

Ki.Node One

NEMA NB-IoT

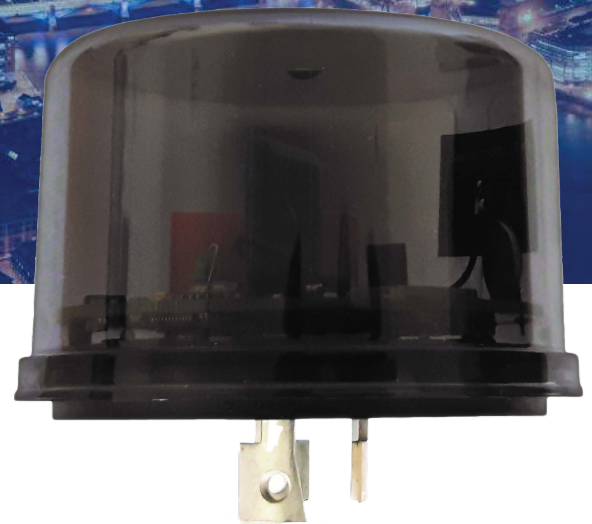
Interoperable Smart Node

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

- NEMA socket connected (ANSI C136.41).
- Enables individual remote management of streetlight lamps with electronic driver up to 400W (ON/ OFF/ Dimming).
- Specially designed and optimized for LTE networks.
- Autonomous operation based on predefined schedules, light level sensor and adaptive lighting.
- Adaptive lighting capabilities based on digital input for motion sensing.
- Bandwidth efficient with minimal communication requirements.
- Secure communication based on encryption keys.
- Wide range of electrical parameters monitoring: V, W, A, VAR, Wh, VARh and PF.
- Advanced data synchronization and notification mechanism.
- Internal precision Real time clock (RTC) with backup battery.
- Infrared interface for local configuration.
- Dry contact digital input (for PIR sensor, photocell sensor, open door sensor etc.).
- Integrated light level sensor.
- Over The Air (OTA) firmware update.
- Designed lifetime: 10+ years.
- TALQv2 certified solution.



Connect with Ki.

Available with a 5/7 pin NEMA connection on the base of the unit (ANSI C136.41), the Ki. Node is easy to install on LED luminaires with a twist-lock socket.

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. Smart City platform.

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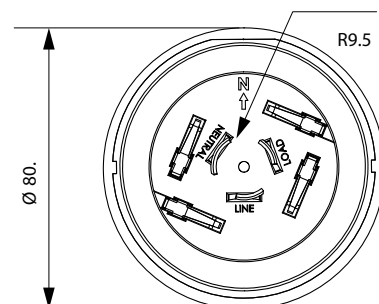
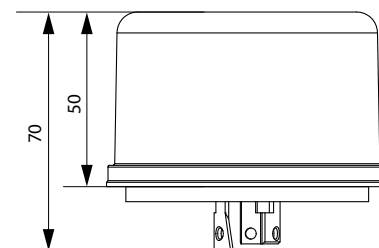
Technical Specification

| NEMA Node One- F6940 | |
|--------------------------------|---|
| Lamp Type | LED, CF, HID with electronic driver |
| Maximum lamp power | 400W (optional up to 750W) * |
| Functions / Operation mode | ON / OFF / Dimming |
| Dimming range | 1%-100% (depending on lamp control gear) |
| Control interface | Analog 1-10V / 0-10V / DALI Logarithmic and Linear |
| Power supply | 85- 265VAC / 50Hz-60Hz |
| External interface | infrared |
| Network interface | NB-IoT / LTE-M |
| LTE supported frequencies | worldwide |
| Internet protocol version | IPv4/IPv6 |
| Certifications | CE, FCC, UL- in the process of certification |
| 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 | max 10kA (IEC 61000-4-5) |
| Internal scheduling memory | 128 events (daily / weekdays / weekends / fixed date / exceptions) |
| Measurement accuracy | MID grade ($\pm 1\%$) |
| Average power consumption | 0.5W |
| Maximum power consumption | 2W |
| 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.) |
| 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 | 115 \pm 5 g |
| Dimensions (diameter x height) | 80 x 70 mm |
| Mounting | 7pin NEMA socket (ANSI C136.41) |
| 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 301 489-2), 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 |

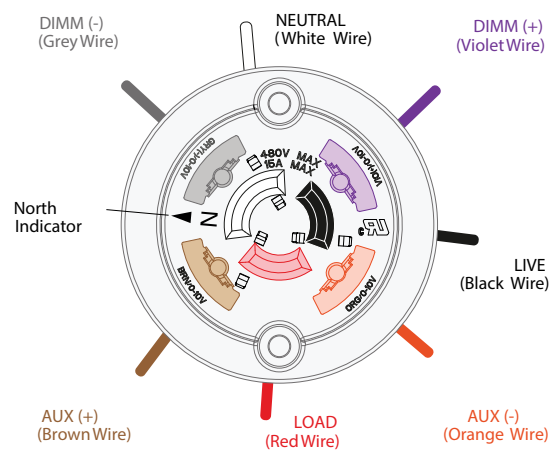
*The controller can be used for luminaires over 750W together with an external contactor, and with limited functionalities (no dimming, no measurements).



NEMA



ELECTRICAL CONNECTIONS:



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TALQ

