



LoRaWAN™ compatible STREET LIGHTING REMOTE MANAGEMENT & SMART CITY PLATFORM



[FRE-220-M embedded LoRaWAN™ compatible luminaire controller - data sheet] December 3, 2018 Ver 1.5

FRE-220-M-L embedded LoRaWAN™ compatible luminaire controller

Upgrade your lamps for smart control and monitoring

Unprecedented intelligence for any street lighting fixture, right from the production line. Designed to minimize occupied space, the new inteliLIGHT® LoRaWAN™ compatible FRE-220-M long range RF controller can be embedded into most luminaire designs, allowing any producer to offer LoRaWAN™ ready smart lighting fixtures.

- › Enables **individual remote management** of streetlight lamps with electronic driver up to 400W (ON/ OFF/ Dimming).
- › Specially designed and **optimized for LoRaWAN™**.
- › **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.
- › **Dedicated high-security memory** for encryption keys storage.
- › Wide range of **electrical parameters monitoring**: V, W, A, VAR, Wh, VARh, PF and frequency.
- › **Advanced data synchronization** and notification mechanism.
- › **Battery operated RTC**, protected against unforeseen communication failure.
- › **Local infrared interface** for local configuration.
- › Integrated **digital input**.
- › **Over The Air** (OTA) firmware update.
- › Designed **lifetime: 10+** years.

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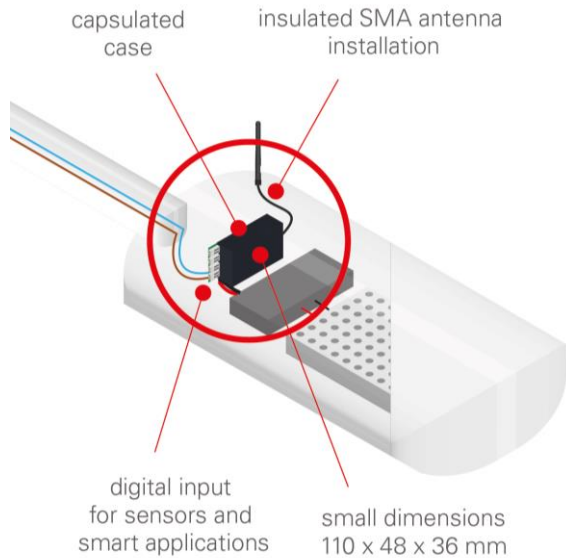
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FRE-220-M-L embedded	
Lamp Type	LED, CF, HID with electronic driver
Maximum lamp power	400W
Functions / Operation mode	ON/ OFF / Dimming
Dimming range	30%-100%
Dimming steps	stepless
Control interface	0-10V/ 1-10V, DALI
Local interface	infrared
Network interface	LoRaWAN™
RF spectrum	868MHz / 915MHz / 923MHz
Firmware update	IR (infrared) / OTA (over the air)
Communication protocol	LoRaWAN™: Class C or Class A
Security	encrypted communication based on security keys
Power supply	85 - 260VAC / 50Hz-60Hz
Surge protection	10kA
Internal scheduling memory	16 events / day
Power consumption	0.5W
Precision Real Time Clock (RTC)	Battery operated
Real-time lamp operation	LoRaWAN™ Class C networks only
IP rating	IP42
Operating temperature range	-25°C to +65°C
Dimensions (length x width x height)	110 x 48 x 36 mm
Compliant standards	RoHS, 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
Certifications	CE FCC (in progress)

OPTIONAL ANTENNAS

ANT-601



ANT-018



ANT-123



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 (Input / Schedule / Manual)
- › ON/OFF power threshold
- › Over/ under voltage threshold
- › Over/ under current threshold
- › Strike retry count
- › Fade time
- › Lamp warming time
- › Lamp cooldown time
- › 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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