



Specification Sheet

LLC7821, LLC7822, LLC7824 CT node

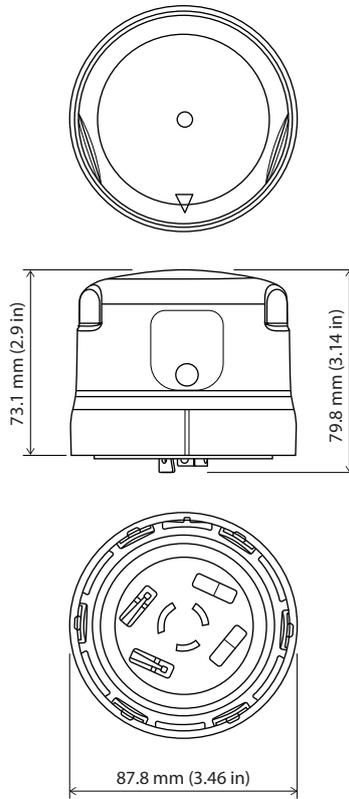
The CT node is a luminaire-based control device that connects street light to Signify-supported lighting management systems like Interact City.

The CT node uses cellular communication to remotely manage, monitor, and control each street light individually.

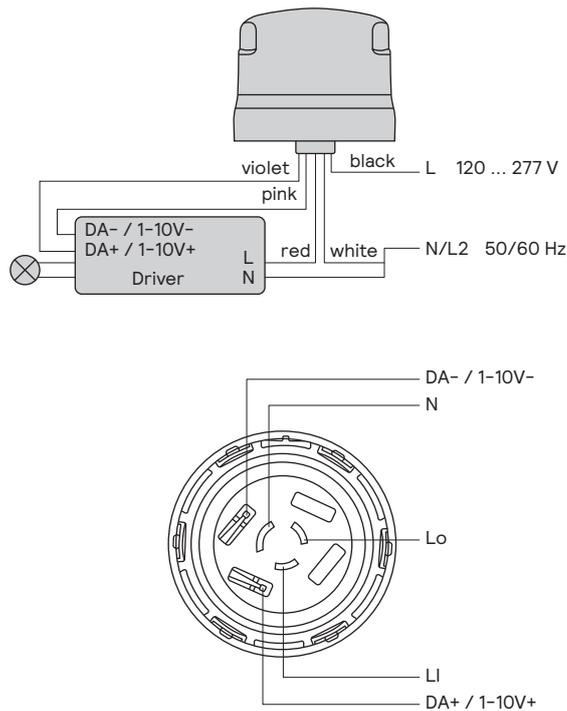
The CT node controls the street light by switching the mains supply and provides dimming by means of a digital (DALI) or analog (1-10V) interface.



Dimensional drawing



Wiring drawing



Features

- The CT node is mounted to the luminaire by twist locking it onto the 3, 5 or 7-pin NEMA receptacle.
- The CT 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 1-10V driver.
 - Automatically uploads asset data from a D4i Driver's MB1 to the lighting management system.
- The CT 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 CT node works together with D4i (Type B) certified motion sensors¹.
- The CT node supports DALI-1 and DALI-2 control gears.
- The CT node supports event messages from input devices, as well as other application controllers on the same bus.
- The CT node supports Occupancy sensor(DALI part-303).
- The CT node supports LED(DALI part-207).
- The CT node supports feedback from control gear(including lamp failure feedback)
- The CT node supports for addressing or grouping of control gear.
- The CT node supports for luminaire data(DALI part-251/ANSI C137.4), energy data(DALI part-252) and diagnostics data(DALI part-253).
- The CT 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 CT node works with streetlights from almost any manufacturer.
- The CT node has an opaque cover and is available in different colors (Black and Light Grey) to match the color of the luminaire.
- The CT node complies with C136.48, including those specified for reduced-profile controller.
- The CT node has a side sensing photosensor with window.
- The CT node delivers "extreme" surge protection rating with 20KV/10KA support.
- The CT Node supports 1200VA load
- The CT 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 CT Node uses infrared pulse per ANSI C12.20/C136.50 for meter testing.

¹Any third-party D4i sensor shall be tested by Signify prior to use

Technical specifications

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

Color	
LLC7822, LLC7824	Light Grey
LLC7821	Black

Electrical power supply	
Mains voltage	120 V _{ac} to 277 V _{ac} -15%/+10%
Mains frequency	50/60 Hz ± 5%
Rated current	10A at 120Vac or 4.4A at 277Vac

Electric power consumption	
Stand-by power	≤ 1.0 W @ 277Vac ≤ 0.8 W @ 120Vac

Control interface	
Control method	ON/OFF, 1-10V, DALI
Protection	Interface is protected against short circuit
Insulation	Basic insulation
Load capacity	Maximum three LED drivers, up to 1200VA

²If the integrated bus power supply of 30mA is enabled, the maximum bus power supply current provided by other components in the Luminaire shall be at most 250-30=220 mA

³Cellular modem manufactured by Semtech, US company

DALI SR interface	
Performance requirement DALI	<ul style="list-style-type: none"> • 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 ²	<ul style="list-style-type: none"> • 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
Identify Device	This control device does not support identification by means of an LED, buzzer or other emitter

Mounting
5-pin plug conform ANSI C136.41

Connectivity technology	
Cellular ³	4G/5G (LTE Cat M1 bands 2,4,5,8,12,13,26, 28)
Bluetooth (hardware ready)	For pole-to-pole communication

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

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

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

Long-life Photocontrol	
Light sensing device	Inside CT node
Configurable range	Remote configurable light level between 15 and 200 lux
Default settings (1.5:1 ratio)	Default dusk/dawn level 16/24 lux

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 °C to 70 °C (-40 °F to 158 °F)
Tcase max	85 °C measured at Tcase point
Tcase life	38 °C measured at Tcase point
Storage temperature	-40 °C to 85 °C (-40 °F to 185 °F)
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 CT node only in combination with NEMA compatible receptacle)
Impact resistance classification	IK08

Lighting control management systems	
Interact city, or other LMS/CMS via TALQ or API	

FCC	
EMC	<ul style="list-style-type: none"> • 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

Order code

Type	Order code	Default switch regime	Country of origin	Housing color
LLC7821/00 CT NODE NEMA5 ACLV P US4VF BK	913701075513	Photocell	PL/MX	Black
LLC7822/00 CT NODE NEMA5 ACLV P US4VF LG	913701075613	Photocell	PL/MX	Light Grey
LLC7824/00 CT NODE NEMA5 ACLV A US4VF LG	913701075713	Astro-clock	PL/MX	Light Grey



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