

FRE-220-NEMA-S - Sigfox 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.

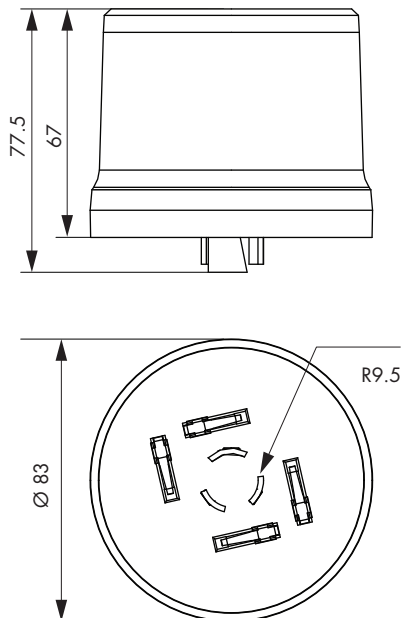


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DIMENSIONS (mm):



CERTIFICATIONS:



FRE-220-NEMA-S	
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	Sigfox
Supported frequencies	RCZ1 Europe , RCZ2 US, RCZ4 AU/NZ/Taiwan/Singapore
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	1W
Maximum power consumption	2W
Precision Real Time Clock (RTC)	Yes, battery operated
Battery operation time	10 years +
Real-time lamp operation	No
Digital input	1x dry contact (for PIR sensor, photocell sensor, open door sensor etc.)
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)	83 x 78 mm
Mounting	7pin NEMA socket (ANSI C136.41)
Compliant standards	• RED Directive • RoHS Directive • Environmental Testing: EN 60068-2-1, EN 60068-2-2
Certifications	CE

* The controller can be used for luminaires over 750W together with an external contactor, and with limited functionalities (no dimming, no measurements).

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:

