

# Introduction to the Digital Illumination Interface Alliance

Promoting the adoption of lighting-control systems using DALI technology

October 2017



# About DiiA and DALI-2

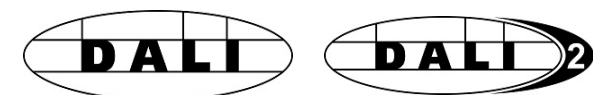
- The Digital Illumination Interface Alliance (DiiA) is an open, global consortium of lighting companies that aims to grow the market for lighting-control solutions based on digital addressable lighting interface (DALI) technology.
- DiiA was established in response to industry requests for an independently-verified DALI-2 certification program that covers the functionality specified in version 2 of the IEC 62386 family of international standards.
- DALI-2 certification was launched in August 2017, and the first DALI-2 certified products are listed on the DiiA website.
- DiiA members are also able to register products that have been tested for compliance with DALI version-1.

# DALI-2 Certification & DALI version-1 Registration



# DALI-2 certification: Overview

- DiiA operates the independently-verified DALI-2 certification program, allowing member companies to show compliance of their lighting devices and systems with the relevant Parts of version 2 of IEC 62386.
- Certified products are **eligible to carry the DALI-2 logo** as the Certification Mark.
  - Only certified products can carry the DALI-2 logo.
  - Only DiiA members can certify DALI-2 products.
- DALI-2 certification involves **independent verification of test results**. In contrast, DALI version-1 product compliance is based solely on self-declaration, which has led to interoperability issues in the market.
- The DALI-2 certification program is industry-developed and industry-led, and is monitored and maintained by DiiA.



# IEC 62386 standard

Purchase standards via the [IEC website](#)  
More details on IEC 62386: [DiiA website](#)  
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 – Firmware update (in progress)

*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

#### In progress:

Part 216: Load referencing  
Part 217: Thermal gear protection  
Part 218: Dimming curve selection  
Part 219: Power measurement  
Part 220: Centrally-supplied DC emergency operation  
Part 221: Load Shedding  
Part 222: Thermal lamp protection  
Part 223: Light-output compensation over lifetime  
Part 224: Integrated light source  
Part 225: Colour Tc  
Part 226: Colour xy

#### Published:

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

For Parts 207, 202 and others, DiiA adapts v1 test sequences for use with DALI-2.

# Launch of DALI-2 certification (Phase 1)

Phase 1 of the DALI-2 certification program launched in August 2017. The program supports the following Parts of IEC 62386:

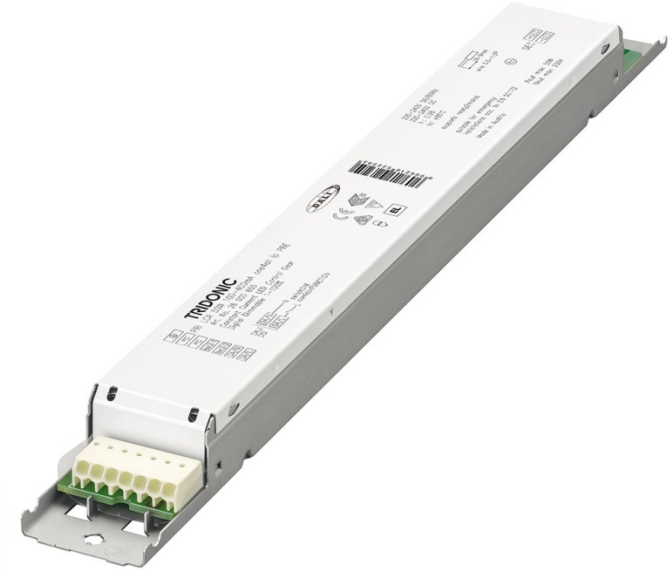
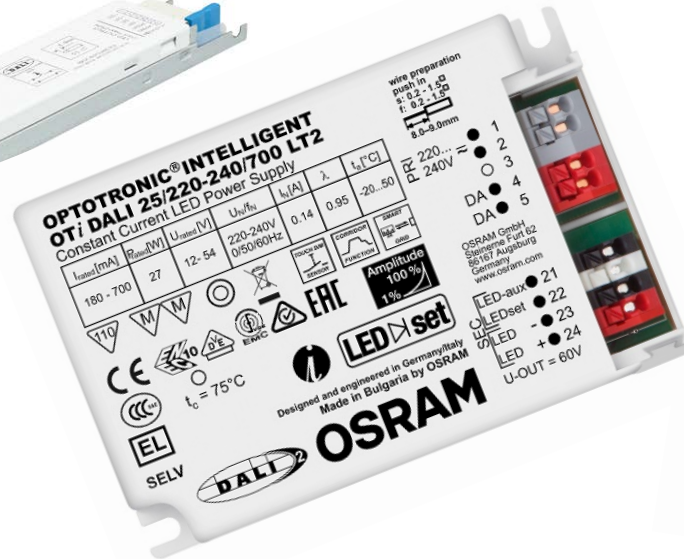
- Part 101: **System components** (ed2)
- Part 102: **Control gear** (ed2)
- Part 207: **Control gear for LED modules** (ed1 adapted for ed2 of Parts 101 & 102)
- Part 103: Control devices - **Single-master application controllers**
  
- The program supports the use of ProbitLab 2 test equipment.
  - ProbitLab(1) is supported for non-bus-powered control gear only.

Next step:

- Addition of **Multi-master application controllers** (Part 103)

# First DALI-2 certified products

- All DALI-2 certified products are listed on the DiiA website:  
    ➔ [Product Database](#)
- First certified DALI-2 products were LED drivers.
- First control device also certified



# DALI-2 certification Phase 2

Building on Phase 1 with the addition of further Parts.

Exact sequence is to be defined, based on priorities determined by market and DiiA members.

Phase 2 is expected to include:

- Part 209: **Colour control** (xy, Tc)
- Parts 301, 302, 303, 304: **Input devices**
- Part 202: **Self-contained emergency lighting**

Input devices:

301 = Push buttons

302 = Absolute input devices

303 = Occupancy sensors

304 = Light sensors

Further Parts and device types will be included in due course.

The up-to-date schedule can be found on our website:



[Timeline](#)



# DALI version-1 registration



- DiiA members can register their DALI version-1 products on the DiiA website
  - For new products, registration is optional until the end of 2017
  - Subsequently, all new DALI version-1 products will need to be registered
- DiiA provides its members with the latest DALI version-1 (and DALI-2) test sequences
- DALI version-1 registration is based on self-declaration; DiiA does NOT verify the results
- All DiiA-registered DALI version-1 devices are listed online
  - Tick the search box “Include registered DALI version-1 products”



[Product Database](#)



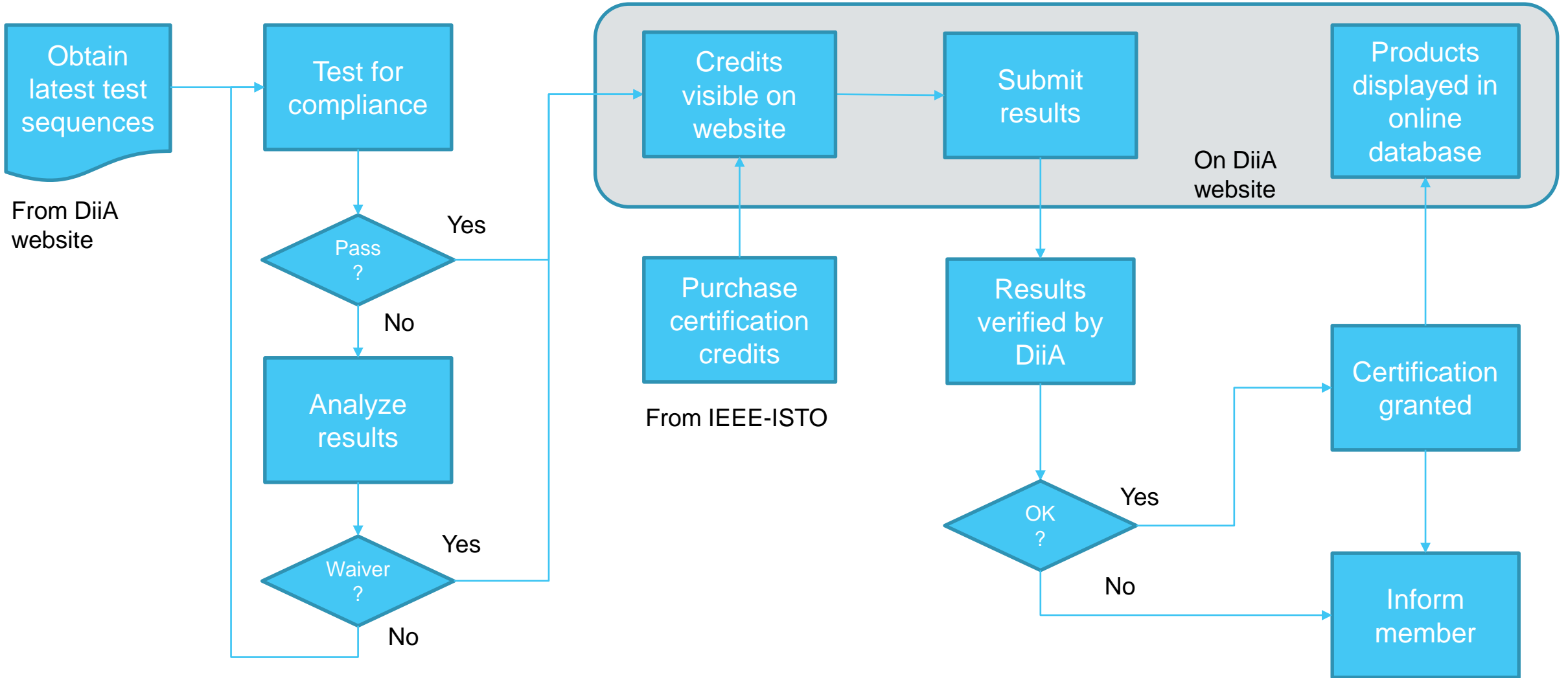
# DALI-2 vs. DALI version-1

- DALI-2 certification brings the promise of **significantly improved multi-vendor interoperability** compared with the current DALI (version-1) systems in the market.
- Testing procedures for DALI-2 are **much more detailed and comprehensive** than for DALI version-1, and will be further improved if new issues are identified.
- DiiA organizes regular **Plugfests**, which are events to allow member companies to **test interoperability of their products** with those from other manufacturers.
- Plugfests also enable **validation and further improvement** of test sequences.

# DALI-2 vs. DALI version-1

	DALI-2 certification	DALI version-1 registration
Includes control devices (input devices, application controllers)?	Yes	No
Latest test sequences supplied by DiiA to members?	Yes	Yes
Enhanced test sequences that are designed to ensure product interoperability?	Yes	No
Test results verified by DiiA?	Yes	No
All products displayed on DiiA website?	Yes – website shows all DALI-2 products	No – registration of DALI v-1 products is currently optional (compulsory from Jan 1, 2018)
Fee?	Yes – requires pre-purchase of certification credits	No

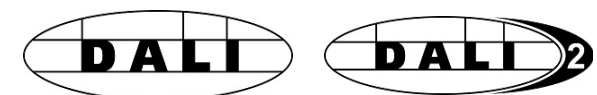
# DALI-2 certification: Overview



# DALI-2 certification: Key steps



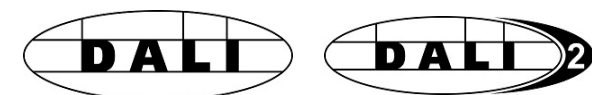
	Step	Notes
1	DiiA creates and maintains test specifications according to IEC 62386 version 2	<ul style="list-style-type: none"><li>• DiiA will initiate new specifications if and when required</li></ul>
2	DiiA develops test sequences on approved test equipment	<ul style="list-style-type: none"><li>• DiiA members can download the current test sequences from our website &gt;&gt; <a href="#">Link</a></li></ul>
3	Member companies execute the required tests for each product	<ul style="list-style-type: none"><li>• Members can also use the services of accredited DALI test houses &gt;&gt; <a href="#">Link</a></li></ul>
4	If all tests pass, the member company submits the results via the DiiA website	<ul style="list-style-type: none"><li>• Certification credits (one per product) must be pre-purchased before products are submitted</li></ul>
5	DiiA's web tool verifies the results. If all data is OK, then DALI-2 certification is granted	<ul style="list-style-type: none"><li>• The member company may use the DALI-2 logo on the certified product</li></ul>
6	Relevant data is stored in the online DiiA Product Database	<ul style="list-style-type: none"><li>• Visibility of a product in the database confirms that the product is certified &gt;&gt; <a href="#">Link</a></li></ul>



# Trademarks & Logos

# DALI trademarks and logos

- On behalf of its members, DiiA acquired the trademarks relating to DALI lighting products and systems via IEEE-ISTO.
  - See [press release](#)
- These trademarks are the original **DALI logo**, the new **DALI-2 logo**, and the **DALI wordmark** for use in lighting applications.
- **The DALI trademarks can be used only by DiiA members**
  - Subject to the DiiA Trademark Guidelines



# DALI-2 logo

The **DALI-2 logo** is used by DiiA members on their certified products.



- Products must be listed in the online DALI-2 Product Database.
- Only DiiA members can certify DALI-2 products and use the DALI-2 logo.
- DALI-2 certification uses DiiA test sequences based on version 2 of the DALI standard.
- DALI-2 certification includes independent verification of test results.
  
- DiiA Community members can use the DALI-2 logo on luminaires that contain certified DALI-2 devices.



# DALI version-1 logo

The **DALI version-1 logo** is used by DiiA members to indicate products that are tested for compliance with version 1 of the DALI standard.



- DiiA members are supplied with the latest test sequences for DALI version-1 testing.
- DALI version-1 compliance is based on self-declaration of results, WITHOUT verification.
- DiiA Community members can use the DALI version-1 logo on luminaires that contain registered DALI version-1 devices.

# DiiA Organization and Membership

# DiiA Organization

- DiiA membership is growing rapidly. Please see our website for the current [list of members](#).
- DiiA is an open, global, not-for-profit consortium, and new members are welcome to join us.
- DiiA was formed by seven leading lighting companies: Erco, Helvar, Insta, Lutron, Osram, Philips Lighting and Tridonic.
- We are a member program of IEEE Industry Standards and Technology Organization (ISTO).

## Regular Members



## Associate Members



# Why should my company join DiiA?

- To participate in the industry-led DALI-2 certification program that supports functionality beyond current DALI.
  - Certification brings the promise of improved multi-vendor interoperability.
- To use the DALI-2 logo on certified products.
  - Membership also allows use of current DALI logo on DALI version-1 products.
- To receive the latest test sequences for product testing, covering both DALI-2 certification and DALI version-1 self-declaration.
- To secure improvements in multi-vendor interoperability of products and systems.
- To participate in interoperability test events (plugfests).
- To benefit from joint marketing and promotion of DALI-2 certification.
- To have a role in influencing DiiA's technology roadmap, including future standardization, and to ensure that the DALI-2 certification program meets the needs of the industry.
- To join forces with the leading companies in digital addressable lighting.

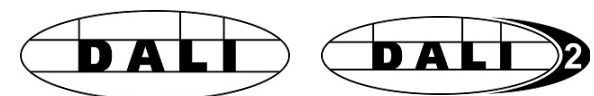
# Member Benefits

	Community	Associate	Regular
Receive membership communication	✓	✓	✓
Use of DiiA logo and DALI version 1 logo for marketing materials	✓	✓	✓
Certification of DALI-2 products & use of DALI-2 logo on certified products		✓	✓
Use of logos (DALI-2, DALI version-1) on luminaires that contain certified or registered DALI devices from other DiiA members	✓	✓	✓
Use of DALI version-1 logo on non-luminaire products		✓	✓
Access to members-only website		✓	✓
Participation in General Assembly meetings		✓	✓
Access to final Alliance deliverables		✓	✓
Access to draft deliverables. Approval of final deliverables.			✓
Initiation and/or chairing of working groups and/or task forces			✓
Participation and voting in working groups			✓
Eligible for Board of Directors membership			✓
<b>Membership fee per year</b>	<b>No fee*</b>	<b>€5,000</b>	<b>€15,000</b>

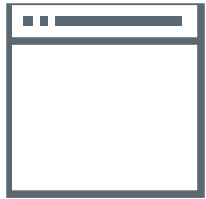
\* For luminaire makers only. Registration is required.

# Community registration

- Community registration is for **luminaire makers only**.
- Community registration enables the use of the **DALI logos on luminaires** that contain certified DALI-2 devices or registered DALI version-1 devices.
- Community registration is **free of charge**, but **registration is compulsory**.
- Companies that would like to certify DALI-2 devices or register DALI version-1 devices, and to use the DALI logos on these devices, should join DiiA as Associate or Regular members.



# DiiA contact information



**Website**

[www.digitalilluminationinterface.org](http://www.digitalilluminationinterface.org)



**E-mail**

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