

Streetlight Cabinet Node

The Itron Cabinet Node enables a modular Streetlight Cabinet Control solution, enabling lighting authorities to select the features, data, meters, and sensors they desire for each cabinet location in the city.

Dual RF mesh and cellular connectivity enables flexible deployment options, lays the foundations for individual controls across the city, and delivers the highest levels of network resilience and reliability. Fully supported within the SLV CMS platform, users can achieve advanced control, detailed configuration, real time monitoring, event automation and data analytics.

The base product offers Cabinet Level control + Flexible sensor inputs:

- » Real time remote switching of main cabinet Relays (3 phase and single-phase support)
- » Custom schedules / calendar for cabinet stored on Cabinet Node for 10 years +
- » Last Gasp reporting of cabinet power outages
- » Cabinet Node temperature reporting
- » 2 x Digital inputs (e.g., for alarm detection: open door, stuck relay)
2 x Digital inputs for future use
- » 1 x Analog Input (e.g., light sensor, temperature sensor)
- » 2 x dry contacts for Relay Control

Add Cabinet Level Metering if desired, by connecting a suitable meter (new or existing):

- » Captures detailed metering + power analytics via an Electricity DIN rail meter
- » Modbus + P1 port support to enable extensive metering options
- » Detailed data available for entire supply and per phase
- » Customized real time alerts + fault reporting

Add Individual segment metering, monitoring and control:

- » Detailed metering and power analytics for multiple segments per Cabinet Node, via additional Electricity DIN rail meters (1 per segment)
- » Metering via Electricity DIN rail meters (connected via Modbus interface)
- » Detailed data available for entire supply and per phase
- » Customized real time alerts + fault reporting per segment
- » Remote switching of individual segments (where meter supports remote disconnect)



KEY FEATURES

- » Support for scheduled and on-demand on/off control for up to two (2) relays
- » Support for cabinet door open/closed alarm
- » Supports light or temperature sensors in the cabinet
- » Provides interval read for a range of power quality channels including total power, active energy, voltage by phase, and frequency
- » Supports on-demand register read for a wide range of values including total power, total active energy, current by phase, active power by phase, active energy by phase, and temperature

FEATURES:

Access Point Functionality:

- » Secure, reliable performance to enable the most demanding smart infrastructure applications
- » Up to 100 kbps data speed
- » 10 ms latency
- » Sub Giga MHz radio
- » Open standards-based two-way communications and interfaces
- » IPv6; IEEE 802.15.4g, Wi-SUN capable
- » Cellular WAN backhaul (Cat M1)
- » Dynamically adaptive data rates to ensure maximum performance while ensuring backwards compatibility
- » Integrated, open standards-based security leveraging public key-based authentication and AES-256 encryption
- » Supports two-way communications including remote management and firmware upgrades
- » Advanced functionality that enables full power cycle of the device, thus eliminating truck rolls

KEY BENEFITS

Convenient, cost-effective expansion of network coverage for lights managed by cabinet controllers

The Cabinet Node, with its flexible and simple design, collects metering data from existing or new electric meters in the cabinet over serial interface with industry standard Modbus protocol.

Easy and accelerated time-to-value with its simplified deployment

The smaller form factor helps to simplify the deployment model which results in lowering the implementation cost of the project. Additionally, with its simple "DIN Rail Mounting" installation, it further improves the total cost of ownership.

Risk mitigation through proven, multi-layer security

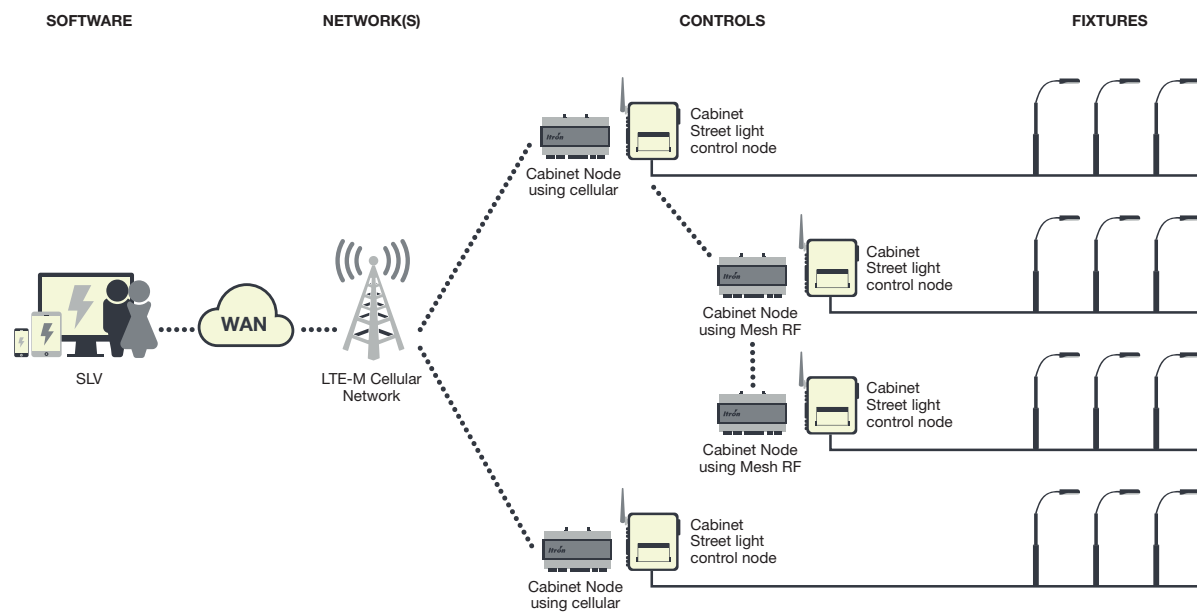
Two-way communications remain protected from the increasingly hostile threat environment by building on Itron's proven, multi-layer security that leverages on built-in controls from the application to the device layer.

Improve Streetlighting Operations and maintenance efficiency

Adjust street lighting operation and brightness in response to real time events including weather, traffic, accidents, and public events. Reduce energy consumption by up to 30%. Receive proactive notification of failures. Control remotely streetlighting cabinets to monitor and response of the city in real time and switching lights as required to reduce maintenance and improve energy efficiency.



CABINET NODE SOLUTION ARCHITECTURE



SPECIFICATIONS

NAN Communications	Protocol IEEE 802.15.4g Data rates: Up to 100 kbps Spread spectrum: 868 - 876 MHz (EU873, EU876, EUA02, EUB10, EUB14) frequency bands				
	EU Band	EU RF Band (Mhz)	Supported in countries		
	EU876	870-875.6	Cyprus, Denmark, Estonia, Norway, Slovak Republic		
	EU873	870-873	Belgium, Finland, Lichtenstein, Qatar, Switzerland, United Kingdom		
	EU0A2	870-874.4	Austria, Bulgaria, Czech Republic, Croatia, Hungary, Ireland, Iceland, Luxemburg, Portugal Sweden, Slovenia, Spain		
	EUB14	865-868, 869.4, 874-874.4	France, Lithuania, Latvia, Malta, Romania		
	EUB10	865-868, 869.4	Germany, Greece, Italy, Netherlands, Poland, Turkey		
Cellular radio operations	2G	4G, E-ULTRA	Uplink (Tx)	Downlink (Rx)	Power (W)
	-	1	1920 - 1980	2110 - 2170	< 0.2
	GSM 1800	3	1710 - 1785	1805 - 1880	< 2
	GSM 900	8	880 - 915	925 - 960	< 2
	-	20	832 - 862	791 - 821	< 0.2
	-	28	703 - 748	758 - 803	< 0.2
Security	Addressing: IPv6 Encryption: Advanced Encryption Standard (AES-128 or AES-256) Security: Secure Hash Algorithm 256-bit (SHA-256) and RAS-1024 or ECC-256				
Operating Voltage	120V to 240 VAC				
Model number	STREETLIGHT CBN uAP 5, EU873 STREETLIGHT CBN uAP 5, EU876 STREETLIGHT CBN uAP 5, EUA02 STREETLIGHT CBN uAP 5, EUB10 STREETLIGHT CBN uAP 5, EUB14				
Frequency	50/60 Hz				
Load Switching	Rated / Idle: 5 W / 3W, Maximum: 6 W				
Environmental	IP-20				
Operating Temp	-30°C to +60°C				

* Currently supported SIM Card types. Cellular modem on the product can support other SIM cards in the future

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We create a more resourceful world



2111 North Molter Road
Liberty Lake, WA 99019 USA