

DIGITAL LIGHTING MANAGEMENT
FOR DALI CONTROL DEVICES



comfortDIM TECHNOLOGY GUARANTEES MAXIMUM EASE OF OPERATION WITH TOTAL FLEXIBILITY AND PROVISION FOR EXPANSION

The unique comfortDIM concept provides a flexible, user-friendly system that can be easily expanded. The "Multi-Master" structure chosen with several control devices on the same control line provides the perfect solution for putting application-specific lighting solutions into practice. Also by standardising on the DALI protocol (Digital Addressable Lighting Interface) we guarantee that future changes or expansion of the system can be easily catered for.

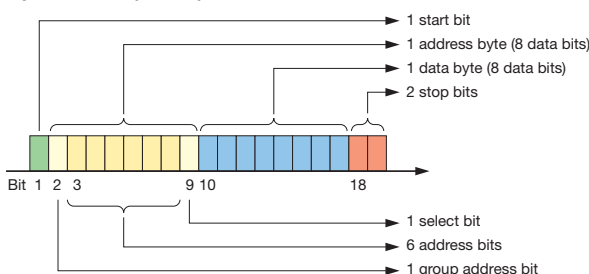
What is DALI?

The DALI interface standard describes a protocol for digital communication between lighting control devices. DALI enables 64 control devices to be addressed individually and freely divided into 16 lighting groups and 16 lighting scenes. TridonicAtco has developed the DALI standard in conjunction with other leading ballasts manufacturers. This unified standard guarantees compatibility and provides for the future expansion of lighting.

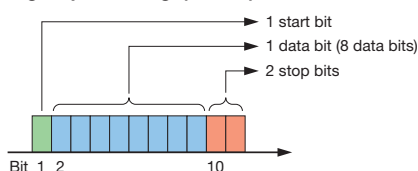
DALI data structure

The DALI protocol consists of 19 bits of data that allows up to 64 devices or luminaires to be individually addressed as well as providing status information and a variety of adjustable parameters (fade time, fade rate ...) etc.

Operation set (19 Bits)



Signal processing (11 Bits)



Technical specification for a DALI line:

- DALI voltage 9,5–22,4 V
- DALI system current 250 mA max.
- Data transfer rate 1200 baud
- Maximum single line length 300 m (at 1,5 mm²)
- Permissible to run supply and control wires together in the same line or conduit
- Different wiring options (star, series and combined networking)

Advantages of the digital comfortDIM system:

- All luminaires receive precisely the same interference free digital signal and therefore the same dimming value
- Polarity-free control lines make wiring easier and thus eliminate a source of error.
- Simple wiring using 5-pole standard cables
- Application-specific system expansion on account of the Multi-Master concept chosen
- Individual address up to 64 DALI control devices (PCA EXCEL one4all, TE-DC one4all, TE one4all, LED 0025 K 211 ...)
- 16 freely definable lighting groups and 16 freelydefinable lighting scenes
- Status information can be obtain by interrogating the DALI control devices

DALI allows 64 devices/luminaires to be individually addressed on a 2-wire control bus. Ballasts can then be grouped into 16 groups with each ballasts capable of storing up to 16 light scenes. The DALI control wires to the ballasts, along with those from the control devices, which are powered by the DALI control line, can be run parallel to the mains or within the same conduit as the mains. Identification of the DALI pair is not as critical as analogue circuits as the DALI control signal has no polarity. The functional assignment of luminaires to lighting groups (with PCA EXCEL one4all) and to the control switches (with DALI GC) is not defined until after installation which guarantees maximum design freedom and flexibility even after commissioning.

comfortDIM makes the process of designing a DALI system, simple and straightforward. The decentralised and modular nature of the DALI system, provides a cost effective solution that can be tailored to meet the individual needs of the end user.



Lighting groups can be switched and dimmed using DALI GC (2-group) control modules. Lighting scenes are saved and recalled via DALI SC (4-scene) control modules. If all 16 DALI lighting groups or DALI lighting scenes are used, you simply connect the appropriate number of control modules in parallel to the DALI control wires. If DSI control devices or whole DSI lighting groups are to be integrated in the DALI control system, the DALI DSI converter module is used. The DALI RM relay module is used for DALI-controlled switching processes, e.g. for blind motors or discharge lighting.

Typical applications:

- Lighting for conference rooms
- Multi-purpose high-bay lighting
- Effect lighting e.g. dynamic RGB colour mixing
- Scene setting for hotel/ pub/ bar lighting
- Variable individual lighting in seminar rooms
- Accent lighting in shops, churches, museums, theatres, etc.

Manual group control



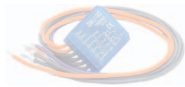
DALI PS



DALI PS1



DALI GC



DALI GC

- DALI GC**
- Control system for 2 DALI groups using standard push to make single or two way switches.
 - Addressing of DALI installations

Manual group-/ scene control



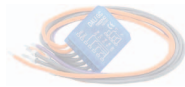
DALI PS



DALI PS1



DALI GC



DALI GC

- DALI GC**
- Control system for 2 DALI groups using standard push to make single or two way switches
 - Addressing of DALI installations



DALI SC



DALI SC

- DALI SC**
- Recall and programming of 4 DALI light scenes using standard push to make switches

Manual group-/ scene control via touch panel



DALI PS



DALI TOUCHPANEL



DALI GC



DALI GC



DALI SC



DALI SC

DALI

DALI

DALI



PCA EXCEL one4all



PCA EXCEL one4all



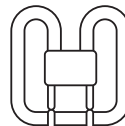
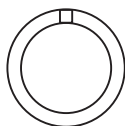
PCA EXCEL one4all



PCA CFL EXCEL one4all
120-277V



PCA EXCEL one4all
120-277V



Scene control



DALI PS1

DALI TOUCHPANEL

- Dimming and switching of groups
- Recall and programming of light scenes
- Addressing of DALI installations
- Application specific customising of operator panel

User-friendly PC-based operation and programming



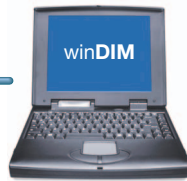
DALI PS



DALI PS1



DALI SCI



DALI SCI

- PC-interface (DALI/RS232)



DALI TOUCHPANEL



DALI GC



DALI GC



DALI SC



DALI SC

winDIM

- Dimming and switching of 16 groups
- Recall and programming of 16 light scenes
- Addressing of DALI installations
- Lighting management functions (light over time)

User-friendly dimming and scene control via radio-controlled operation



DALI PS



DALI PS1



DALI RECEIVER



DALI TOUCHPANEL RD

DALI TOUCHPANEL RD

(in preparation)

- wireless DALI solution
- Dimming and switching of groups
- Recall and programming of light scenes
- Addressing of DALI installations
- Application specific customising of operator panel



DALI TOUCHPANEL



DALI GC



DALI GC



DALI SC



DALI SC

DALI

DALI



TE-DC one4all



TE one4all



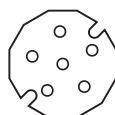
LED 0025 K210
LED 0025 K211



DALI RM



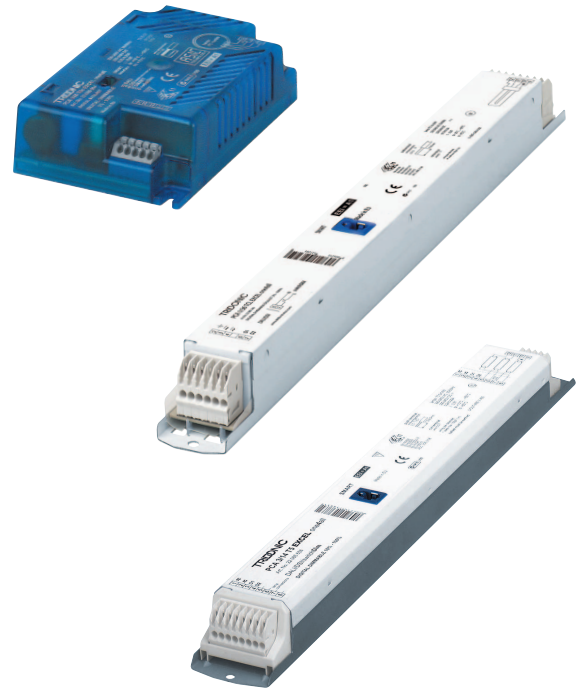
DALI DSI



DALI CONTROL DEVICES

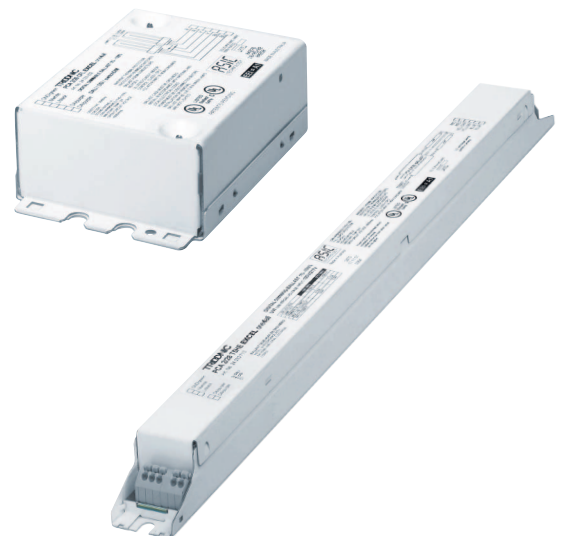
PCA EXCEL one4all

Fully digital, electronic ballasts for the dimming of fluorescent lamps. Digital lighting control adapted to eye sensitivity with 1 %, 3 % or 10 % up to 100 % luminous flux. Combines four unique control facilities via the same terminals. The simplest possible switch control system with switchDIM, constant light control with SMART, interference free, precise control via DSI signals or individually addressable control via DALI (Digital Addressable Lighting Interface). Fully electronic lamp management and digital communication by means of ASIC and μ C. Constant luminous flux regardless of fluctuating in supply voltage (198 V to 254 V). Warm start in 0,6 s or 1,5 s, which minimises lamp wear. Operating temperature range from - 25 °C to + 60 °C. Stable at no load and short-circuit-protected, continuously protected against over voltage up to 280 V, 1 hour up to 320 VAC, DC operation possible from 176 V up to 280 V (start from 198 VDC) with constant luminous flux (70 %), suitable for use in emergency lighting installations in accordance with VDE 0108, safe disconnection of the lamp in the event of a fault with automatic re-start once the lamp is replaced.



PCA EXCEL one4all 120-277 V

Fully digital, electronic ballasts for the dimming of fluorescent lamps. Universal voltage input from 120 VAC up to 277 VAC. Digital lighting control adapted to eye sensitivity with 1 % or 3 % up to 100 % luminous flux. Interference free, precise control via DSI signals or individually addressable control via DALI (Digital Addressable Lighting Interface). Fully electronic lamp management and digital communication by means of ASIC and μ C. Constant luminous flux regardless of fluctuating supply voltage. Warm start in 1,0 s or 1,5 s, which minimises lamp wear. Safe disconnection of the lamp in the event of a fault with automatic re-start once the lamp is replaced.



TE one4all

Fully digital, electronic isolating transformer for the dimming of low-voltage halogen lamps. Combines three unique control features via the same input terminals. The simplest possible switch control system with switchDIM, interference free, precise control via DSI signal or individually addressable control via DALI (Digital Addressable Lighting Interface). Precise, fully electronic output regulation by means of ASIC (Application Specific Integrated Circuit). Stabilised output voltage in the input voltage range of 207 V–254 V. Controlled lamp soft start, ambient operating temperature range from 0 °C to + 50 °C. Short-circuit breaking with automatic re-start, over temperature protection and overload protection through output reduction, as well as automatic re-start. Through-wiring, primary integrated strain relief and terminal cover.



TE-DC one4all

Fully digital, electronic DC transformer for the dimming of low-voltage halogen lamps. Combines three unique control facilities via the same input terminals. The simplest possible switch control system with switchDIM, interference free, precise control via DSI signals or individually addressable control via DALI (Digital Addressable Lighting Interface). Stabilised output voltage in the input voltage range of 207 V–254 V. Totally silent dimming from 1 % up to 100 % luminous flux. Max. lamp line length of 20 m. Short-circuit protection with automatic re-start, over temperature and overload protection through output reduction. Self-contained unit in an extremely lightweight design. Through-wiring, integrated strain relief and terminal cover.



LED 0025 K210 und LED 0025 K211

Fully electronic safety converter for the dimming of LED light sources for 12 or 24 VDC. The LED 0025 K211 series combines three unique control facilities via the same input terminals. The simplest possible switch control system with switchDIM as well as interference free, precise control via DSI signals or individually addressable control via DALI (Digital Addressable Lighting Interface). The LED 0025 K210 series provides three independent output channels controlled via DALI. Stabilised output voltage in the input voltage range of 207 V–254 V. Lighting control adapted to eye sensitivity with 1 % up to 100 % luminous flux. Output range from 0–24 W, extremely long line lengths to the light sources, over temperature and overload protection, short-circuit breaking with automatic re-start. Self-contained units with integrated strain relief and terminal cover.



comfort**DIM** control modules



DALI PS1
24034323

Central power supply unit in two housings. Available in a DIN rail mounted version for control cabinets or as surface- or flush-mounted housing. Input voltage range of 120–240 V permits global use.



DALI PS
24033444



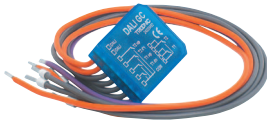
DALI RD RECEIVER
DALI TOUCHPANEL RD

(in preparation)
Wireless DALI control solution



DALI GC
24033450

Group controller for controlling 2 lighting groups (ON/OFF/DIM). A simple key sequence enables automatic commissioning (addressing) and assignment of DALI lighting groups. The compact design enables it to be installed behind a standard push to make switch plate.



DALI SC
24034263

Scene controller for programming and recalling up 4 lighting scenes. The compact design enables it to be installed behind a standard push to make switch plate.



DALI DSI
24034689

Converter module for integrating DSI control devices into DALI systems.

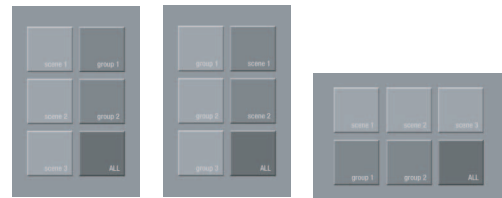


DALI RM
24034702

Relay module with DALI input for switching various electronic loads using DALI commands.



Accessories:
Additional silver frame available.
“Frame silver to DALI TOUCHPANEL”
24138753



DALI TOUCHPANEL
24035465

Touch panel with multiple control panel functions for manual control of DALI lighting groups and DALI light scenes. Customer-specific programming of the control panel can be carried out using the DALI TOUCHPANEL configuration software (function and layout). Simple commissioning (addressing) of DALI systems.

DALI SCI
24033463

Computer serial interface (RS232) for integrating Personal Computers into a DALI system. This enables the PC to configure and programme DALI devices and control modules with the winDIM software, which is free to download from the TridonicAtco website.



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