

## Cellular Node Network Lighting Controller (NLC)



TI-22-CELL/ TI-24-CELL



TI-21-CELL

### Product Certifications

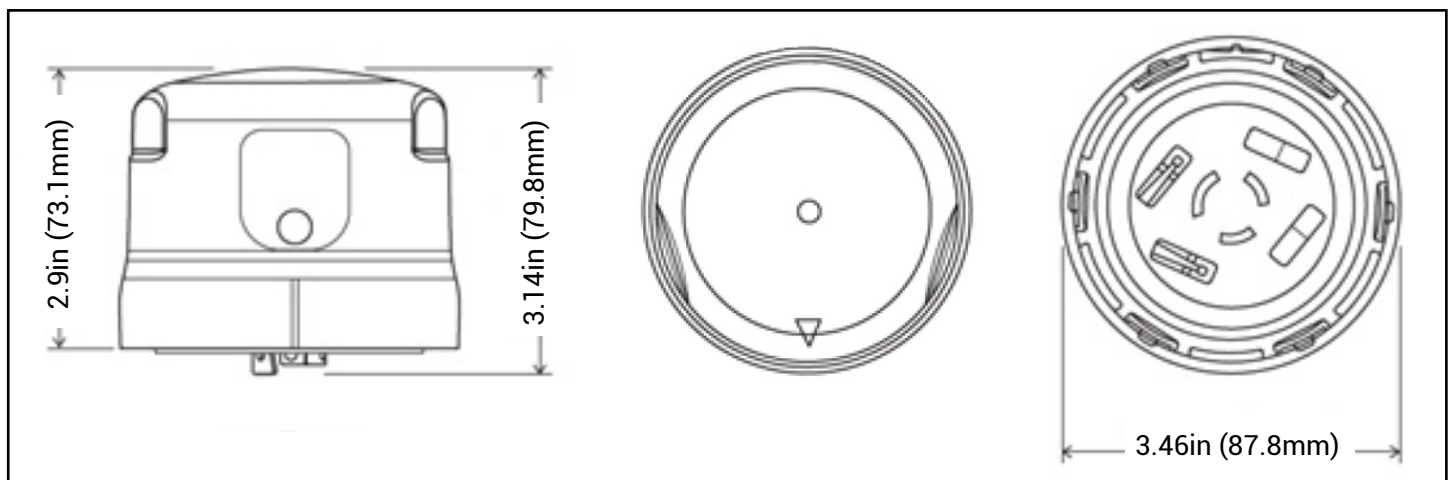


### Connected Systems

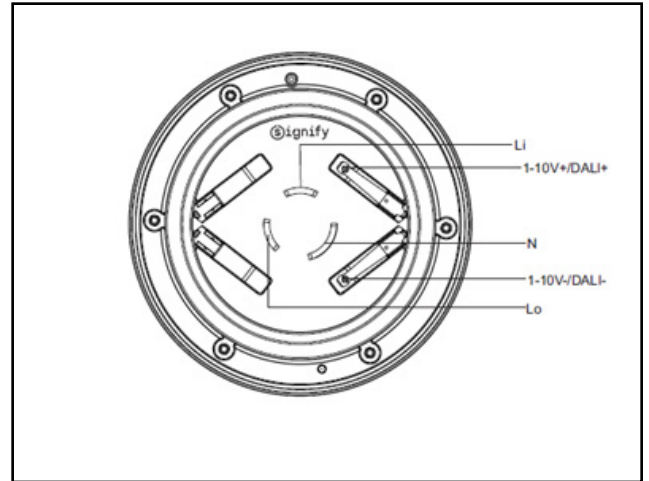
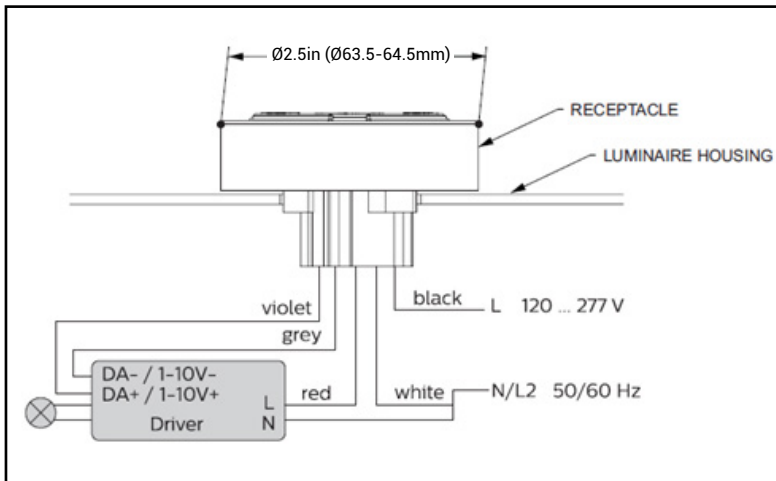
- Trellix

- The Cellular Node Network Lighting Controller (NLC) is a luminaire-based control device that connects street lights to the Trellix Lighting Management System (LMS).
- The Cellular node uses cellular communication to remotely manage, monitor, and control each street light individually.
- The Cellular node controls the street light by switching the mains supply and provides dimming by means of a digital (DALI) or analog (0-10V) interface.

### Dimensional drawing



## Wiring drawing



## Features

- The Cellular node is mounted to the luminaire by twist locking it onto the 3, 5 or 7-pin NEMA receptacle.
- The Cellular node provides true plug and play commissioning:
  - Automatically connects to the mobile network.
  - Automatically locates itself with the on-board GPS.
  - Auto-senses the luminaire driver type, e.g. Dali or 0-10V driver.
  - Automatically uploads asset data from a D4i Driver's MB1 to the lighting management system.
- The Cellular Node is a D4i certified multi-master control device (D4i Part 351 Type A) and can receive information from Zhaga-D4i Type B sensors.
- The Cellular node works together with D4i (Type B) certified motion sensors (See DALI SR Interface details on page 3).
- The Cellular node supports DALI-1 and DALI-2 control gears.
- The Cellular node supports event messages from input devices, as well as other application controllers on the same bus.
- The Cellular node supports Occupancy sensor (DALI part-303).
- The Cellular node supports LED (DALI part-207).
- The Cellular node supports feedback from control gear (including lamp failure feedback).
- The Cellular node supports for addressing or grouping of control gear.
- The Cellular node supports for luminaire data (DALI part-251/ANSI C136.7), energy data (DALI part-252) and diagnostics data (DALI part-253).
- The Cellular node includes sensor capabilities to get an instant Tilt and Knockdown notifications in the event that the orientation of the luminaire and/or pole changes significantly.
- The Cellular node works with streetlights by other manufacturers. Verification recommended.
- The Cellular node has an opaque cover and is available in black or gray.
- The Cellular node complies with C136.48, including those specified for reduced-profile controller.
- The Cellular node has a side sensing photosensor with window.
- The Cellular node delivers "extreme" surge protection rating with 20KV/10KA support.
- The Cellular Node supports 1200VA load.
- The Cellular Node complies with Cyber Security standards EN 18031-1:2024, EN 18031-2:2024 and EN 18031-3:2024 in accordance with new RED (Radio Equipment Directive) requirements.
- The Cellular Node uses infrared pulse per ANSI C12.20/C136.50 for meter testing.

Technical specification

Dimensions	
Component height	3.14 in (79.79 mm)
Diameter	3.46 in (87.76 mm)
Weight	0.51 lbs (0.25 kg)

Housing color	
TI-22-CELL, TI-24-CELL	Light Gray (RAL 7035)
TI-21-CELL	Black

Electrical power supply	
Mains voltage	120 V <sub>ac</sub> to 277 V <sub>ac</sub> -15%/+10%
Mains frequency	50/60Hz
Rated current	10 A at 120 Vac or 4.3 A at 277 Vac

Electric power consumption	
Standby power	≤ 1.0 W @ 277Vac ≤ 0.8 W @ 120Vac

Control interface	
Control method	ON/OFF, 0-10V, DALI
Protection	Interface is protected against short circuit
Insulation	Basic insulation
Lead capacity	Maximum three LED drivers, up to 1200VA

DALI SR interface	
Performance requirement DALI	•IEC 62386-101 edition 2.0 •IEC 62386-103 edition 2.0 •IEC 62386-351 edition 1.0
D4i device type	Type A (The D4i specification-Part 351 ensures the Type A device can be used together with Type B device, like D4i sensor in a D4i luminaire)
DALI supply	•DALI master with an integrated DALI power supply •Suitable for multiple power supplies on a DALI bus
Supply voltage	11.5 V to 22 V
Guaranteed supply current	Minimum 10 mA
Maximum supply current	Maximum 30 mA

Mounting/Connector	
NEMA connector 5-pin conform ANSI C136.41	

Connectivity technology	
Cellular	4G/5G (LTE Cat M1 bands 2,4,5,8,12,13,26,28)
Bluetooth (Future ready hardware)	For pole-to-pole communication or bluetooth use case applications

Energy metering	
Energy metering device	Inside Cellular node
Energy meter accuracy	0.5% class conform ANSI C136.50

### Technical specification

Auto location	
Positioning device	Inside Cellular node
Positioning accuracy	CEP50 ≤ 2.5 m

Luminaire tilt notification	
Tilt sensor	Inside Cellular node
Tilt threshold accuracy	± 5°
Configurable range	Between 10° and 45°
Default setting	30°

Long-life Photocontrol	
Light sensing device	Inside Cellular node
Configurable range	Remote configurable light level between 1.5 to 20 FC
Default settings (1.5:1 ratio)	Default dusk/dawn level 1.6 to 2.4 FC

Astronomical clock control	
Configurable range	Remote configurable time offset range -120 to 120 minutes, sun elevation angle range -25 to 25°
Default settings	Default dusk/dawn angle 0°/0°

Surge immunity	
Power supply	20KV/10KA acc. ANSI C136.10

Temperature characteristics	
Operating temperature	-40 °F to 158 °F (-40 °C to 70 °C)
Tcase max	80 °C measured at Tcase point
Tcase life	38 °C measured at Tcase point
Storage temperature	-40 °F to 185 °F (-40 °C to 85 °C)
Relative humidity	5 % to 95% non-condensing

Lifetime	
90% survivals after 15 years of continuous operation (132,000 hours) at Tcase-life	

Certification and standards	
Approval markings	cULus, FCC, ISED, D4i
Operability markings	D4i
Ingress protection classification	IP66 (installed condition for Cellular node only in combination with NEMA compatible receptacle)
Impact resistance classification	IK08
Cyber security standards	EN 18031-1:2024, EN 18031-2:2024, EN 18031-3:2024

Lighting control management systems	
Trellix Lighting Management System (LMS), or other LMS/CMS via TALQ or API	

### Technical specification

FCC	
EMC	•FCC47 Part 15B Class A •ICES-003, Issue 6 class A
Telecommunication	FCC47 CFR 22H, FCC47 CFR 24E, FCC47 CFR 27C RSS-130, RSS- 132, RSS-133, RSS-139
RF exposure	FCC47 part1.1307 & 2.1091, RSS-102
Safety	UL773, CSA C22.2 No.182.2
PTCRB certified	Yes

### Ordering Information

SAMPLE ORDER NUMBER: **TI-21-CELL**

**Trellix Cellular Node Network Lighting Controller Ordering Information**

Catalog Number	Description
TI-21-CELL <sup>1</sup>	Black Housing and Photocell version: Philips LLC7821/00 Cellular node, NEMA5 ACLV P US4VF BK, 120-277V
TI-22-CELL <sup>1</sup>	Light Gray Housing and Photocell version: Philips LLC7822/00 Cellular node, NEMA5 ACLV P US4VF LG, 120-277V
TI-24-CELL <sup>1</sup>	Light Gray Housing and Astro Clock version: Philips LLC7824/00 Cellular node, NEMA5 ACLV A US4VF LG, 120-277V

**Note:**

1. For Trellix Cellular node shipped with Cooper Lighting luminaire, contact your Cooper Lighting Sales Representative (fixture with controls order option code TRXC)
2. For Trellix Lighting Management System (LMS) Specification Information Cooper Lighting document [BR53219824EN](#)

SAMPLE ORDER NUMBER: **TI-SAAS-CELL-1YR**

**Order one of the following subscription service plans below in conjunction with hardware:**

Catalog Number	Description
TI-SAAS-CELL-1YR	1 Year: Trellix Cellular Data and LMS Subscription
TI-SAAS-CELL-5YR	5 year: Trellix Cellular Data and LMS Subscription
TI-SAAS-CELL-10YR	10 year: Trellix Cellular Data and LMS Subscription

## Policies and notices

### Usage restrictions

The Software Services should not be used for any purpose other than stated in this specification sheet. The Software Services and any data generated or processed thereby must not be used or relied upon for applications or activities where the use or failure of the Software Services could lead to death, personal injury, or environmental damage.

### Security

The Software Services are subject to the [Professional Systems and Services | Signify Company Website](#).

For the Software Services Signify follows the security practices as described in our [Security statement for professional systems and services](#).

### Data

If we process personal data, we will do so in accordance with our [Data Processing Agreement & the applicable data processing schedule\(s\)](#) or [Privacy Notice](#), as applicable to our role in that processing.

For data other than personal data processed by Trellix via the Software Services, if any, a copy of such data or deletion of such data, will be provided at request, subject to Trellix's discretion. Trellix will retain such data at least 30 days after the end of the subscription to the applicable Software Service and thereafter subject to Trellix's discretion.

### Applicable Terms and Conditions

The access and use of the Software Services are subject to the most recent version of Trellix's T&Cs can be made available upon request.

### Software end-of-life policy

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### Open Source software

The Software Services may include Open Source Software ("OSS"). An overview of such OSS is available upon request from Trellix.

### Availability

Signify's Availability of Software Services Policy as published in [Policies & Announcements | Signify Company Website](#) applies to the LMS application. For the application of that policy the following applies:

The LMS is designed for an availability percentage of 99.0%.

Available means that LMS can be used to complete the following actions:

- Access the application user interface using a supported browser through LMS

### Update / Upgrade

Trellix may update and/or upgrade the Software Services from time to time, in line with Trellix's Product & Services Sales Agreement (document number TL-013960).

For any such update or upgrade, the main changes are indicated in the release notes. Changes may not be reflected in an update of this document.

The Software Services may include features not listed here and Signify may add features in the future. Such features are not committed and can be stopped or modified by Signify at any time and without any notice.

Find out how Trellix can transform your business

<https://www.cooperlighting.com/global/brands/trellix>

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