

Ohli Node is a smart lighting solution-in-a-box. You can buy 1 or 10,000\* smart lighting controllers, plug them into the standard NEMA socket on your LED fixtures (just like a photocontroller), and voila – you have smart lighting! All the benefits of advanced smart streetlights – total control and status visibility – with no gateway installation, no RF surveys or other complex setup.

NB-IoT NEMA Smart Light Controller (SLC) as shown in Fig. 1 is a remote-control device for HID or LED luminaires equipped with ANSI C136.41 NEMA receptacle. The controller connects with a cellular NB-IoT network directly. This in turn connects with the remote management platform for management and control as shown in Fig. 2. The controller is exceptionally suitable for various terrains and environments and comes with built-in tilt sensor and Global Positioning System (GPS), and has a five or ten year warranty along with technical support.



Fig. 1 Ohli Node

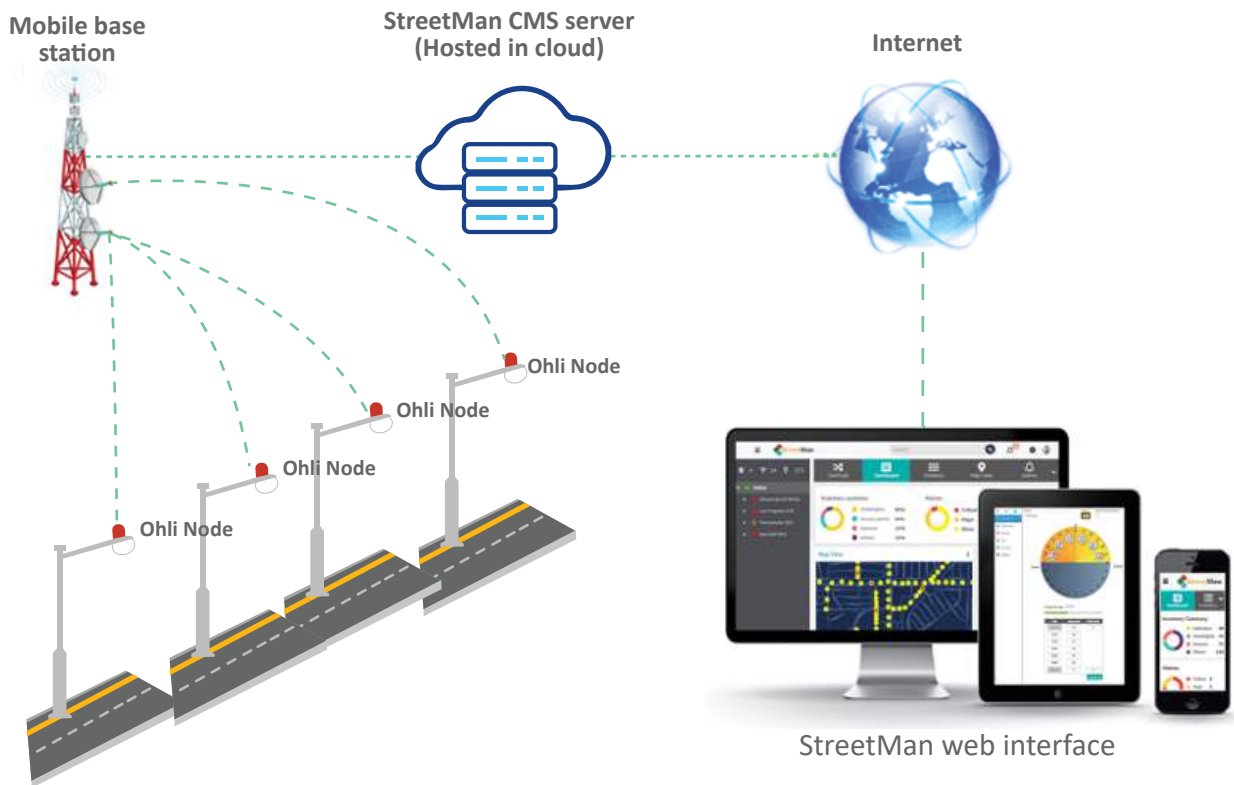


Fig. 2 Deployment

### No. Gateway. Needed. Ever.

Most smart lights for outdoor areas or street lights connect to the network via a gateway device. Each gateway device is proprietary, has a limited range, and can handle only a certain number of lighting controllers, plus installing a gateway requires a certain skill set and expensive tools for RF surveys, power and mounting locations.. Ohli Node works differently. Because it uses the cellular network (or NB-IoT) Ohli Node doesn't need a gateway at all. You can run Ohli Nodes standalone, or alongside ANY type of existing network.

## Features

### Works with all cellular providers and networks

Ohli Node uses a built-in, industrially-rated, next generation, remotely programmable SIM card which works with multiple cellular providers (e.g. AT&T, Sprint, T-Mobile, Verizon, etc in the US; Vodafone, Deutsche Telekom, etc in Europe) and multiple networks (2G, 3G, 4G, LTE-M or NB-IoT) – out-of-the-box – in 170 countries. For commercial service, US cellular providers usually require long-term contracts and high data fees in spite of a spotty service in many areas. Ohli Node works on the same leading networks but we have negotiated a low rate, fixed for 5 years. And because we work with all the cellular providers, if service is spotty with one, we just switch to another provider with better coverage in that area, automatically.

### Pre-programmed, pre-commissioned, pre-bundled

The technology is all built-in, pre-packaged and bundled with the software and monitoring service you need to make it work first time. But best of all, Ohli Node sells for a fixed, one-time price with no extra roaming or other add-on charges. You know exactly how much you are paying for 5 years of service.



Fig. 3 LED Luminaire

### Cloud-based management and monitoring built-in

Ohli Node comes with a 5-year subscription to a cloud CMS (Central Management System) that is based on Dhyan's StreetMan. In addition, it comes with 24x7 monitoring service which helps our customers operate the network with complete piece of mind. StreetMan can manage controllers from different manufacturers running different network protocols, all at the same time, so you are never locked in. Or locked out.

### Ohli Node is secure

Ohli Node uses TLS/AES to provide end-to-end encryption, the gold standard for protecting communication. Only the sender and the intended recipient can access the data – it is fully protected from hackers and unwanted third parties all the way from your smart light to the server.

### One-time, all-inclusive pricing

Ohli Node is a complete turnkey Smart Lighting solution package with 5 years of service.

- Smart Cellular/NB-IoT light controller. NEMA 7-pin, standard voltage 120-277V, FCC-certified, GPS-enabled
- 5 years of extended hardware warranty.
- Industrially-rated eSIM card. 2G/3G/4G/LTE-M/NB-IoT works in 170 countries out of the box.
- 5 years of data connectivity. Fixed data pricing for up to 250MB data volume per device.
- 5 years subscription to CMS (that is based on StreetMan). Includes standard support and maintenance.
- 5 years subscription to monitoring service.

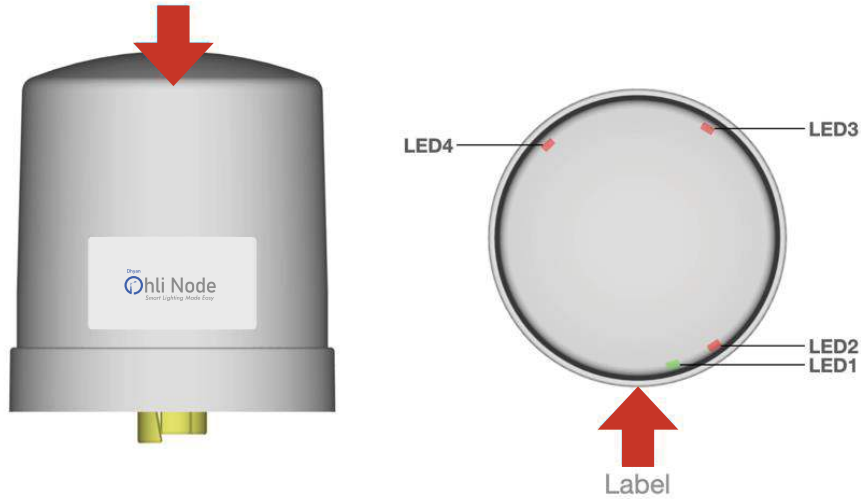
#### Add-on options:

- Additional 5 years subscription ( total of 10 years) - Includes warranty, network connectivity, software subscription and monitoring service and maintenance and support.
- High voltage controller (480V)

## Technical specifications

Input Voltage	110Vac~277VAC 480v (Optional)	Short Circuit Protection	Yes
Rated Voltage	230VAC	Over-Temperature Protection	Yes
Operating Voltage	105- 440 VAC (support for standard voltage 120V~ 277V and high voltage 120V ~480V)	Housing Material	Polycarbonate
Power Frequency	47Hz to 63Hz	IP Protection	IP66
Maximum Output Power	500W	MTBF	>200K hours
Output Power	Class 5 (Typ. 21dbm)	Receiving Sensitivity	-135 dBm
Maximum Load Current	4A	Operating Temperature	-40°C to +70°C
Standby Power Consumption	<2W	Storage Temperature	-40°C to +70°C
NB-IoT Frequency	B1/B2/B3/B4/B5/B8/B12/B13/ B18/B19/B20/B25/B26/B28/ B66/B71/B85	Dimensions (L*W*H)	89mm*89mm*120mm
Dimming Output	• 0V-10V @ 27mA(max), PWM, DALI optional	Weight	0.3kg
Metering Accuracy	1%	Maximum Ambient Temperature	70C
ANSI standard	C136.41 NEMA 7-pin Smart City ready	Security	TLS/AES
OTA Support	Yes	Field firmware upgrades	Yes
Tilt Sensor & GPS	Yes	Surge Protection	320J, 6KV/3KA (option for 405~440J)
Overload Protection	Yes	Certifications	EN55015, EN55022, FCC

## LED Indicator



LED	Color	Indications
LED1	Green	TX Indication, turn on 300ms when data is transmitting
LED2	Red	RX Indication, turn on 300ms when data is receiving
LED3	Red	MQTT broker server connection Indication 1, 1000ms ON/1000ms OFF: disconnected with MQTT broker server 2, 100ms ON/100ms OFF: Connected to MQTT broker server
LED4	Red	1, 64ms ON/800ms OFF: Unregistered network 2, 64ms ON/3000ms OFF: Registered network 3, 64ms ON/3000ms OFF: Connected to TCP/HTTP network 4, OFF: Cellular not working