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DALI Introduction

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Introducing DALI

▶ Digital Addressable Lighting Interface

- dedicated protocol for digital lighting control
- robust, scalable and flexible lighting networks
- up to 64 devices on one DALI line, each with own address
- accessible by address, in groups or broadcast
- configuration of up to 16 scenes and 16 groups
- provide information such as failure, status and parameter

▶ Trademark Version 1



▶ Trademark Version 2



▶ Gateways for integration in home and building control, like KNX, are available

Standard

▶ IEC 62386

- at first time DALI was introduced in the beginning of 1990 as a part of IEC 60929
- The own standard IEC 62386 was launched in 2009
- an activity group was formed at ZVEI to establish the new standard in the market
- only members of DALI AG were allowed to use the trademark and logo on their products
- no official certification was needed
- the general requirements part -101 -102 -103 were published in their 2nd edition in 2014
- with IEC 62386 ed2, part 103: 'General requirements - Control devices' has been added
- In accordance with the request from the ZVEI Board of Directors, the former DALI working party was dissolved on 30th March 2017
- Since 9th June 2017, Digital Illumination Interface Alliance (DiiA) certifies DALI equipment. DiiA is a Partner Program of IEEE-ISTO
- DiiA and its members are working on the 2nd edition of the other parts in IEC 62386 and on future parts that enable new functionality.

Edition1 vs. Edition2

► Comparison DALI ed.2 to ed.1

- Part 103: 'General requirements – Control devices' added to standard
 - in ed.1 not standardized
- Parts 3xx: 'Particular requirements for control / input devices' added to standard
 - Pusch buttons, Occupancy sensors, ...
 - in ed.1 not standardized
- Features that were optional in parts 201-209: 'Particular requirements for control gear' ed.1 are moved in separate parts -2xx (i.e. Dimming curve selection, Thermal gear protection, Colour Tc, ...)
 - in ed.1 many features were optional
- Multi-Master-Mode supported
 - in ed.1 only single master
- 24Bit Frames for communication between masters
- in addition to the 64 control gear addresses, further 64 sensor addresses were added
 - in ed.1 only 64 control gear addresses
- Certification needed to use the DALI trademark and logo
 - in ed.1 no official certification necessary, leading to not completely interoperable devices

► Features in progress

- Part 104: General requirements – Wireless and alternative wired systems
- Part 105: General requirements – Firmware update



► DiiA - Digital Illumination Interface Alliance

- The Digital Illumination Interface Alliance (DiiA) is an open, global consortium of lighting companies, and was established in response to industry requests for an independently-verified certification program that covers the functionality specified in the latest version of the IEC 62386 family of standards.
- Through its certification program, the DiiA will enable continuous improvements in multi-vendor system interoperability, which is a key customer requirement
- Certified products will be eligible to carry the certification mark, issued by DiiA, which signifies interoperability on a global basis according to IEC 62386. Only certified products can carry the certification mark, and only DiiA members can certify their products.
- Going forward, DiiA members will work collaboratively to develop new functionality beyond the current IEC 62386.
- DiiA was formed by seven leading lighting companies: Erco, Helvar, Insta, Lutron, Osram, Philips Lighting and Tridonic.
- DiiA is an open, not-for-profit consortium, and new members are welcome
- The Digital Illumination Interface Alliance is organized as Partner Program of IEEE-ISTO.

IEC 62386 standard

IEC 62386 standard

Red text = DALI-2 versions published

Part 101: General requirements – System components

Part 102: General requirements – Control gear

Part 104: General requirements – Wireless and alternative wired systems **In progress**

Part 103: General requirements – Control devices

Parts 2xx: Particular requirements for control gear

Part 105: General requirements –

Parts 3xx: Particular requirements for control / input devices

Published:

Part 217: Thermal gear protection

Part 218: Dimming curve selection

Part 222: Thermal lamp protection

Part 224: Integrated light sensors

In progress:

Part 216: Load referencing

Part 219: Power measurement

Part 220: Centrally-supplied DALI

Part 221: Load shedding

Part 223: Light-output compensation

Part 225: Colour Temperature

Part 226: Colour rendering

Published:

Part 301: Push buttons

Part 302: Absolute input devices

Part 303: Occupancy sensors

Part 304: Light sensors

Part 332: Input control devices - Feedback

Part 333: Manual configuration

In progress:

Part 307: Relative input devices

Future part:

Part 305: Colour sensor

Published:

Part 201: Fluorescent

Part 202: Self-cooling

Part 203: Discharge

Part 204: Low voltage

Part 205: Supply

Part 206: Conversion

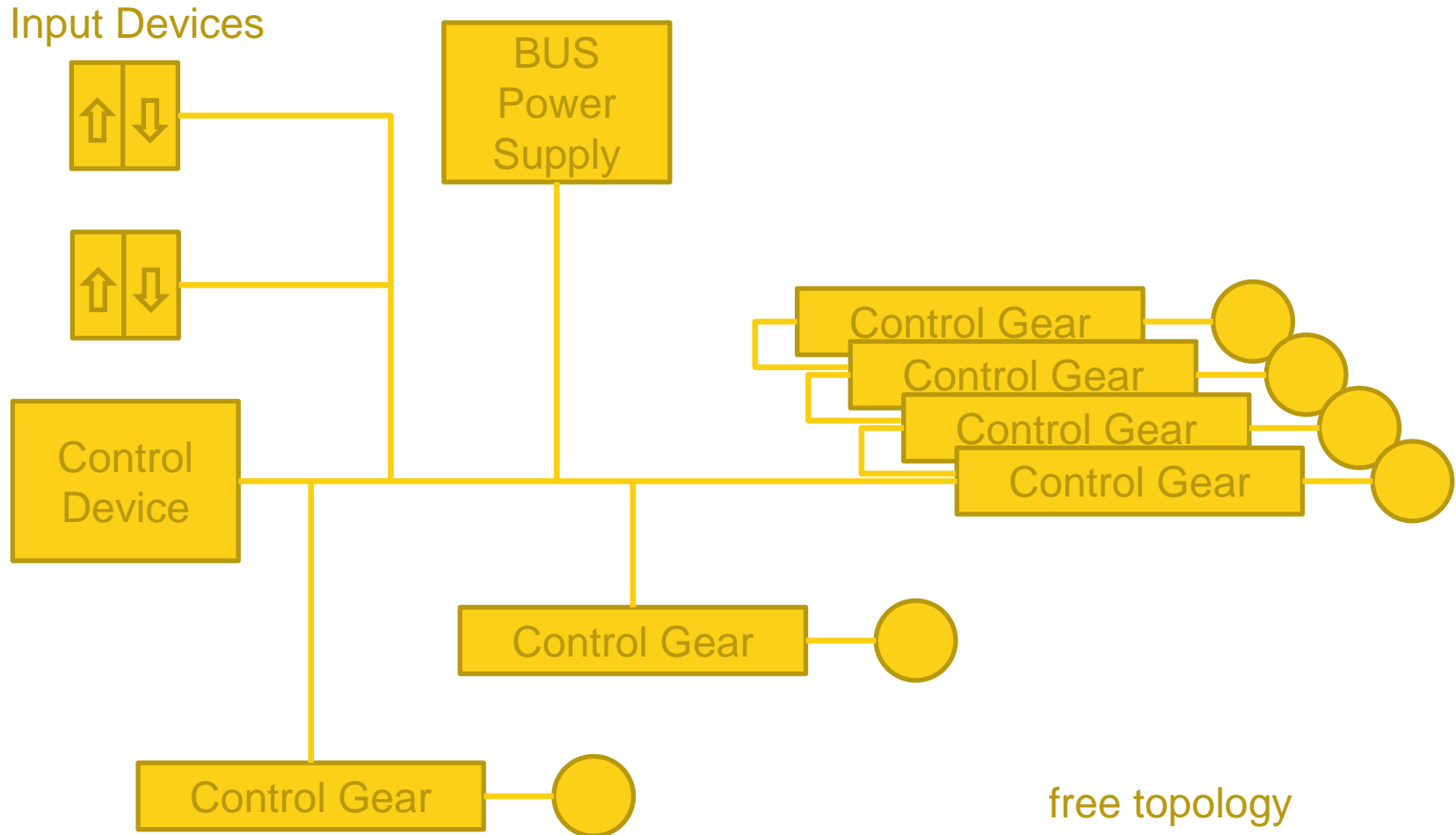
Part 207: LED modules

Part 208: Switching

Part 209: Colour

DALI

Network – various constellations are possible



free topology
except ring

New LED Driver

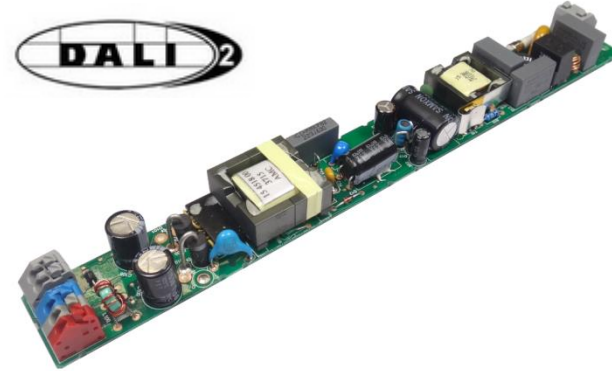
LT50-24/2100 DALI CV

► Technical Data

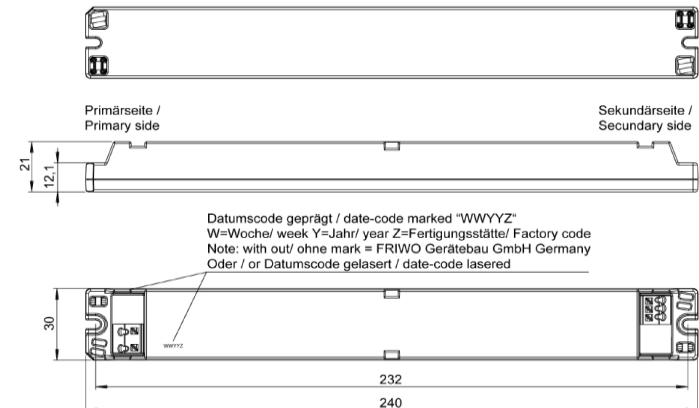
- AC input: 230 V
- DC input: 176 V – 276 V DC
- Output: 24V / 2100 mA
- Operating mode: Constant Voltage
- Approval: ENEC; EL; CE; DALI 2

► Special Features

- small dimensions 240 x 30 x 21 mm
- Dimmable via DALI (new DALI 2 standard) or PUSH-DIM
- suitable for emergency lighting (EN61347-2-13 Annex J)
- high efficiency > 85%



Gehäusetyp / housing-typ: LT60
Material: PC / ABS V0 125°C
Farbe Boden/ bottom colour: weiß / white
Farbe Deckel/ cover colour: weiß / white



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