



LC81, LC82

Combination Lighting Control Systems

DESCRIPTION

The **LC81, LC82** photo sensor lighting control systems automatically switch dry contacts in response to changes in natural daylight. The **LC81-B, LC82-B** systems include one or two **LC8** control boards, internal Hand/Off/Auto Switch per **LC8**, terminal blocks and one or two 20A switching relays housed in a NEMA 1 hinged door enclosure. The systems include one or two **CES** sensors.

The **LC81-S, LC82-S** is expanded to include on-door illuminated HOA switch, fused input power, and room for other options such as a 24hr time-clock or additional 20A power circuits housed in a larger NEMA 1 enclosure. The **LC8** based systems are capable of switching control of incandescent, fluorescent and HID lighting loads. An optional 1/2 hour "Hold On" timer may be ordered to prevent the short cycling of HID lamps.

ADJUSTABILITY/OPERATION

The dual setpoint system precisely switches loads according to the selected light level configuration. LOW and HIGH light levels are calibrated to their setpoints at the control board. As the sensor detects a diminishing light level that corresponds with the **LOW** setpoint, the control board matches the two signals and the lights are switched **ON**. As the sensor detects an increasing light level, the control board's **HIGH** setpoint switches the lights **OFF**. The **LOW** and **HIGH** setpoint separation creates a "deadband". This prevents the sensor from switching light levels between the setpoints, thus eliminating nuisance or intermittent changes.

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 UL standard 94V-0. All components are factory tested to assure maximum reliability.

The entire assembly is mounted in a NEMA 1 hinged door enclosure with the high and low voltage components separated by a barrier. The basic size is used with limited outputs and options. The larger size is used when the application requires more options or additional circuits. The system is constructed to UL508A standards and each unit carries an Electrical Testing Laboratories label.



FEATURES

The advantages of using the **LC81, LC82** lighting control system are found in stability, versatility, quality and accuracy.

The **LC81, LC82** offers a complete, stand alone system package. Once mounted, the sensor, power and lighting loads need only to be wired, and the system is ready to operate.

- **Adjustable ON/OFF setpoints at the control unit for convenient, flexible, low maintenance lighting control.**
- **Low voltage controls provide safety and easy installation.**
- **Choice of sensor styles—indoor, outdoor, atrium or skylight sensors. Provides an adjustment range of 0-7,500 FC.**
- **Use as stand alone basic controller or interfaces with standard options such as time-clocks, contactors, occupancy sensors; or customize the system for a specified application.**
- **Input time delay prevents switching due to temporary light conditions.**
- **Product pays for itself in energy saved! Qualifies for many utility rebate programs.**
- **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

LC81, LC82 TECHNICAL DATA

| | |
|------------------------|--|
| Accuracy: | +/-1% at 70 F (21 C) Derated to +/-5% above 120 F or below 0 F. (49 C/-18 C) |
| Operating Temp: | -13 F to +140 F. (-11C to 60C) |
| Sensor Type: | CES Photodiode 3 wire |
| Input Voltage: | 120 VAC or 277 VAC standard |
| Dead Band: | Adjustable - 5-95% |
| Input Delay: | Standard - 30 second Sensor (with adjustment override) |
| Output: | LC81: 1-120/277VAC 20A N.O. LC82: 2-120/277VAC 20A N.O. |
| Load: | Incandescent, Fluorescent & HID |
| Enclosure: | Basic & Standard Basic - NEMA 1 12"H x 12"W x 4"D Stand. - NEMA 1 "24"H x 18"W x 6"D |
| Control Modes: | HAND/OFF/AUTO switch |
| Indicator: | Red High and Low LEDs Red Relay-ON LED |
| Standard Model: | Red Illuminated Hand/Off/Auto Switch |
| Options: | Additional 20A output -HT adjustable 0-1hr Hold-On-Timer -XXP electrically held contactors for additional grouped circuits. -TS/7124 24hr time switch |

SPECIFICATION

Photodiode 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 proportional to the light measured. The sensor shall be capable of measuring indoor ranges of 0 to 750 FC, outdoor ranges of 0 to 750 FC, atrium ranges of 2 to 2500 FC, or skylight ranges of 10 to 7500 FC. The Photoelectric device shall be **PLC-MULTIPOINT CES** sensor.

Controller

Each Controller shall be powered by 120VAC or 277VAC, and have separate high and low fully adjustable setpoints. Relay status indication shall be provided. The controller shall be enclosed in a NEMA1 hinged door enclosure for surface mounting installation. The controller shall have HAND/OFF/AUTO mode selection switch. The Controller shall be **PLCMULTIPOINT LC81 (LC82)** system.

The Relay output shall be capable of 20A current load at 120 or 277VAC. The relay shall be FORM A with a coil voltage of 24VDC. The relay shall be **PLC-MULTIPOINT PCS**.

APPLICATION

The **LC81,LC82** system is ideal for multiple circuit outdoor lighting control. Typical applications are convenience stores, fast food restaurant exterior lighting, and gas stations. Mixed lighting loads (HID and Fluorescent) can be both accomplished in a single unit.

ORDERING EXAMPLE

| | | |
|--------------|----------------|----------------------|
| LC82-S/120 | -CES/O | -32P |
| MODEL | VOLTAGE | SENSOR RANGE |
| LC81-B | 120 | CES/I 0-50FC |
| LC82-B | 277 | CES/O 0-50FC |
| LC81-S | | CES/S 0/200-2500FC |
| LC82-S | | CES/A 10/1000-7500FC |
| | | OPTION |
| | | -HT |
| | | -XXP |
| | | -TS/7124 |

CES SENSOR SELECTION

| <u>SENSOR</u> | <u>STYLE</u> | <u>LENS</u> | <u>FILTER</u> | <u>MOUNTING</u> | <u>ORIENTATION</u> | <u>MINIMUM - Fc</u> | <u>MAXIMUM - Fc</u> |
|---------------|--------------|-------------|---------------|-----------------|--------------------|---------------------|---------------------|
| CES/I | Indoor | Fresnel | Clear | Ceiling | Down | 0 Fc | 50 - 750 Fc |
| CES/O | Outdoor | Flat | Clear | 1/2" IPT | Horizontal | 0 Fc | 50 - 750 Fc |
| CES/A | Atrium | Dome | Opaque | 1/2" IPT | Horizontal | 2 Fc | 200 - 2,500 Fc |
| CES/S | Skylight | Dome | Dark | 1/2" IPT | Up | 10 Fc | 1,000 - 7,500 Fc |
| CES/IL | Indoor | Fresnel | Clear | Ceiling | Down | 0 Fc | 20/30 Fc |