



LoRaWAN™ compatible STREET LIGHTING REMOTE MANAGEMENT & SMART CITY PLATFORM



[FRE-24-ZHAGA-L LoRaWAN™ compatible luminaire controller - data sheet]

May 9, 2019

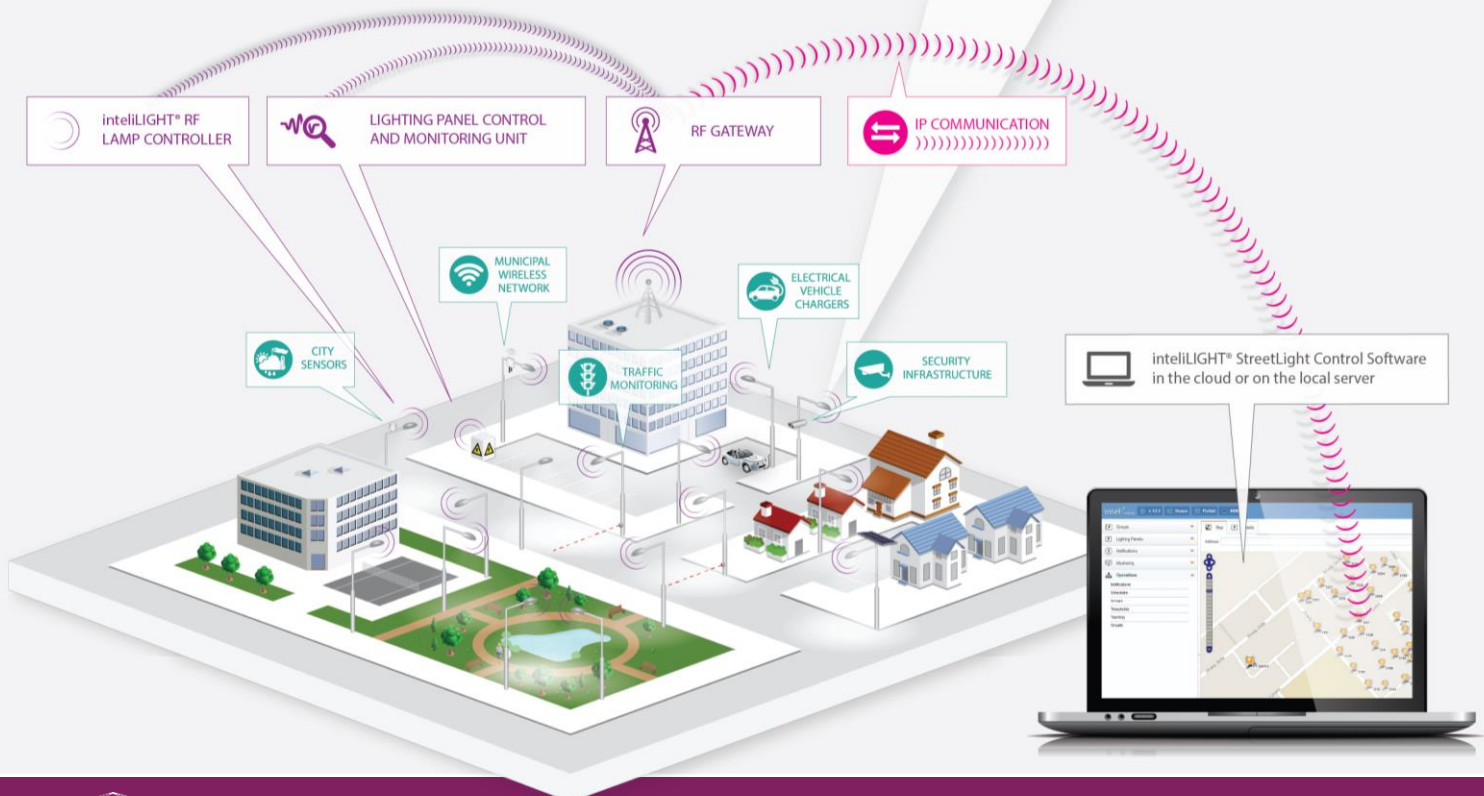
Ver 1.1

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 driver (ON/ OFF/ Dimming).
- › **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.
- › **Electrical parameters monitoring** (measured by DALI2 driver): V, W, A, Wh, PF and frequency.
- › **Advanced data synchronization** and notification mechanism.
- › **Battery operated RTC**, protected against unforeseen communication failure.
- › **External infrared interface** for local configuration.
- › Integrated **light level sensor**.
- › **Over The Air** (OTA) firmware update.
- › Designed **lifetime: 10+** years.

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PLUG & PLAY
ADAPTABLE
to EXISTING
STREET LIGHTING
INFRASTRUCTURE

**SCALABLE &
IMMEDIATELY
OPERABLE**

up to
35%
ENERGY
SAVINGS

up to
42%
MAINTENANCE
COST REDUCTION

FRE-24-ZHAGA-L	
Lamp Type	LED, CF, HID with DALI 2 driver
Connection	Zhaga (book 18)
Functions / Operation mode	ON/ OFF / Dimming
Dimming range	1%-100%
Dimming steps	stepless
Control interface	DALI 2 (IEC 62386)
External interface	infrared
Network interface	LoRaWAN™
RF spectrum	868MHz / 915MHz / 923MHz
Firmware update	IR (infrared) / 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
Average power consumption	0.5W
Maximum power consumption	1W
Precision Real Time Clock (RTC)	yes, battery for continuous operation
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"> Radio Equipment Directive (RED), 2014/53/EU Restriction of the use of certain Hazardous Substances in electrical and electronic equipment Directive (RoHS), 2011/65/EU
Compliant standards	CE, RoHS, EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013, EN 61347-1:2015, EN 62311: 2008, EN 62493:2015, EN 301 489-1, DRAFT EN 301 489-3, DRAFT EN 301-489-52, EN 55015:2013, EN 61547:2009, EN 300 440, EN 301 511, EN 50581:2012, EN 61000-3-2 (2014), EN 61547 (2009), EN 60068-2-1 (2007), EN 60068-2-2 (2007), Prequalified according to ETSI EN 300 220

MEASURED PARAMETERS:

- › 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



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