

# Installation and Operation Manual

RLC-0200-UNI

Universal  
LED & Incandescent  
A-0 Controller



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**itl** International  
Tower Lighting, LLC™

## Front Matter

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ITL, LLC guarantees that every RLC-200 series controller is free from physical defects of material and workmanship under normal use for one (1) year from the date of purchase. If the product proves defective during this warranty period, please contact ITL, LLC in order to obtain a Return Authorization Number, RMA.

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Please send any comments regarding the manual to [support\\_doc@itl-llc.com](mailto:support_doc@itl-llc.com).

## Safety Warning



This equipment uses lethal voltages which can cause serious injury and/or death. Do not attempt to service this equipment with line power applied.

Do not rely on interlock switches to remove lethal voltages from the system. Measure for voltages using a voltmeter to ensure that power is off and has been completely removed.

Do not wear any jewelry. Gold and silver are excellent conductors of electricity.

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## Introduction

Congratulations! You have purchased one of the most advanced control solutions for red LED and incandescent obstruction lighting systems available today. This product is the result of many years of engineering with extensive input from field service personnel.

Please take the time to read and familiarize yourself with this manual. It contains the information necessary to install, test and troubleshoot the RLC-200.

## Product Description

The RLC-200 is capable of controlling up to five FAA type L-810(L) red LED or FAA type L-810 incandescent markers. Individual alarm relays are provided for indication of marker alarm, and system mode. Virtually all information necessary for installation and operation of the RLC-200 is available on the “quick info” card located in the door of the enclosure.

**RLC-200-UNI**



## Specifications

Designed to comply with AC 150/5345-43 and ICAO Annex14

### Environment

Temperature	-40°C to +55°C
Humidity	less than 95% relative humidity (non-condensing)

### Obstruction Lights

Side Lights	Up to Five Incandescent 116W, 120 Vac or 100W, 230 Vac
	Up to Five LED ITL MKR-LTE1-000, MKR-LTE1-0IR or Other 7W LED markers lights

### Mechanical

Dimension	Height: 12.00" (305mm)
	Width: 8.81" (224mm)
	Depth: 7.00" (178mm)
Weight	8 lbs (3.6Kg)

### Electrical

Input Power	120/230 VAC at 50/60Hz, 6VA
Alarm Relays:	120/230 VAC, 1 Amp
PEC:	120/230 Vac, 50/60 Hz, 1 VA
Suppression	320 Joule, 275V, Input Power, Side Lights & PEC 23 Joule, 275V, All alarm relays

## Installation

The following section describes how to install the RLC-200 controller. The Obstruction Lights (markers) should be installed according to the manufacturer's instructions.

### Unpacking your RLC-200 Controller

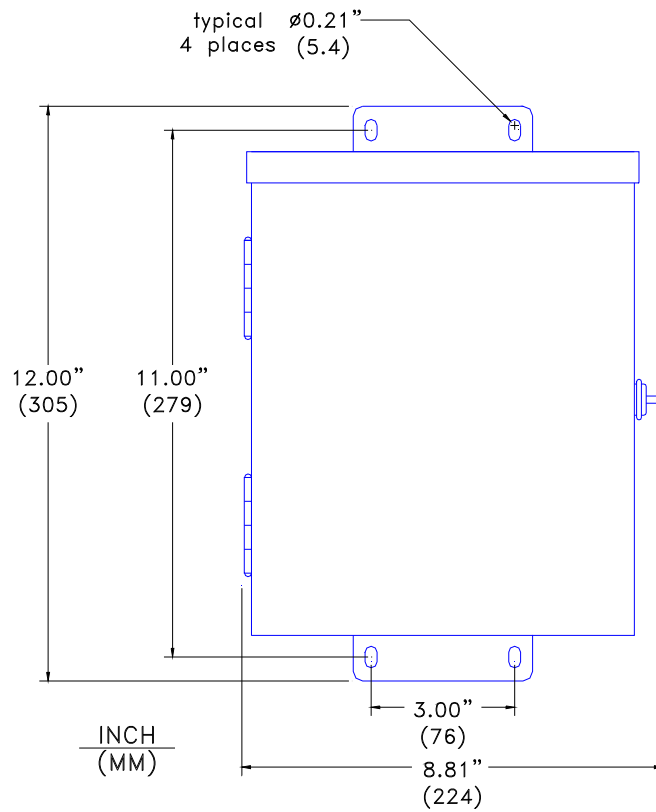
Please examine the shipping containers and their content thoroughly upon receipt and report any potential shipping damage to the carrier.

### Quick Installation Guide

The quick start guide shows how to install the RLC-200 controller.

- Remove RLC-200 controller from packaging material.
- Mount the RLC-200 enclosure.
- Install FAA type L-810 incandescent or FAA type L-810(L) LED obstruction lights per manufacturer's instruction and FAA requirements.
- Install cable from RLC-200 to L-810 obstruction lights (markers) per manufacturer's instructions.
- Install Photoelectric Cell and socket (ITL P/N: PEC-1800-120, PEC-SOCK-000).
- Install 120Vac line power to the RLC-200 Controller.

## RLC-200 Controller Mounting

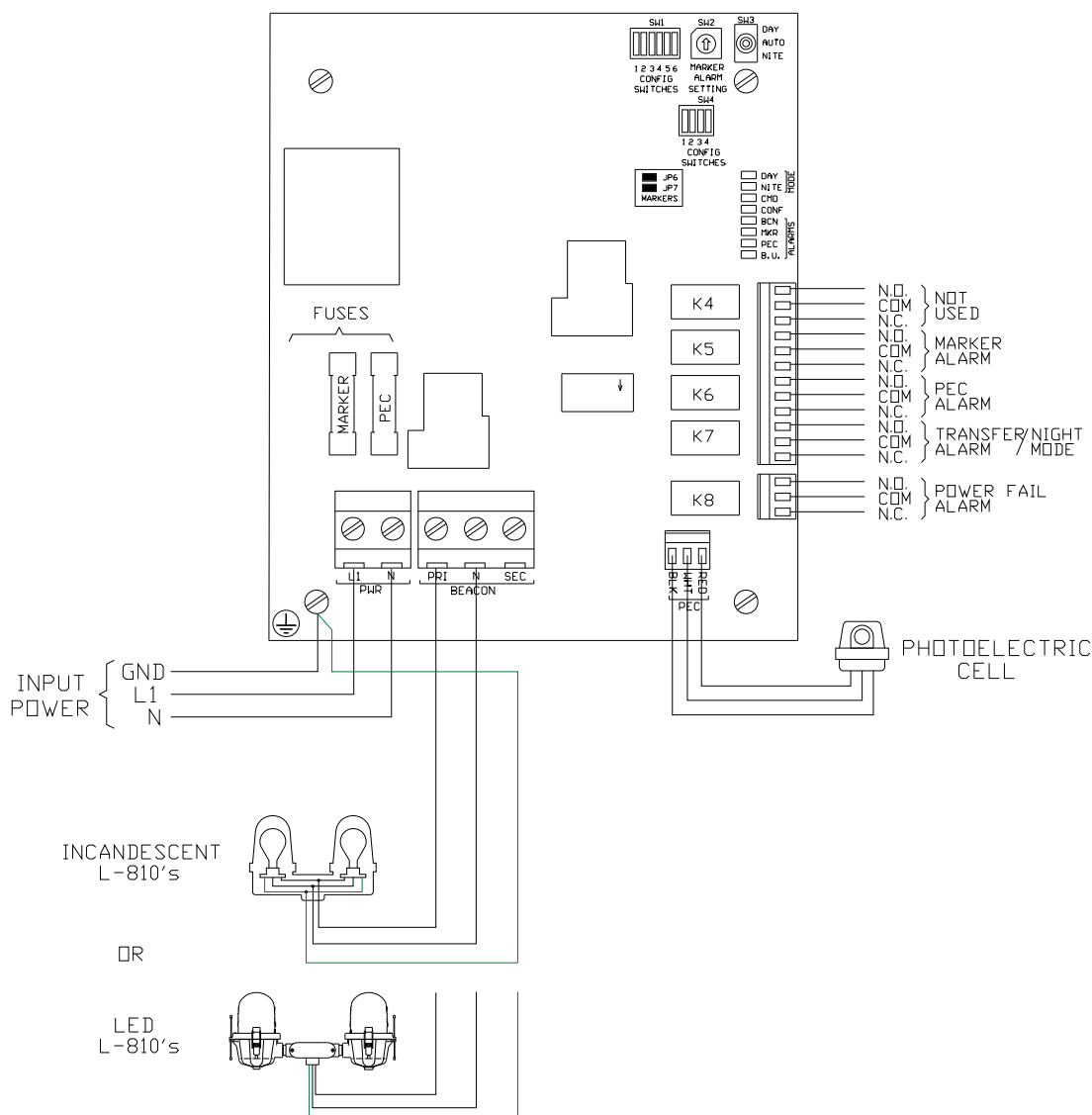




## Electrical Connections

All electrical control connections are made on P1, P2 and P4 located at the bottom of the controller. Connections for alarm relays are made on P5 and P6 located on the right side of the controller. Typical connections for a 120VAC system are shown below.

**It is the responsibility of the installer to comply with all applicable local, state, and federal regulations for installation and operation of this device.**

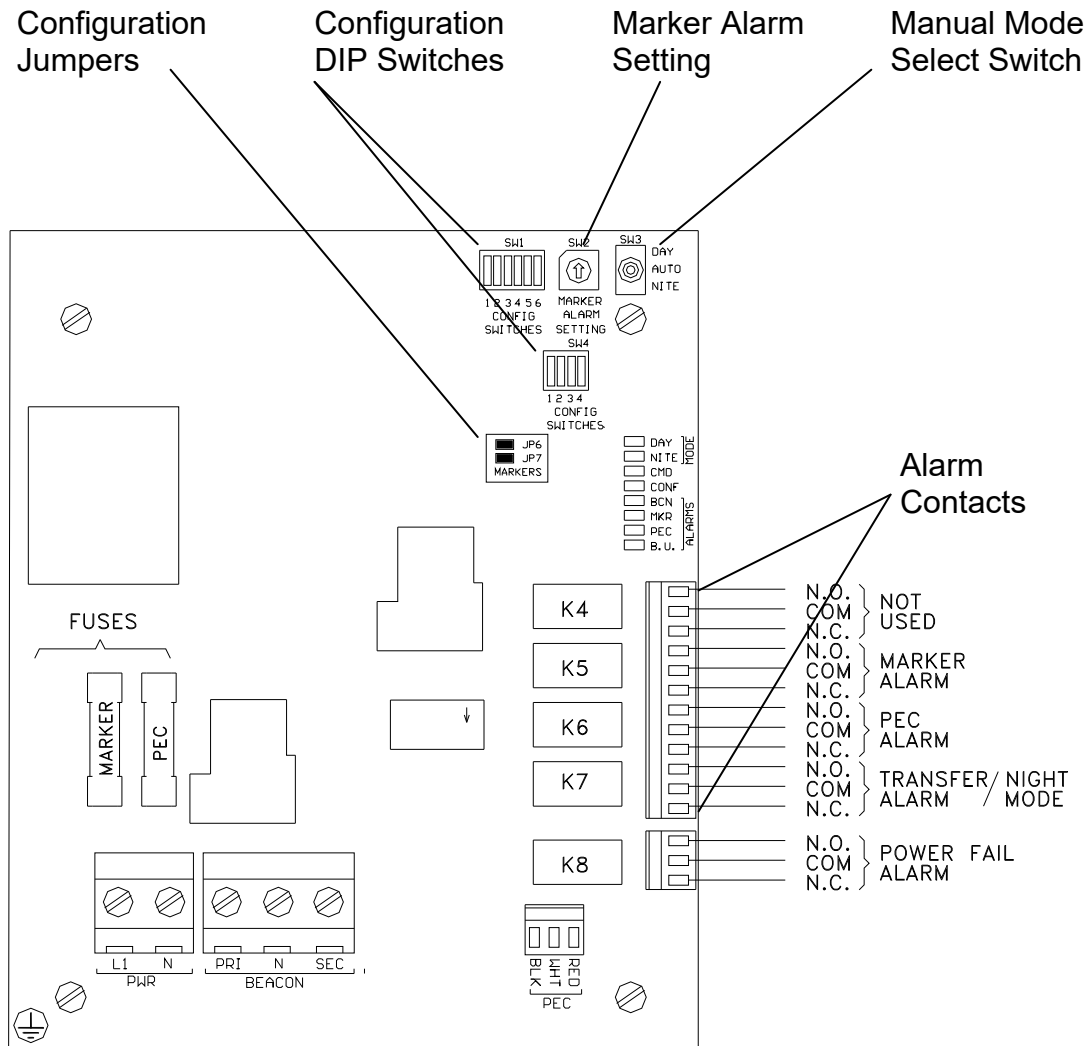


## Connector Descriptions

Connector Descriptions		
Connector	Terminals	Function
P1	L1	Input Power Line Voltage
	N	Input Power Neutral
P2	PRI	Primary Obstruction Lights
	N	Power Supply Neutral
	SEC	Secondary (backup) Obstruction Lights
P4	BLK	Photoelectric Cell Line Power
	WHT	Photoelectric Cell Neutral
	RED	Photoelectric Cell Signal (120Vac=Night, 0Vac=Day).

## Setup and Operation

Setup and operation of the RLC-200 is performed using the Configuration Jumpers, Configuration DIP Switches, the Marker Alarm Setting dial, and the Manual Mode Select Switch.



## Configuration Jumpers

The configuration jumpers must be set to match the type of obstruction lights used with the RLC-200 controller. Jumper settings for typical markers are shown in the figure below. Contact the factory if your model lights are not shown.

JUMPERS AND DIP SWITCHES  
MUST BE SET CORRECTLY  
FOR PROPER ALARMING.  
■=JUMPER INSTALLED  
□=JUMPER REMOVED

MARKERS			
INCANDESCENT	ITL MKR-ILED-1DH	DIALIGHT 860 Series	LTE or RTO Series
<div> <div>■ JP6</div> <div>■ JP7</div> <div>MARKERS</div> </div>	<div> <div>■ JP6</div> <div>□ JP7</div> <div>MARKERS</div> </div>	<div> <div>□ JP6</div> <div>■ JP7</div> <div>MARKERS</div> </div>	<div> <div>□ JP6</div> <div>□ JP7</div> <div>MARKERS</div> </div>
SW1-6=OFF	SW1-6=OFF	SW1-6=ON	SW1-6=OFF

## Configuration Switches

SW1 - Configuration Switches		
Number	Description	Function
1	Transfer Enable	ON – Transfer Enable OFF – Transfer Disable
2	Transfer Alarm	ON – K7 is Transfer Alarm OFF – K7 is Mode Relay
3	Not Used	
4	Not Used	
5	Not Used	
6	Marker Type	See Marker Configuration Jumpers above
The factory default setting for all switches is OFF		

SW4 - Configuration Switches		
Number	Description	Function
1	Not Used	
2	Not Used	
3	Not Used	
4	Not Used	
* The factory default setting for all switches is OFF		

Note: This manual is subject to change without notice. Refer to the diagram in the door of the RLC-200 or the manual shipped with the RLC-200 for setup and configuration information.

### Marker Alarm Setting

The Marker Alarm Setting switch sets the number of marker lamps at which a marker alarm will be generated. The switch is adjustable from zero to four lamps. The factory default setting is one, meaning that a marker alarm will be generated when one or less marker lamps are burning.

### Manual Mode Select Switch

The Manual Mode Select Switch overrides the photoelectric cell (PEC) to allow selection of Day mode or Night Mode for test or troubleshooting purposes. The Day or Night Mode lights flash when in manual mode. This switch should be left in the AUTO position for normal operation. In the AUTO position the operating mode is determined by the photoelectric cell.

### Indicator Lights

Indicator Lights	
Description	Function
DAY MODE	Steady – Day mode operation via photoelectric cell. Flashing – Day mode operation via manual mode select switch.
NITE MODE	Steady – Night mode operation via photoelectric cell. Flashing – Night mode operation via manual mode select switch.
CMD	On when the RLC-200 commands the obstruction lights to flash. (Flashing option must be special ordered from factory)
CONF	On when the RLC-200 confirms that the correct number of bulbs are burning.
BCN ALM	Not used
MKR ALM	Indicates a marker alarm.
PEC ALM	Indicates a photoelectric cell alarm.
BU ALM	Indicates that the RLC-200 is operating the backup markers.

## Spare Parts & Replacement Parts

ITL Part Number	Description
ITL-0200-000	Main Control Circuit Board
MKR-D750-000	L-810 Double Obstruction Light, (Incandescent)
MKR-S750-0DH	L-810 Obstruction Light, (Incandescent)
MKR-LTE1-000	L-810(L) Obstruction Light, (LED)
MKR-LTE1-0IR	L-810(L) Obstruction Light, (LED with Infrared)
MKR-LTE2-000	L-810(L) Double Obstruction Light, (LED)
MKR-LTE2-0IR	L-810(L) Double Obstruction Light, (LED with Infrared)
LMP-116W-120-PHL	116W, 120VAC Marker Lamp
LMP-116W-230	116W, 230VAC Marker Lamp
LMP-100W-230-AERO	100W, 230VAC Marker Lamp
PEC-1800-120	Photo-electric Control, 120VAC, Twilight Level
PEC-SOCK-000	Photo-electric Control Socket

## Technical Support and Contact Info

### Contact Info

For information on the RLC-200 controller's basic functions, refer to this manual. For additional help with the installation or operation of any ITL products, please contact ITL, LLC at one of the following below.

#### Web and Internet Sites

Corporate home page: <http://www.itl-llc.com>



#### Customer Support Technicians

8:00 AM - 5:00 PM Central Time

US and Canada call: +1-615-256-6030

Toll Free: +1-866-624-8309

Email: [support@itl-llc.com](mailto:support@itl-llc.com)

### RMA

Please contact ITL, LLC before returning equipment for repair and obtain a Return Material Authorization (RMA) number.

Revision	Description of Change	Date	Preparer / Approval
8	Updated Spare Parts & Replacement Parts List. Updated Suppression data in Specifications.	6/13/2017	Prepared By: Elke Hinson Approved By: Andy Rudolph
7	Updated for quick info card changes.	5/29/2015	Prepared By: Elke Hinson Approved By: Andy Rudolph
6	Added Ground Wire Detail for Markers in Electrical Connections (pg9)	3/13/2015	Prepared By: Elke Hinson Approved By: Andy Rudolph
5	Changed Switch configuration description (pg12)	12/31/2012	Prepared By: Elke Hinson Approved By: Andy Rudolph
4	Updated cover sheet, changed Operational Temperature from -55° to -40°, and changed FAA Type for LED marker to L-810(L).	7/02/2012	Prepared By: Elke Hinson Approved By: Andy Rudolph