

REGIOLUX

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Ihr Partner für Lichtlösungen

# DALI2, DALI2 und DALI2



Ein System, reich an Facetten

# DALI2 - IEC 62386

## Welche Vorteile hat DALI2 - **Standardisierung**

### **DALI Version 1**

**Jedes Mitglied ist allein verantwortlich, den Standard einzuhalten und darf das DALI Logo auf sein Produkt drucken.**

Jedes Mitglied der DiiA kann sich das DALI-Logo selbst vergeben.

### **DALI2**

#### **Zertifizierungsprozess:**

- Jeder Hersteller testet seine Produkte mit offiziellen Testsequenzen.
- Das Ergebnis (Report) wird an die DiiA gesendet.
- Die DiiA vergibt das DALI2-Logo.

#### **DALI2-Logo nur auf getesteten Produkten.**

Ein Logo kann auch entzogen werden!

**Ziel: herstellerübergreifende und systematische Kompatibilität**

## IEC 62386 standard

Purchase standards via the IEC website (<https://webstore.iec.ch>)

Red text = Parts aligned with DALI-2

### Part 101: General requirements – System components

### Part 102: General requirements – Control gear

### Part 104: General requirements – Wireless and alternative wired systems

### Part 103: General requirements – Control devices

Parts 2xx: Particular requirements for control gear

Part 105: General requirements – Firmware update

Parts 3xx: Particular requirements for control / input devices

#### Published:

**Part 201: Fluorescent lamps**  
Part 202: Self-contained emergency lighting  
Part 203: Discharge lamps (excluding fluorescent lamps)  
Part 204: Low voltage halogen lamps  
Part 205: Supply voltage controller for incandescent lamps  
Part 206: Conversion from digital signal into DC voltage  
**Part 207: LED modules**  
Part 208: Switching function  
Part 209: Colour control

#### Published:

**Part 216: Load referencing**  
**Part 217: Thermal gear protection**  
**Part 218: Dimming curve selection**  
**Part 220: Centrally-supplied DC emergency operation**  
**Part 221: Load shedding**  
**Part 222: Thermal lamp protection**  
**Part 224: Integrated light source**

#### Published:

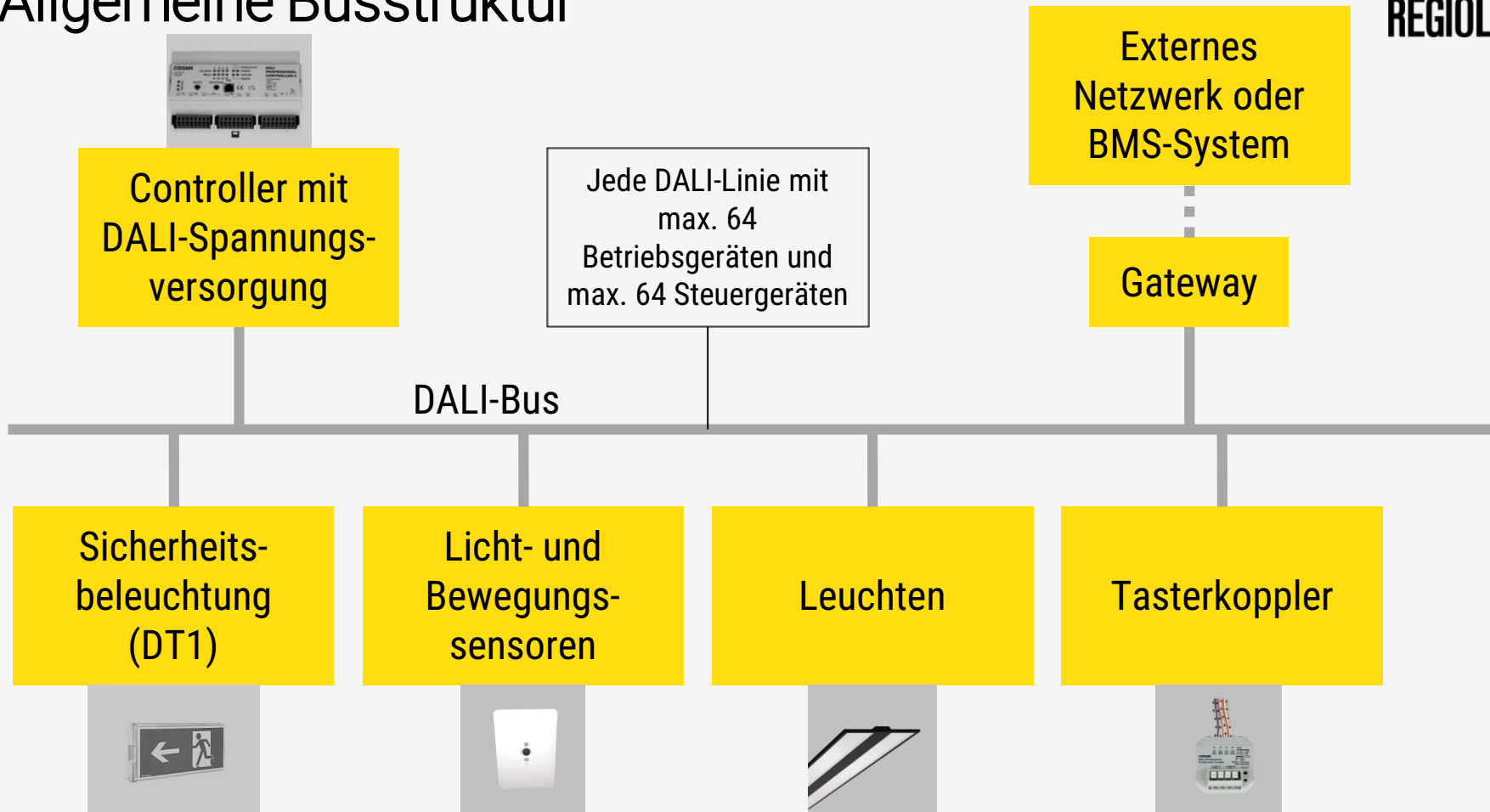
**Part 301: Push buttons**  
**Part 302: Absolute input devices**  
**Part 303: Occupancy sensors**  
**Part 304: Light sensors**  
**Part 332: Input control devices - Feedback**  
**Part 333: Manual configuration**  
**In progress:**  
Part 305: Colour sensor



DiiA creates DALI-2 Test Procedure specifications based on individual Parts of IEC 62386, enabling DALI-2 certification

Updated: April 2020

# Allgemeine Busstruktur



# **DALI2 ≠ DALI2**

## **Systematik und Kompatibilität beachten!**

## DALI-2 certification: Product types

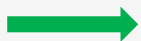
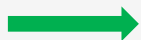
The following product types are now included in the DALI-2 certification program:

Device type	Sub-category	Parts required		
Bus power supplies	Standalone bus power supplies	101		
Control gear		101	102	
Control gear	LED drivers (control gear for LED lamps)	101	102	207
Control gear	Tunable white (Tc) colour control	101	102	209
Control devices	Application controllers	101	103	
Control device with bus power supply	Application controllers with integrated bus power supply	101	103	
Control devices: Input devices	Push-button devices	101	103	301
Control devices: Input devices	Absolute input devices e.g. switches, sliders	101	103	302
Control devices: Input devices	Occupancy sensors	101	103	303
Control devices: Input devices	Light sensors	101	103	304

Quelle: DiIA

## OPTIONAL FEATURES FOR LED DRIVERS

Device type	Parts required			Optional feature	Part
LED driver	101	102	207	With tunable white (Tc) colour control	209
LED driver	101	102	207	With integrated bus power supply	250
LED driver	101	102	207	With luminaire data	251
LED driver	101	102	207	With energy data	252
LED driver	101	102	207	With diagnostics data	253







## DALI-2 Luminaire Data Part 251

Includes luminaire data such as:

- luminaire supply power & voltage
- light output,
- CCT & CRI,
- light distribution
- luminaire colour, and more.

Usage example: A manufacturer can encode data about the luminaire in the factory. When the luminaire is installed, the data is readily available to the lighting-control network. A utility company or lighting-installation owner could use this capability for automated commissioning, and to monitor and manage their lighting assets accurately and efficiently.



## DALI-2 Energy Data Part 252

- Active energy/power
- Apparent energy/power
- Load-side energy/power



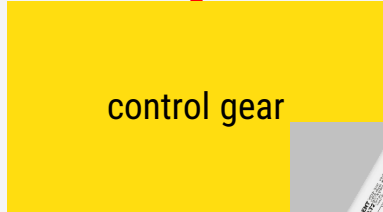
## DALI-2 Diagnostics Data Part 253

- Failure conditions for control gear and lamps, including counters.
- Control gear information: Operating time, start counter, supply voltage and frequency, power factor, temperature and output current.
- Light source information: Operating voltage, current, temperature, light source start counter, light source on time.

Quelle: DiiA

- **Part 251 ist Standard**
- **Nicht alle verfügbaren Treiber beinhalten die Parts 252 und 253**

## DALI-Bus



control gear

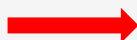
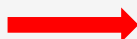
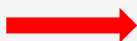
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Control devices: Input devices	Absolute input devices e.g. switches, sliders	101	103	302
Control devices: Input devices	Occupancy sensors	101	103	303
Control devices: Input devices	Light sensors	101	103	304



Quelle: DiIA

## DALI-Bus

control gear

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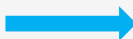
control devices:  
input devices



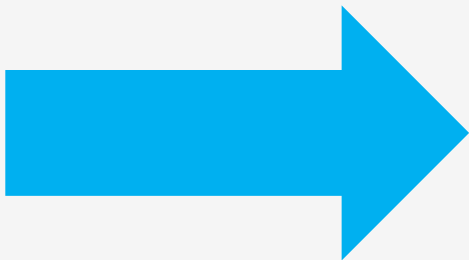
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Control devices: Input devices	Light sensors	101	103	304



# Application Controllers



- Application controllers
  - Supports DALI version-1 control gear
  - Supports DALI-2 control gear
  - More than one DALI bus supported
  - Bus powered
  - Support for event messages from input devices
  - Support for other application controllers on the same bus
  - Support for Push-buttons (part 301)
  - Support for Switches/sliders (part 302)
  - Support for Occupancy sensors (part 303)
  - Support for Light sensors (part 304)
  - Support for generic input device
  - Support for Self-contained emergency (part 202)
  - Support for Discharge lamps (part 203)
  - Support for Low voltage halogen (part 204)
  - Support for Incandescent dimmer (part 205)
  - Support for Conversion to DC (1-10V) interface (part 206)
  - Support for LED (part 207)
  - Support for Switching (part 208)
  - Support for Colour control (part 209, DT8)
  - Supports feedback from control gear (including lamp failure feedback)
  - Support for addressing or grouping of control gear
  - Support for features of connected control devices: Feedback (part 332) and/or Manual configuration (part 333)
  - Luminaire-mounted control devices (part 351)
  - D4i certified
  - Support for Luminaire-mounted control devices (part 351)
  - Support for Integrated bus power supply (part 250)
  - Support for Luminaire data (part 251)
  - Support for Energy data (part 252)
  - Support for Diagnostics data (part 253)

# Busstruktur - Aufbau

control devices with bus power supply (application controller)

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P. 304

- Application controllers
  - Supports DALI version-1 control gear
  - Supports DALI-2 control gear
  - More than one DALI bus supported
  - Bus powered
  - Support for event messages from input devices
  - Support for other application controllers on the same bus
  - Support for Push-buttons (part 301)
  - Support for Switches/sliders (part 302)
  - Support for Occupancy sensors (part 303)

## DALI-Bus

control gear

- P. 207 P. 251  
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P. 253

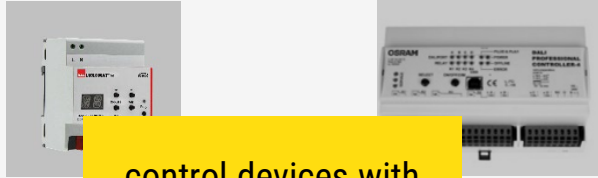


- P. 301  
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control devices:  
input devices



# Busstruktur - Aufbau



- P. 207 P. 251 P. 301
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control devices with  
bus power supply  
(application controller)

DALI-Bus

control gear

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- P. 209 P. 252
- P. 253



- P. 301
- P. 302
- P. 303
- P. 304

control devices:  
input devices





# Busstruktur - Aufbau

- P. 207 P. 251 P. 301
- P. 209 P. 252 P. 302
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- P. 304



control devices with  
bus power supply  
(application controller)

DALI-Bus

control gear



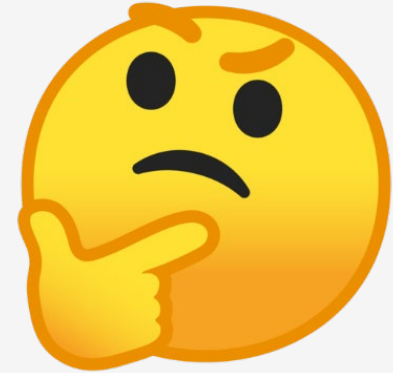
- P. 207 P. 251
- P. 209 P. 252
- P. 253

- P. 301
- P. 302
- P. 303
- P. 304

control devices:  
input devices



- Interoperabilität prüfen
- Kompatibilität prüfen
- (benötigte) Funktionen prüfen
- DALI2-Parts prüfen
- Single-Master-Geräte stets allein betreiben



- Geräte in DALI Version 1 erfüllen diese Eigenschaften nicht!
- Nur weil DALI2 draufsteht, besteht keine vollumfängliche Kompatibilität!
- Informationen und Produktdatenbank unter [www.dali2.org](http://www.dali2.org)

DALI-Zukunft wird flexibler und komplexer

- Funklösungen mit Bluetooth u.a.
- Integration von DT1 (Sicherheitsbeleuchtung)
- DALI+ (DALI + Funk + IP-networking)
- IoT- und Cloud-Lösungen
- U.v.m.



Quelle: DiiA

**Wir bleiben für Sie dran!**  
**Kommen Sie gerne auf uns zu!**  
**dali@regiolux.de**

# REGIOLUX