

FRE-220-P-NB1-M1 - NB-IoT, LTE-M compatible, pole mounted 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 LTE 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.
- › 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.).
- › Over The Air (OTA) firmware update.
- › Designed lifetime: 10+ years.
- › TALQv2 certified solution.



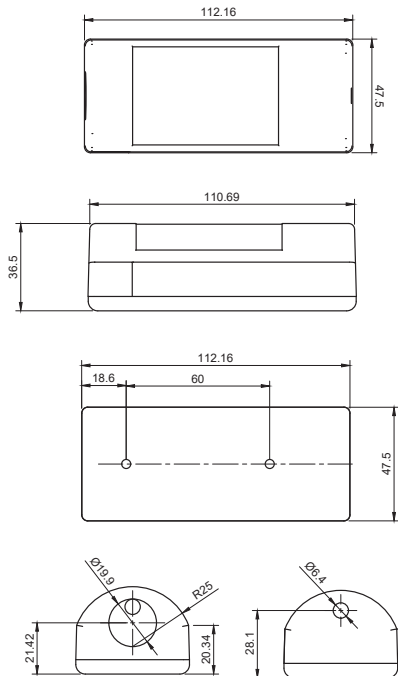


FRE-220-P-NB1-M1

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 / PWM and reversed PWM / DALI Logarithmic and Linear
Power supply	85- 275VAC / 50Hz-60Hz
Network interface	NB-IoT / LTE-M
LTE supported frequencies	worldwide
Internet protocol version	IPv4/IPv6
Inter-node mesh communication	Optionally available, with motion sensor add-on
Last gasp	Optional
Firmware update	OTA (over the air)
GNSS	Optional- Geolocation and precision time (GPS, GLONASS)
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	Optional- externally connected
Ingress protection	IP66 (IEC 60529)
Impact protection	IK09 (IEC 62262)
Operating temperature range	-25°C to +70°C
Weight	230 \pm 5 g
Dimensions (length x width x height)	112.2 x 48 x 37 mm
Mounting	DIN RAIL
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 303 413) • RoHS Directive • Environmental Testing: EN 60068-2-1, EN 60068-2-2 CE
Certifications	CE

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

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 (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
- › 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:



OPTIONAL ANTENNAS:

ANT-824

ANT-601



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