

FRE-220-P-L - LoRaWAN compatible, pole mounted luminaire controller

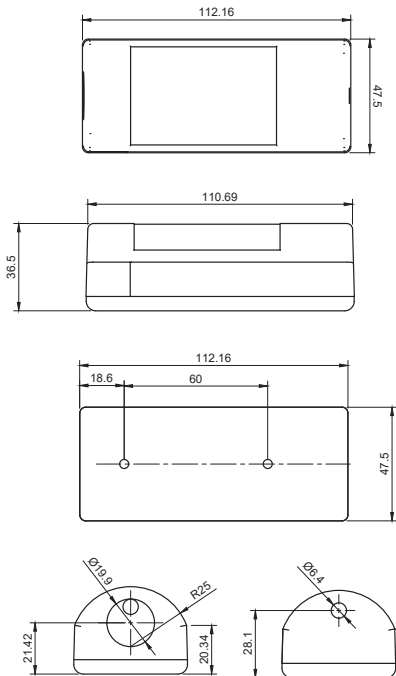
With its IP66 protection rating and compact dimensions, the controller can be installed directly into the lighting pole, making it less visible from an esthetic point of view and allowing easier access for deployment teams.

- › Enables individual remote management of streetlight lamps with electronic driver up to 400W (ON/ OFF/ Dimming).
- › Specially designed and optimized for 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.
- › 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.





DIMENSIONS (mm):



CERTIFICATIONS:



| FRE-220-P-L | |
|--------------------------------------|---|
| 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 | LoRaWAN (Class C or Class A) |
| RF spectrum | 868MHz / 915MHz / 923MHz |
| 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, BeiDou, Galileo and QZSS) |
| Security | Encrypted communication based on security keys (AES128-bit) max 10kA (IEC 61000-4-5) |
| Surge protection | 128 events (daily / weekdays / weekends / fixed date / exceptions) |
| Internal scheduling memory | MID grade (±1%) |
| Measurement accuracy | 1.2W |
| Average power consumption | 2W |
| Maximum power consumption | Yes, battery operated |
| Precision Real Time Clock (RTC) | 10 years + |
| Battery operation time | Yes |
| Real-time lamp operation | 1x dry contact (for PIR sensor, photocell sensor, open door sensor etc.) |
| Digital input | Optional (configurable threshold for tilt & roll) |
| Tilt sensor | Optional- externally connected |
| Light sensor | IP66 (IEC 60529) |
| Ingress protection | IK09 (IEC 62262) |
| Impact protection | -25°C to +70°C |
| Operating temperature range | 230 ± 5 g |
| Weight | 112.2 x 48 x 37 mm |
| Dimensions (length x width x height) | DIN RAIL |
| Mounting | • RED Directive: LVD Directive & protection of health (EN IEC 62368-1, EN IEC 62479), EMC Directive (ETSI EN 301 489-1, ETSI EN 301 489-3), Efficient use of radio spectrum (ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 303 413) • RoHS Directive • Environmental Testing: EN 60068-2-1, EN 60068-2-2 CE |
| Compliant standards | |
| Certifications | |

* 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.

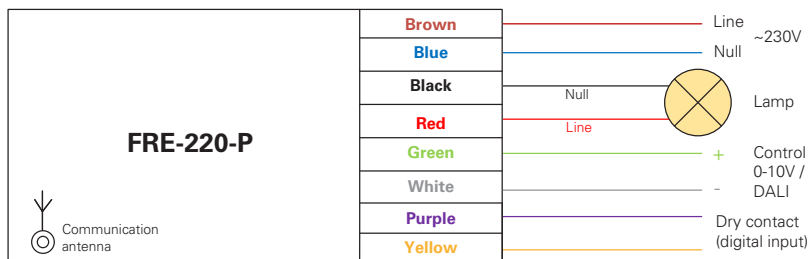
CONFIGURABLE PARAMETERS:

- › Astronomical calendar scheduler
- › Predefined scheduler
- › Start state (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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