



Wi-SUN MESH STREET LIGHTING REMOTE MANAGEMENT & SMART CITY PLATFORM



[FRE-220-NEMA-WS Wi-SUN compatible luminaire controller - data sheet]

May 23, 2019

Ver 1.0

FRE-220-NEMA-WS Wi-SUN MESH LUMINAIRE CONTROLLER

- › **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 Wi-SUN** (mesh RF 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, PF and frequency.
- › **Advanced data synchronization** and notification mechanism.
- › **Battery operated RTC**, protected against unforeseen communication failure.
- › **External infrared interface** for local configuration.
- › Integrated **light level sensor**.
- › **Over The Air (OTA)** firmware update.
- › Designed **lifetime: 10+** years.



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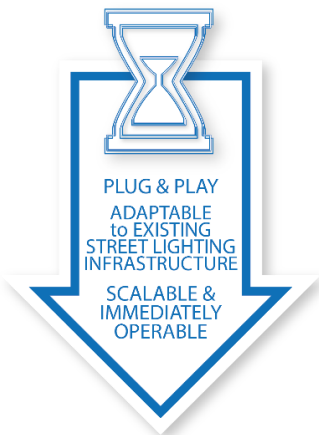
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FRE-220-NEMA-WS	
Lamp Type	LED, CF, HID with electronic driver
Connection	7pin NEMA socket (ANSI C136.41)
Maximum lamp power	400W
Functions / Operation mode	ON/ OFF / Dimming
Dimming range	30%-100%
Dimming steps	stepless
Control interface	0-10V/ 1-10V, DALI
External interface	infrared
Communication protocol	Wi-SUN (IEEE 802.15.4g RF MESH)
RF spectrum	868MHz / 915MHz / 923MHz / 2.4GHz
Firmware update	IR (infrared) / OTA (over the air)
GPS	optional
Security	Encrypted communication based on security keys
Power supply	85 - 260VAC / 50Hz-60Hz
Surge protection	10kA
Internal scheduling memory	32 events
Power consumption	0.5W
Maximum power consumption	1W
Precision Real Time Clock (RTC)	Battery operated
Real-time lamp operation	yes
IP rating	IP66
Operating temperature range	-25°C to +65°C
Dimensions (diameter x height)	76 x 96 mm
Compliant standards	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

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

ALARMS MONITORED:

- › Over/ under voltage detection
- › Over/ under current detection
- › Lamp or driver fault detection
- › Device failure



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