



NB-IoT STREET LIGHTING REMOTE MANAGEMENT & SMART CITY PLATFORM



[FRE-220-P-NB1 - inside pole NB-IoT compatible luminaire controller - data sheet]

December 4, 2018

Ver 1.2

FRE-220-P-NB1 inside pole NB-IoT COMPATIBLE LUMINAIRE CONTROLLER

With its IP66 protection rating and compact dimensions, the controller can be installed directly into the lighting pole, making it less visible from an esthetic point of view and allowing easier access for deployment teams.

- › 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.

NB-IoT
Compatible



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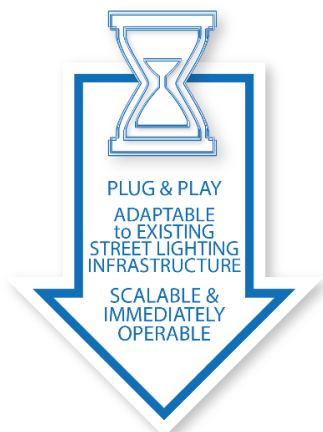
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| FRE-220-P-NB1 (inside pole) | |
|--------------------------------------|---|
| Lamp Type | LED, CF, HID with electronic driver |
| Maximum lamp power | 400W |
| Functions / Operation mode | ON/ OFF / Dimming |
| Dimming range | 30%-100% |
| Dimming steps | stepless |
| Control interface | 0-10V/ 1-10V, DALI |
| Local interface | infrared |
| Network interface | NB-IoT |
| Supported frequencies | Band 8, Band 20 |
| 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 | IP66 |
| Operating temperature range | -25°C to +65°C |
| Dimensions (length x width x height) | 126 x 57 x 42 mm |
| Mounting | DIN RAIL |
| 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) |

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

OPTIONAL ANTENNAS

ANT-601



ANT-018



ANT-123



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