

Ki. Node One

ZHAGA LoRaWAN

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 LoRaWAN, 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 LPWA 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
- 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. City platform.

Ki. Node One

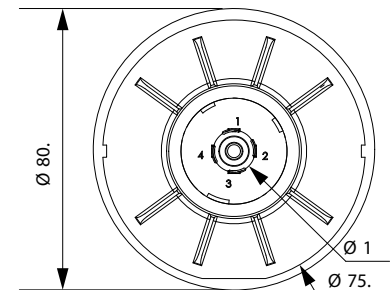
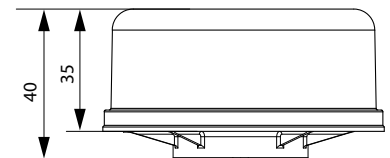
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Technical Specification

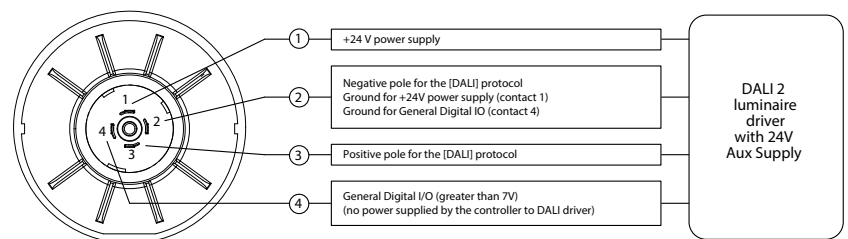
| Zhaga Node One- F6912 | |
|---------------------------------|--|
| Lamp Type | LED, CF, HID with DALI 2 / DiiA / D4i / Osram DEXAL / Philips SR control gear |
| Maximum lamp power | Depending on the lamp control gear |
| Additional controlled devices | Yes, independent controlled via DALI relay |
| 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 30VDC) |
| External interface | infrared |
| Network interface | LoRaWAN (Class C or Class A) |
| RF spectrum | 868MHz |
| Certifications | CE, SR Signify |
| Last gasp | Yes |
| Firmware update | IR (infrared) / OTA (over the air) |
| GPS | Not available |
| 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 | 1W/ 24V peak power according to DiiA |
| Precision Real Time 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) |
| Light sensor | Integrated. Configurable threshold. |
| Ingress protection | IP66 (IEC 60529) |
| Impact protection | IK09 (IEC 62262) |
| Operating temperature range | -25°C to +70°C |
| Weight | 70 ± 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, EN 300 220-1, EN 300 220-2, EN 303 413) • RoHS Directive • Environmental Testing: EN 60068-2-1, EN 60068-2-2 |



ZHAGA



ELECTRICAL CONNECTIONS:



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