



LC3X

3 Level Lighting Controller

DESCRIPTION

The **LC3X** automatically switches three dry contacts in response to changes in natural daylight, utilizing independent setpoints.

The **LC3X** controller requires a separate **PD** style sensor to complete the low voltage system. The **LC3X** can be configured as a standalone controller, or for cascaded operation, with a master **LC3X** providing the sensor signals to slave controllers. Options include an auxiliary photo diode sensor adaptor card and a Hold ON/OFF timer for each level. The **LC3X** can interface with the **PLS2** to convert maintained to pulsed outputs. The **LC3X** can control incandescent, fluorescent, and HID lighting.

ADJUSTABILITY/OPERATION

The **LC3X** precisely switches three different lighting loads at three specific light levels. As one light level changes, the sensor inputs the light level to the control unit. The control unit matches a setpoint light level to the level reported by the sensor and the lights are switched **ON**. A 2%-10% hysteresis is provided to switch the lights off at a slightly different level. The setpoints are bordered on either side by a fixed "deadband", thus eliminating nuisance switching due to temporary lighting conditions.

CONSTRUCTION

To assure optimum performance and highest standards, all electronic components are of computer grade quality and assembled onto a fiberglass epoxy circuit board. Sensor housing meets flame retardant requirements of the UL Standard 94V-0. All products are tested to assure maximum reliability.

APPLICATION

The **LC3X** is the ideal system for skylight, tunnel, open space structures or outdoor lighting control. Typical uses include:

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Parks	Pool areas
Atriums	Skylight warehouses
Tunnels	Building security lights
Hangars	Multilevel Parking garages
Walkways	
Sky lit gyms	



FEATURES

- **Adjustable setpoints allow for flexible, multilevel lighting control.**
- **Low voltage controls provide SAFETY, COST SAVINGS AND EASE OF INSTALLATION.**
- **The switching setpoint, once adjusted, will not drift or deviate for the life of the product.**
- **Standard 0-2,500FC range. Optional 0-10,000FC range.**
- **Interfaces with time-clocks, Energy Management Systems, manual switches, relays, contactors with 5 Amp resistive, 3.5 Amp inductive Form C relay.**
- **Input time delay prevents intermittent or false switching. (Delay off switch provided for testing and calibration).**
- **Override input for each level of control.**
- **0-7 min. "Dark to Light" & "Light to Dark" slew rate adjustment.**
- **Can be cascaded to another LC3X for multiple step control.**
- **Standard 24 VAC input.**
- **A 2 Year Warranty assures the user of the highest standards of manufacture as well as customer service and satisfaction.**



PLC-MULTIPOINT, INC.

PHOTO LIGHTING CONTROL & SYSTEMS

LC3X TECHNICAL DATA

Accuracy:	+/-1% at 70 F (21C) Derated to +/-5% at 120 F, or at 0 F (49 C / -18 C)
Operating Temp:	-13 F to 140 F. (-11 C to 60 C)
Sensor:	Photoconductive 2 wire or Photodiode 4 wire option
Power:	24 VAC standard
Deadband:	2% - 10% nominal
Delay:	Dark 0-7 min. (decreasing light) Light 0-7 min. (increasing light)
Output:	3 independent Form C contact, 5A conductive, 3.5A inductive
Load:	Incandescent, fluorescent, HID
Circuit Board Dim.:	6.25" H x 6350" W x 1.5" D
Aux. Output:	Sensor signal can be cascaded to additional LC3X.
Control Inputs:	Input override on each circuit. Optional Hand-Off-Auto switch for each circuits. PC-SIM Calibration/Simulator.
Indicators:	Circuit 1-3 On indicators (RED) Power On indicator (GRN) Sensor limits indicator (YEL)
Options:	PC Photoconductive Sensor PD Photodiode Sensor -3X/PD Photo diode adaptor -E/120 Hinged NEMA 1 Enclosure (12"H x 12"W x 4"D) with 120V transformer -E/277 Hinged NEMA 1 Enclosure (12"H x 12"W x 4"D) With 277V transformer -3X/T Time Delay module 5 min. - 3 hours -3X/HOA Hand-Off-Auto (Plugs into - 3X/T)

SPECIFICATION

Photoconductive Sensor

The Photoelectric device shall be a Class 2, low voltage ambient light sensor designed to interface directly via 18 gauge wire to the controller. The sensor shall supply an analog input signal to the controller inversely proportional to the light measured. The sensor shall be capable of measuring indoor ranges of 6 to 50 FC, outdoor ranges of 2 to 40 FC or 40 to 500 FC, atrium ranges of 40 to 750 FC, or skylight ranges of 400 to 3000 FC. The Photoelectric device shall be **PLC-MULTIPOINT PC** sensor.

Photodiode Sensor

The Photoelectric device shall be a Class 2, low voltage ambient light sensor designed to interface directly via 18 gauge 4 wire cable to the controller. The sensor shall supply an analog input signal to the controller proportional to the light measured. The sensor gain adjustment shall be available from the control board. The sensor shall be capable of measuring indoor ranges of 2 to 750 FC, outdoor ranges of 2 to 750 FC or 5 to 2,500 FC, atrium ranges of 200 to 4,000 FC, tunnel and skylight ranges of 10-10,000 FC. The Photoelectric device shall be **PLC-MULTIPOINT PD** sensor.

A photodiode adaptor shall be installed on the control board to provide input from a photodiode sensor. The photodiode adaptor shall provide linear calibration of the photodiode sensor between 2% and 100% of Sensor range. The Photodiode adaptor shall be **PLC-MULTIPOINT 3X/PD**.

Control Board

The control board shall be a low voltage control device which shall operate on 24VAC. The control board shall receive input from one photosensor to control three output circuits. An auxiliary output shall provide a buffered drive signal permitting multiple control boards to be operated from a single photosensor input. Each circuit shall have input override capability. The control board shall have three independently adjustable potentiometers to set ON/OFF setpoints within the range of the sensor and shall also have a 30 second input time delay to avoid false intermittent switching. Each setpoint shall have a fixed 10% deadband. Each output circuit shall be a 3.5 Amp inductive load rating, capable of operating electrically held contactors. Indication shall display individual circuit status, power on, and sensor condition.

Timer

A timer board shall be provided for each output circuit. The timer board shall be a low voltage control device for providing an adjustable minimum ON/OFF time for one control circuit. The adjustable range shall be from 30 seconds to 2 hours. The timer shall be **PLC-MULTIPOINT 3X/T**.

ORDERING EXAMPLE

LC3X	(-3)3X/T	PD1
MODEL	OPTIONS	SENSOR
	3X/PD	PD1
	-E/120	PD5
	-E/277	PD5D
	-(#)3x/T	PD9
	-(#)3X/HOA	PD9D
	-TS/7124	