inteliLIGHT ®

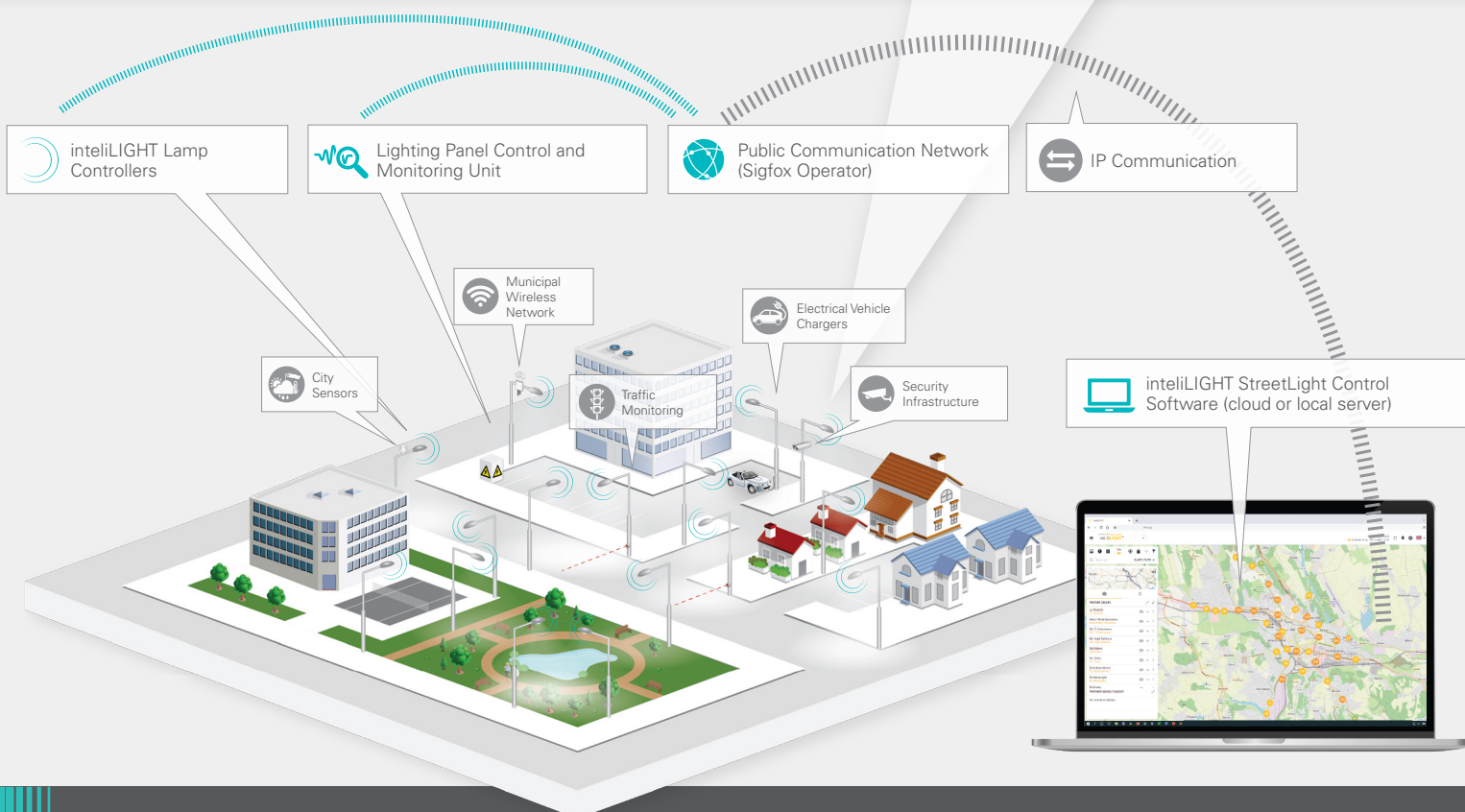## Sigfox compatible smart street lighting

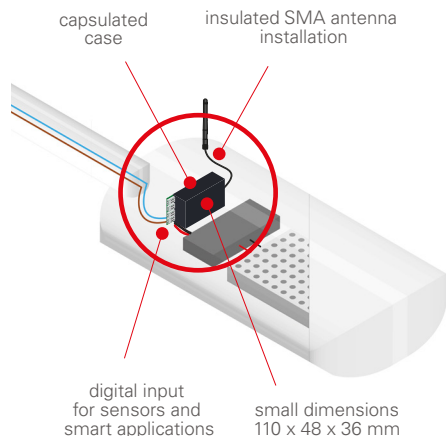## FRE-220-M-S - Sigfox compatible, embedded luminaire controller

Designed to minimize occupied space, the controller can be embedded into most luminaire designs, allowing any producer to offer smart lighting fixtures.

› 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.

CE

inteliLIGHT Lamp Controllers

Lighting Panel Control and Monitoring Unit

Public Communication Network (Sigfox Operator)

IP Communication

Municipal Wireless Network

Electrical Vehicle Chargers

City Sensors

Traffic Monitoring

Security Infrastructure

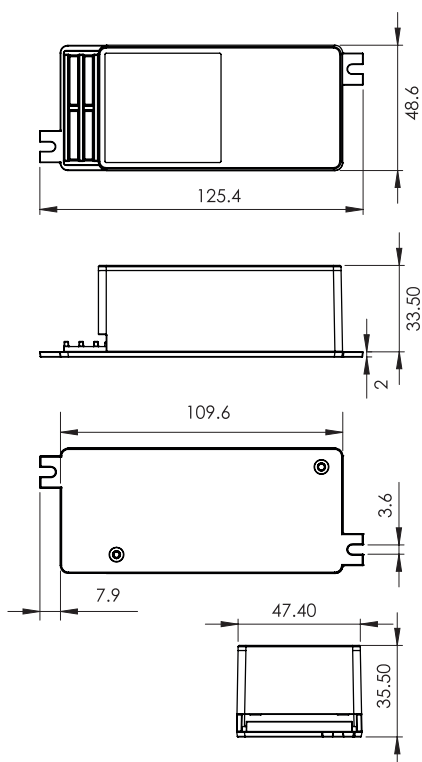inteliLIGHT StreetLight Control Software (cloud or local server)

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capsulated case

insulated SMA antenna installation

digital input for sensors and smart applications

small dimensions 110 x 48 x 36 mm

FRE-220-M-S	
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 / DALI Logarithmic and Linear
Power supply	85- 275VAC / 50Hz-60Hz
Network interface	Sigfox
Supported frequencies	RCZ1 Europe , RCZ2 US, RCZ4 AU/NZ/Taiwan/Singapore
Inter-node mesh communication	Optionally available, with motion sensor add-on
Last gasp	Optional
Firmware update	OTA (over the air)
GNSS	Optional- Geolocation and precision time (GPS, GLONASS, BeiDou, Galileo and QZSS)
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 (±1%)
Average power consumption	1W
Maximum power consumption	2W
Precision Real Time Clock (RTC)	Yes, battery operated
Battery operation time	10 years +
Real-time lamp operation	No
Digital input	1x dry contact (for PIR sensor, photocell sensor, open door sensor etc.)
Light sensor	Optional- externally connected
Ingress protection	IP20 (IEC 60529)
Operating temperature range	-25°C to +70°C
Operating humidity	95% non-condensing
Weight	125 ± 5 g
Dimensions (length x width x height)	110 x 48 x 36 mm
Mounting	embedded in lamp
Compliant standards	• RED Directive • RoHS Directive • Environmental Testing: EN 60068-2-1, EN 60068-2-2
Certifications	CE

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

DIMENSIONS (mm):

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
› Dimming level at the moment of interrogation (optional). It needs to be specified before product shipping.

CONFIGURABLE PARAMETERS:

› Astronomical calendar scheduler
› Predefined scheduler
› Start state (Input / Schedule / Manual)
› Over/ under voltage threshold
› Over/ under current threshold
› Fade time
› Lamp warming time
› Lamp cooldown time
› Data transmission setup
› Alert priority setup
› Maintaining of constant light flux (Constant Lumen Output)- depending on the control gear

ALARMS MONITORED:

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

ELECTRICAL CONNECTIONS:

OPTIONAL ANTENNAS:

ANT-824

ANT-601