

CityEdge Cabinet Node

The CityEdge Cabinet Node enables utilities and cities 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 CityEdge Platform, the Central Management System, 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 CityEdge 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

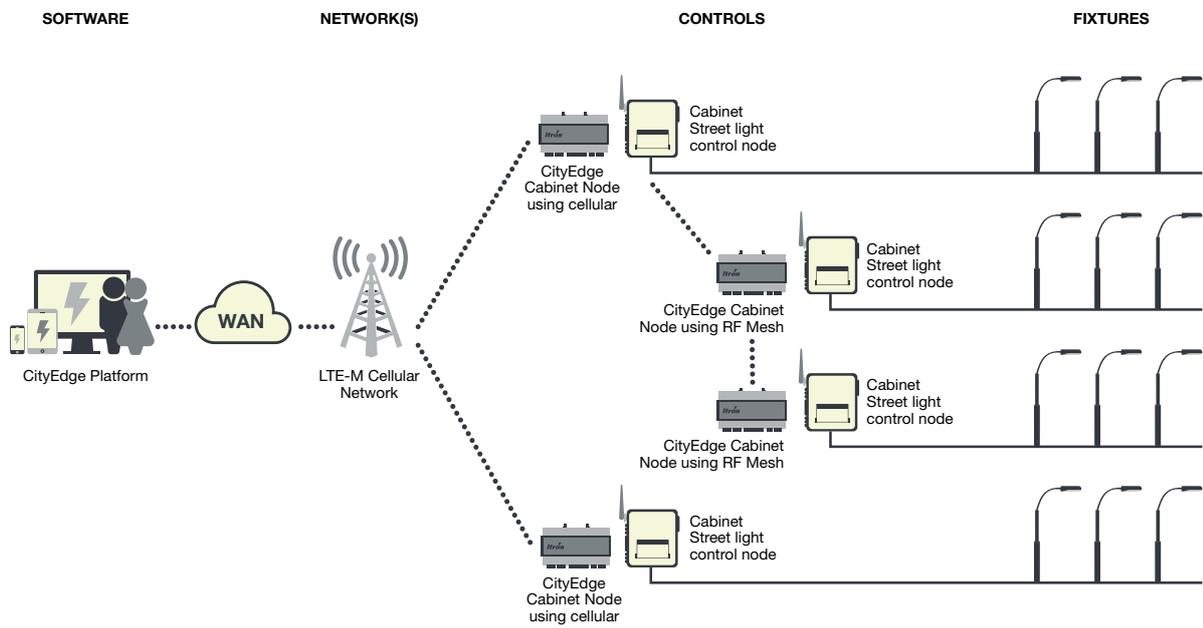
Two-way communications remain protected from the increasingly hostile threat environment by building on Itron's proven, multi-layer security that leverages on built-in controls from the application to the device layer.

Improve streetlighting operations and maintenance efficiency

Adjust lighting operation and brightness in response to real time events including weather, traffic, accidents, and public events. It helps to reduce energy consumption by up to 30% and enables proactive notification of failures. By enabling remote control of streetlighting via the cabinets, it supports the monitoring and response of the city in real time as well as the switching of 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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