

FRE-220-NEMA-NB1-GSM - NB-IoT, GSM compatible, luminaire controller

Plug-and-play upgrade for lamps compatible with NEMA socket connected (ANSI C136.41) with full lamp management and feedback functionality.

- › 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.
- › Secure communication based on encryption keys.
- › Wide range of electrical parameters monitoring: V, W, A, VAR, Wh, VARh and PF.
- › Advanced data synchronization and notification mechanism.
- › Internal precision Real time clock (RTC) with backup battery.
- › Infrared interface for local configuration.
- › Dry contact digital input (for PIR sensor, photocell sensor, open door sensor etc.).
- › Integrated light level sensor.
- › Over The Air (OTA) firmware update.
- › Designed lifetime: 10+ years.
- › TALQv2 certified solution.

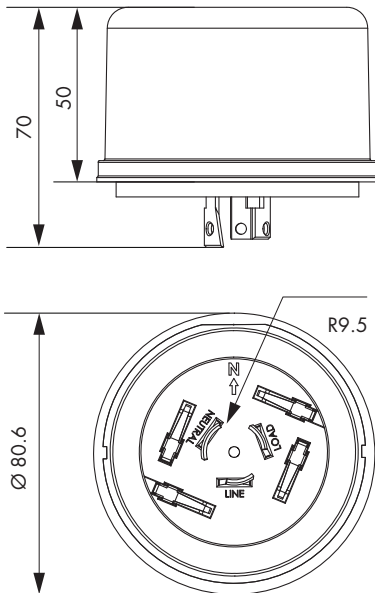




FRE-220-NEMA-NB1-GSM

Lamp Type	LED, CF, HID with electronic driver
Maximum lamp power	400W (optional up to 750W) *
Functions / Operation mode	ON / OFF / Dimming
Dimming range	1%-100% (depending on lamp control gear)
Control interface	Analog 1-10 V / 0-10 V / DALI Logarithmic and Linear
Power supply	85- 275VAC / 50Hz-60Hz
External interface	infrared
Network interface	NB-IoT / GSM
Supported frequencies	worldwide
Internet protocol version	IPv4/IPv6
Inter-node mesh communication	Optionally available, with motion sensor add-on
Last gasp	Optional
Firmware update	IR (infrared) / OTA (over the air)
GNSS	Optional- Geolocation and precision time (GPS, GLONASS, BeiDou, Galileo and QZSS)
Security	Encrypted communication based on security keys (AES128-bit)
Surge protection	max 10kA (IEC 61000-4-5)
Internal scheduling memory	128 events (daily / weekdays / weekends / fixed date / exceptions)
Measurement accuracy	MID grade ($\pm 1\%$)
Average power consumption	0.5W
Maximum power consumption	2W
Precision Real Time Clock (RTC)	Yes, battery operated
Battery operation time	10 years +
Real-time lamp operation	Yes
Digital input	1x dry contact (for PIR sensor, photocell sensor, open door sensor etc.)
Tilt sensor	Optional (configurable threshold for tilt & roll)
Light sensor	Integrated. Configurable threshold.
Ingress protection	IP66 (IEC 60529)
Impact protection	IK09 (IEC 62262)
Operating temperature range	-25°C to +70°C
Weight	115 \pm 5 g
Dimensions (diameter x height)	80 x 70 mm
Mounting	7pin NEMA socket (ANSI C136.41)
Compliant standards	• RED Directive: LVD Directive & protection of health (EN IEC 62368-1, EN IEC 62479), EMC Directive (ETSI EN 301 489-1, ETSI EN 301 489-2), Efficient use of radio spectrum (ETSI EN 301 908-1, ETSI EN 301 908-13, ETSI EN 301 511, ETSI EN 303 413) • RoHS Directive • Environmental Testing: EN 60068-2-1, EN 60068-2-2
Certifications	CE

DIMENSIONS (mm):



CERTIFICATIONS:



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
- > Dimming level at the moment of interrogation (optional). It needs to be specified before product shipping.

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
- > Use of necessary light flux (Adjustable Lighting Output)- Only ON/OFF based on photocell value
- > Maintaining of constant light flux (Constant Lumen Output)- depending on the control gear

ALARMS MONITORED:

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

ELECTRICAL CONNECTIONS:

