Installation and Operation Manual

RLC-0203-UNI/GUI

Universal
LED & Incandescent
A-2 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

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-203.

Product Description

Both the RLC-0203-UNI and RLC-0203-GUI are capable of controlling 2 or 3 FAA type L-864(L) red LED or FAA type L-864 incandescent beacons and two levels, up to five per level 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-203 is available on the "quick info" card located in the door of the enclosure. The RLC-0203-GUI utilizes a GPS to provide wireless flash synchronization with other RLC-0203-GUI units.

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RLC-203-UNI

RLC-203-GUI

Specifications

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

Environment

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

Obstruction Lights

Beacon	2 or 3 Incandescent Beacons two 620W/120 Vac lamps or two 700W/230 Vac lamps 2 or 3 ITL IFH-1700-000 or Dialight D564 Series LED Beacons or Dialight D464 Series LED Beacons or Dialight D264 Series LED Beacons
Side Lights	Two levels, Up to Five per level 116W / 120 Vac Incandescent or 100W / 230 Vac Incandescent or ITL MKR-LTE1-000 or ITL MKR-LTE1-0IR or Other 7W LED marker lights

Mechanical

Dimension	Height:	14.00” (356mm)
	Width:	13.25” (337mm)
	Depth:	7.00” (152mm)
Weight	17 lbs	(7.8Kg)

Electrical

Input Power	120/230 VAC at 50/60Hz, 12VA
Alarm Relays:	120/230 VAC, 1 Amp
PEC:	120/230 Vac, 50/60 Hz, 1 VA
Suppression	45 Joule, 275V, Input Power, Beacon, Side Lights & PEC 23 Joule, 275V, All alarm relays

Installation

The following section describes how to install the RLC-203 controller. The Incandescent Beacons or LED Beacons, and Obstruction Lights (markers) should be installed according to the manufacturer's instructions.

Unpacking your RLC-203 Controller

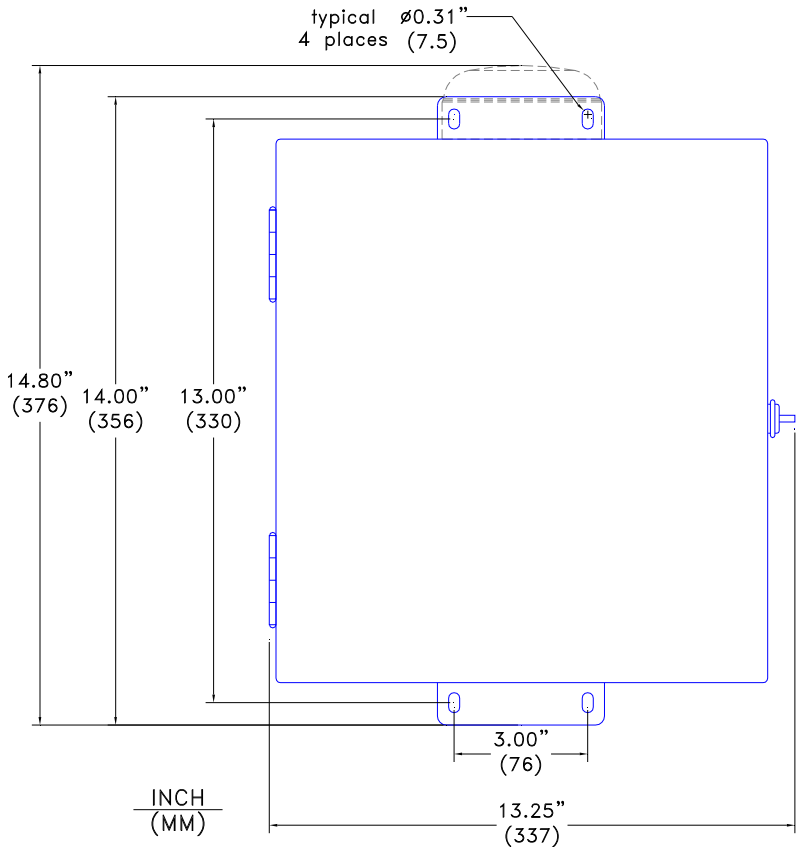
Please examine the shipping containers and their content thoroughly upon receipt and report any potential shipping damage to the carrier.

Quick Installation Guide

The quick start guide shows how to install the RLC-203 controller.

- Remove RLC-203 controller from packaging material.
- Mount the RLC-203 enclosure.
- Install FAA type L-864 Incandescent Beacons or FAA type L-864(L) LED Beacons per manufacturer's instructions and FAA requirements.
- Install electrical cable from RLC-203 to Incandescent Beacons or LED Beacons per manufacturer's instructions.
- 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-203 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-203-GUI only)
- Install 120Vac line power to the RLC-203 Controller.

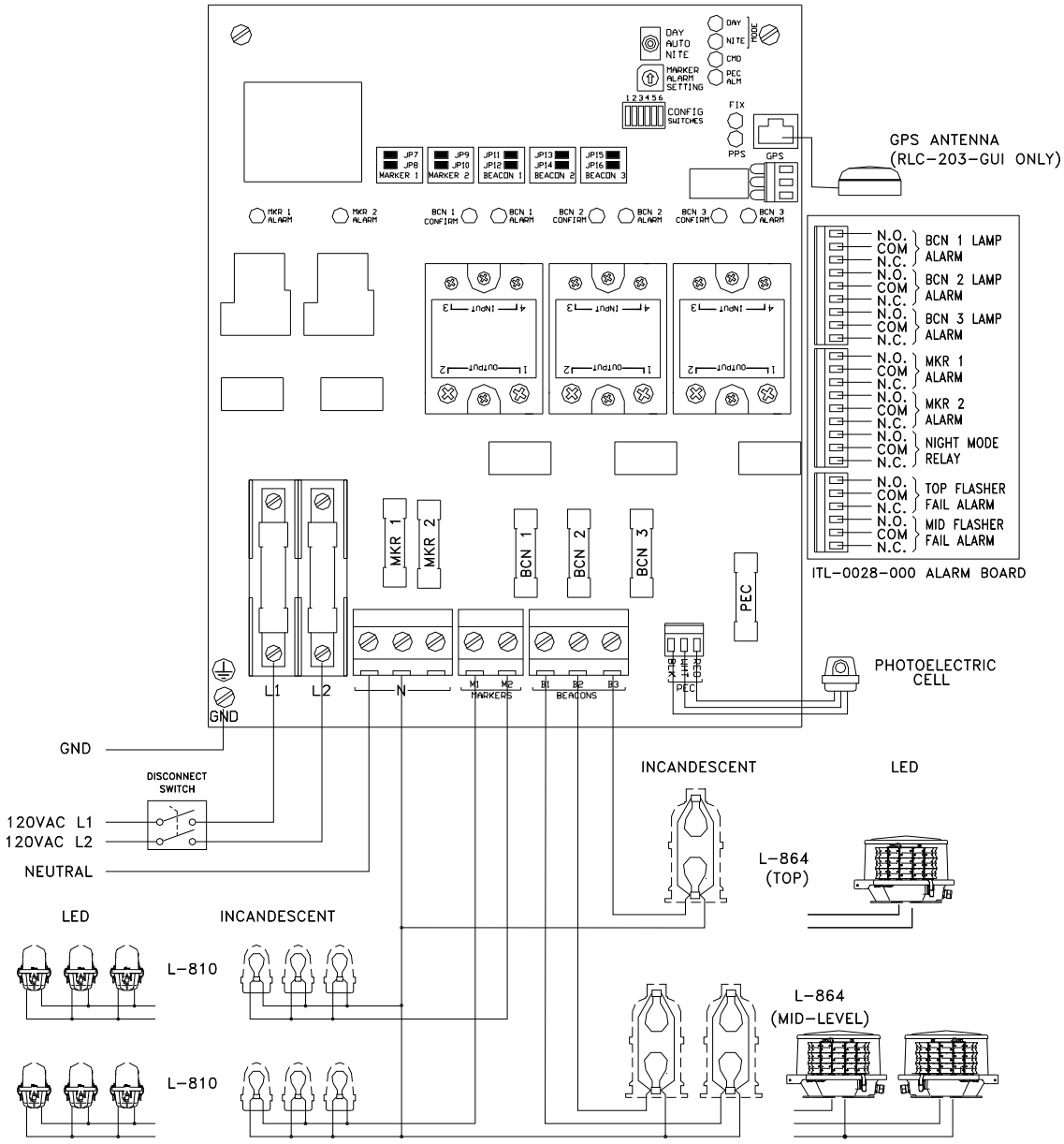
RLC-203 Controller Mounting



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 the ITL-0028-000 Alarm Board 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.

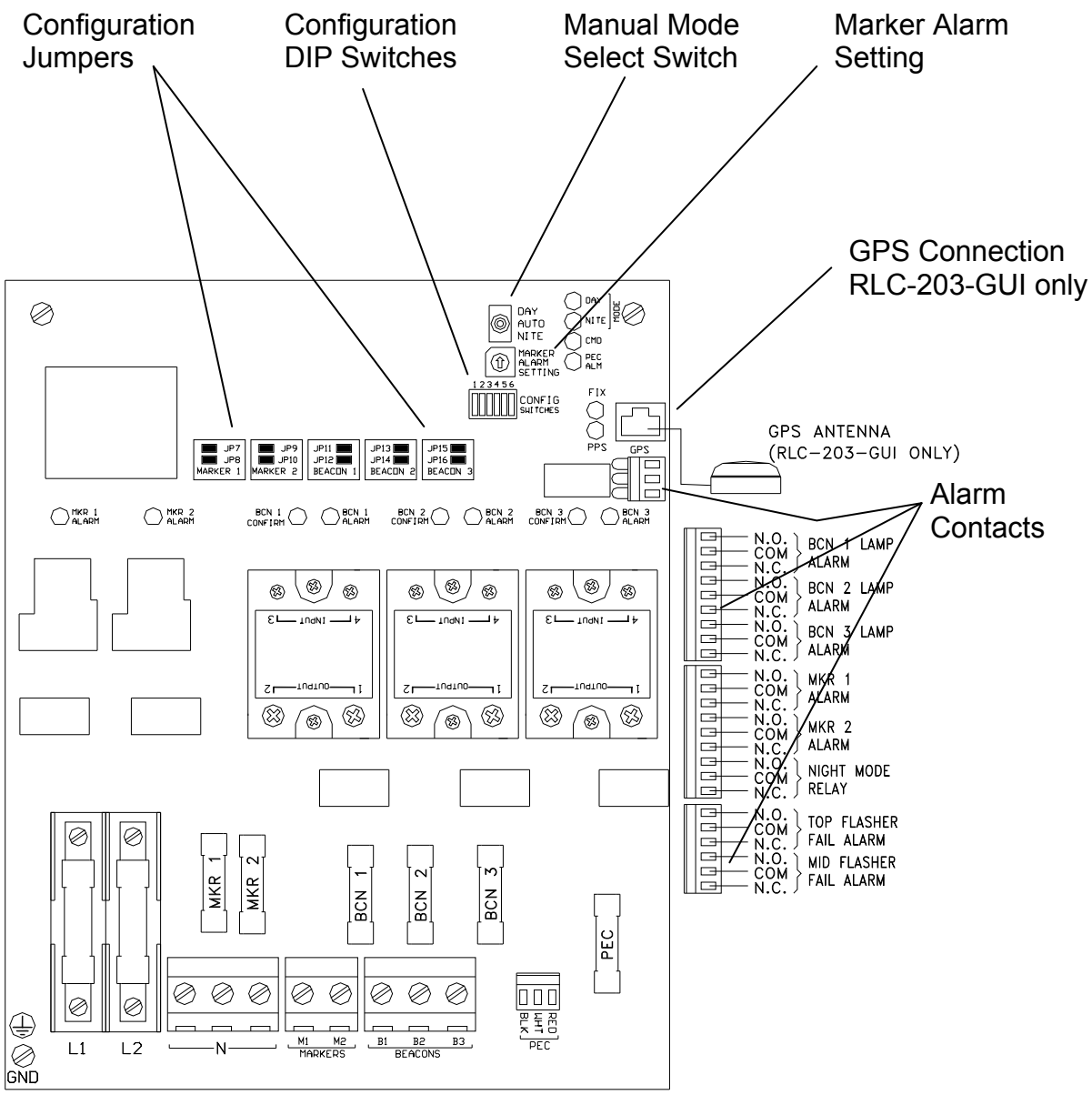


Connector Descriptions

Connector Descriptions		
Connector	**Terminals**	**Function**
P1	N	Input Power Neutral
	N	Input Power Neutral Marker Light
	N	Input Power Neutral Beacon
P2	M1	Marker Tier 1 Power
	M2	Marker Tier 2 Power
P3	B1	Beacon 1 Power
	B2	Beacon 2 Power
	B3	Beacon 3 Power
P4	BLK	Photoelectric Cell Line Power
	WHT	Photoelectric Cell Neutral
	RED	Photoelectric Cell Signal (120Vac=Night, 0Vac=Day).

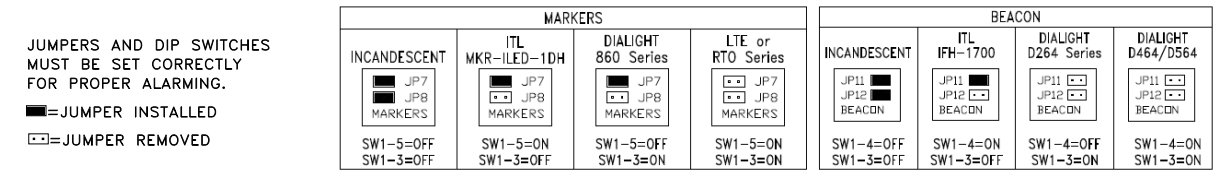
Setup and Operation

Setup and operation of the RLC-203 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-203 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	Marker Level 2 Disable	ON – Marker Level 2 Disabled OFF – Marker Level 2 Enabled
2	Beacon 3 Disable	ON – Beacon 3 Disabled OFF – Beacon 3 Enabled
3	Light Manufacturer	ON – Dialight OFF – ITL
4	Beacon Type	See Beacon Configuration Jumpers above
5	Markers Type	See Marker Configuration Jumpers above
6	30 FPM Flash Rate	ON – Flash rate is 30 FPM OFF – Flash rate is 20 FPM
The factory default setting for all switches is OFF		

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-203 commands the beacon to flash.
BCN 1-3 CONF	On when the RLC-203 confirms that the beacon is drawing the correct current.
BCN 1-3 ALM	Steady – Indicates a beacon lamp alarm. Flashing – Indicates a flasher fail alarm (K3)
MKR 1, 2 ALM	Indicates a marker alarm.
PEC ALM	Indicates a photoelectric cell alarm (controller defaults to night mode on PEC alarm)
FIX	Steady – Indicates the RLC-0203-GUI is receiving flash synchronization data from GPS. Flashing – Indicates the RLC-0203-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-1700-000	L-864(L) Beacon (LED)
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)
LMP-620W-130	620W, 130VAC Beacon Lamp
LMP-700W-230	700W, 230VAC Beacon Lamp
LMP-116W-120	116W, 120VAC Marker Lamp
LMP-116W-230	116W, 230VAC Marker Lamp
LMP-100W-120	100W, 120VAC Marker Lamp
LMP-100W-230	100W, 230VAC Marker Lamp
LMP-0LTE-300	LED Lamp Assembly for MKR-LTEx-000
LMP-0LTE-300-IR	LED Lamp Assembly for MKR-LTEx-0IR
ANT-016X-GPS	GPS Antenna
ANT-016X-MAG	Magnetic Mount for 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-203 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
6	Added D564 in configuration jumper table. Replaced MKR-ILED-1DH with MKR-LTE1-000 & MKR-LTE1-0IR in Spare Parts table.	1/20/2016	Prepared By: Elke Hinson Approved By: Andy Rudolph
5	Update configuration switch for SW1, add Flash Rate function.	5/02/2013	Prepared By: Elke Hinson Approved By: Andy Rudolph
4	Add detail of Disconnect Switch (not included) in Electrical Connections diagram.	9/27/2012	Prepared By: Elke Hinson Approved By: Andy Rudolph
3	Updated cover sheet, Changed operational temperature from -55 to -40 Changed FAA Type for LED marker to L-810(L), Changed FAA Type for LED beacon to L-864(L), Updated configuration jumpers - add beacon D464	7/05/2012	Prepared By: Elke Hinson Approved By: Andy Rudolph