



LoRaWAN™ compatible STREET LIGHTING REMOTE MANAGEMENT & SMART CITY PLATFORM

[FRE-220-M embedded LoRaWAN™ compatible luminaire controller - data sheet] November 14, 2019 Ver 1.6

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.

inteliLIGHT® is a registered trademark of FLASHNET | LoRaWAN™ is a registered trademark of Semtech

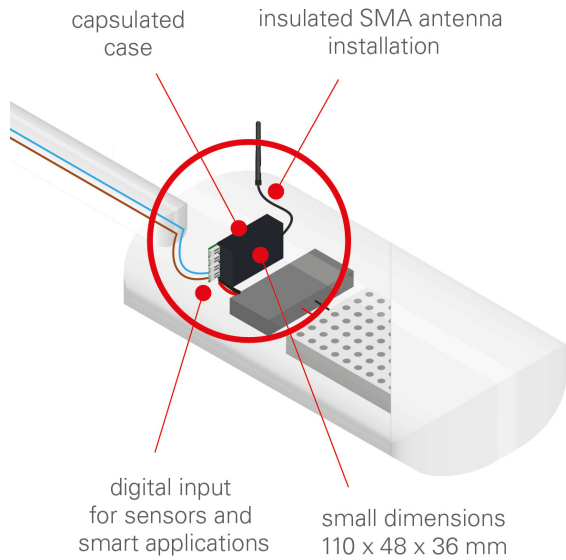




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| FRE-220-M-L embedded | |
|--------------------------------------|---|
| Lamp Type | LED, CF, HID with electronic driver |
| Maximum lamp power | 400W |
| Functions / Operation mode | ON/ OFF / Dimming |
| Dimming range | 30%-100% |
| Dimming steps | 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 | IP20 |
| 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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