



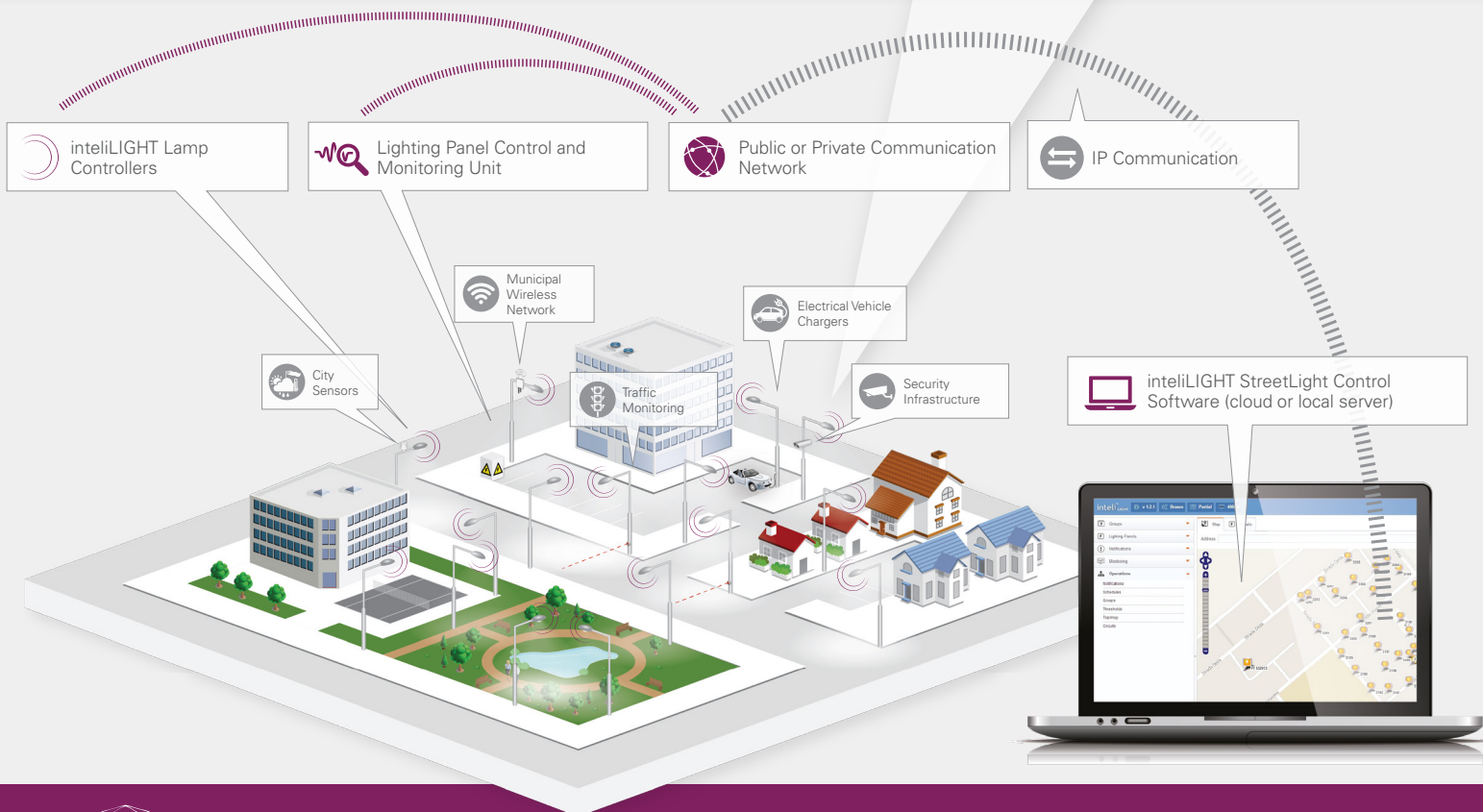
## LoRaWAN compatible smart street lighting

FRE-220-P-L pole mounted luminaire controller- data sheet | 03/11/21 | v1.32

# 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.

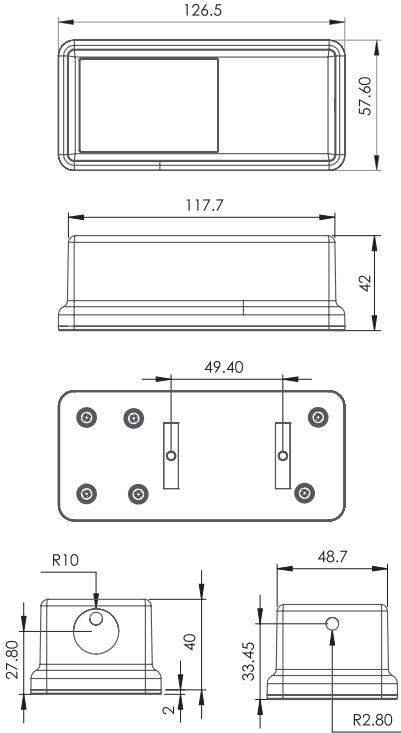
- › Enables individual remote management of streetlight lamps with electronic driver up to 400W (ON/ OFF/ Dimming).
- › Specially designed and optimized for LPWA networks.
- › Autonomous operation based on predefined schedules and digital input (light level sensor and adaptive lighting).
- › Adaptive 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.



**FLASHNET**  
An ENGIE company



**DIMENSIONS (mm):**



| 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                    | 0-10V/ 1-10V, DALI  |
| Power supply                         | 85- 260VAC / 50Hz-60Hz  |
| Local interface                      | infrared  |
| Network interface                    | LoRaWAN (Class C or Class A)  |
| RF spectrum                          | 868MHz / 915MHz / 923MHz  |
| Inter-node mesh communication        | Optionally available, with motion sensor add-on   |
| Firmware update                      | IR (infrared) / OTA (over the air)  |
| GPS                                  | No  |
| Security                             | Encrypted communication based on security keys  |
| Surge protection                     | 10kA  |
| Internal scheduling memory           | 128 events (daily / weekdays / weekends / fixed date / exceptions)  |
| Average power consumption            | 0.5W  |
| Maximum power consumption            | 2W  |
| Precision RealTime Clock (RTC)       | Battery operated  |
| Real-time lamp operation             | Yes   |
| Digital input                        | 1x dry contact (for PIR sensor, photocell sensor, open door sensor etc.)  |
| IP rating                            | IP66  |
| Operating temperature range          | -25°C to +65°C  |
| Weight                               | 230 ± 5 g   |
| Dimensions (length x width x height) | 126 x 57 x 42 mm  |
| Mounting                             | DIN RAIL  |
| Compliant standards                  | CE, 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  |

\* 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

**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

**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

