PHILIPS

CT node

Specification Sheet

LLC7816, LLC7817, LLC7818

The CT node is a luminaire-based control device that connects your street light to the Signify-supported lighting management systems, such as Interact City.

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

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.

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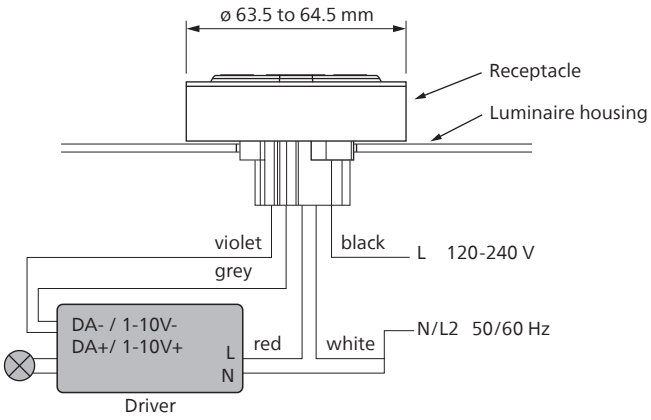
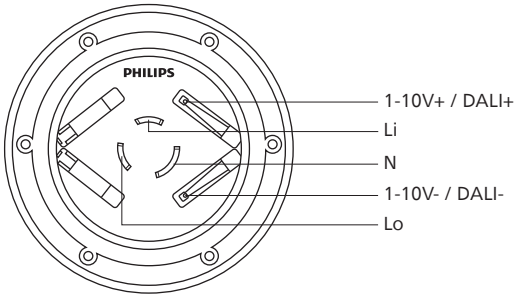
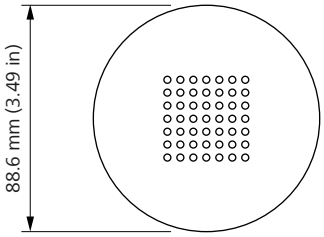
- The CT node is mounted to the luminaire by twist-locking it onto the 3, 5, or 7-pin NEMA receptacle.
- The CT node provides true plug-and-play commissioning: it automatically connects to the mobile network, automatically locates itself with the onboard GPS, and automatically uploads its asset data to the lighting management system.
- The CT node works together with a certified D4i motion sensor*.
- The CT node includes a tilt sensor to get instant notification in case the orientation of the luminaire and or pole changes significantly.
- The CT Node works with street lights from almost any manufacturer.

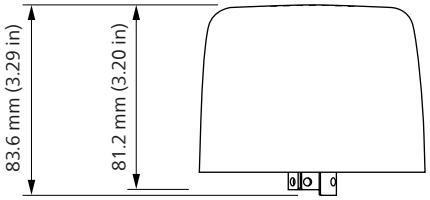
Wiring diagrams

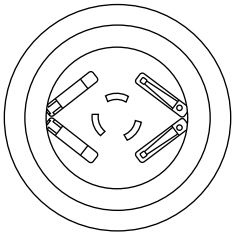




Dimensional drawing







*Third-party D4i certified sensor shall be qualified by Signify, before use with Interact City light management system.

Specifications

Dimensions

Component height	83.6 mm (3.29 in)
Cover height	74.4 mm (2.93 in)
Diameter	88.6 mm (3.49 in)
Weight	0.27 kg (0.6 lb)

Color

LLC7816, LLC7817, LLC7818	Light Grey (RAL 7035)

Supply

Mains voltage	120 to 240 Vac -15%/+10%
Mains frequency	50/60 Hz -5%/+5%
Rated current	4A at 120 Vac or 3A at 240 Vac

Power Consumption

Standby power	<1 W @ 230V

Control interface

Control method	ON/OFF, 1-10 V, DALI (default)
Protection	Interface is protected against short circuit
Insulation	Class 2, Basic insulation
Load capacity	Maximum 3 LED drivers, up to 4A at 120 Vac or 3A at 240 Vac

DALI SR interface

Performance requirements 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, such as D4i sensor, in a D4i luminaire)
DALI supply	• DALI master with integrated DALI power supply • Suitable for multiple power supplies on a DALI bus
Supply voltage	Min. 11.5 V, Max. 22 V
Guaranteed supply current	Min. 10 mA
Max. supply current	Max. 30 mA

Mounting

5-pin plug conform ANSI C136.41

Connectivity

LLC7816	4G (LTE CAT 1 bands 1,3,5,7,8)
LLC7817	4G (LTE CAT 1 bands 2,4,7,28)
LLC7818	4G (LTE CAT 1 bands 1,3,5,7,28)

Energy metering

Energy metering device	Inside CT node
Energy meter accuracy	0.5%

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 20 and 45°
Default setting	30°

Lighting control management systems

Interact City, Telensa PLANet

Light control

Light-sensing device	Inside CT node
Measurement range	Between 5 and 400 lux
Configurable range	Remote configurable light level between 15 and 200 lux
Default settings	Default dusk/dawn level 20/20 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	6 kV/3kA acc. ANSI C136.10

Temperature characteristics

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

Lifetime

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

Certificates and Standards

Approval markings	CE, UKCA*, ENEC**, RCM***
Operability markings	D4i
Ingress protection classification	IP66 (installed condition for CT node only in combination with NEMA compatible receptacle)
Impact resistance classification	IK08

Sustainability

RoHS directive	2011/65/EU
Hazardous substances	RoHS Directive 2011/65/EU, as amended by Directive (EU) 2017/2102 of November 2017
Chemical substances	REACH Directive 2006/1907/EC
Electronic waste	WEEE Directive 2012/19/EU

Radio Equipment Directive 2014/53/EU

Safety (lighting equipment)	IEC/EN 61347-1 IEC/EN 61347-2-11
Safety (IT equipment)	IEC/EN 62368-1
EMC (lighting equipment)	EN 55015 EN 61547 EN IEC 61000-3-2 EN IEC 61000-3-3
EMC (IT equipment)	EN 55032, EN 55035
EMC (telecommunication)	ETSI EN 301 489-1 ETSI EN 301 489-52
EMC (GPS)	ETSI EN 301 489-1 ETSI EN 301 489-19
RF (telecommunication)	ETSI EN 301 908-1 ETSI EN 301 908-13
RF (GPS)	EN 303 413
RF exposure	This device meets the EU requirements (2014/53/EU) on the limitation of exposure of the general public to electromagnetic fields by way of health protection. The device complies with RF specifications when the device used is at 321 mm from your body. EN 62311

* applicable to LLC7816
** applicable to LLC7816
*** applicable to LLC7818

Ordering Data

Type	Switch type	Order code
LLC7816/00 CT NODE NEMA5 ACLV APAC4VF LG	Photocell	9137 010 72003
LLC7817/00 CT NODE NEMA5 ACLV LAT4VF LG	Photocell	9137 010 72103
LLC7818/00 CT NODE NEMA5 ACLV ANZ4VF LG	Photocell	9137 010 73503