Ki. Node Two

ZHAGA
NB-IoT

Interoperable Smart Node

The Ki. Node is a smart device that can be installed on new and existing street lighting infrastructure throughout the city.

Each Ki. Node transforms the lamppost into a wireless communication point and connects to an interoperable ecosystem, creating a virtual flow of data within your smart city. This is possible via an internal antenna, enabling the Ki. Node to connect with other assets in the ecosystem, via NB-IoT, creating a two-way digital data flow.

Features

- ZHAGA socket (book18).
- Can control additional independent devices via DALI relay.
- Enables individual remote management, ON / OFF / Dimming of streetlight lamps with DALI 2 / DiiA / Osram DEXAL / Philips SR control gear.
- Specially designed and optimized for LTE networks.
- Autonomous operation based on predefined schedules, light level sensor and adaptive lighting.
- Adaptive lighting capabilities based on DALI digital input for motion sensing.
- Bandwidth efficient with minimal communication requirements.
- Secure communication based on encryption keys.
- Electrical parameters monitoring (measured by DALI2 control gear): V, W, A, Wh, PF, frequency.
- Advanced data synchronization and notification mechanism.
- Internal precision Real time clock (RTC) with backup battery.
- Infrared interface for local configuration.
- Integrated light level sensor.
- Over The Air (OTA) firmware update.
- Designed lifetime: 10+ years.
- TALQv2 certified solution.

Connect with Ki.

Plug-and-play upgrade for lamps compatible with Zhaga socket (book 18) with full lamp management and feedback functionality.

Control beyond street lighting

Fundamentally equipped to control streetlight dimming profiles and switching schedules, with an integrated photocell, the Ki.Node captures a plethora of other critical data, such as:

- Energy consumption
- GPS
- Burning hours
- Voltage
- Column integrity
- Power outage warning
- Many more variables

The Ki. Node can also identify and communicate issues concerning the lamp, physical changes to the column or electrical anomalies, as well as operating as normal and logging activity even when disconnected from the communication network – so data is always captured.

In the unlikely instance of a lost connection from the network, Ki. Nodes continue to control streetlights against the profiles assigned via the Ki. Smart City platform.

www.lucyzodion.com/ki-community/

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Technical Specification

	Zhaga Node Two- **F6952**
LampType	LED, CF, HID with DALI 2 / DiiA / D4i / Osram DEXAL / Philips SR control gear
Maximum lamp power	Depending on the lamp control gear
Additional controlled devices	Yes, independent controlled via DALI relay
Functions / Operation mode	ON / OFF / Dimming
Dimming range	1%-100% (linear or logarithmic depending on control gear settings)
Control interface	DALI 2/ DiiA (IEC 62386)/ D4i/ Philips SR
Power supply	24 VDC (min 21.6 VDC- max 30 VDC)
External interface	infrared
Network interface	NB-IoT / LTE-M
LTE supported frequencies	worldwide
Internet protocol version	IPv4/IPv6
Certifications	CE, SR Signify
Last gasp	Yes
Firmware update	IR (infrared) / OTA (over the air)
GPS	Yes
Security	Encrypted communication based on security keys (AES128-bit)
Surge protection	provided by DALI 2 control gear
Internal scheduling memory	128 events (daily / weekdays / weekends / fixed date / exceptions)
Measurement accuracy	Depending on control gear specifications
Average power consumption	0.5W/ 24V
Maximum power consumption	6W/ 24V peak power according to DiiA
Precision RealTime Clock (RTC)	Yes, battery operated
Battery operation time	10 years +
Real-time lamp operation	Yes
Digital input	1x dry contact (for PIR sensor, photocell sensor, open door sensor etc.)
Output	Festive lighting or another occasional consumer (if it is a Dali Bus device)
Tilt sensor	Optional (configurable threshold for tilt & roll)
Light sensor	Integrated. Configurable threshold.
Ingress protection	IP66 (IEC 60529)
Impact protection	IK09 (IEC 62262)
Operating temperature range	-25°C to +70°C
Weight	80 ± 5 g
Dimensions (diameter x height)	80 x 40 mm
Mounting	Zhaga (book 18)
Compliant standards	• RED Directive: LVD Directive & protection of health (EN IEC 62368-1, EN IEC 62479), EMC Directive (ETSI EN 301 489-1, ETSI EN 301 489-52), Efficient use of radio spectrum (ETSI EN 301 908-1, ETSI EN 301 908-13, ETSI EN 303 413) • RoHS Directive • Environmental Testing: EN 60068-2-1, EN 60068-2-2

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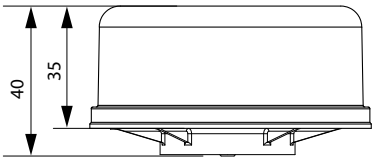
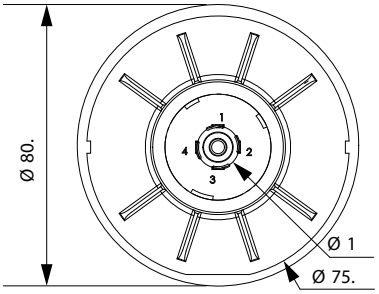
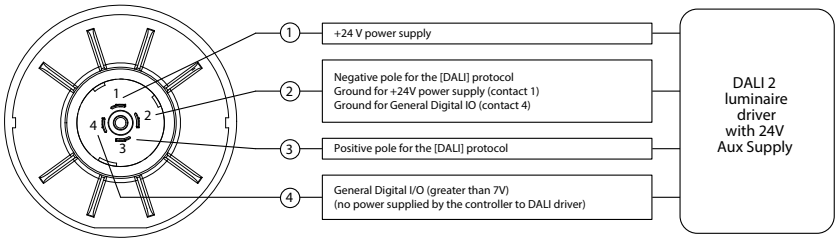




ELECTRICAL CONNECTIONS:



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