

DALI converter module for digital DSI devices (PCA/TE one4all/PCD) For integral and remote mounting

DALI-DSI II Converter module for converting DALI commands into DSI signals

DALI-DSI II converts DALI commands into DSI signals. This means that equipment controlled with DSI signals can also be used in DALI systems.

The 21 mm high DALI-DSI II, housed in a luminaire installation casing, is an addition to the controls portfolio and, with its simple design, covers the following functions and applications:

The digital DALI-DSI II control module gives customers the option of controlling DSI equipment within a DALI system. To exploit the technological advantages of a DALI system in combination with DSI-based control equipment, DALI-DSI II has the ability to convert DALI commands. This means that PCA ECO, transformers TE one4all, DSI-PCD/S or LED K210 can be integrated in DALI systems.

For DALI-DSI II, the simple operating concept of the comfortDIM product series has been adopted and improved in certain details. DALI-DSI II can be used with a rotary switch (1–16 groups) without assigning an address. The configuration can also be made via the DALI bus. DALI-DSI II operates like two individual PCA EXCEL one4all units, in other words it has two freely programmable addresses. Groups and scenes can be assigned to these addresses.

DALI-DSI II is supplied with preprogrammed scenes. DALI-DSI II can therefore be used together with a DALI-GC and DALI-SC without the need for programming.

The preprogrammed scenes are as follows:

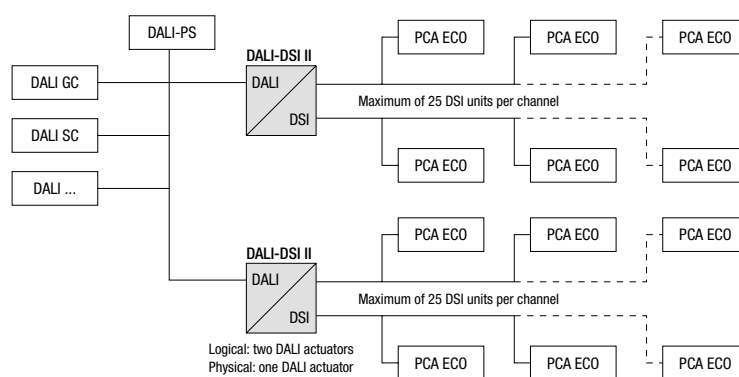
- Scene 0 = 0 %
- Scene 1 = 1 %
- Scene 2 = 10 %
- Scene 3 = 100 %

Application

DALI-DSI II offers extended flexibility in respect of the use of DSI-based control equipment with large-scale systems. By using DALI-DSI II units, up to 1600 DSI units can be connected.

The concept is rounded off with a future-oriented, ultra-compact LOW-PROFILE casing (21 x 30 mm) with an integrated WIDE-RANGE power supply for luminaire installation.

DALI-DSI II cannot be used bidirectionally (DSI to DALI).



| Type | | DALI-DSI II | |
|--|---------------------------------|---------------------------------|-----------------|
| Article number: | | | 86458691 |
| Power supply: | Mains voltage | V | 120–277 |
| | Frequency | Hz | 50/60 |
| | Wattage | W | < 1.0 |
| Inputs: | Switch | – | one-way/two-way |
| | DALI (physical) | – | 1 |
| | DALI (logical-addressable) | – | 2 |
| | Signal | – | digital/serial |
| | Voltage | V | 16 ±6.5 |
| | Data rate | Bd | 2400 |
| | Max. current input | mA | 2 |
| | Electrical isolation | | yes |
| | Addresses | – | 2 |
| | Outputs: | DSI controller – Digital Signal | – |
| Signal | | – | digital/serial |
| Voltage | | V | 12 ±10 % |
| Data rate | | Bd | 1200 |
| Control power per output (units) | | e.g. PCA ECO | 25 |
| Max. cable length with 1.5 mm ² | | m | 250 |
| Temperature: | Permissible ambient temperature | °C | 0 → +60 |

Cable types

Standard installation and wiring material is used. According to DIN VDE 0100/T520/Part 6, main circuits and associated auxiliary circuits may be laid together even if the auxiliary circuits carry a lower voltage than the main circuits. Make sure to use cable designed to take the maximum operating voltage.

A twisted or stranded 2-core cable approved for low-voltage systems is used as the bus line (2 x 1.5 mm² is recommended). The cable must be designed for a test voltage of 4 kV between the wires and external sheath surface (test

in accordance with DIN VDE 0472/Part 508). The cables are not shielded. One twist per metre is recommended; on per 5 metres is the minimum.

e.g.:

H 05 VV-U 2x0.75 (NYM 2x0.75 mm² twisted)

H 05 VV-U 2x1.5 (NYM 2x1.5 mm² twisted)

J-Y(ST)Y tested to 4 kV

PYCYM 2 x 2 x 0.8 (diameter). Note: this corresponds to 2 x 2 x 0.5 mm²

Functional description

DALI-DSI II converts DALI commands into DSI signals so that DSI-based control equipment such as PCA ECO, transformers TE one4all, DSI-PCD/S or LED converter K210 can be integrated in DALI systems. DALI-DSI II operates like two individual PCA EXCEL one4all units. Groups and scenes can be assigned on both channels.

Group assignment

Groups can be assigned via rotary switches or via the DALI bus.

Fault reporting

DALI-DSI II detects a lamp fault of PCA EXCEL one4all. This is returned by means of a query (QUERY LAMP FAILURE or QUERY STATUS – Bit 1).

Functions, parameters

- Addressing (short address)
Addressing of the individual DALI-DSI II units is possible in every rotary switch setting. However, it cannot be physically addressed.
- Deactivation of a channel
To ensure that DALI-DSI II can also be used as a single-channel device, the appropriate DSI channel must be short-circuited during new addressing. If the device is already addressed, the short-circuit will have no effect and the address will be retained. To deactivate a channel that has already been addressed, it must be reset (reset short address).
- Group assignment
Groups can be assigned as follows: via rotary switches (groups 1–15 or 2–16) via DALI Bus (winDIM or assignment with GC) **only in rotary switch position 0**.
- Group assignment with rotary switch
The rotary switch can adopt any of 16 settings. The first DSI channel corresponds to the group set (rotary switch setting). The second DSI channel receives the next higher group.
- Group assignment via DALI bus
Group assignment with GC or winDIM is the same as with a normal DALI device. This assignment can be only made in rotary switch position 0.
- Data refresh/power supply interruption
The DSI signal is repeated every second even if a DALI signal is not received.

Group assignment with rotary switch

| Rotary switch setting | DALI group address for DSI channel X | DALI group address for DSI channel Y |
|-----------------------|--------------------------------------|--------------------------------------|
| 0 | programmable via DALI bus | programmable via DALI bus |
| 1 | 1 | 2 |
| 2 | 2 | 3 |
| 3 | 3 | 4 |
| 4 | 4 | 5 |
| 5 | 5 | 6 |
| 6 | 6 | 7 |
| 7 | 7 | 8 |
| 8 | 8 | 9 |
| 9 | 9 | 10 |
| A | 10 | 11 |
| B | 11 | 12 |
| C | 12 | 13 |
| D | 13 | 14 |
| E | 14 | 15 |
| F | 15 | 16 |

Default settings

| Rotary switch | Setting "0" | | |
|----------------------|--|--------------|--------------------------------|
| Short Address | none set | | |
| Scenes | Scene 0: 0 % | Scene 1: 1 % | Scene 2: 10 % Scene 3: 100 % |
| Groups | all deleted | | |
| Power On Level | DALI 254 | DSI 255 | |
| System Failure Level | DALI 254 | DSI 255 | |
| Min. Level | DALI 86 | DSI 1 | |
| Max. Level | DALI 254 | DSI 255 | |
| Fade Rate | 7 | | |
| Fade Time | 0 (immediate) The new setpoint value is output once only (no ramp) as the DSI devices have their own fade ramp. | | |
| Device Type | 0 | | |

Summary of DALI-DSI II

The ultra-compact DALI-DSI II digital control module (for luminaire installation) is an addition to the controls portfolio. It has a simple design and the following functions and features:

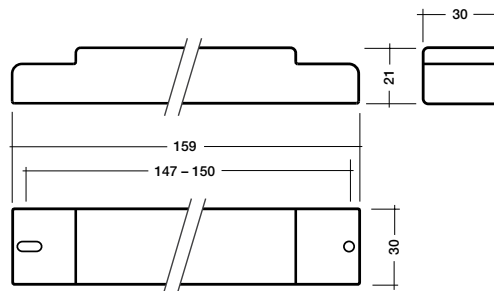
- simplified installation (group setting with a rotary switch, preprogrammed scenes)
→ No addressing necessary
- Enables cost-effective DSI units (e.g. PCA ECO) to be connected to a DALI system
- In large premises, more than 64 control units can be connected (up to 1600 DSI units)
- The setpoint is periodically refreshed

Appendix



Casing dimensions

160 x 21 x 30 mm

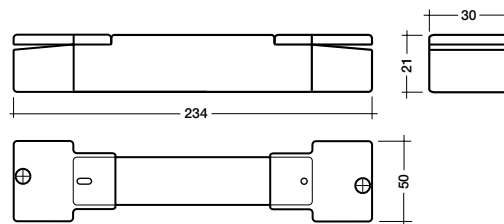


Accessoirs

Strain-relief set, article number: 86458689



Fastening



Physical data

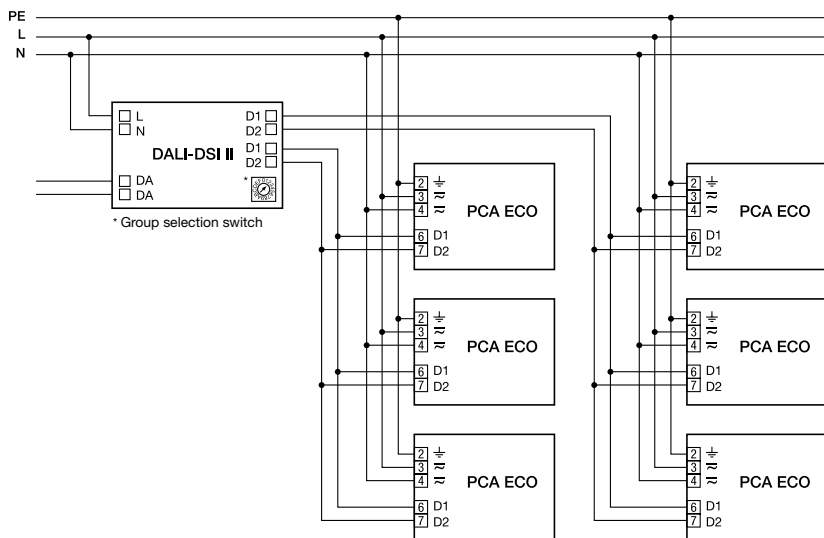
Temperature range: 0 to 60 °C
Ambient conditions: Installation in luminaires
Dimensions: 160 x 30 x 21 mm (low profile casing)

Labelling

| <input type="checkbox"/> L | 120-277V 50/60Hz | luxCONTROL DALI-DSI II DALI to DSI converter D000 00000 0000000 Art.-No.: 86458691 TRIDONIC.ATCO | Group X | D1 <input type="checkbox"/> | | | | | | | | | | | | |
|---|-------------------------|--|---|-----------------------------|---------|---------|---|--------------|--|------|------|-------|------|--------|--------|--|
| <input type="checkbox"/> N | Ta: 0..60°C Tc: 70°C | | max. 25 DSI devices each | D2 <input type="checkbox"/> | | | | | | | | | | | | |
| wire preparation 0.5 - 1.5mm ² one solid wire only 18-9mm I | | CE | Group Y | D1 <input type="checkbox"/> | | | | | | | | | | | | |
| <input type="checkbox"/> DA | | | | D2 <input type="checkbox"/> | | | | | | | | | | | | |
| <input type="checkbox"/> DA | | | Group selector | | | | | | | | | | | | | |
| | | | <table border="1"> <thead> <tr> <th></th> <th>Group X</th> <th>Group Y</th> </tr> </thead> <tbody> <tr> <td>0</td> <td colspan="2">programmable</td> </tr> <tr> <td>1..9</td> <td>1..9</td> <td>2..10</td> </tr> <tr> <td>A..F</td> <td>10..15</td> <td>11..16</td> </tr> </tbody> </table> | | Group X | Group Y | 0 | programmable | | 1..9 | 1..9 | 2..10 | A..F | 10..15 | 11..16 | |
| | Group X | Group Y | | | | | | | | | | | | | | |
| 0 | programmable | | | | | | | | | | | | | | | |
| 1..9 | 1..9 | 2..10 | | | | | | | | | | | | | | |
| A..F | 10..15 | 11..16 | | | | | | | | | | | | | | |

**DALI converter module for digital DSI devices (PCA/TE one4all/PCD)
For integral and remote mounting**

Installation instructions



Installation instructions

The unit is designed for installation in luminaires. This means that for other applications (e.g. ceiling mounting) the unit must be installed appropriately to comply with the relevant standards (voltage gaps, terminals, cable clamps, etc).

The DSI cables and DALI cables are not at safety extra-low voltage (SELV). The installation instructions for low voltage therefore apply.

Terminal connections: 0.5–1.5 mm²



Regulations, approvals & standards

The DALI-DSI II digital control module complies with the following standards:

- EN 61347-1 Regulations for units for lamps
- EN 61347-2-11 Special requirements for different electrical circuits for luminaires
- EN 55015 EMC limit values for radio interference
- EN 61547 Equipment for general lighting purposes, EMC immunity

Packaging, delivery

- Single pack 32 x 23 x 170 mm
- Standard pack 10 pieces
- Installation instructions The installation instructions are in five languages (German, English, French, Italian, Spanish)