



LoRaWAN™ compatible STREET LIGHTING REMOTE MANAGEMENT



[FRE-220 LoRaWAN™ compatible luminaire controller - data sheet]

April 26, 2016

Ver 1.0

FRE-220 LoRaWAN™ COMPATIBLE LUMINAIRE CONTROLLER

- › Enables **individual remote management** of streetlight lamps with electronic ballast up to 400W.
- › Specially designed and optimized **for LoRaWAN™** (long range RF wide area networks).
- › **Autonomous operation** based on predefined schedules and light level sensor.
- › **Bandwidth efficient** with minimal communication requirements.
- › **Dedicated high-security memory** for encryption keys storage.
- › Wide range of **electrical parameters monitoring**: Wh, VARh, V, W, A, VAR, PF and frequency.
- › **Advanced data synchronization** and notification mechanism.
- › **Battery operated RTC**, protected against unforeseen grid faults.
- › **External infrared interface** for security keys transfer and local configuration.
- › Integrated **light level sensor**
- › **Over The Air (OTA)** firmware update

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FLASHNET



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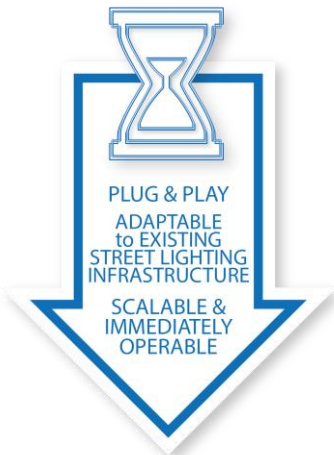
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FRE-220-IL*	
Lamp Type	LED, CF, HID with electronic ballast
Maximum lamp power	up to 400W
ON/ OFF function	✓
Dimming	✓
Dimming range	30%-100%
Dimming steps	stepless
Control interface	0-10V / DALI
External interface	infrared
Network interface	LoRaWAN™ (low power, long range radio frequency)
RF spectrum	915MHz-917MHz
TX Power	25/100mW (Depending on used channel)
Bandwidth efficient	✓
Advanced synchronization mechanism	✓
Firmware update	IR (infrared) / OTA (over the air)
Communication protocol	LoRaWAN™: Class C or Class A
Security	Dedicated high-security memory for encryption keys storage
Power supply	85 - 260VAC / 50Hz-60Hz
Surge protection	10kA
Internal memory	✓
Power consumption	Max. 0.5W
Precision Real Time Clock (RTC)	Battery operated
Real-time lamp operation	LoRaWAN™ Class C networks only
IP rating	IP66
Operating temperature range	-25°C to +65°C
Dimensions (length x width x height)	169,3 x 76,8 x 108,2 mm
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)
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	✓
Alarms monitored	
Over/ under voltage detection	✓
Over/ under current detection	✓
Lamp or ballast fault detection	✓
Device failure	✓
Configurable parameters	
Astrologic calendar 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/cooldown time	✓
Light level threshold	✓
Data transmission setup	✓
Alert priority setup	✓
Operation mode	ON/ OFF / dimming

*Product subjected to development according to published LoRaWAN regional specification



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