



# LTE-M compatible STREET LIGHTING REMOTE MANAGEMENT & SMART CITY PLATFORM



[FRE-220-M-M1 embedded LTE-M compatible luminaire controller - data sheet]

December 4, 2018

Ver 1.0

## FRE-220-M-M1 embedded LTE-M 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® LTE-M compatible FRE-220-M controller can be embedded into most luminaire designs, allowing any producer to offer LTE-M 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 **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.
- › **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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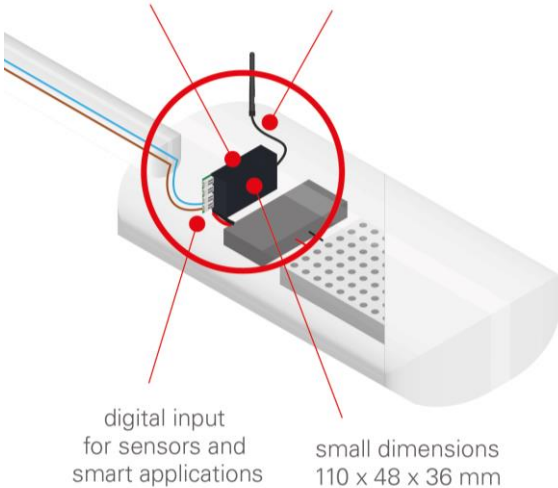


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capsulated case  
insulated SMA antenna installation



digital input for sensors and smart applications  
small dimensions 110 x 48 x 36 mm

## FRE-220-M-M1 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	LTE-M
LTE supported frequencies	worldwide
Firmware update	IR (infrared) / OTA (over the air)
Security	encrypted communication based on security keys
Power supply	85 - 260VAC / 50Hz-60Hz
Surge protection	10kA
Internal scheduling memory	16 events / day
Power consumption	1W
Precision Real Time Clock (RTC)	Battery operated
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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