

Installation and Operation Manual

RLC-0201-
UNI/GUI

Universal
LED & Incandescent
A-1 Controller



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itl International
Tower Lighting, LLC™

Front Matter

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Please send any comments regarding the manual to 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.

Table of Contents

Front Matter	2
Copyright & Trademarks	2
Limited Warranty and Disclaimer	2
Safety Warning	3
Introduction	5
Product Description	5
Specifications	6
Environment	6
Obstruction Lights	6
Mechanical	6
Electrical	6
Installation	7
Unpacking your RLC-201 Controller	7
Quick Installation Guide	7
RLC-201 Controller Mounting	8
Electrical Connections	9
Connector Descriptions	10
Setup and Operation	11
Configuration Jumpers	12
Configuration Switches	12
Marker Alarm Setting	13
Manual Mode Select Switch	13
Indicator Lights	13
Spare Parts & Replacement Parts	14
Technical Support and Contact Info	15
Contact Info	15
RMA	15

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-201.

Product Description

Both the RLC-0201-UNI and RLC-0201-GUI are capable of controlling one FAA type L-864(L) red LED or FAA type L-864 incandescent beacon and 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 beacon lamp alarm, flasher fail, marker alarm, and system mode. Virtually all information necessary for installation and operation of the RLC-201 is available on the “quick info” card located in the door of the enclosure. The RLC-0201-GUI utilizes a GPS to provide wireless flash synchronization with other RLC-0201-GUI units.



RLC-201-UNI

RLC-201-GUI



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

Beacon	One Incandescent Beacon two 620W/120 Vac lamps or two 700W/230 Vac lamps One ITL IFH-1900 or One ITL IFH-1700 or One Dialight D564 Series LED Beacon or One Dialight D464 Series LED Beacon or One Dialight D264 Series LED Beacon
Side Lights	Up to Five Incandescent 116W or 100W, 120 or 230 Vac Up to Five LED ITL-MKR-LTG1-0IR or ITL MKR-LTE1-000, MKR-LTE1-0IR or Dialight MKR-0LED-RTO-001

Mechanical

Dimension	Height: 12.00" (305mm) Width: 8.81" (224mm) Depth: 7.00" (177mm)
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, Beacon, Side Lights & PEC 23 Joule, 275V, All alarm relays

Installation

The following section describes how to install the RLC-201 controller. The Incandescent Beacon or LED Beacon, and Obstruction Lights (markers) should be installed according to the manufacturer's instructions.

Unpacking your RLC-201 Controller

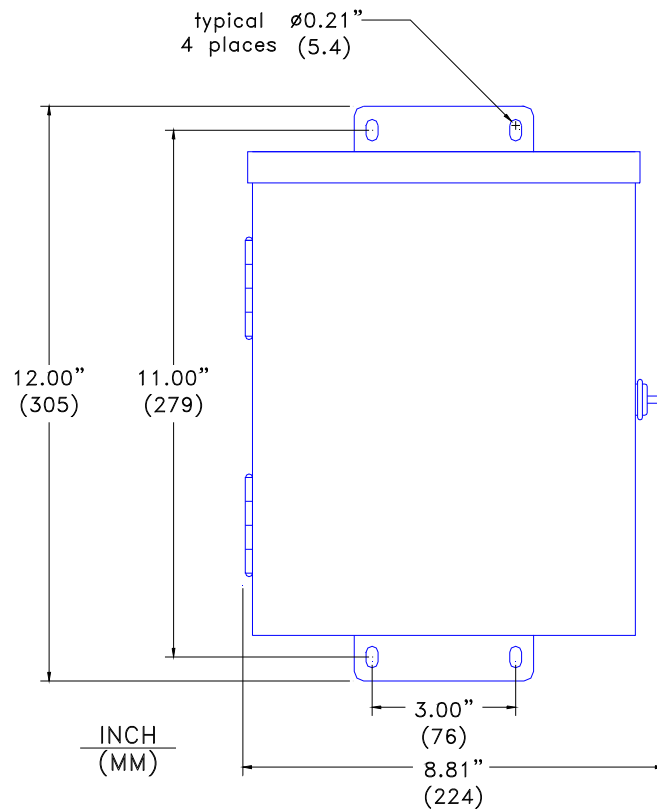
Please examine the shipping containers and their content thoroughly upon receipt and report any potential shipping damage to the carrier.

Quick Installation Guide

The quick start guide shows how to install the RLC-201 controller.

- Remove RLC-201 controller from packaging material.
- Mount the RLC-201 enclosure.
- Install FAA type L-864 Incandescent Beacon or FAA type L-864(L) LED Beacon per manufacturer's instructions and FAA requirements.
- Install electrical cable from RLC-201 to Incandescent Beacon or LED Beacon per manufacturer's instructions.
- Install FAA type L-810 incandescent or FAA type L-810(L) type LED obstruction lights per manufacturer's instruction and FAA requirements.
- Install cable from RLC-201 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 GPS Antenna (RLC-201-GUI only)
- Install 120Vac line power to the RLC-201 Controller.

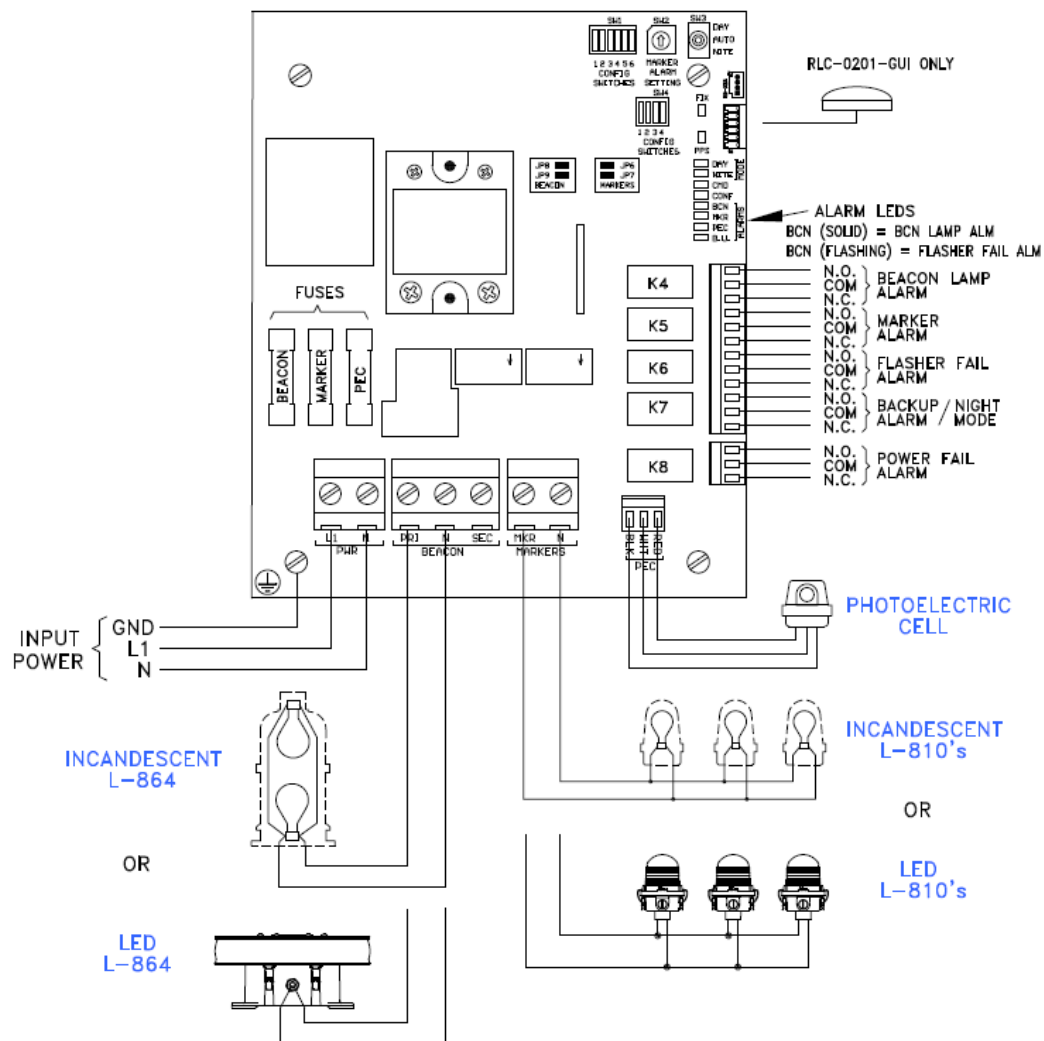
RLC-201 Controller Mounting



Electrical Connections

All electrical control connections are made on P1, P2, P3 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.

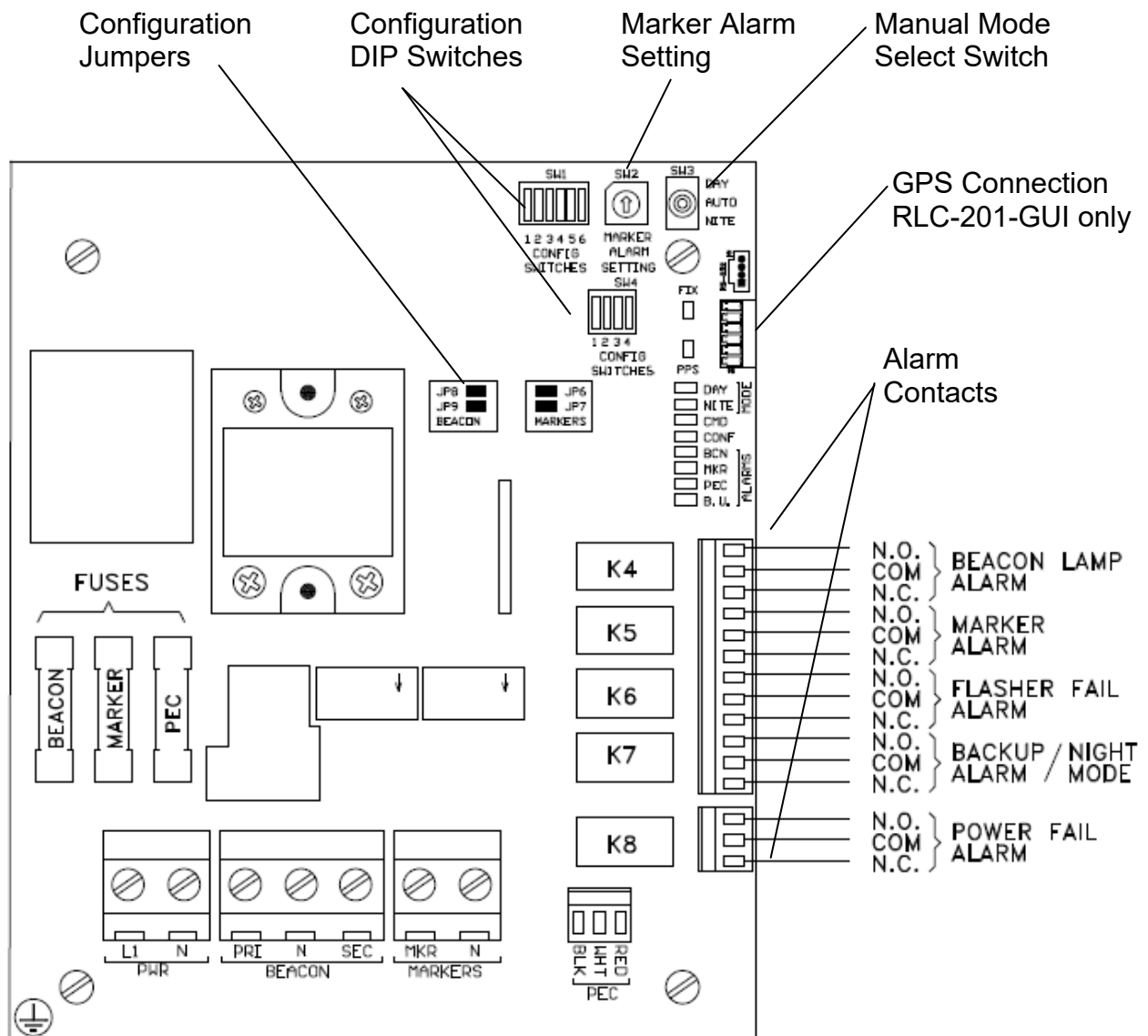


Connector Descriptions

Connector Descriptions		
Connector	Terminals	Function
P1	L1	Input Power Line Voltage
	N	Input Power Neutral
P2	PRI	Primary Beacon
	N	Power Supply Neutral
	SEC	Secondary Beacon
P3	MKR	Marker Light Power (L-810 obstruction light power)
	N	Marker Light Neutral
P4	BLK	Photoelectric Cell Line Power
	WHT	Photoelectric Cell Neutral
	RED	Photoelectric Cell Signal (120Vac=Night, 0Vac=Day).

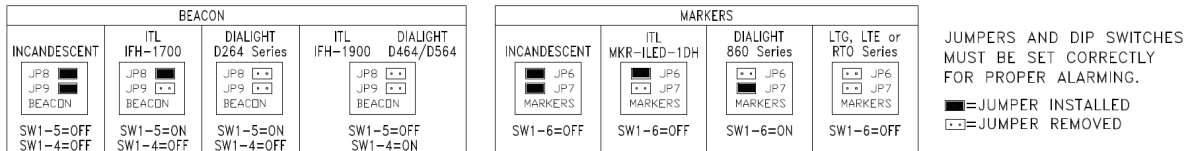
Setup and Operation

Setup and operation of the RLC-201 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-201 controller. Jumper settings for typical markers are shown in the figure below. Contact the factory if your model lights are not shown.



Configuration Switches

SW1 - Configuration Switches		
Number	Description	Function
1	Backup Enable	ON – Backup Beacon Enabled OFF* – Backup Beacon Disabled
2	Backup Alarm	ON – K7 is Beacon Backup Alarm OFF* – K7 is Mode Relay
3	Marker Alarm Disable	ON – Marker alarm is disabled. OFF* – Marker alarms is enabled.
4	Beacon Type 1	ON – ITL IFH-1900 or Dialight D464 or D564
5	Beacon Type 2	ON – ITL IFH-1700 or Dialight D264
6	Marker Type	See Marker Configuration Jumpers above
* The factory default setting for all switches is OFF		

SW4 - Configuration Switches		
Number	Description	Function
1	Phase 1	Used to synchronize flashing with other manufacturers GPS synchronized controllers. (RLC-0201-GUI only) Default is both OFF
2	Phase 2	
3	Not Used	
4	Flash Rate 30 FPM	ON – Flash rate is 30 FPM OFF* – Flash rate is 20 FPM
* 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-201 or the manual shipped with the RLC-201 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-201 commands the beacon to flash.
CONF	On when the RLC-201 confirms that the beacon is drawing the correct current.
BCN ALM	Steady – Indicates a beacon lamp alarm. Flashing – Indicates a flasher fail alarm (K3)
MKR ALM	Indicates a marker alarm.
PEC ALM	Indicates a photoelectric cell alarm (controller defaults to night mode on PEC alarm)
BU ALM	Indicates that the RLC-201 is operating the backup beacon.
FIX	Steady – Indicates the RLC-0201-GUI is receiving flash synchronization data from GPS. Flashing – Indicates the RLC-0201-GUI is waiting for flash synchronization data from the GPS.
PPS	Provides visual indication of the pulse per second signal from the GPS.

Spare Parts & Replacement Parts

ITL Part Number	Description
RLY-2440-B00	Solid State Relay
BCN-0300-000	L-864 Beacon, (Incandescent)
IFH-1900-0IR	L-864(L) Beacon, (LED with Infrared)
IFH-1700-000	L-864(L) Beacon, (LED)
MKR-S750-0DH	L-810 Obstruction Light, (Incandescent)
MKR-LTG1-0IR	L-810(L) Obstruction Light, (LED with Infrared)
MKR-LTE1-000	L-810(L) Obstruction Light, (LED)
MKR-LTE1-0IR	L-810(L) Obstruction Light, (LED with Infrared)
LMP-620W-120-LL	620W, 120VAC Beacon Lamp
LMP-700W-230	700W, 230VAC Beacon Lamp
LMP-116W-125-DUR	116W, 125-130VAC Marker Lamp
LMP-116W-230	116W, 230VAC Marker Lamp
ANT-018X-GPS	GPS Antenna
PEC-1800-120	Photoelectric Cell (PEC)
PEC-SOCK-000	Socket For Photoelectric Cell

Technical Support and Contact Info

Contact Info

For information on the RLC-201 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

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
10	Updated board layout pg. 9 & pg11. Updated Jumper configuration, added IFH-1900 & LTG. Updated Spare Parts & Replacement Parts List.	12/18/2020	Prepared By: Elke Hinson Approved By: Josh Crown
9	Updated Suppression data from 45 Joule to 320 Joule. Updated Spare Parts & Replacement Parts List.	6/13/2017	Prepared By: Elke Hinson Approved By: Andy Rudolph
8	Added D564 in configuration jumper table.	1/20/2016	Prepared By: Elke Hinson Approved By: Andy Rudolph
7	Updated for quick info card changes	5/28/2015	Prepared By: Elke Hinson Approved By: Andy Rudolph
6	Updated configuration jumpers and SW1 - configuration switches	12/18/2012	Prepared By: Elke Hinson Approved By: Andy Rudolph
5	Updated cover sheet, Changed FAA Type for LED marker to L-810(L), Changed FAA Type for LED beacon to L-864(L), Added Jumper configuration for Dialight D464 series.	7/02/2012	Prepared By: Elke Hinson Approved By: Andy Rudolph