Zhaga-D4i interfaces, testing, and certification

The Zhaga Part

Zhaga – DiiA Webinar

Dee Denteneer

Zhaga
Multi-vendor product interoperability to break barriers for connected lighting
Complementary specifications

D4i specifications from DiiA

- DALI Part 250: Integrated bus power supply
- DALI Part 251: Luminaire data
- DALI Part 252: Energy data
- DALI Part 253: Diagnostics data
- DALI Part 351: Luminaire-mounted control devices
- DALI Part 150: AUX power supply

Book 18 & Book 20 specifications from Zhaga

Book 18 for outdoor:
- Book 20 for indoor:
  - Mechanical interfaces
  - References to D4i specs for power & control, and luminaire tests
  - Electrical pin assignment
Zhaga-D4i interface for outdoor luminaires

Zhaga-D4i node
Zhaga receptacle
Intra-luminaire DALI bus
Second node
D4i driver
Zhaga-D4i luminaire
Zhaga-D4i interface for outdoor luminaires

Zhaga-D4i node

Zhaga OR ANSI C136.41 receptacle

Intra-luminaire DALI bus

Second node

D4i driver

Zhaga-D4i luminaire
Zhaga-D4i interface for outdoor luminaires
Zhaga-D4i interface for outdoor luminaires

Zhaga-D4i certification adds value

- Confidence in multi-vendor interoperability
- Communication
- Future-proof luminaires
Zhaga-D4i interface for outdoor luminaires

Zhaga-D4i certification is easy

- Certified components
- Simple flow
- Knowledgeable test houses
Zhaga-D4i interface for indoor luminaires

- Zhaga-D4i luminaire
- D4i driver
- Intra-luminaire DALI bus
- Zhaga connectors
- Cylindrical OR rectangular
- Zhaga-D4i node
Zhaga-D4i interface for indoor luminaires

Defines four different categories for the mechanical interface at the luminaire

- **R44x17 (44 x 17 mm)**
  - Rectangular modules with small volumes and indifferent orientation

- **R60x22 (60 x 22 mm)**
  - Rectangular modules requiring more volume and surface, e.g. gas detectors or complex presence detectors

- **C22-T1 (Ø 22 mm):**
  - Cylindrical modules as already widely used in the field, adjustable orientation, minimum surface

- **C22-T2 (Ø 22 mm):**
  - L-shaped modules enable ultraflat luminaire designs
Zhaga-D4i interface for indoor luminaires

Defines a connector
- Two position pin and socket interface
- Poka Yoke features prevent incorrect mating
- Connector provides finger proof protection
  
  "if it fits it works"
- Easy and safe replacement
- plug-and-play connection
- future-proof the luminaire
Zhaga-D4i interface for indoor luminaires

Zhaga-D4i certification adds value

- Confidence in multi-vendor interoperability
- Communication
- Future-proof luminaires
Zhaga-D4i interface for indoor luminaires

Zhaga-D4i certification is easy

- Certified components
- Simple flow
- Knowledgeable test houses

D4i driver

Zhaga connectors

D4i certification

Zhaga-D4i luminaire

Zhaga-D4i node
• Open to Zhaga Associate and Regular Members
  • That have signed logo license agreements
• Products use certified components (drivers, connectors, receptacles, baseplates, caps)
• Manufacturer connects to test house for a quote, options for family testing, and detailed instructions
• Manufacturer provides
  • Detailed circuit diagram of the luminaire
  • Construction diagram of the luminaire
  • Letter of confirmation (template on website, D4i certified driver)
• Test house uploads positive test summary to Zhaga database
Zhaga-D4i certification for nodes, Book 18

- Open to Zhaga Associate and Regular Members
  - That have signed logo license agreements
- Products need be D4i certified as control device and be classified as Type A or B
  - Requiring DiiA Regular or Associate membership
- Manufacturer connects to test house
- Manufacturer provides
  - Connector pin-out diagram of the node
  - Construction diagram of the node
  - Letter of confirmation (template on website)
  - And a sample for non-certified baseplates
- Test house uploads positive test summary to Zhaga database
Benefits of the Zhaga-D4i standard and certification

• creates a simple plug-and-play way of adding nodes to a luminaire.
• is available as an open standard to drive scale and innovation.
• provides for interoperability across vendors.
• simplifies specification and tender process.
• allows selection of luminaires today that are future proof to the technology advances of tomorrow.

Zhaga-D4i certification is easy to do.

Zhaga-D4i certification provides the assurance to the market that luminaires and nodes from different vendors will work together.
Zhaga-D4i Book 18 eco-system

Outdoor luminaires:
- Zhaga-D4i certified luminaires available from 15 vendors
- ~80 Zhaga-D4i certified luminaire families
- Supported by
  - Zhaga receptacles, baseplates and caps: available from 6 vendors
  - D4i LED drivers: ~125 available from 8 vendors

Required in many tenders
THANK YOU!

Dee Denteneer
Secretary General of Zhaga

Follow us:
### Zhaga-D4i certification for luminaires

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Process</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate or regular membership of Zhaga is required</td>
<td>Compile required documentation and submit to Zhaga Test Centre</td>
<td>Tested for compliance against Zhaga specifications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product awarded Zhaga-D4i certification and use of Zhaga and D4i logos</td>
</tr>
</tbody>
</table>
Zhaga-D4i certification for nodes for Book 18

Organisation

Associate or regular membership of DiiA is required

Associate or regular membership of Zhaga is required

Process

Digital Illumination Interface Alliance

Submit results to the DiiA for verification and D4i certification.

Submit product documentation to Zhaga Test Centre

Comment

Product self tested or tested by DiiA test house

Tested for compliance against Zhaga specifications

Product awarded Zhaga-D4i certification and use of Zhaga and D4i logos