.

Capacitive-inductive mixed load is not permitted.

For LED leading edge phase control: Connect a maximum of 2 electronic transformers per output.

Connect 600 Watt LED lamps at most per 16 ampere circuit breaker. When connecting transformers, observe the data of the transformer manufacturer.

Several dimmer outputs can be combined for dimming greater lamp loads. Only utilise parallel-switched outputs up to 95 % each.

Observe delivery state. Before connecting parallel outputs and switching on, program the dimming actuator with ETS to the changed output configuration.

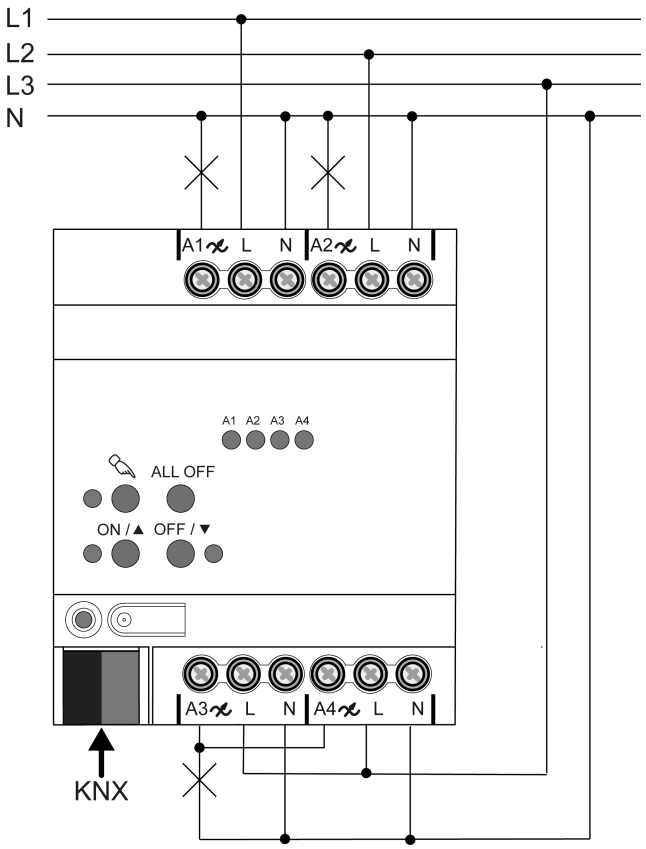

Figure 3: Device connection (connection example)

- Connect the lamp loads according to the connection example.

5.2 Commissioning

Loading the physical address and application program

- Press the programming button.
  The programming LED lights up.
- Load the physical address and application program with the ETS.

Safe-state mode

The safe-state mode stops the execution of the loaded application program.

Only the system software of the device is still functional. ETS diagnosis functions and programming of the device are possible. Manual operation is not possible.

Activating safe-state mode

- Switch off the bus voltage or remove the KNX device connection terminal.
- Wait approx. 15 s.
- Press and hold down the programming button.
- Switch on the bus voltage or attach the KNX device connection terminal. Release the programming button only after the programming LED starts flashing slowly.

  Safe-state mode is activated.

  The programming mode can also be switched on and off in the safe-state mode as usual by briefly pressing the programming button again. The programming LED stops flashing if the programming mode is active.

Deactivating safe-state mode

- Switch off bus voltage (wait approx. 15 s) or carry out ETS programming.

Master reset

The master reset restores the basic device settings (physical address 15.15.255, firmware remains in place). The device must then be recommissioned with the ETS. Manual operation is possible.

In secure operation: A master reset deactivates device security. The device can then be recommissioned with the device certificate.

Performing a master reset

Prerequisite: The safe-state mode is activated.

- Press and hold down the programming button for > 5 s.

  The programming LED flashes quickly.

  The device performs a master reset, restarts and is ready for operation again after approx. 5 s.

Resetting the device to the default settings

The device can be reset to factory settings at KNX Service app. This function uses the firmware contained in the device that was active at the time of delivery (delivered state). Restoring the factory settings causes the device to lose its physical address and configuration.

6 Technical data

Rated voltage	AC 110 ... 230 V ~
Mains frequency	50 / 60 Hz
Power loss	Max. 7 W
Standby power	approx. 0.16 W per channel
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C

Connected load per channel depends on the connected lamps and the set load type: (see figure 4), (see figure 5)

	ETS parameter load type
UNI	universal (with automatic calibration procedure)
⌓	conv. transformer (inductive / leading edge phase control)
LED ⌓	LED (leading edge phase control)
◿	electr. transformer (capacitive / trailing edge phase control)
LED ◿	LED (trailing edge phase control)

		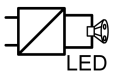	
230V			
	W	W	VA
UNI	1 ... 35	20 ... 100	20 ... 100
⌓	—	—	20 ... 100
LED ⌓	1 ... 35	20 ... 100	—
◿	1 ... 200	20 ... 200	—
LED ◿	1 ... 200	20 ... 200	—
110V			
	W	W	VA
UNI	1 ... 18	20 ... 50	20 ... 50
⌓	—	—	20 ... 50
LED ⌓	1 ... 18	20 ... 50	—
◿	1 ... 100	20 ... 100	—
LED ◿	1 ... 100	20 ... 100	—

Figure 4: LED lamp loads

230V			
	W	W	VA
UNI	20 ... 225	—	20 ... 210
	20 ... 210	—	20 ... 210
LED	20 ... 210	—	—
	20 ... 225	20 ... 225	—
LED	20 ... 225	20 ... 225	—
110V			
	W	W	VA
UNI	20 ... 120	—	20 ... 110
	20 ... 110	—	20 ... 110
LED	20 ... 110	—	—
	20 ... 120	20 ... 120	—
LED	20 ... 120	20 ... 120	—

Figure 5: conventional lamp loads

Capacitive-inductive mixed load is not permitted.

Connection

Clampable conductor cross-section	
Connection torque for screw terminals	max. 0.8 Nm
Installation width	72 mm / 4 HP

KNX

KNX medium	TP256
Commissioning mode	S mode
Rated voltage KNX	DC 21 ... 32 V SELV
Current consumption KNX	6 ... 15 mA
Connection mode KNX	Device connection terminal

7 Troubleshooting

Connected LED lamps switch off in the lowest dimming position or flicker

- The set minimum brightness is too low.
- Increase minimum brightness.

Connected LED lamps flicker

Cause 1: Lamps are not dimmable.

- Check manufacturer's instructions.
- Exchange lamps for another type.

Cause 2: Dimming principle and lamps do not optimally match.

- For HV-LED: Check operation in another dimming principle, reduce connected load as well if necessary.
- For LV-LED: Check the lamp operating device and replace as necessary.
- With the "Universal" setting: Define the dimming principle manually.

Connected HV-LED lamps in the lowest dimming position are too bright; dimming range is too small

Cause 1: The set minimum brightness is too high.

- Reduce minimum brightness.

Cause 2: HV-LED trailing edge phase control dimming principle does not optimally match the connected lamps.

- Check operation in the "HV-LED leading edge phase control" setting, reduce connected load as well if necessary.
- Exchange lamps for another type.

Output has switched off.

Cause 1: Overheating protection has tripped.

Disconnect all outputs from the mains, switch-off the corresponding circuit breakers.

HV-LED trailing edge phase control: Reduce the connected load. Exchange lamps for another type.

HV-LED leading edge phase control: Reduce the connected load. Check the operation in the "HV-LED trailing edge phase control" setting. Exchange lamps for another type.

Let device cool down for at least 15 minutes. Check installation situation, ensure cooling, e.g. provide distance from surrounding devices.

Cause 2: Overvoltage protection has tripped.

HV-LED trailing edge phase control: Check the operation in the "HV-LED leading edge phase control" setting, reduce the connected load as well if necessary.

Exchange lamps for another type.

The response of the surge protection can be signalled by sending a short-circuit telegram or can be determined by polling the "short-circuit" communication object.

Cause 3: short-circuit in output circuit

Disconnect all outputs from the mains.

Eliminate short-circuit.

Switch on mains voltage to the outputs again. Switch the affected output off and on again.

When a short-circuit occurs the affected output switches off. Automatic restart when short-circuit is eliminated within 100 ms (inductive load) or 7 seconds (capacitive or ohmic load). After that lasting switch-off.

When a short-circuit occurs during the calibration process, the load calibrates itself again after the short-circuit is eliminated.

Cause 4: load failure.

Check load, replace lamp. For inductive transformers, check primary fuse and replace if necessary.

Manual control with button field not possible

Cause 1: Manual control has not been programmed.

Program manual control.

Cause 2: Manual control via bus disabled.

Enable manual control.

None of the outputs can be operated

Cause 1: All of the outputs are disabled.

Cancel disabling.

Cause 2: Manual mode active.

Deactivate manual mode (switch off continuous manual mode).

Cause 3: Application software missing or faulty.

Check and correct the programming.

All outputs off and not possible to switch on

Cause 1: bus voltage failure.

Check bus voltage.

Luminaires flicker or buzz, proper dimming not possible, device buzzes

Cause: wrong dimming principle set.

Installation or commissioning error. Disconnect device and luminaire, switch off circuit breaker.

Check installation and correct.

If the wrong dimming principle has been preselected: Set correct dimming principle.

If dimming actuator calibrates itself incorrectly, e.g. with highly inductive mains or long load cables: preselect correct dimming principle with commissioning.

8 Warranty

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

We provide a warranty as provided for by law.

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Life Solutions India Pvt. LTD.
3rd Floor, B wing, I-Think Techno Campus,
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Operating instructions

KNX Switch / Blind Actuator 6CH
Art. no. IXCAS0006NC-IND

KNX Switch / Blind Actuator 16CH
Art. no. IXCAS0016NC-IND

KNX Switch / Blind Actuator 24CH
Art. no. IXCAS0024NC-IND

Panasonic Life Solutions India Pvt. LTD.
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1 Safety instructions

Electrical devices may be mounted and connected only by electrically skilled persons.

Serious injuries, fire or property damage are possible. Please read and follow the manual fully.

Danger of electric shock on the SELV/PELV installation. Do not connect loads for mains voltage and SELV/PELV together to the device.

For parallel connection of several motors to an output it is essential to observe the corresponding instructions of the manufacturers, and to use a cut-off relay if necessary. The motors may be destroyed.

Use only venetian blind motors with mechanical or electronic limit switches. Check the limit switches for correct mastering. Observe the specifications of the motor manufacturers. Device can be damaged.

Do not connect any three-phase motors. Device can be damaged.

These instructions are an integral part of the product, and must remain with the end customer.

2 Device components

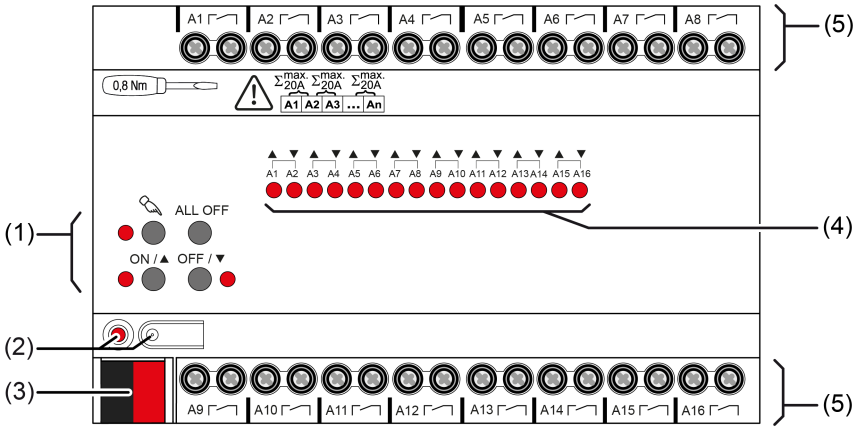

Figure 1: Device components

(1) Button field for manual operation
(2) Programming button and LED
(3) KNX connection
(4) Status LEDs for outputs
(5) Load connections (relay outputs)

3 Function

System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite for proper understanding.

The function of the device depends on the software. Detailed information on software versions and the respective scope of functions as well as the software itself can be obtained from the manufacturer’s product database.

The device can be updated. Firmware can be easily updated with the KNX Service app (additional software).

The device is KNX Data Secure capable. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project. Detailed technical knowledge is a prerequisite. A device certificate, which is attached to the device, is required for safe commissioning. During mounting, the device certificate must be removed from the device and stored securely.

The device is planned, installed and commissioned with version 5.7.7 or 6.1.0 or higher of the ETS.

Intended use

- Switching of electrical loads with potential-free contacts
- Switching of electrically-driven Venetian blinds, roller shutters, awnings and similar hangings
- Installation in sub-distribution unit on DIN rail according to DIN EN 60715

Product characteristics

- Outputs can be operated manually, construction site mode
- Manual switching between Venetian blind operation and switching operation without commissioning
- Feedback in manual mode and in bus mode
- Disabling of individual outputs manually or by bus
- Status feedback (e. g. wind alarm)
- KNX Data Secure compatible
- Can be updated with KNX Service app

Characteristics switch operation

- Operation as NO or NC contacts
- Feedback function
- Logic and restraint function
- Central switching functions with collective feedback

- Time functions: switch-on delay, switch-off delay, staircase lighting timer with run-on time
- Scene function
- Operating hours counter

Characteristics Venetian blinds operation

- Suitable for AC motors 110...230 V
- Operating modes "Venetian blind with slats", "Roller shutter/awning", "Venting louvre/roof window"
- Blind/shutter position directly controllable
- Slat position directly controllable
- Feedback of movement status, blind/shutter position and slat position
- Forced position through higher-level controller
- Safety function: 3 independent wind alarms, rain alarm, frost alarm
- Sun protection function with heating/cooling operation
- Disabling function (lock-out protection)
- Scene function

Logic function characteristics

- Logic gate
- Transformer (conversion)
- Disabling element
- Comparator
- Limit value switch

4 Operation

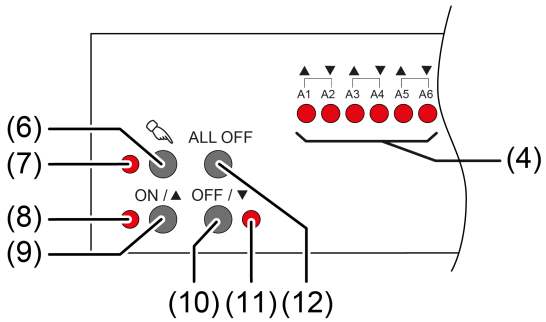

Figure 2: Operating elements

(4) Status LEDs for outputs
ON: Relay output closed
OFF: Relay output opened
Flashes slowly: Output in manual mode selected
Flashes quickly: Output disabled via continuous manual mode

(6) Button
Manual operation

(7) LED
ON: Continuous manual mode active/Flashing: Temporary manual mode active

(8) LED **ON**/▲
ON: Relay outputs closed, manual mode active

(9) Button **ON**/▲
Short: Switch on, adjust slats or stop
Long: Move hanging upwards

(10) Button **OFF**/▼
Short: Switch off, adjust slats or stop
Long: Move hanging downwards

(11) LED **OFF**/▼
ON: Relay outputs opened, manual mode active

(12) Button **ALL OFF**
Open all relay outputs, stop drives

In operation with the button field the device distinguishes between a short and a long press.

- Short: Pressing for less than 1 s
- Long: Pressing for between 1 and 5 s

In switching operation, the device distinguishes between the "NO contact" and "NC contact" operating modes. The buttons (9 + 10) switch the switching state when actuated:
NO contact: Switch on = close relay, Switch off = open relay
NC contact: Switch on = open relay, Switch off = close relay
The LED (4 + 8 + 11) always indicate the relay state.

The LEDs (4) optionally indicate the states of the outputs only temporarily (parameter-dependent).

Operating modes

- Bus operation: operation via push-button sensors or other bus devices
- Temporary manual control: manual control locally with keypad, automatic return to bus control
- Continuous manual mode: exclusively manual operation on the device

No bus operation is possible in manual mode.

After a bus failure and restoration the device switches to bus operation.

The manual mode can be disabled in ongoing operation via a bus telegram.

Switching on temporary manual operation mode

Operation is not disabled.

- Press (6) button briefly.

  LED (7) flashes, LEDs **A1...** (4) of the first configured output or output pair flash.

  Short-time manual operation is switched on.

After 5 s without a button actuation, the actuator returns automatically to bus operation.

Switching off temporary manual operation mode

The device is in short-term manual mode.

- No button-press for 5 s.

  - or -

- Press (6) button briefly as many time as necessary until the actuator leaves the short-time manual mode.

  Status LEDs **A1...** (4) no longer flash, but rather indicate the relay status.

  Short-time manual operation is switched off.

  Switching outputs: depending on the programming, the output relays switch to the position that is active after the manual mode is switched off, e.g. logic function.

  Venetian blind outputs: depending on the programming, the blind moves to the position that is active after the manual mode is switched off, e.g. to safety or sun protection position.

Switching on permanent manual operation mode

Operation is not disabled.

- Press the (6) button for at least 5 s.

  LED (7) lights up, LEDs **A1...** (4) of the first configured output or output pair flashes.

  Continuous manual mode is switched on.

Switching off permanent manual operation mode

The device is in permanent manual operation mode.

- Press the (6) button for at least 5 s.

  LED (7) is off.

  Continuous manual mode is switched off. Bus operation is switched on.

  Switching outputs: depending on the programming, the output relays switch to the position that is active after the manual mode is switched off, e.g. logic function.

Venetian blind outputs: depending on the programming, the blind moves to the position that is active after the manual mode is switched off, e.g. to safety or sun protection position.

Operating an output in manual mode

- Activate short-term or permanent manual operation.
- Press button ✎ (6) repeatedly until LED **A1...** (4) of the desired output or output pair flashes.
- Press button **ON**/▲ (9) or **OFF**/▼ (10).
  Short: Switch on/off, drive stop.
  Long: Move blind/shutter upwards/downwards.

  LED **ON**/▲ (8) ON: Relay output closed

  LED **OFF**/▼ (11) ON: Relay output opened

ⓘ Short-term manual mode: After running through all of the outputs the device exits manual mode after another brief actuation.

Switching off all outputs / Stopping all hangings

The device is in permanent manual operation mode.

- Press the **ALL OFF** button (12).

  Switching outputs: all outputs switch off (NO operating mode: relay output opened/NC operating mode: relay output closed).

  Venetian blind outputs: all blinds/shutters stop.

Disabling outputs

The device is in permanent manual operation mode. The bus control can be disabled (ETS parameter).

- Press button ✎ (6) repeatedly until LED **A1...** (4) of the desired output or output pair flashes.
- Press the **ON**/▲ (9) and **OFF**/▼ (10) buttons simultaneously for approx. 5 s.

  Selected output is disabled.

  The status LED **A1...** (4) of the selected output or output pair flashes quickly.

ⓘ A disabled output can be operated in manual mode.

Re-enabling outputs

The device is in permanent manual operation mode. One or more outputs were disabled in manual mode.

- Press button ✎ (6) repeatedly until the output to be unlocked or the output pair is selected.
- Press the **ON**/▲ (9) and **OFF**/▼ (10) buttons simultaneously for approx. 5 s.

Disabling is deactivated.

The LED **A1...** (4) of the selected output or output pair flashes slowly.

Switching between Venetian blind and switching operation

Device is not in operation

- Activate permanent manual operation.
- Press button ✎ (1) repeatedly until LED **A1...** (8) of the desired output or output pair flashes.
- Press the ✎ (1) and **ON**/▲ (4) and **OFF**/▼ (5) buttons simultaneously for approx. 5 s.

  Switching operation: Both status LEDs **A1...** (8) of the output pair light up.

  Venetian blind operation: Both status LEDs **A1...** (8) of the output pair flash alternately.
- Press the **ON**/▲ (4) and **OFF**/▼ (5) buttons simultaneously.

  Outputs switch between switching operation and Venetian blind operation.

  Both status LEDs **A1...** (8) indicate the current operating mode.
- Press the ✎ (1) and **ON**/▲ (4) and **OFF**/▼ (5) buttons simultaneously for approx. 5 s.

  Operating mode switchover is terminated, permanent manual operation mode is activated.
- Press the ✎ button (1) for approx. 5 s.

  Operating mode switchover is terminated, permanent manual operation mode is deactivated.

5 Information for electrically skilled persons

DANGER!

Mortal danger of electric shock.

Disconnect the device. Cover up live parts.

5.1 Mounting and electrical connection

Mount device

In secure operation (prerequisites):

– Secure commissioning has been activated in the ETS.

– Device certificate entered/scanned or added to the ETS project. A high resolution camera should be used to scan the QR code.

– Document all passwords and keep them safe.

Observe the ambient temperature. Ensure sufficient cooling.

- Mount device on DIN rail.
- In secure operation: The device certificate must be removed from the device and stored securely.

Connect device

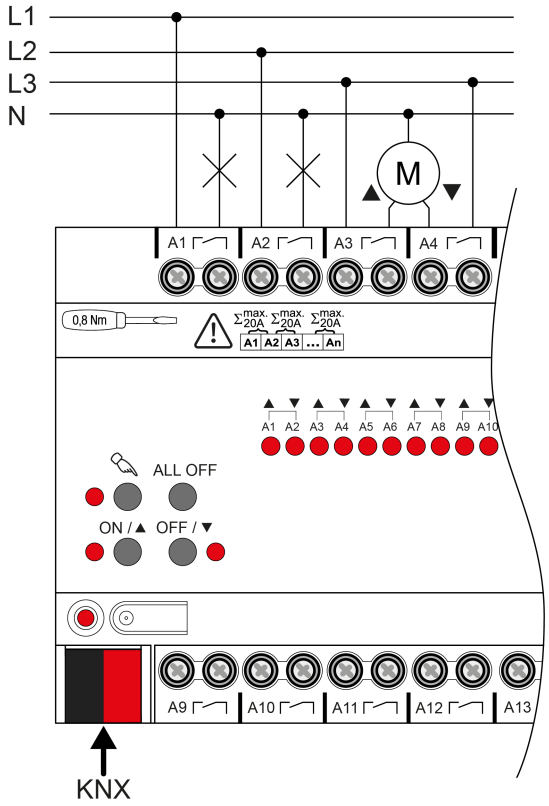

Figure 3: Device connection (connection example)

- Connect bus line with KNX device connection terminal observing the correct polarity.
- Attach the cover cap to the KNX connection as protection against hazardous voltages.
- Connect load as shown in the connection example. Two adjacent relay outputs form a Venetian blind output.

The total current capacity of neighbouring outputs is a maximum of 20 A.

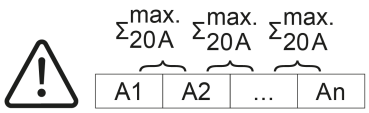

Figure 4: Total current capacity of neighbouring outputs

5.2 Commissioning

Commissioning the device

NOTICE!

Incorrect load control due to undefined relay state at delivery.

Risk of destruction of connected drive motors.

During commissioning, before switching on the load, ensure that all relay contacts are open by applying the KNX bus voltage. Observe the commissioning sequence!

- Switch on the KNX bus voltage.
- Wait approx. 10 s.
- Switch on load circuits.

Delivery state: The outputs can be operated with manual control. Outputs are set as Venetian blind outputs.

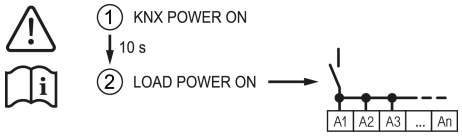

Figure 5: Sequence during commissioning - Device label

Loading the physical address and application program

- For switched loads, configure the outputs as a switching output.
- For Venetian blind operation, configure the outputs as a Venetian blind output.
- In Venetian blind operation: measure blind/shutter and slat travel times and enter them in the parameter setting.
- Press the programming button.

  The programming LED lights up.

- Load the physical address and application program with the ETS.

Safe-state mode

The safe-state mode stops the execution of the loaded application program.

Only the system software of the device is still functional. ETS diagnosis functions and programming of the device are possible. Manual operation is not possible.

Activating safe-state mode

- Switch off the bus voltage or remove the KNX device connection terminal.
- Wait approx. 15 s.
- Press and hold down the programming button.

- Switch on the bus voltage or attach the KNX device connection terminal. Release the programming button only after the programming LED starts flashing slowly.

  Safe-state mode is activated.

  The programming mode can also be switched on and off in the safe-state mode as usual by briefly pressing the programming button again. The programming LED stops flashing if the programming mode is active.

Deactivating safe-state mode

- Switch off bus voltage (wait approx. 15 s) or carry out ETS programming.

Master reset

The master reset restores the basic device settings (physical address 15.15.255, firmware remains in place). The device must then be recommissioned with the ETS. Manual operation is possible.

In secure operation: A master reset deactivates device security. The device can then be recommissioned with the device certificate.

Performing a master reset

Prerequisite: The safe-state mode is activated.

- Press and hold down the programming button for > 5 s.
  The programming LED flashes quickly.

  The device performs a master reset, restarts and is ready for operation again after approx. 5 s.

Restoring the device to factory settings

Devices can be reset to factory settings with the KNX Service app. This function uses the firmware contained in the device that was active at the time of delivery (delivered state). Restoring the factory settings causes the devices to lose their physical address and configuration.

6 Technical data

Ambient conditions	
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
KNX	
KNX medium	TP256
Commissioning mode	S mode
Rated voltage KNX	DC 21 ... 32 V SELV

Current consumption KNX	
Art. no. IXCAS0006NC-IND, IX-CAS0016NC-IND	5 ... 18 mA
Art. no. IXCAS0024NC-IND	5 ... 24 mA
Outputs	
Switching voltage	AC 250 V ~
Switching current AC1	16 A
Fluorescent lamps	16 AX
Current carrying capacity	
Neighbouring outputs	Σ 20 A
Loads per output	
Ohmic load	3000 W
Capacitive load	max. 16 A (140 µF)
Motors	1380 VA
Switch-on current 200 µs	Max. 800 A
Switch-on current 20 ms	Max. 165 A
Lamp loads	
Incandescent lamps	2300 W
HV halogen lamps	2300 W
HV-LED lamps	Max. 400 W
LV halogen lamps with electronic transformers	1500 W
LV halogen lamps with inductive transformer	1200 VA
Compact fluorescent lamps	
uncompensated	1000 W
parallel compensated	1160 W (140 µF)
Installation width	
Art. no. IXCAS0006NC-IND	72 mm / 4 HP
Art. no. IXCAS0016NC-IND	144 mm / 8 HP
Art. no. IXCAS0024NC-IND	216 mm / 12 HP
Weight	
Art. no. IXCAS0006NC-IND	Approx. 230 g
Art. no. IXCAS0016NC-IND	Approx. 500 g
Art. no. IXCAS0024NC-IND	Approx. 740 g
Clampable conductor cross-section	
Single stranded	0.5 ... 4 mm²
Finely stranded without conductor sleeve	0.5 ... 4 mm²

Finely stranded with conductor sleeve	0.5 ... 2.5 mm²
Connection torque for screw terminals	max. 0.8 Nm

7 Warranty

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

We provide a warranty as provided for by law.

Panasonic Life Solutions India Pvt. LTD.
3rd Floor, B wing, I-Think Techno Campus,
Pokharan Road No. 2, Thane (W),
Thane-400 607, Maharashtra, India

Panasonic

Infurax

InfuraX By Panasonic DALI Gateway - 1CH DALI14511NC-IND

OPERATING MANUAL

General Overview :

The InfuraX DALI Gateway 1 ch comes under Infurax by Panasonic product family. The gateway is having 1 channel for DALI loops, can control 16 groups and 16 scenes per channel. Each channel can be used to control up to 64 DALI ballasts. The DALI gateway control all the connected DALI drivers as per the EN 62386. The required power supply for the 64 connected drivers comes directly for the DALI Control hence no need of additional power supply. This Gateway supports all DALI drivers as per EN 62386- 102 edi known as DALI 1 and well as EN 62386- 102 ed2 known as DALI 2

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

Features:

Apart from all standard DALI gateway functions, the DALI gateway also allows additional functions as mentioned below:

- Color control DALI drivers i.e type 8 device (DT8).
- Colored light control depending on the Drivers 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)
- Support of time scheduling programmes to control groups and ECGs 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 and ECG 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 and possibility of dimming scenes
- "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)
- Signaling of a fault status via LEDs on the device (see application program description)

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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.

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 2 cm for additional insulation of the bus cable
- Operating and mounting instructions
- Delivered in break-proof individual packaging

Installation advices

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 with return delivery note.

Technical Data

Power Supply

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

Connectors

Mains connector L N PE: or threaded core	Screw connector 3x 1- 2.5 mm² single
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

Connectors Information

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

Display Instructions

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

Information on DALI-BUS

Number of outputs	1 DALI output
Output type	Single-Master Application Controller according to EN 62386-103 ed 2
Number of ballasts	max. 64 ECGs according to EN 62386-101 ed1 and ed 2
DALI voltage	typic. 16 VDC, short-circuit proof max. 250 mA, basic insulation (no SELV)
Recommended wire cross-section	min. 1.5 mm2
Guaranteed supply current:	128 mA
Maximum supply current	250 mA
Shutdown delay	600 ms after DALI short circuit shutdown occurs
Start-up attempt after shutdown	5 s after short-circuit detection

Information on Mechanical parameters

DaliControl gc16 casing	Plastic ABS – V0
Dimensions casing 4 MU	71mm x 58mm x 90mm (WxHxL) (WxHxL)
Weight	ca. 130 g
Mounting	35 mm DIN rail

Information on Electrical parameters

Protection type (according to EN 60529)	IP20
Protection class (according to IEC 1140)	I
Overvoltage category	III
Pollution class (according to EN60664-1)	2
KNX Bus	SELV DC 24 V
DALI Bus isolation, (no SELV)	typical 16V DC, 250 mA base

EMC requirements

Complies with directive 2014 / 30 / EU

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Environmental conditions

Weather resistance	EN 50090-2-2
Environmental conditions during operation	-5°C to +45°C
Storage temperature	-25°C to +55°C
Transport	-25°C to +70°C
Rel. humidity (non condensing):	5 % to 93 %

Certification

- KNX certified
- DIIA certified according to EN 62386-101 ed 2 and EN 62386-103 ed 2

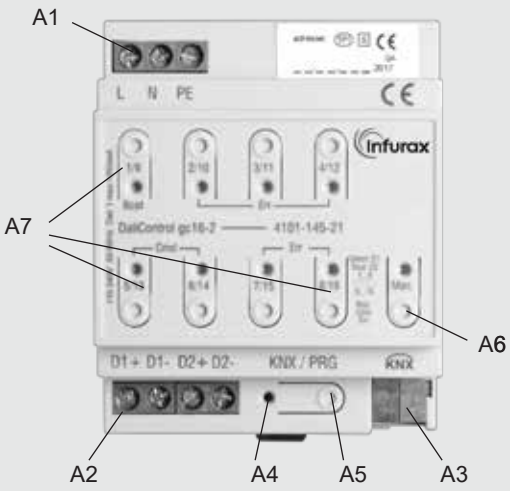
CE-signage

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

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.

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



A1: Mains connection
A2: DALI output
A3: KNX bus connector
A4: Programming LED to display normal/addressing mode
A5: Programming button normal/addressing mode
A6: Operating button/signal LED RGB manual mode
A7: Operating button/signal LED RGB manual mode
A8: 8x operating button/signal LED red group control/status, broadcast and service functions

Mounting and Wiring Instructions

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 dismount 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).

To connect the KNX cable, a standard bus connector is plugged into the respective entry on the device.

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Infurax

Panasonic

Infurax

InfuraX By Panasonic DALI Gateway - 2CH DALI14512NC-IND

OPERATING MANUAL

General Overview :

The InfuraX DALI Gateway 2 ch comes under Infurax by Panasonic product family. The gateway is having 2 channel for DALI loops, can control 16 groups and 16 scenes per channel. Each channel can be used to control up to 64 DALI ballasts. The DALI gateway control all the connected DALI drivers as per the EN 62386. The required power supply for the 64 connected drivers comes directly for the DALI Control hence no need of additional power supply. This Gateway suppoerts all DALI drivers as per EN 62386- 102 edi known as DALI 1 and well as EN 62386- 102 ed2 known as DALI 2

With firmware version 0.2.5 or higher the DaliControl gc16 is certified according to EN 62386-101 and - 103 ed2 (DALI2) and therefore entitled to bear the DALI -2 logo.

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

Features:

Apart from all standard DALI gateway functions, the DALI gateway also allows additional functions as mentioned below:

- Color control DALI drivers i.e type 8 device (DT8).
- Colored light control depending on the Drivers 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)
- Support of time scheduling programmes to control groups and ECGs 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 and ECG 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 and possibility of dimming scenes.
- "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)
- Signaling of a fault status via LEDs on the device (see application of a fault status via LEDs on the device (see application program description)

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DALI devices for individual battery emergency lights of device type DT-1 can be read by DaliControl gc16-2 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.

Scope of delivery

The following individual components are included in the delivery of the DaliControl gc16-2 device:

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

Installation advices

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 with return delivery note.

Technical Data

Power Supply

Operating voltage	110 to 240 V, 50 to 60 Hz AC or DC
Maximum Consumption	16 W
Bus power supply	via KNX bus line, SELV 24 V, ca. 5mA

Connectors Information

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

Control elements

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

Display Instructions

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

Information on DALI-BUS

Number of outputs	2 DALI output
Output type	Single-Master Application Controller according to EN 62386-103 ed 2
Number of ballasts	max. 64 ECGs according to EN 62386-101 ed1 and ed 2
DALI voltage	typic. 16 VDC, short-circuit proof max. 250mA, basic insulation (no SELV)
Recommended wire cross-section	min. 1.5 mm2
Guaranteed supply current:	128 mA
Maximum supply current	250 mA
Shutdown delay	60 0ms after DALI short circuit shutdown occurs
Start-up attempt after shutdown	5 s after short-circuit detection

Information on Mechanical parameters

DaliControl gc16-2 casing	Plastic ABS – V0
Dimensions casing 4 MU	71mm x 58mm x 90mm (WxHxL)
Weight	ca. 130 g
Mounting	35 mm DIN rail

Information on Electrical parameters

Protection type (according to EN 60529)	IP20
Protection class (according to IEC 1140)	I
Overvoltage category	III
Pollution class (according to EN60664-1)	2
KNX Bus	SELV DC 24 V
DALI Bus isolation, (no SELV)	typical16 V DC, 250 mA base

EMC requirements

Complies with directive 2014 / 30 / EU

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Environmental conditions

Weather resistance	EN 50090-2-2
Environmental conditions during operation	-5°C to +45°C
Storage temperature	-25°C to +55°C
Transport	-25°C to +70°C
Rel. humidity (non condensing):	5 % to 93 %

Certification

- KNX certified
- DIIA certified according to EN 62386-101 ed 2 and EN 62386-103 ed 2

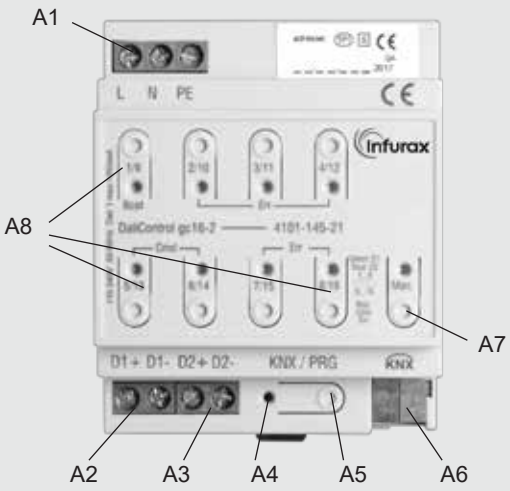
CE-signage

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

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.

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



A1: Main connection
A2: DALI Channel 1 output
A3: DALI Channel 2 output
A4: Programming LED to display normal/addressing mode
A5: Programming button normal/addressing mode
A6: KNX bus connector
A7: Operating button/signal LED RGB manual mode
A8: 8x operating button/signal LED red group control/status, broadcast and service functions

Mounting and Wiring

DaliControl gc16-2 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 dismount 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).

To connect the KNX cable, a standard bus connector is plugged into the respective entry on the device.

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