Owlet IoT Wireless Outdoor
Luminaire Controller LUCO P7 CM (cellular-mesh)
## Datasheet

Streetlight controls for smart cities based on IoT Technology

The LUCO P7 CM Luminaire Controller is a smart control module that monitors and controls LED or HID luminaires. It is designed for easy installation and plug and play commissioning. Twist and lock the LUCO P7 CM onto the 5 or 7 pin NEMA socket and your system is ready to go:

- Auto-commissioning
- Auto-connectivity
- GPS-location
- Sensors enabled
- Asset management
- DALI and 1-10V Driver Support
- Integrated powermeter with 1% accuracy (0-100% Dimming)

Luminaire Controller LUCO P7 CM

61.20 mm / 2.41"
⌀ 89.2 mm / 3.51"
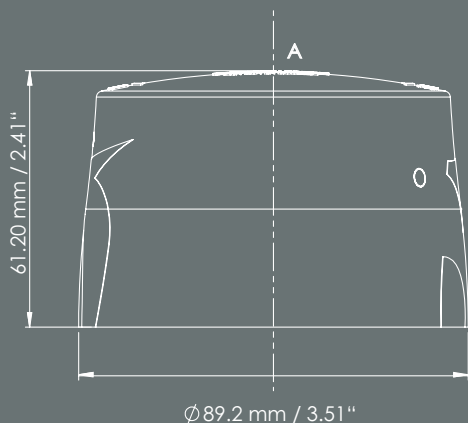
Applications

The LUCO P7 CM controls LED drivers and ballasts as per the wiring diagrams (A). It is designed to replace a standard NEMA photocell (on a 5 or 7 pin socket) for use in outdoor luminaires for residential, road and urban applications.
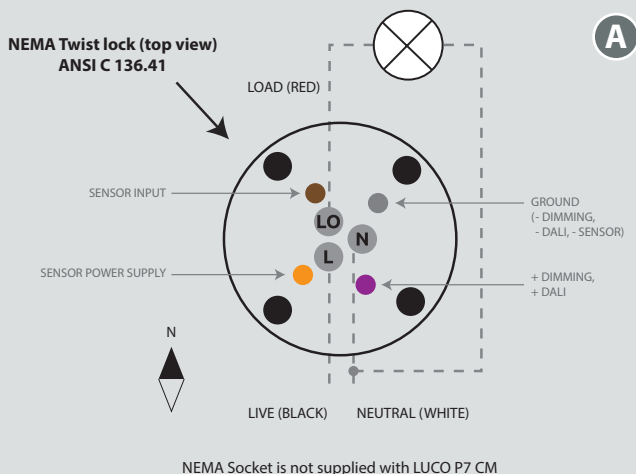
General operation

The LUCO P7 CM is designed to execute Plug and Play commissioning with instant connectivity over the existing cellular infrastructure without any need for an additional gateway or IT structure.

Each controller can communicate in two independent ways, cellular and RF-Mesh, offering instant, robust, reliable and flexible connectivity.

Communication between the luminaires, for exchanging sensor information for example, is done through a fast IPv6 based self-forming RF mesh net, where one controller in the mesh also acts as a router module for the neighbouring controllers through the Central Management System.

Asset-management

An ID reader reads out the asset information stored in the luminaire tag for further use in the Central Management System asset application.

NEMA Twist lock (top view) ANSI C 136.41

LOAD (RED)
SENSOR INPUT
GROUND (- DIMMING, - DALI, - SENSOR)
SENSOR POWER SUPPLY
+ DIMMING, + DALI
LO
N
L
N
LIVE (BLACK)
NEUTRAL (WHITE)

NEMA Socket is not supplied with LUCO P7 CM

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LUCO P7 CM Auto-Commissioning

Due to its built-in GPS and cellular module the LUCO P7 CM supports auto-commissioning and auto-connectivity. Owlet controllers with GPS will automatically be imported and located in the Owlet IoT user interface.

Operating conditions

Ambient temperature (ta)	-40°C to +65°C -40°F to 149°F
Relative humidity	10% to 90%

Non-operating conditions

Temperature	-40°C to +80°C -40°F to 175 °F
Relative humidity	5% to 90%

Mains connection

Mains voltage	110-277VAC ±10%
Mains frequency	50/60 Hz ± 5%
Maximum load current	5 A
Maximum power at 5A	600VA@120V, 1.2kVA@240V, 1.38kVA@277V
Required external fuse	≤ 10A

Power consumption

Stand-by wattage	< 1.0W
Operating wattage	< 2.7W
Integrated powermeter accuracy	1% and better (between 0% and 100% dimming)

Radio Frequency

Protocol	IPv6
Frequency band	2.4 GHz (2400,0...2483,5 MHz)

Housing

Material	PC, UV stabilized
Colour	RAL 7042 translucent light grey
Protection class	IP 66 (installed condition for controller only in combination with TE PN: 2213362)

DALI output Interface

DALI Compliant to IEC62386 part 101, 102, 201, 203, 207

Load capacity	8 DALI drivers
Protection	Interface is short circuit protected
DALI voltage	12.0 to 20.5Vdc
DALI supply current	max. 16 mA

1-10V interface

Compliant to 1-10VDC IEC60929 (Annex E)

Load capacity	8 1-10V drivers
Load current	Interface is current sinking, max. 16mA

Standards & Legislation

Approvals	R&TTE directive 1999/5/EC EMC directive 2004/108/EC LV directive 2006/95/EC RoHS directive 2002/95/EC
EMC	EN 301 489-1 V1.9.2:2011-09 EN 301 489-3 V1.6.1:2013-08 EN 301 489-7 V1.3.1:2005-11 EN 301 489-17 V2.2.1:2012-09 EN 301 489-24 V1.5.1:2010-10 FCC/IC part 15B, ICES-003 (ANSI/IEEE C63.4:2014)
Cellular	EN 301 511 V9.0.2:2003-03 EN 301 908-1 V7.1.1 2015-03 FCC/IC RSS-132, Issue 3, January 2013 FCC/IC RSS-133, Issue 6, January 2013 FCC/IC RSS-139, Issue 3, July 2015 FCC/IC RSS-247, Issue 1, May 2015 FCC/IC 47 CFR Part 22 Subpart H FCC/IC 47 CFR Part 24 Subpart E FCC/IC 47 CFR Part 27 Subpart C
Radio	EN 300 328 V1.9.1:2015-02 EN 300 440-2 V1.4.1:2010-08 FCC/IC 47 CFR Part 15 Subpart C §15.247;
GPS	EN 300 330-2 V1.6.1:2015-03
RF-ID	FCC/IC 47 CFR Part 15 Subpart C §15.225 FCC/IC RSS-210, Issue 8, December 2010 + Amendment 1, February 2015
Safety	IEC 61347-1 :2008+A1:2011+A2:2013 IEC 61347-2-11 EN 60950-22:2006+AC:2008 EN 60529:1991+A1:2000+AC:1993+A2:2013 EN 62311:2008 UL 773 (E359906) C22.2 No. 182.2-M1987 CSA C22.2 No. 205-12 FCC/IC 47 CFR Part 2 Subpart J §2.1091 FCC/IC RSS-102, Issue 5, March 2015 (FCC ID: 2AIOB-LCP7CM, IC. 21585-LCP7CM) This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Connector	ANSI C136.41, ANSI C136.10

Sensor Power Supply

12 Vdc ± 0.5 V, 2 mA max.

GPS Capabilities

Supports GPS system (L1C/A signals provided at 1575.42 MHz)

Supports SBAS, Satellite Based Assist System

Position accuracy upto 2.5m/ 8 ft (with > 6 satellites)

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