Ki. Integral

Pole Mounted

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

- Enables individual remote management of streetlight lamps with electronic driver up to 400W (ON/ OFF/ Dimming)
- Specially designed and optimized for LPWA networks
- Autonomous operation based on predefined schedules and digital input (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.)
- Over The Air (OTA) firmware update
- Designed lifetime: 10+ years
- TALQv2 certified solution

Connect with Ki.

With its IP66 protection rating and compact dimensions, the controller can be installed directly into the lighting pole, making it less visible from an esthetic point of view and allowing easier access for deployment teams.

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.

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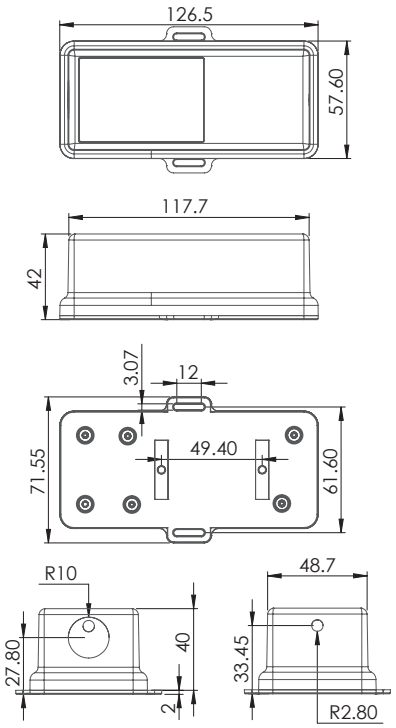
Technical Specification

	Integral- **F6913**
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 1-10 V / 0-10 V / PWM and reversed PWM or DALI Loga-rithmic and Linear
Power supply	85 - 265VAC / 50Hz-60Hz
Network interface	LoRaWAN (Class C or Class A)
RF spectrum	868MHz
Certifications	CE
Last gasp	Yes
Firmware update	OTA (o ver the air)
GPS	Not available
Security	Encrypted communication based on security ke ys (AES128-bit)
Surge protection	max 10kA (IEC 61000-4-5)
Internal scheduling memory	128 events (daily / weekdays / weekends / fixed date / e xcep-tions)
Measurement accuracy	MID grade (±1%)
Average power consumption	0.5W
Maximum power consumption	2W
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.)
Light sensor	Optional - externally connected
Ingress protection	IP66 (IEC 60529)
Impact protection	IK09 (IEC 62262)
Operating temperature range	-25°C to +70°C
Weight	230 ± 5 g
Dimensions (length x width x height)	126 x 57 x 42 mm
Mounting	DIN RAIL
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 301 489-3), Efficient use of radio spectrum (ETSI EN 300 220-1, ETSI EN 300 220-2, 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).

POLE MOUNTED



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