FRCM-L - LoRaWAN compatible, lighting panel control and monitoring unit

Installed inside the feeder pillar, it is designed to provide autonomous operation for street lighting installations and to carry out three phase measurements and analysis of electrical parameters in street lighting grids.
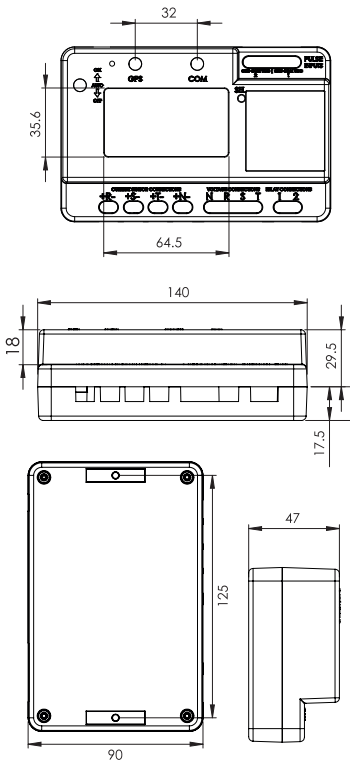
› Specially designed and optimized for LPWA networks.
› VPN security with AES128-bit encryption and key rotation.
› Bandwidth efficient with minimal communication requirements.
› Autonomous operation based on predefined astronomic calendar and/or external light level sensor (digital INPUT).
› Remote real-time ON/OFF control.
› Remote monitoring of grid parameters in street lighting grids: per phase voltage, current, frequency, power factor, active/ reactive/ apparent power, daily active/ reactive energy consumption.
› Configuration options for: current transformer ratio, voltage/power thresholds and daytime/ nighttime consumption thresholds.
› LCD for displaying electrical parameters and device status.
› GPS for exact location and time.
› Maintenance switch for local manual override (AUTO/ON/OFF).
› Inputs: 2 x Digital INPUT.
› Output: 1 x Dry contact relay output (230V, max 3A).
› Designed lifetime: 10+ years.

inteliLIGHT Lamp Controllers

Lighting Panel Control and Monitoring Unit

Public or Private Communication Network

IP Communication

Municipal Wireless Network

City Sensors

Traffic Monitoring

Electrical Vehicle Chargers

Security Infrastructure

inteliLIGHT StreetLight Control Software (cloud or local server)
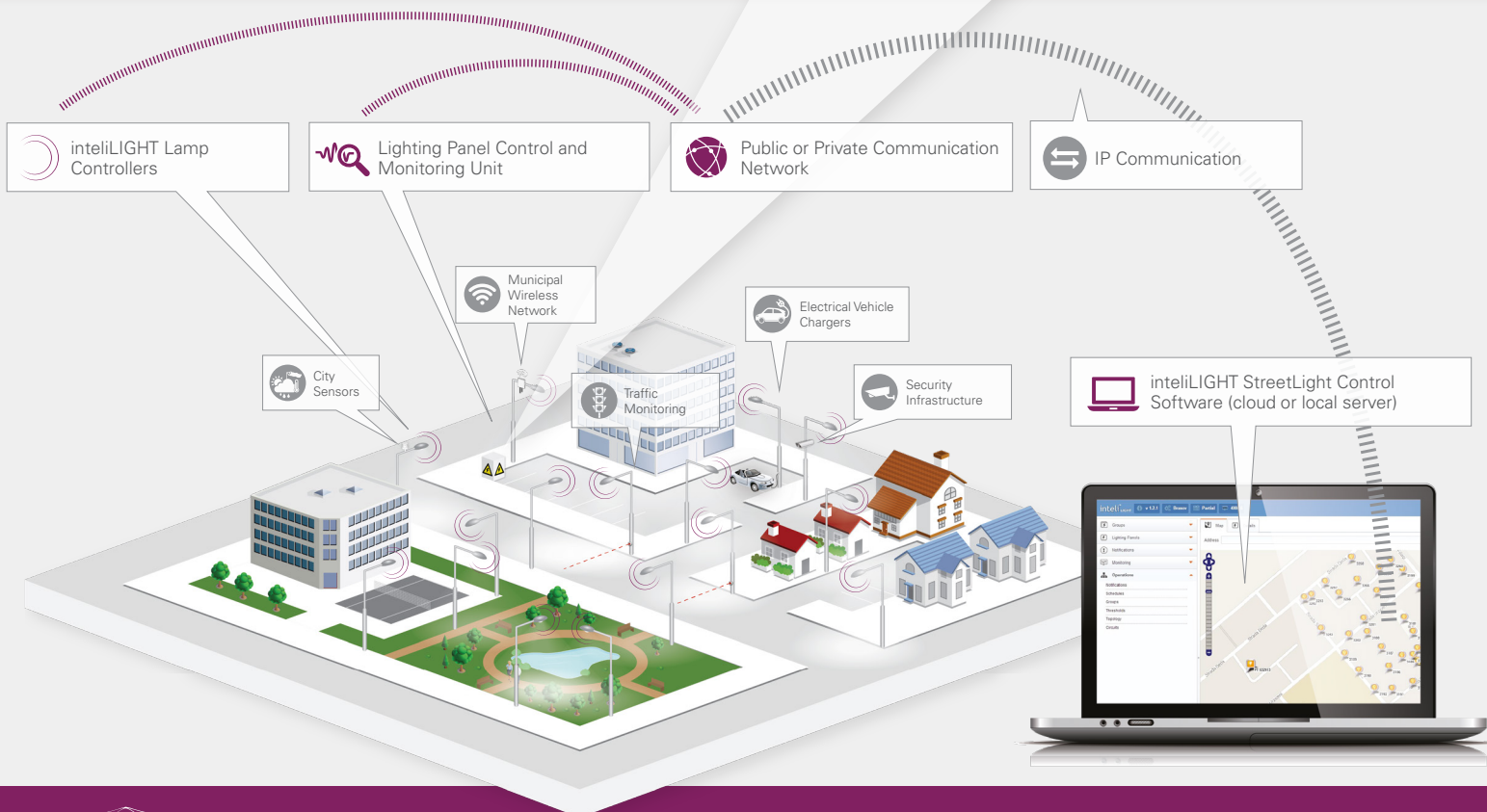
DIMENSIONS (mm):

FRCM-L	
Power supply	Direct connection
Voltage input range	85- 260VAC / 50-60 Hz
Network interface	LoRaWAN (Class C or Class A)
RF spectrum	868MHz / 915MHz / 923MHz
Display	LCD
Firmware update	OTA (over the air)
GPS	Location and time
Security	AES128-bit encryption and key rotation per session
Surge protection	6kA
Internal scheduling memory	128 events (daily / weekdays / weekends / fixed date / exceptions)
Power consumption	Max. 10 W
Precision Real Time Clock (RTC)	Battery operated
Battery operation time	up to 5 hours
Input	• R, S, T voltage inputs • R, S, T, N current inputs • 2 x Digital input
Power network type	Three phase electric network and Neutral
Current transformers	Standard X:5, where X is user definable
Output	1 x Dry contact relay (230V, max 3A)
Connectors	• Voltage (R,S,T,N) • Current (R,S,T,N) • RF / GPS / USB
Grid connectors	2.5 mm² terminals
Antennas	2 x SMA
IP rating	IP20 (optional IP65 external housing)
Operating temperature	-25°C to + 65°C
Operating humidity	95% non-condensing
Weight	320 ± 5 g
Dimensions (L x W x H)	138 x 90 x 47 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

MEASURED PARAMETERS:
› voltage
› current
› active power
› reactive power
› apparent power
› active energy
› reactive energy
› power factor
› frequency

CONFIGURABLE PARAMETERS:
› current transformer ratio
› voltage/power / current thresholds
› daytime/ nighttime consumption threshold

ALARMS MONITORED:
› over/ under voltage detection
› over/ under power detection
› over/ under current detection
› unusual daytime/nighttime consumption
› phase failure

ELECTRICAL CONNECTIONS:

From Source to Load