IoTH
INNOVATION ▪ READY

a brand of techno
TECHNOLOGY & INNOVATION

APPLICATION NOTES

“IoT Ready” Techno Products & Applications

Contents

The Zhaga Book 18 Standard

The Zhaga Book 18 standard describes an intelligent interface between components relating to electronics, mechanics and communication between lighting fixtures and sensors. Specifically, various aspects of communication, power supply, mecchanical adaptation and electrical pins are regulated throught the standard.

Intelligent interface between luminaires

The Zhaga Book 18 standard facilitates the interoperability of sensors and communication nodes between different LED luminaires. Thanks to the simple Plug-and-Play installation, the complexity of the installation is reduced, and so the entire value chain benefits - luminaire manufacturer, installer and end user.

ZHAGA Consortium

B 18 Book

The Zhaga consortium and DALI alliance (DiiA) have developed a dedicated Zhaga-D4i certification programme; the new certification ensures future-proof luminaires by overseeing their compatibility with Zhaga Book 18 and DALI standards. Currently, there are three product certifications:

Zhaga Book
Lighting and sensors
according to Book 2-20

Zhaga-D4i
Lighting and sensors
according to Book 18 and 20

Zhaga-NFC
Programmable according
to Book 24 and Book 25

Zhaga Book 18 Applications

Techno, a member of the Zhaga consortium, has cleverly created a new ecosystem of solutions: the IoTH world, developing new product series which can interface with the Zhaga Book 18 standard.

In the IoTH ecosystem, the Book18 standard can be integrated in various configurations; the TH212 mini-box as the first link between two platforms: it represents the evolution of the TEEBOX boxes, for low-voltage electrical installations and the first native solution on the IoTH platform, offering advanced solutions for the connection and integration of devices and/or sensors to control lighting and electronic devices - making the final configuration IoT.

A further proposal from Techno to extend the IoTH range with Zhaga Book 18 application is the evolution of the TEETUBE range.

Techno offers installation according to Zhaga Book 18 standards on the TH400 series, making it to all intents and purposes a new solution for the control of electronic devices and/or sensors for different application areas - besides lighting.

Application example:

Through the use of the sensor on the TH212 box, a pedestrian crossing can be made ‘intelligent’. The sensor detects when a pedestrian is about to cross the road, illuminating the crossing area and making it safer - especially during the evening hours.

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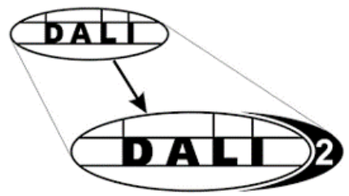
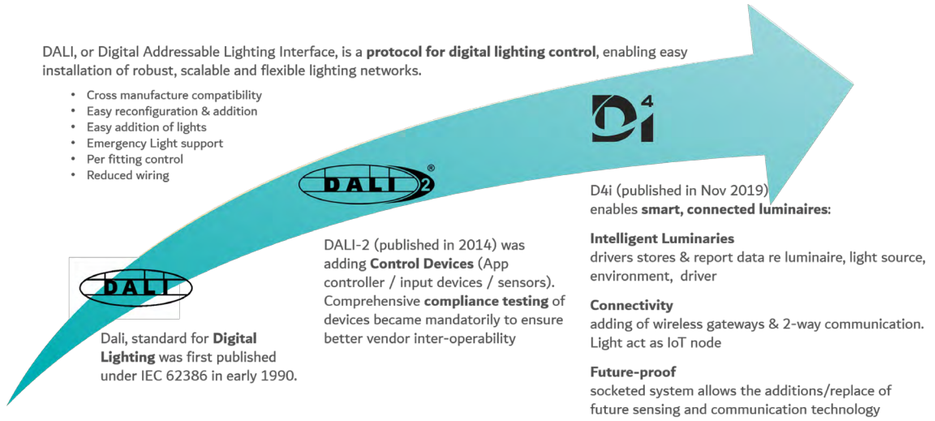
The DALI & DALI2 Digital Standard

The DALI standard - and its evolution DALI2 - describe an intelligent digital interface between electrical components. DALI is an open two-way protocol, an internationally adopted digital language used to control lighting such as LED drivers. This enables the transfer of information between devices, such as lighting commands, fault details and diagnostics.

Digital and intelligent interface

The DALI2 standard facilitates the interoperability of sensors and communication nodes between different LED luminaires. The standard is made functional through the use of twisted pair BUS (use of two cables). Its use ensures greater interoperability between products from different suppliers through certification processing and the creation of multiple functionalities - such as energy data analysis.





The Zhaga consortium and DALI alliance (DiiA) have developed a dedicated Zhaga-D4i certification programme: the new certification guarantees future-proof luminaires, overseeing their compatibility with Zhaga and DALI standards and enabling their ever-wider integration-interoperability in projects where modern design, BIM and building automation techniques are used.

Zhaga-D4i
Lighting and sensors according to Book 18 and 20

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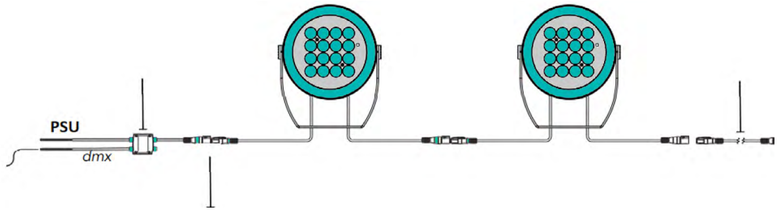
The DMX Digital Standard

The DMX standard, and its respective evolution DMX RDM, describe an intelligent digital interface between control devices. It is classified as an asynchronous serial communication protocol based on the RS-485 protocol.



Digital interface for the architectural world

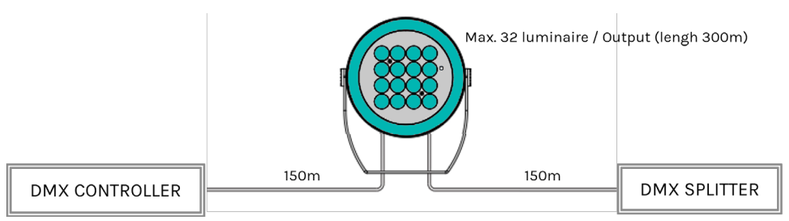
The DMX standard allows the management of remote devices through RDM - Remote Device Management, offering an enhancement of the protocol itself by implementing two-way communication between controllers - or lighting systems, and the connected RDM-compatible device. This type of interface involves the use of BUS, i.e. two shielded cables.

Electrical system specifications

In order to ensure proper use and operation of the protocol, it is important to emphasise the main characteristics required for electrical specifications; in fact, compared to the DALI bus, this protocol is more susceptible to disturbances and plant specifications.
DMX CABLE : Shielded twisted pair 110 Ohm

The DMX standard requires a shielded 120 ohm or 100 ohm twisted pair cable suitable for use with EIA-485 (120 ohm) and EIA-422 (100 ohm) electronics or Cat5e cable - or higher.

- ► DMX devices in daisy chain connection, total length must not exceed 300 m.
- ► Max. 32 devices per output (more if using boosters or splitters)



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Techno proposal for IoT applications

Thanks to Techno's new IoTH platform, complex systems of solutions can be created to make a project Smart. Our products are highly integrable and compatible with third-party sensors and electronic components, offering high configurability.

IOTH.D450.1AI24.70L1
Integrated PG9 / M16 cable gland with DC-DC converter: Vin=24V Vout=700mA.
XDRY® and IP68 protection guaranteed.

IOTH.D210.EAVB
4-way junction box 2xM16 2xM20, integrated with PSU electrical components. Resin-coated and wired with TH387 series, provides IP68 xDRY® sealing.

IOTH.212. ZA00
Mini-junction box with breakthrough walls up to 6 ways: solution configured with Zhaga Book 18 and M20 hole wired with TH389 series. The high configurability also allows integration with other Techno M20 or third-party components.

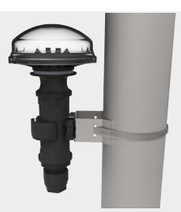
IOTH212 Family

Wired mini-junction box with CASAMBI driver

Mini-junction box with DALCNET driver

Wired mini-junction box with Electronic Entity Card

IOTH400 Family



Hybrid connection coupling, configurable with TH385/TH384 plug connectors with integrated circuit board and/or dimmer. IOTH400 version also designed with Zhaga Book 18 module

For more information visit: www.ioth.it

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Code: IOTHITA092022

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