



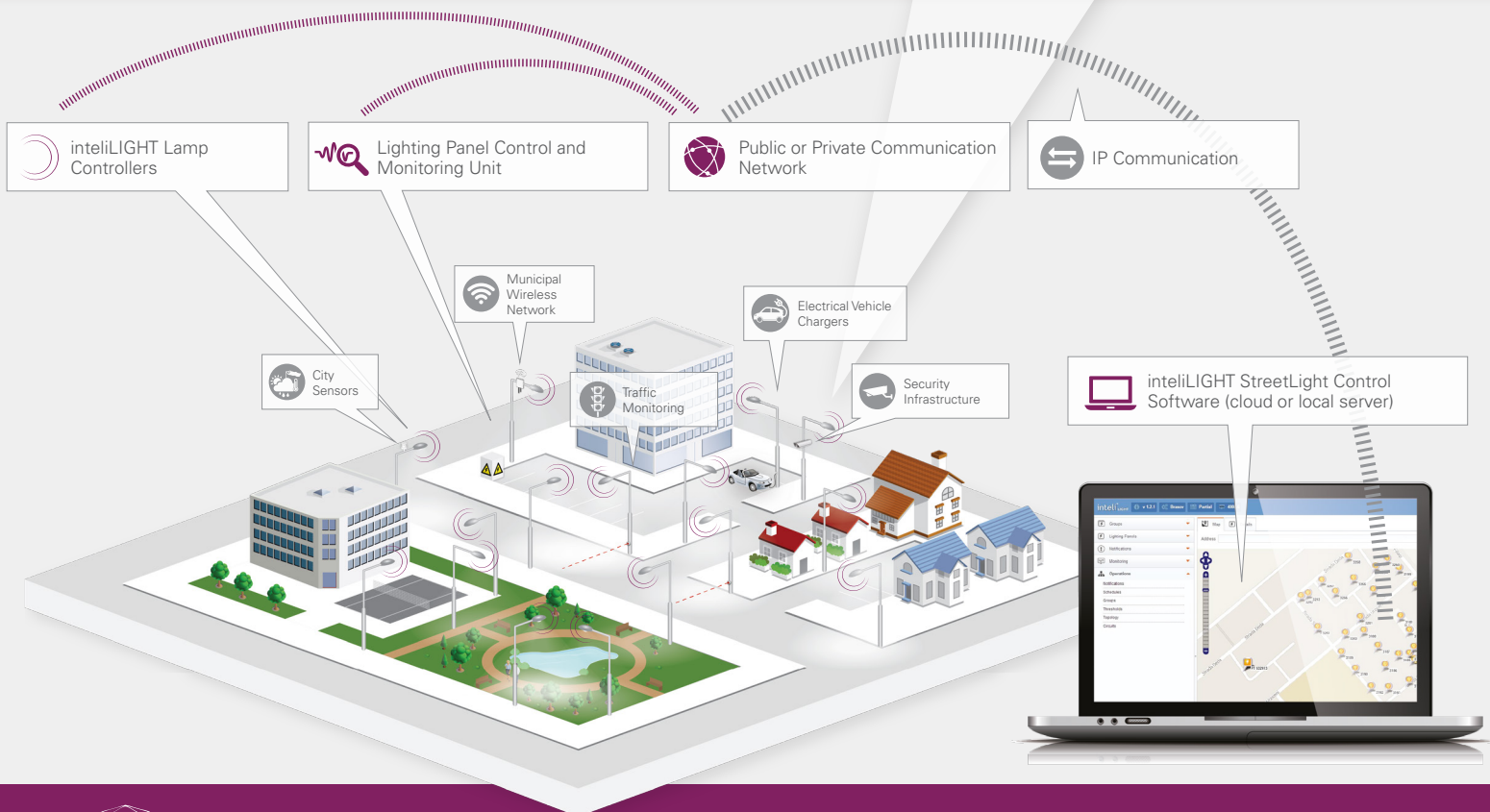
LoRaWAN compatible smart street lighting

FRE-24-Zhaga-L luminaire controller- data sheet | 03/11/21 | v1.32

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.

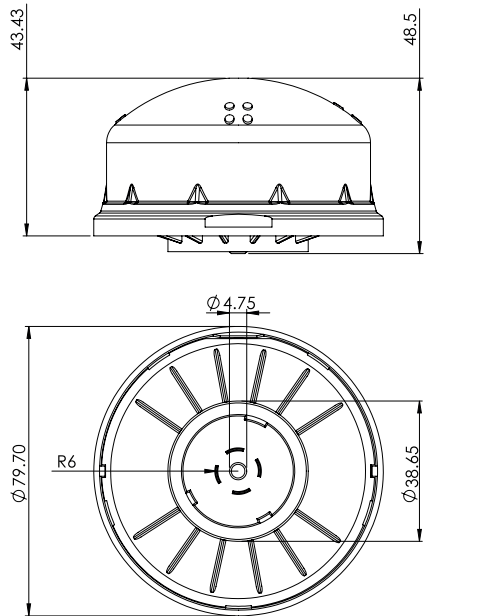
- › ZHAGA socket (book18).
- › Can control additional independent devices via DALI relay.
- › Enables individual remote management, ON / OFF / Dimming of streetlight lamps with DALI 2 / DiiA / Osram DEXAL / Philips SR control gear.
- › Specially designed and optimized for LPWA networks.
- › Autonomous 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.



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DIMENSIONS (mm):



FRE-24-Zhaga-L	
Lamp Type	LED, CF, HID with DALI 2 / DiiA / 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)
Power supply	24 VDC
External interface	infrared
Network interface	LoRaWAN (Class C or Class A)
RF spectrum	868MHz / 915MHz / 923MHz
Inter-node mesh communication	Optionally available, with motion sensor add-on
Last gasp	Optional
Firmware update	OTA (over the air)
GPS	Optional
Security	Encrypted communication based on security keys
Surge protection	provided by DALI 2 control gear
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)	Battery operated
Real-time lamp operation	Yes
Digital input	No
IP rating	IP66
Operating temperature range	-25°C to +65°C
Weight	70 ± 5 g
Dimensions (diameter x height)	80 x 49 mm
Mounting	Zhaga (book 18)
Compliant standards	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
Certifications	CE, SR Signify, FCC- in progress

CERTIFICATIONS:



MEASURED PARAMETERS:

- › Lamp power
- › Line voltage
- › Current
- › Active power
- › Reactive power
- › Apparent power
- › Power factor
- › Energy consumption (active/ reactive)
- › Lamp / controller- running hours counter
- › Lamp On / Off cycles counter

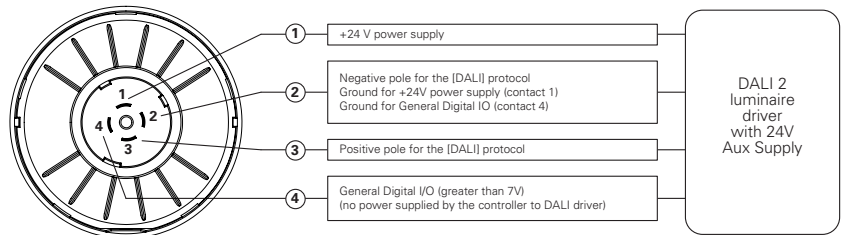
CONFIGURABLE PARAMETERS:

- › Astronomical calendar scheduler
- › Predefined scheduler
- › Start state (Photocell / Schedule / Manual)
- › Over/ under voltage threshold
- › Over/ under current threshold
- › Fade time
- › Lamp warming time
- › Lamp cooldown 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

ELECTRICAL CONNECTIONS:



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