

Local Product Controller 480 (LPC 480)

General Description

The LPC 480 is a TLACS luminaire local controller. It provides two-way communication between luminaires and the TLACS main controller. It is used to individually control and monitor luminaires. Specifically designed for 100 to 480 VAC installations, it can be embedded in a luminaire by the luminaire manufacturer or installed in a junction box.

The LPC 480 communicates over the power line (PL) using a proven and reliable protocol, thus greatly reducing installation, deployment, and operating costs.



Features

- Wide input range: from 100 to 480 VAC
- Two-way power line communication (without additional control wiring)
- Embedded power line filter and dynamic repeater function provide the optimum level of communication robustness
- Control, monitoring (voltage, current, power factor, power consumption and status) and alarm reporting for individual luminaire
- Records hours of use to calculate light loss compensation, adjusting for luminaire light loss depreciation
- Configurable fail-safe mode (ON/OFF/DIM)
- Luminaire alternation function for average luminaire lifetime
- Control type: 0-10 V dimming, ON-OFF relay, and DALI
- Certified UL 916: UL Standard for Safety - Energy Management Equipment

Technical Specifications

Electrical

Item	Value
Input voltage range (nominal)	100-480 VAC, 50/60 Hz
Max. input voltage	530 VAC
Power consumption	3 W (typical) 4.5 W (peak)

Relay Load Current, Inrush, and Endurance Ratings

Voltage Range	Max. Load Current	Max. Inrush Current Tested for Endurance Cycles	Relay Endurance
100-347 VAC	5 A	450 A (width: 1.15 ms @ 10% of peak)	15,000 cycles
480 VAC	2.5 A	654 A (width: 0.908 ms @ 10% of peak)	25,000 cycles

Monitoring

Item	Value
Voltage measurement range	100-530 VAC
Current measurement range	25-5,500 mA
Current detection threshold	10 mA
Power factor	0.000-1.000

Interface Connections

Item	Description
Analog interface	0-10 V dimming, maximum sink/source current: 10 mA
Digital interface	Embedded DALI supply max 10 mA typical, up to 5 drivers, 2 mA max./driver

Environmental Conditions

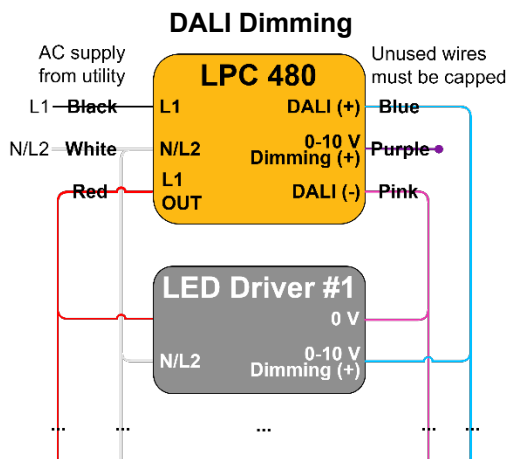
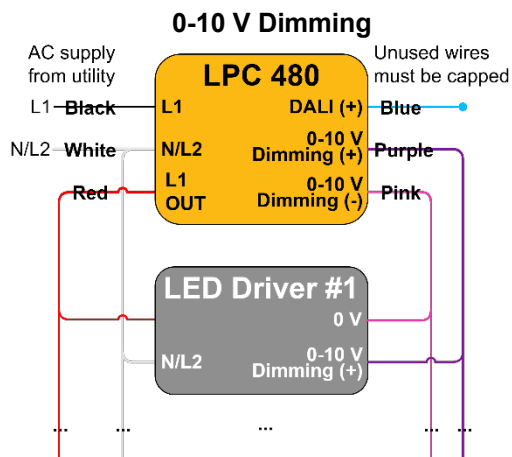
Item	Value
Operating temperature (*)	-40 to 167°F (-40 to 75°C)
Storage temperature	-40 to 185°F (-40 to 85°C)
IP Rating	Open Type - for installation in a suitable enclosure

(*) Rated for operation up to 75°C, validated through UL 916 compliance testing under defined conditions. For sustained operation near this limit, consultation with Nyx Hemera Technologies is recommended to ensure optimal application performance.

Wiring Diagram

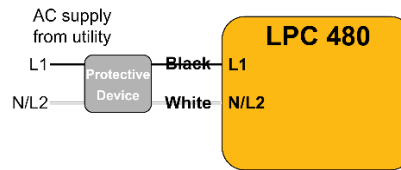
NEMA 100-2021

Due to changes to the electrical code 2020 Edition of NFPA 70 (NEC) Article 410.69, the new NEMA 100-2021 standard states that 0-10 VDC wires and other control wires sharing the same enclosure (e.g., luminaire) as branch-circuit wires shall not come in gray. Two versions of the LPC 480 currently coexist: the pre-NEMA 100-2021 with a gray 0-10 VDC/DALI wire, and the post-NEMA 100-2021 that uses a pink 0-10 VDC/DALI wire.



Note: When connected to 400-480 VAC, the LPC 480 shall be provided with two externals listed (Littelfuse or equivalent) type class CC fuses rated 5 A, 600 VAC **or** listed circuit breaker rated with the following specifications: D-curve or below, 2-poles, 15 A max, 277-480 VAC or better, UL 489 listed, or equivalent. The protection shall be located as follows:

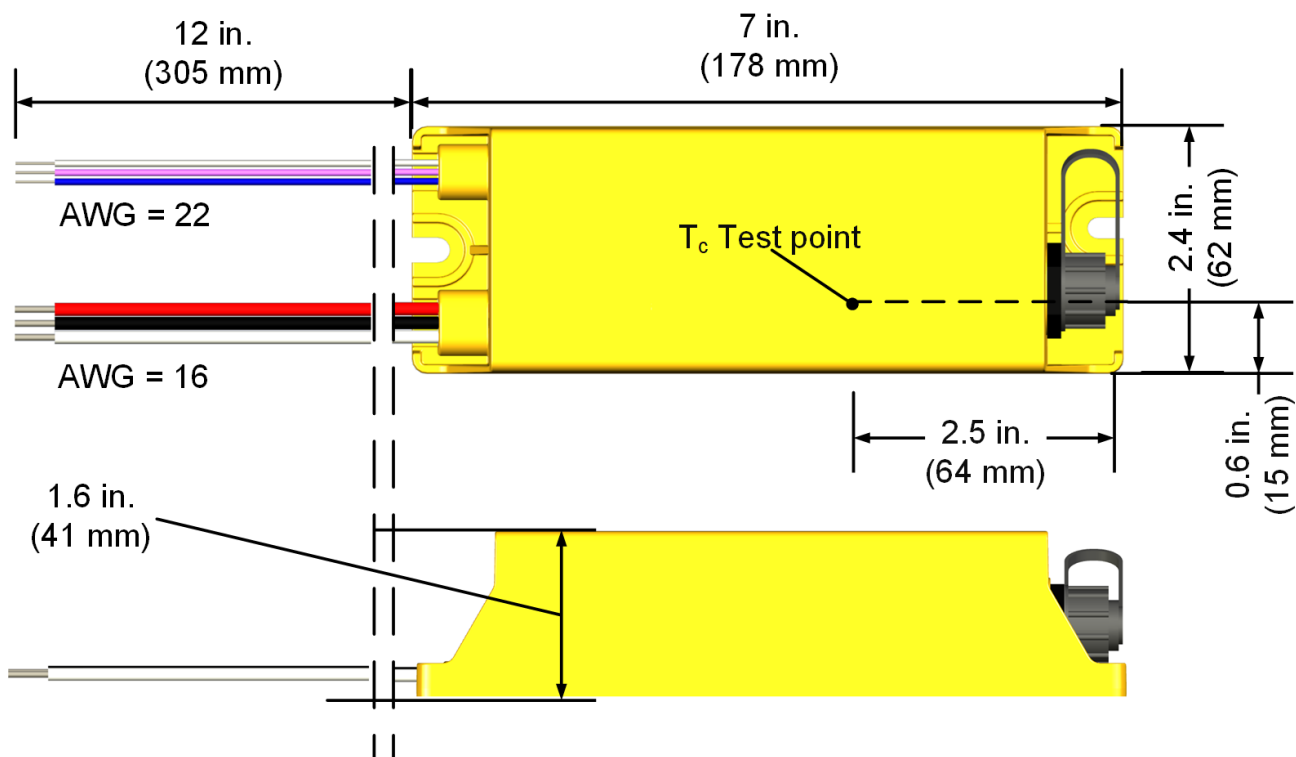
Input Wiring when Used with 480 V



Mechanical

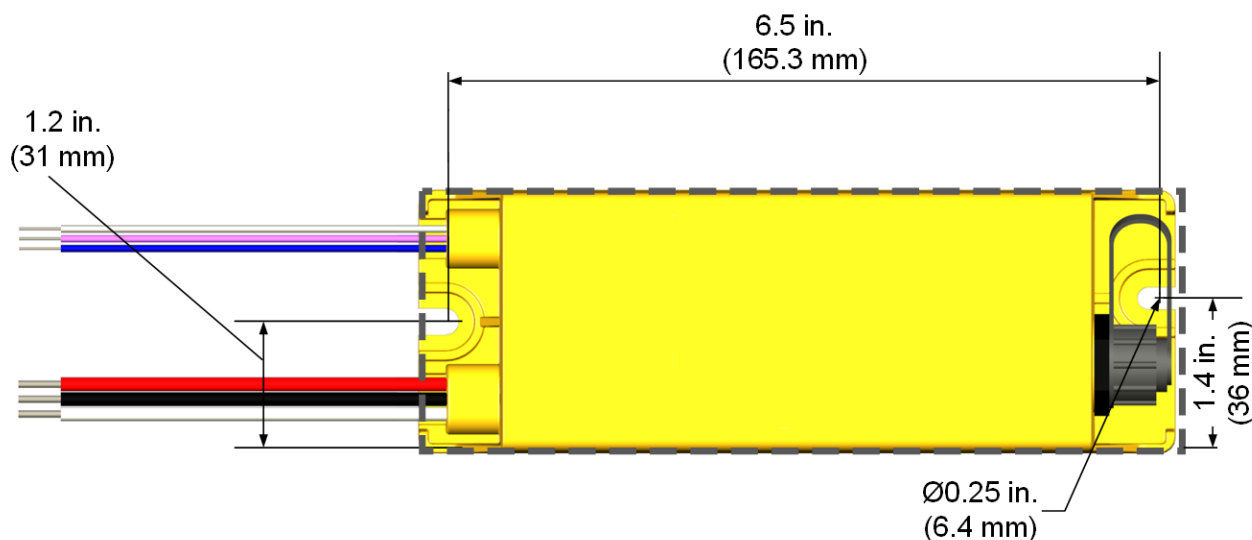
Dimensions

Item	Value
Overall dimensions (L x W x H)	7 in. x 2.4 in. x 1.6 in. (178 mm x 62 mm x 41 mm)



* T_c = Case temperature

Installation



Standards

Item	Description
Safety - Energy Management Equipment	UL 916, 5th Ed., Issue Date: 2015-10-22 CSA C22.2 NO. 205, 3rd Ed., Issue Date: 2017-05-01
EMC	EN 55032:2012/AC:2013 EN 61000-3-2:2014 (Harmonics) EN 61000-3-3:2013 (Flicker and voltage fluctuation) FCC 47 CFR Part 15, Subpart B ICES-003 Issue 6 January 2016
EMC immunity	EN 55024:2010 EN 61000-4-2 (Electrostatic discharge) EN 61000-4-3 (Radiated, radio frequency, electromagnetic field) EN 61000-4-4 (Electrical fast transient/burst) EN 61000-4-5 (Surge) EN 61000-4-6 (Conducted disturbances) EN 61000-4-11 (Voltage dips, short interruptions and voltage variations)

Product Ordering Information



Segment Name (Left to Right)	Segment Value	Description
Model	LPC	Local Product Controller 480
Communication interface	PL	Power line communication
Input voltage range	9	100-480 VAC
	10	277 VAC with neutral loss protection
	11	Replacement part for LPC-PL-x-A, where x = 1 to 7
Channel	1	1 channel (1 relay, filtered)
Luminaire interface	B	0-10 VDC/DALI
Features	0	Luminaire control/monitoring 2% accuracy meter
	1	Luminaire control/monitoring 0.5% accuracy meter
	2	Modem
	3	Photometer (monitoring and control)

- P/N for LPC Extended Warranty 5 additional years: LPC-EXT-W5

For more information, please do not hesitate to contact the Nyx Hemera team at info@nyx-hemera.com