



# LoRaWAN™ compatible STREET LIGHTING REMOTE MANAGEMENT & SMART CITY PLATFORM



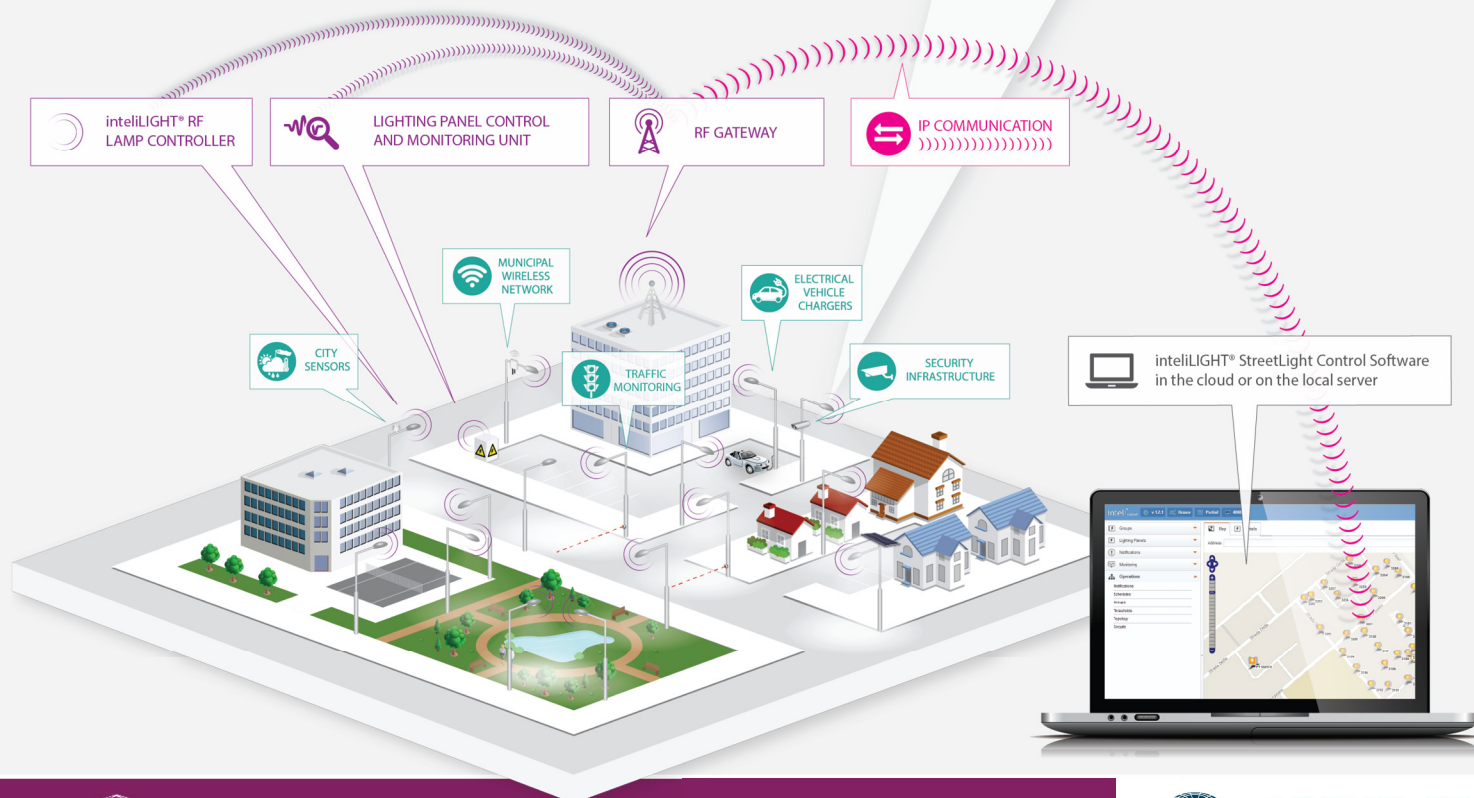
[FRE-24-ZHAGA-L LoRaWAN™ compatible luminaire controller - data sheet]    October 16, 2019    Ver 1.2

## FRE-24-ZHAGA-L LoRaWAN™ COMPATIBLE LUMINAIRE CONTROLLER

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

- › Specially designed and optimized **for LoRaWAN™** (long range RF wide area networks).
- › **ZHAGA** socket (book18).
- › Enables **individual remote management** of streetlight lamps with DALI 2/ DiiA/ Osram DEXAL/ Philips SR drivers etc. (ON/ OFF/ Dimming).
- › **Autonomous operation** based on predefined schedules (with independent real time clock), light level sensor.
- › **Adaptive lighting** capabilities based on digital input for motion sensing.
- › **Bandwidth efficient** with minimal communication requirements.
- › **Secure communication** based on encryption keys.
- › **Electrical parameters monitoring** (measured by DALI2/DiiA driver): V, W, A, Wh, PF, frequency etc.
- › **Advanced data synchronization** and notification mechanism.
- › Internal high precision **Battery operated RTC** with **backup battery**.
- › **External infrared interface** for local configuration.
- › Integrated **light level sensor**.
- › **Over The Air** (OTA) firmware update.
- › Designed **lifetime: 10+** years.

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FRE-24-ZHAGA-L	
Lamp Type	LED, CF, HID with DALI 2/ DiiA/ Osram DEXAL/ Philips SR etc.
Connection	Zhaga (book 18)
Functions / Operation mode	ON/ OFF / Dimming
Dimming range	1%-100% (linear or logarithmic depending on driver settings)
Dimming steps	100 steps
Control interface	DALI 2/ DiiA (IEC 62386)
External interface	infrared
Network interface	LoRaWAN™
RF spectrum	868MHz / 915MHz / 923MHz
Firmware update	OTA (over the air)
GPS	optional
Communication protocol	LoRaWAN™: Class C or Class A
Security	encrypted communication based on security keys
Power supply	24 VDC
Internal scheduling memory	128 events (daily / weekdays / weekends / fixed date / exceptions)
Average power consumption	0.5W/ 24V contact module 1 - Zhaga (book 18)
Maximum power consumption	1W/ 24V contact module 1 - Zhaga (book 18)
Precision Real Time Clock (RTC)	Internal, high precision, with backup battery
Real-time lamp operation	LoRaWAN™ Class C networks only
IP rating	IP66
Operating temperature range	-25°C to +65°C
Dimensions (diameter x height)	80 x 65 mm
Directives	<ul style="list-style-type: none"><li>Radio Equipment Directive (RED), 2014/53/EU</li><li>Restriction of the use of certain Hazardous Substances in electrical and electronic equipment Directive (RoHS), 2011/65/EU</li></ul>
Compliant standards	RoHS, RED 2014/53/EU
Certifications	CE

## MEASURED PARAMETERS:

(depending on driver)

- › Lamp power
- › Line voltage
- › Current
- › Active power
- › Power factor
- › Energy consumption
- › Lamp / controller - running hours counter
- › Lamp On / Off cycles counter

## CONFIGURABLE PARAMETERS:

- › Astronomical calendar scheduler
- › Predefined scheduler
- › Start state ( Photocell / Schedule / Manual)
- › ON/OFF power threshold
- › Over/ under voltage threshold
- › Over/ under current threshold
- › Strike retry count
- › Fade time
- › Light level threshold
- › Data transmission setup
- › Alert priority setup

## ALARMS MONITORED:

- › Over/ under voltage detection
- › Over/ under current detection
- › Lamp or driver fault detection
- › Device failure