



NB-IoT STREET LIGHTING REMOTE MANAGEMENT & SMART CITY PLATFORM



[FRE-220-NEMA-NB1 - NB-IoT compatible luminaire controller - data sheet] December 4, 2018 Ver 1.4

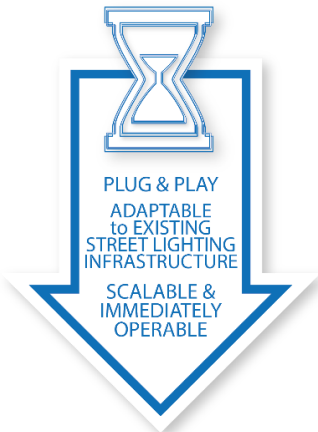
FRE-220-NEMA-NB1 - NB-IoT COMPATIBLE LUMINAIRE CONTROLLER

- › **NEMA socket** connected (ANSI C136.41).
- › 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, 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.
- › **External infrared interface** for local configuration.
- › Integrated **light level sensor**.
- › **Over The Air** (OTA) firmware update.
- › Designed **lifetime: 10+** years.



FLASHNET

4A Fundatura Harmanului Street / Brasov 500240, ROMANIA
Phone: +40 268 333 766 / info@flashnet.ro / www.intelilight.eu



FRE-220-NEMA-NB1

Lamp Type	LED, CF, HID with electronic driver
Connection	7pin NEMA socket (ANSI C136.41)
Maximum lamp power	400W
Functions / Operation mode	ON/ OFF / Dimming
Dimming range	30%-100%
Dimming steps	stepless
Control interface	0-10V/ 1-10V, DALI
External interface	infrared
Network interface	NB-IoT
Supported frequencies	Band 8, Band 20
Firmware update	IR (infrared) / OTA (over the air)
GPS	optional
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 (diameter x height)	76 x 96 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)

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 (Photocell / 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
- > Light level threshold
- > Data transmission setup
- > Alert priority setup

ALARMS MONITORED:

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