

Specification Sheet

LLC7290, LLC7291, LLC7294 Connector nodes

Philips connector nodes are meant for outdoor luminaires with a 3, 5, or 7 pin NEMA socket. Installation is easy, nodes are installed with a simple click without any on-street commission effort.

LLC7290, LLC7291 and LLC7294 connector nodes are compatible with both CityTouch and Interact City light management systems and use latest 4G/LTE technology and existing mobile networks for data exchange between luminaire and the light management system of choice.

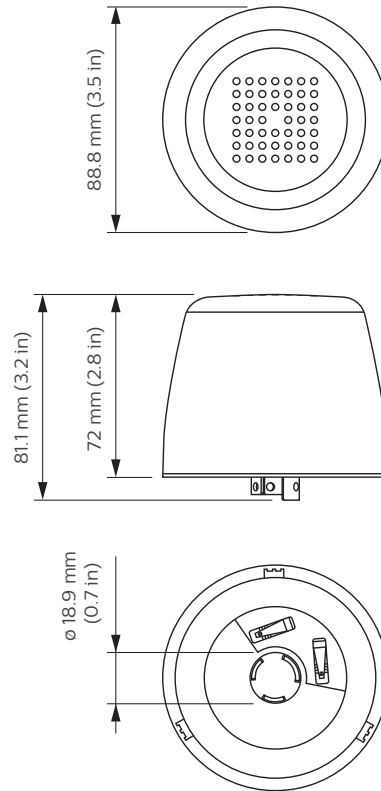
Philips connector nodes are available for LV and HV systems. LLC7290 and LLC7291 are LV, and LL7294 is HV.

LLC7290, LLC7291, LLC7294

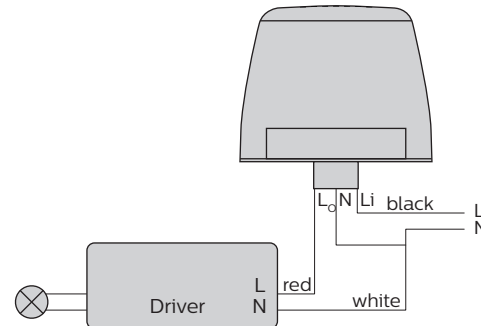
Philips connector nodes control outdoor luminaires by switching the mains and provide dimming by means of a digital (DALI) or analog (0-10 V) interface. The node monitors and communicates the operational status of the luminaire.

- The Connector node uses mobile communication to exchange data with the light management system of choice. Through the on-board GPS (Global Positioning system) the node determines location and sends it to the light management system. No commissioning is required.
- The integrated light sensor allows photo cell control. The lux level to switch on and off the luminaire can be adjusted remotely. The node has provisions to prevent day burning due to dirt.
- The on board GPS receiver provides location and time for Astro Clock switching. In case GPS location is not yet available, the light is turned on. Astro clock parameters (elevation angle and offset) can be tuned remotely. After a power cycle it can take up to 20 minutes before GPS location is found, depending on local conditions.
- The Connector node may be connected to any luminaire with a Nema receptacle conform ANSI C136.10 or c136.41 standard.
- Philips connector nodes come with preconfigured switching type. LLC7290 and LLC7294 default is Photo cell, and default of LLC7291 is Astro Clock. Switching type can be altered and tuned remotely from the light management system.
- The connector node may be mounted inside a (decorative) luminaire. Special attention is needed in case of metal roofs, please consult installation sheet and/or Signify representative. In case the light is shining on the node or any other optical feedback, apply Astro clock type (LLC7291) to avoid light oscillations.

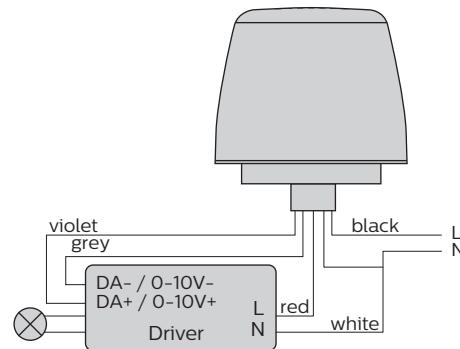
Dimensional drawing



Wiring diagrams

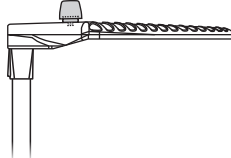
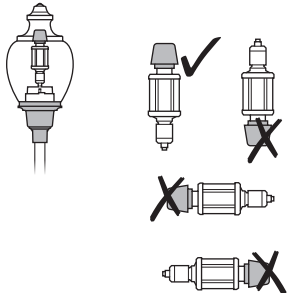


ANSI C136.10



ANSI C136.41

Life time

<p>On Top LLC7290, LLC7294</p> 	<p>90% / 15 years</p>	<p>Effective Tamb $< 38\text{ }^{\circ}\text{C}$ ($< 100\text{ }^{\circ}\text{F}$) (Las Vegas equivalent)</p>	
<p>Decorative luminaire LLC7291</p> 	<p>90% / 15 years</p>	<p>$T_{\text{case}} < 58\text{ }^{\circ}\text{C}$ ($< 136\text{ }^{\circ}\text{F}$) @ Tamb= $25\text{ }^{\circ}\text{C}$ ($77\text{ }^{\circ}\text{F}$)</p> <p>$T_{\text{case}} < 56\text{ }^{\circ}\text{C}$ ($< 132\text{ }^{\circ}\text{F}$) @ Tamb= $25\text{ }^{\circ}\text{C}$ ($77\text{ }^{\circ}\text{F}$)</p> <p>$T_{\text{case}} < 64\text{ }^{\circ}\text{C}$ ($< 147\text{ }^{\circ}\text{F}$) @ Tamb= $25\text{ }^{\circ}\text{C}$ ($77\text{ }^{\circ}\text{F}$)</p> <p>$T_{\text{case}} < 71\text{ }^{\circ}\text{C}$ ($< 159\text{ }^{\circ}\text{F}$) @ Tamb= $25\text{ }^{\circ}\text{C}$ ($77\text{ }^{\circ}\text{F}$)</p>	<p>Philips TrueForce urban Led lamp 40 W</p> <p>Philips Hadco GX4 350 mA</p> <p>Philips Hadco GX4 450 mA</p> <p>Philips Hadco GX4 530mA</p>

Failure Rate info based upon Telcordia SR-332 issue3 modelling 90% survivals at 15 years life time with Tambient to Tcase conform table.

Specifications

General Characteristics

Mains voltage LLC7290, LLC7291 LLC7294	120 – 277 VAC +10% -15% 347 – 480 VAC +10% -15%
Mains frequency	50/60 Hz ±5%
Rated current LLC7290, LLC7291	4A @ 120 VAC or 3A @ 277 VAC for EL drivers 6A @ 120 VAC or 3.6A @ 277 VAC for EM ballasts
LLC7294	3.7A @ 347 VAC or 2.7A @ 480 VAC for EL and EM Ballasts
Plug	Compatible with ANSI C136.10 and ANSI C136.41 3, 5 and 7 pin
Surge protection	ANSI C136.10 6kV / 3kA

Power Consumption

Average wattage LLC7290, LLC7291 LLC7294	1.5 W 2.3 W
Energy Meter accuracy	2% according EN50470-3 class A 0.5% class according Ansi C12:20

Control Interface

Control voltage	0 – 10 VDC/DALI
Load capacity	3 lamp/LED drivers
Insulation	UL Class 2, Basic insulation
DALI voltage	12.0 – 20.5 VDC (12.5 VDC typical)
DALI current	8 – 250 mA (12 mA typical)

Connectivity

UMTS	B2, B5
LTE	CAT1 B2, B4, B5 and B17

Auto Location

Position System	Build in GPS
Location accuracy	CEP50 ≤ 2.5 m / 8 ft

Light Control

LLC7290, LLC7294	Photo cell 5–200Lux (0.5-18 fc) Default dusk/dawn level 16/16 lux (1.5/1.5 fc)
LLC7291	Astro clock sun elevation angle range -25° – +25° Default dusk/dawn angle 0°/0°

Temperature Characteristics

Operating temperature	
Ambient temperature	-40 °C – +70 °C (-40 °F – 158 °F)
Storage temperature	-40 °C – +80 °C (-40 °F – 176 °F)
Relative humidity	5% to 95%

Housing

impact	IK08
UV and Weather resistance	F1 Makrolon 6485 material conform UL773
Flamability rating	UL94V-0
Protection class	IP65, IP class of luminaire unchanged
Color	Light Grey RAL7035

Compliance

Marking	FCC, cULus
Others	RoHS Directive 2011/65/EU RoHS Upcoming Directive (EU) 2015/863
FCC	FCC47 Part 15B Class A FCC47 CFR 22H, FCC47 CFR 24E FCC47 Part 1.1310 / IEEE C95.1



Ordering Data

Type	Order code	UPC1	UPC3
LLC7290 Philips Connector Node LV photo cell	9137 010 36213	046677538781	50046677538786
LLC7291 Philips Connector Node LV Astro Clock	9137 010 36313	046677538798	50046677538793
LLC7294 Philips Connector Node HV photo cell	9137 010 36613	046677538804	50046677538809

Packaging	Net weight kg (oz)
LLC7290 bulk packaged, 30pcs/ carton, single pcs ordering possible	0.23 (8.11)
LLC7291 single packaged, 1pcs/carton, 30 pcs/ outer carton	0.23 (8.11)
LLC7294 bulk packaged, 30pcs/ carton, single pcs ordering possible	0.23 (8.11)

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