Installation Instruction Manual

MON-0830

Monitoring System

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itl International Tower Lighting, LLC™

Front Matter

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Limited Warranty and Disclaimer

ITL, LLC guarantees that every MON-830 monitoring system 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.

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.

Never rely on just one switch to power down a high voltage supply. Measure for voltages using a voltmeter to ensure that power is off and has been completely removed.

Do not wear any jewelry when servicing this equipment. Gold and silver are excellent conductors of electricity.

Battery Warning and Disposal

There is danger of explosion if the included sealed lead-acid battery is replaced incorrectly. Only replace the battery with the same or equivalent type recommended by the battery manufacturer. Dispose of used batteries according to the battery manufacturer's instructions.

Do not incinerate, disassemble, or puncture the battery.

For questions or details please contact The Battery *Council International at (312) 664-6610*, or your local waste agency.

Table of Contents

List of Illustrations and Tables

Introduction

Congratulations, and thank you for choosing an ITL monitoring system.

You have chosen one of the most technologically innovative monitoring systems available on the market 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 MON-830 monitoring systems.

Product Description

ITL's MON-830 series systems are designed to provide complete monitoring solutions for all types of tower lighting systems. The monitoring system's rich set of features are directly applicable to monitor any strobe lighting system or red light controller.

The MON-830 communicates with ITL's Microsoft Windows based monitoring software, ITL AutoDialer Pro (ADP), in order to provide monitoring of remote tower sites from a central location. The software utilizes templates for the most common tower lighting configurations for quick and consistent installations.

The MON-830 systems have five dry-contact inputs for monitoring tower lighting system's alarm and status relays as well as door switches, generators and other equipment suitable for dry-contact monitoring. The tower lighting system's photocell is monitored and may be over-ridden remotely. Both resistive and 120VAC powered photocells are supported. The MON-830 systems are pre-cabled for up to five dry-contact inputs and battery backup is included as a standard feature.

Based on the customer's requirement and number of sites to be monitored ADP is available in three editions, Lite, Standard and Enterprise. For more details on ADP please refer to the ADP's user's manual.

Specifications

Environment

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

Mechanical

Enclosure

NEMA Type 3R, Lockable

Dimension	Height:	12.00” (305mm)
	Width:	9.04” (229mm)
	Depth:	6.49” (165mm)
Weight		8 lbs (3.6Kg) max

Electrical

Input Power	120 / 230 VAC at 50 / 60 Hz, 6VA
Suppression	45 Joule, 275V, Input Power
	23 Joule, 275V, All Alarm Relay Contacts
	23 Joule, 150V, Modem
Output Relays	120 / 230 VAC, 1 Amp

Modem

Cermetek	FCC Part 68 Approved

Installation

The following section describes how to install the MON-830 monitoring system. Based on the type of system you are going to install please refer to the appropriate wiring diagram in section *Wiring Diagrams.*

Unpacking your Monitoring System

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

Tools for Installation

The following tools are suggested for mounting of the ITL monitoring system and satellite.

- Digital multi-meter capable of reading 600VAC/DC (Fluke 177 or 179)
- Nut Drivers and Sockets
- #2 Phillips Screwdriver
- 5/16 Flat Head screwdriver
- Crimp Tool
- Needle Nose Pliers

Quick Installation Guide

The quick start guide outlines the steps required to install MON-830 monitoring systems. This guide provides only basic instructions for more details, refer to this document.

- Remove packaging material
- Determine make of existing tower lighting controller and select appropriate installation diagram from this manual
- Connect MON-830 to tower lighting controller to be monitored using supplied harness
- Apply power to unit
- All input LEDs should be on solid or blinking
- Use AutoDialer Pro from central monitoring facility to properly configure the MON-830 based on existing lighting controller

Mounting Enclosure Panel

The MON-830 should to be mounted to a properly grounded H-frame or a structure which provides a direct low impedance connection to earth ground.

The mounting cannot obstruct access to the monitoring system's internal components for the purpose of installing and maintaining the equipment. The following diagrams detail the mounting dimensions and clearance for proper access.

Mounting Details for the Enclosure Panel

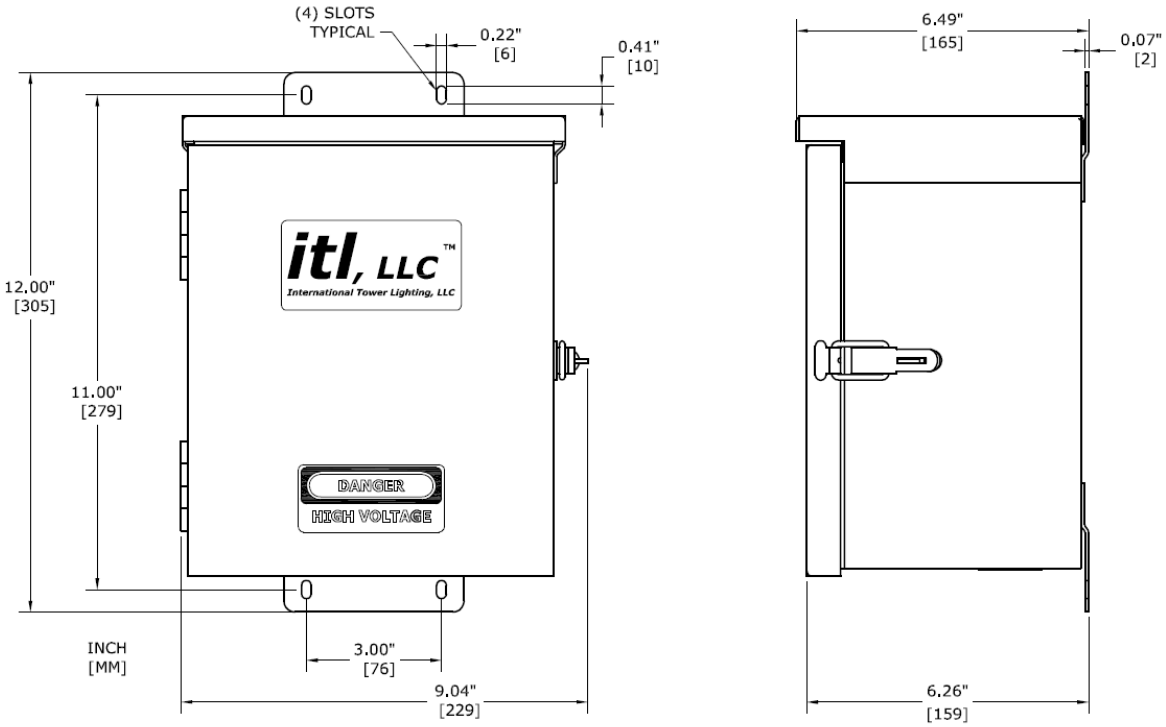

Figure 1: Mounting Details and Dimensions of Enclosure Panel

Circuit Boards

The following sections detail the MON-830 internal circuit board assemblies.

1. ITL-0830-000 Circuit Board Assembly

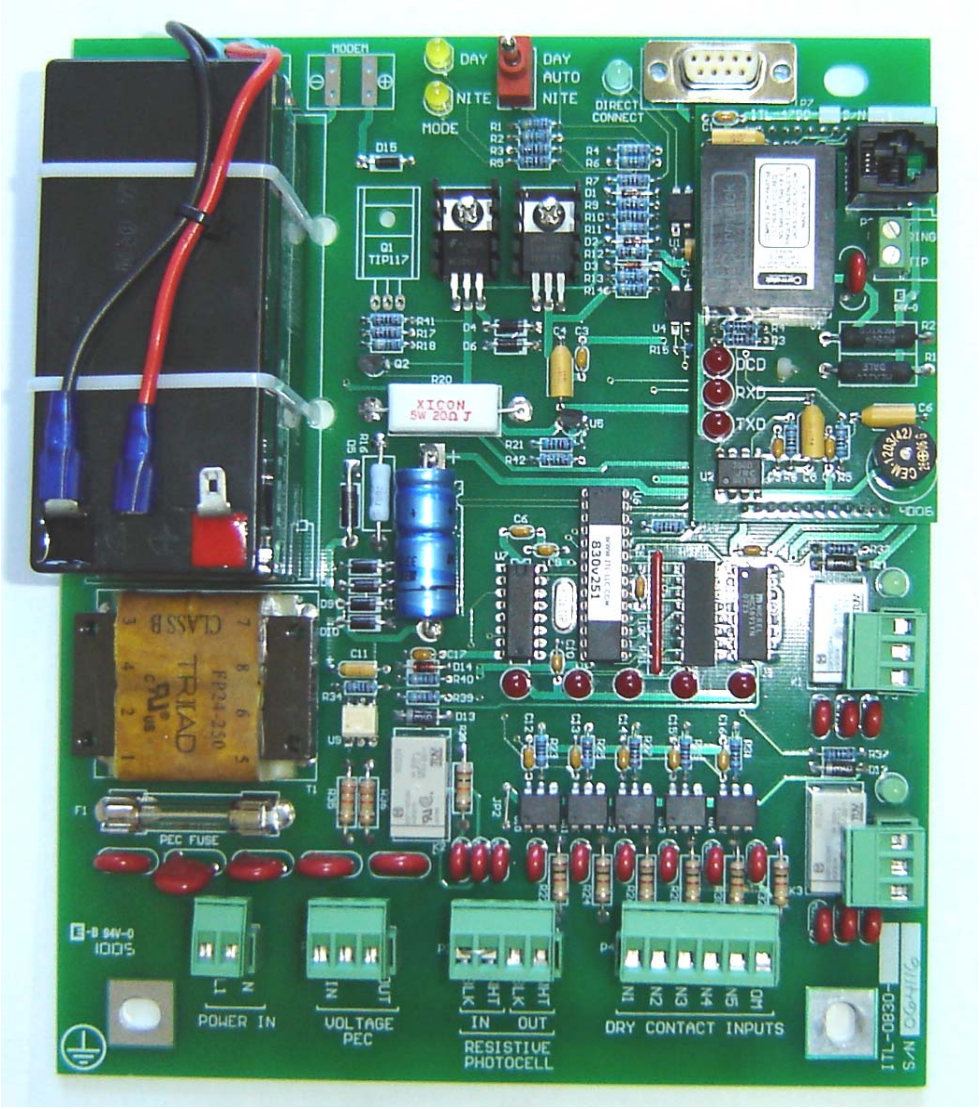

Figure 2: ITL-0830-000 Board

A. Modem Connection

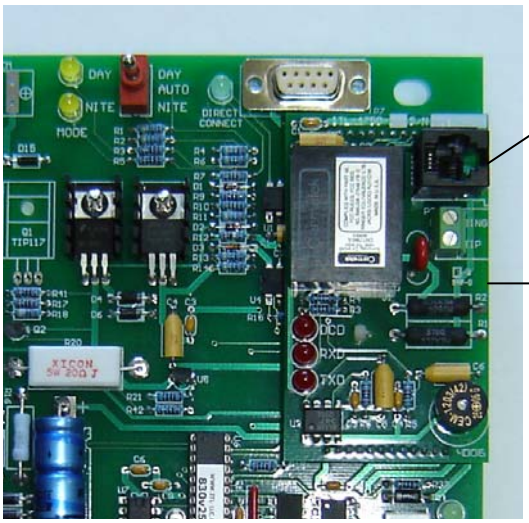

Figure 3: MON-830 Modem Connection

B. Battery connection

Observe polarity when connecting and disconnecting the battery. Note all battery warnings in the *Safety Warning* section.

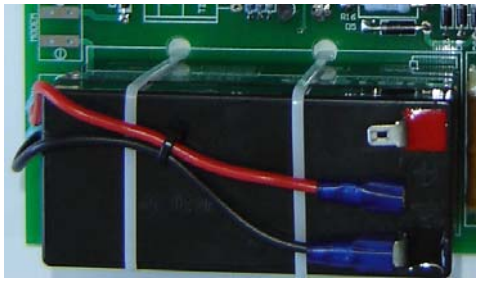

Figure 4: MON-830 Battery Connection

3. LED Indicators

A. Communication and Mode

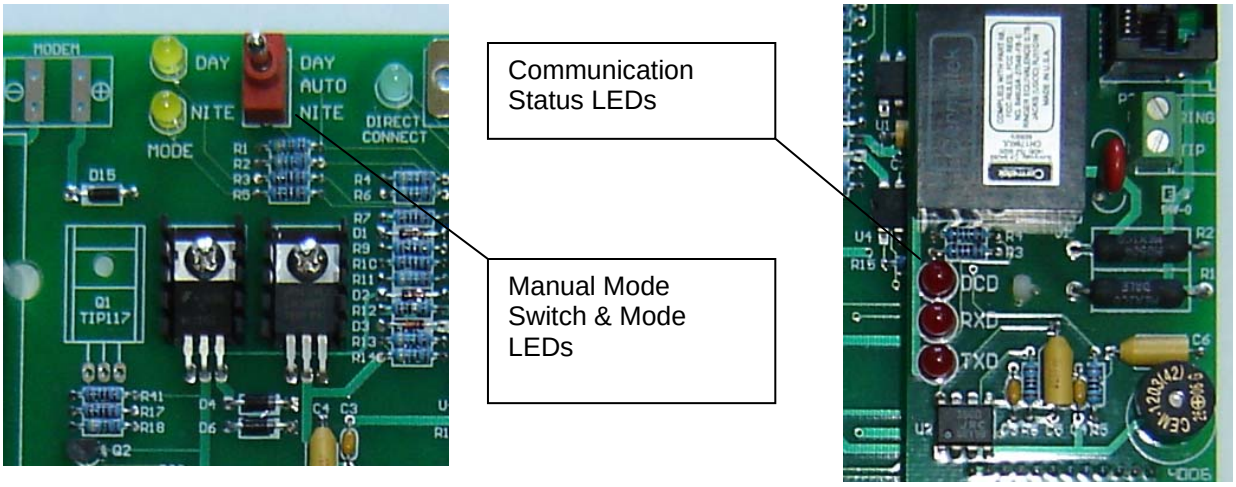

Figure 5: MON-830 & Communication Status LEDs

B. Inputs and Output Relays

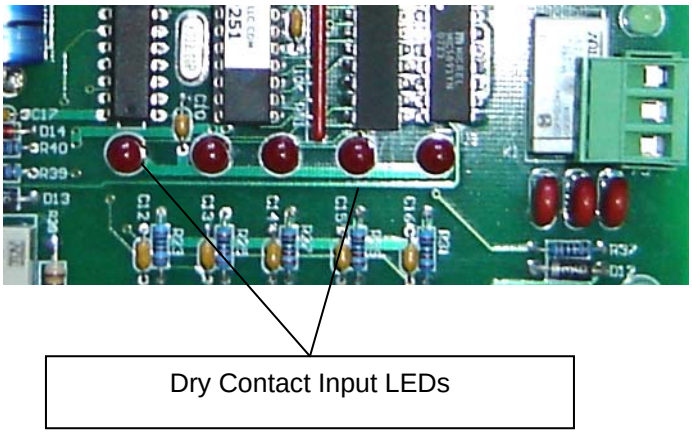

Figure 6: MON-830 Dry Contact Input LEDs, Output Relays & LEDs

C. Indicator Function

Indicator Lights	
Description	**Function**
INPUTS 1-5	Flashing – Alarm Steady – Status Input Active Off – No Alarm / Status Input Not Active
OUTPUTS 1 & 2	On when output relay energized
DAY MODE	Steady – Day mode operation via photoelectric cell. Flashing – Day mode operation via remote over-ride or manual mode switch.
NITE MODE	Steady – Night mode operation via photoelectric cell. Flashing – Night mode operation via remote over-ride or manual mode switch.
TXD	On when the MON-830 transmits data.
RXD	On when the MON-830 receives data.
DCD	On when the MON-830 establishes a communication connection.

Figure 7: MON-830 Indicator Lights Description

4. Input Connections

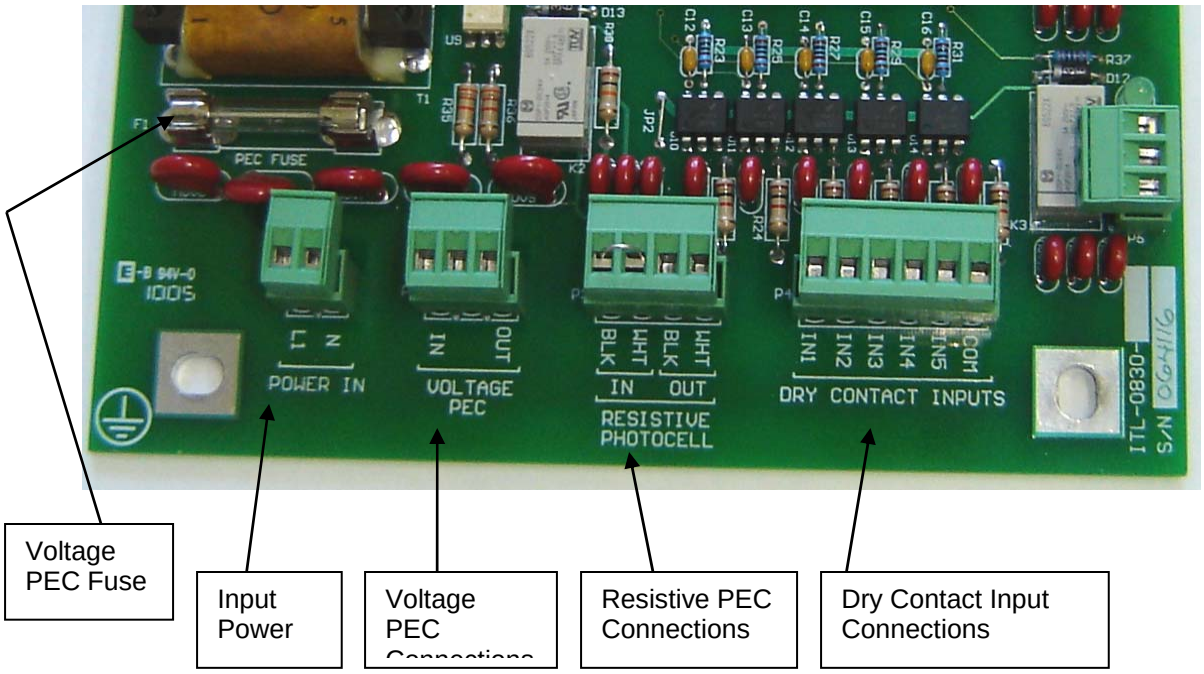

Figure 8: MON-830 Connections

Installation Diagrams

The following section details various installation diagrams for connecting the MON-830 to a wide variety of existing lighting systems. Please refer to the diagram which matches your lighting system at the tower site.

ILS-3400 Wiring Diagram

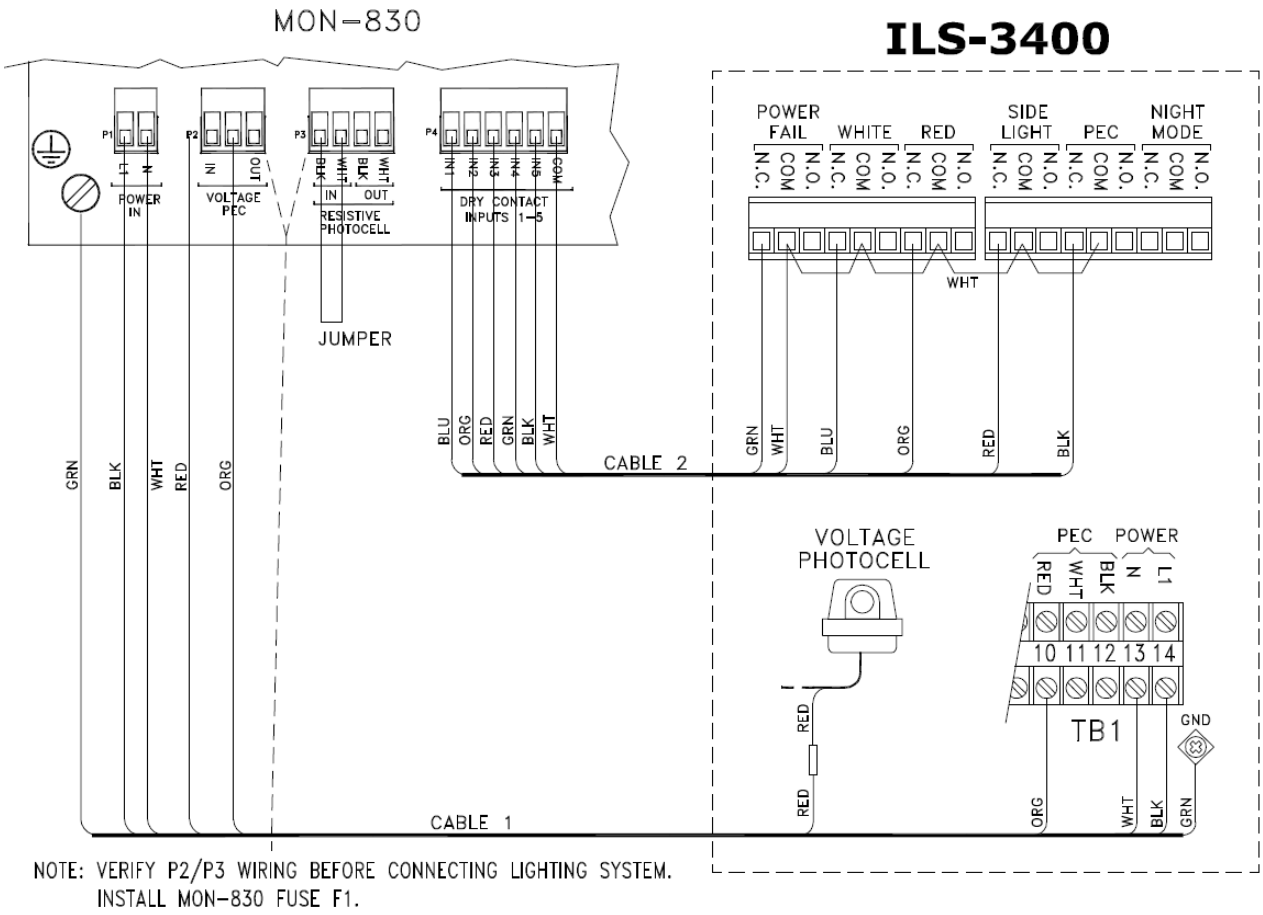

Figure 9: ILS-3400 Wiring Diagram

ILS-2400 Wiring Diagram

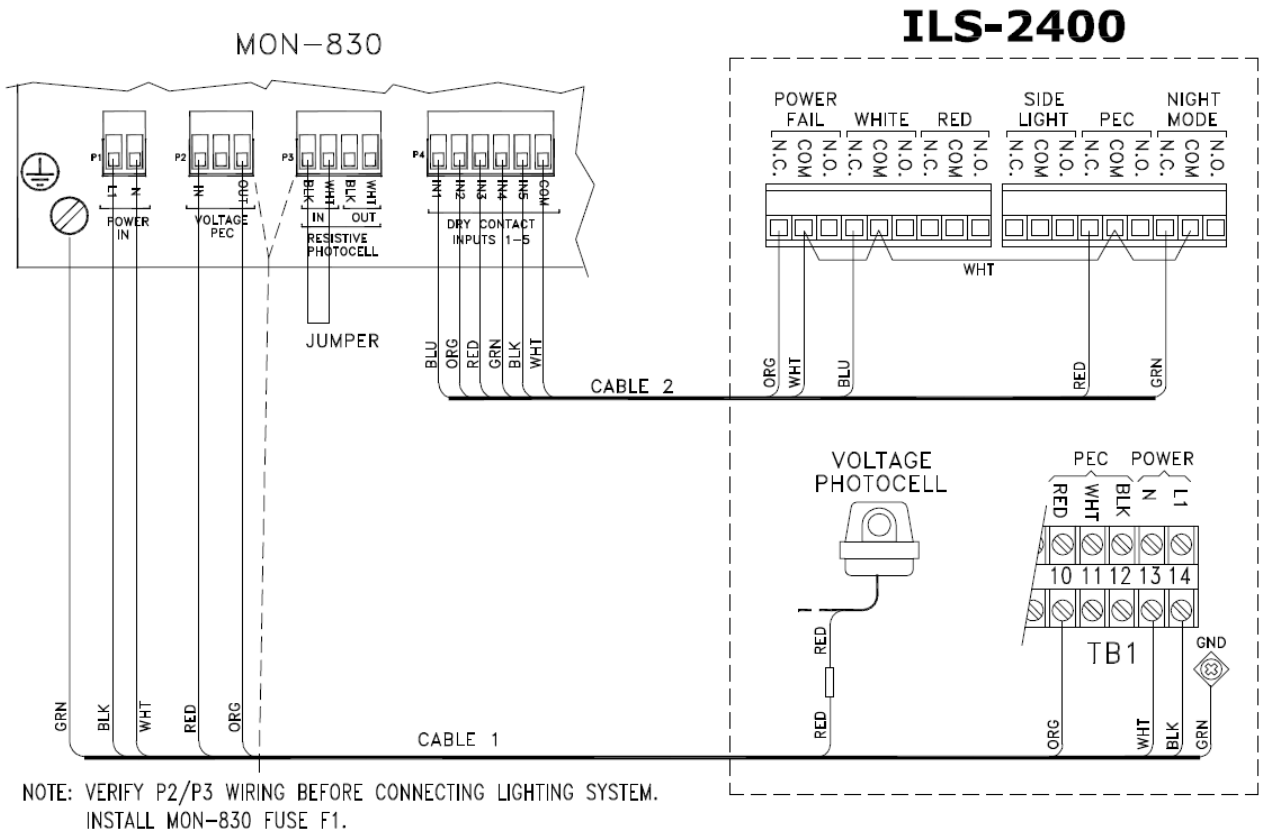

Figure 10: ILS-2400 Wiring Diagram

PC-324/312/311/310 Wiring Diagram

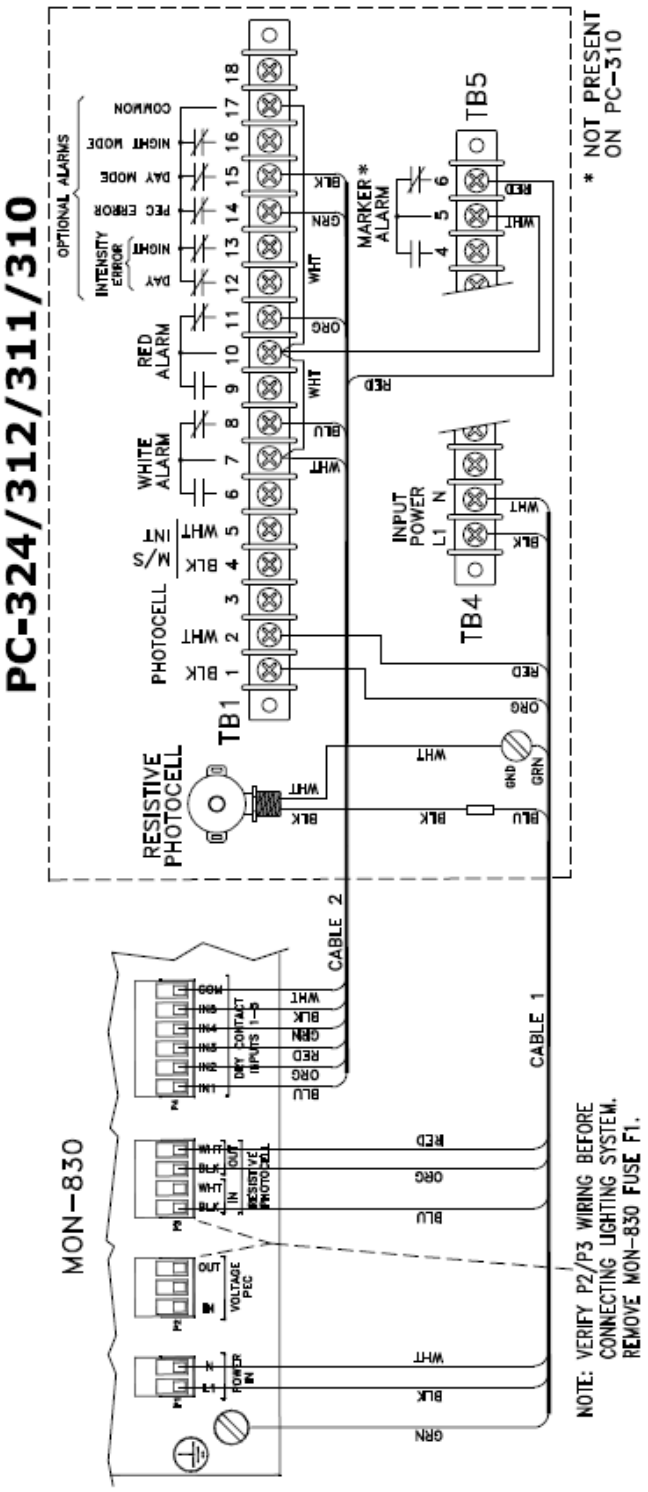

Figure 11: PC-324 / 312 / 311 / 310 Wiring Diagram

PC-324/312/311/310 Triple Beacon Wiring Diagram

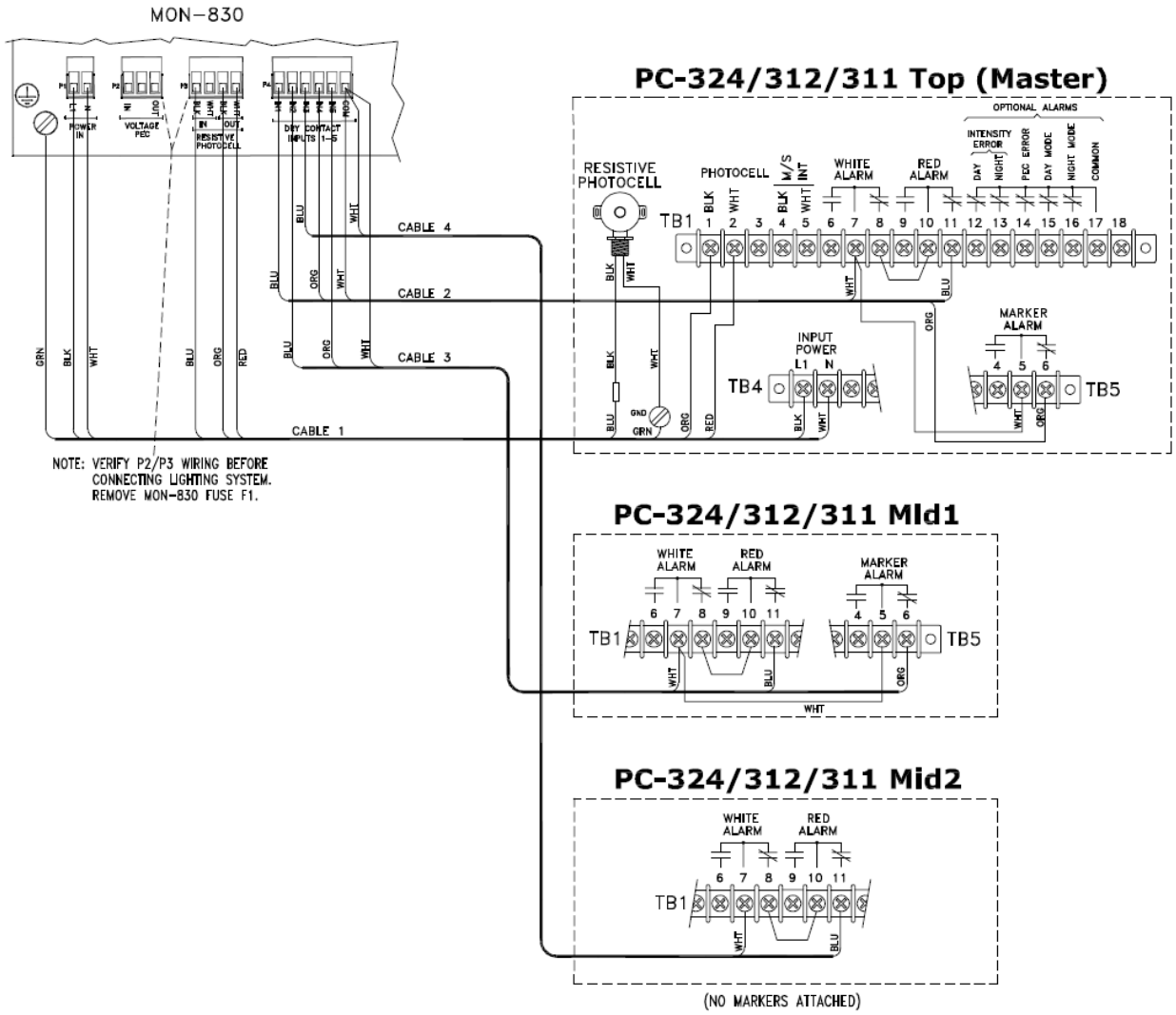

Figure 12: PC-324 / 312 / 311 / 310 Triple Beacon Wiring Diagram

FG-3000/3000B/2000/2000B Wiring Diagram

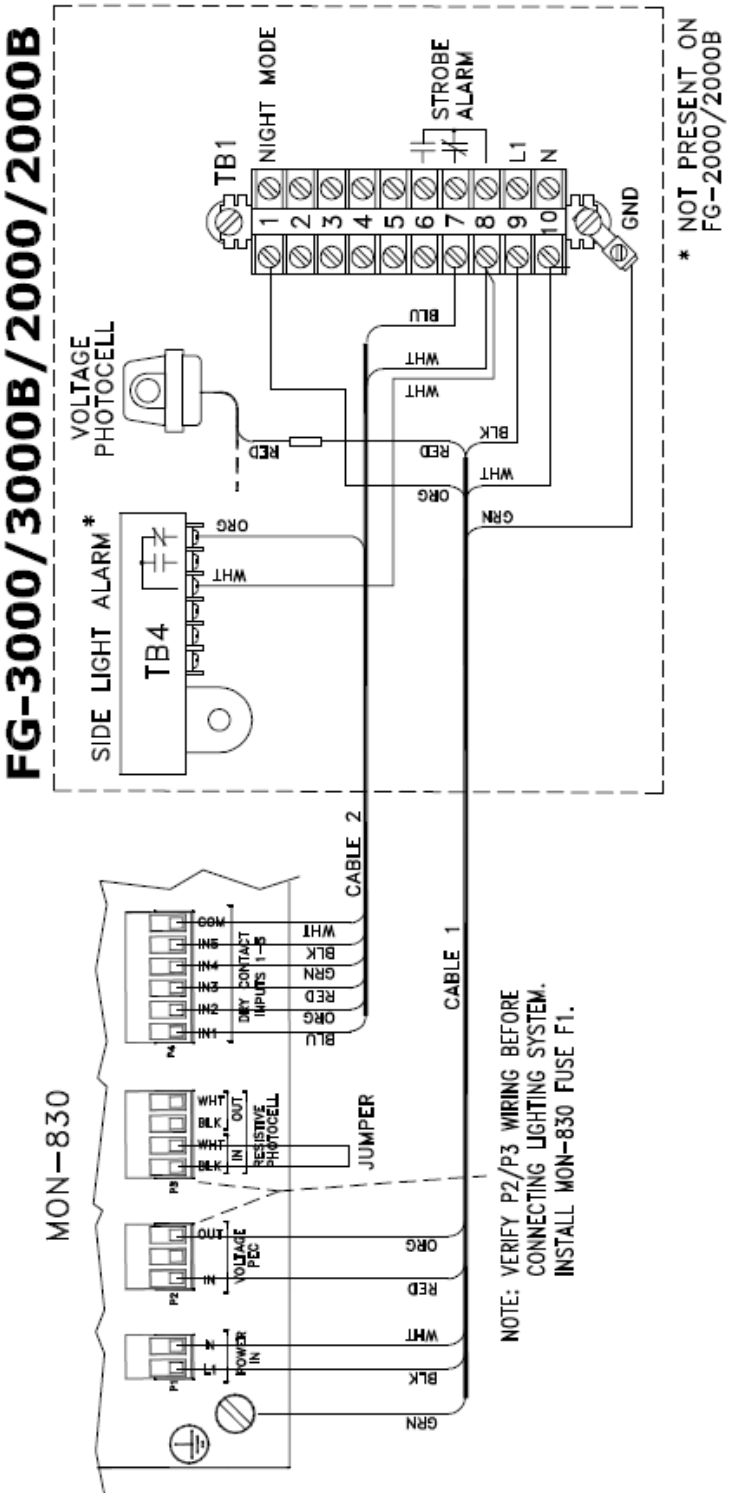

Figure 13: FG-3000/3000B/2000/2000B Wiring Diagram

FG-3000/3000B/2000/2000B Triple Beacon Wiring Diagram

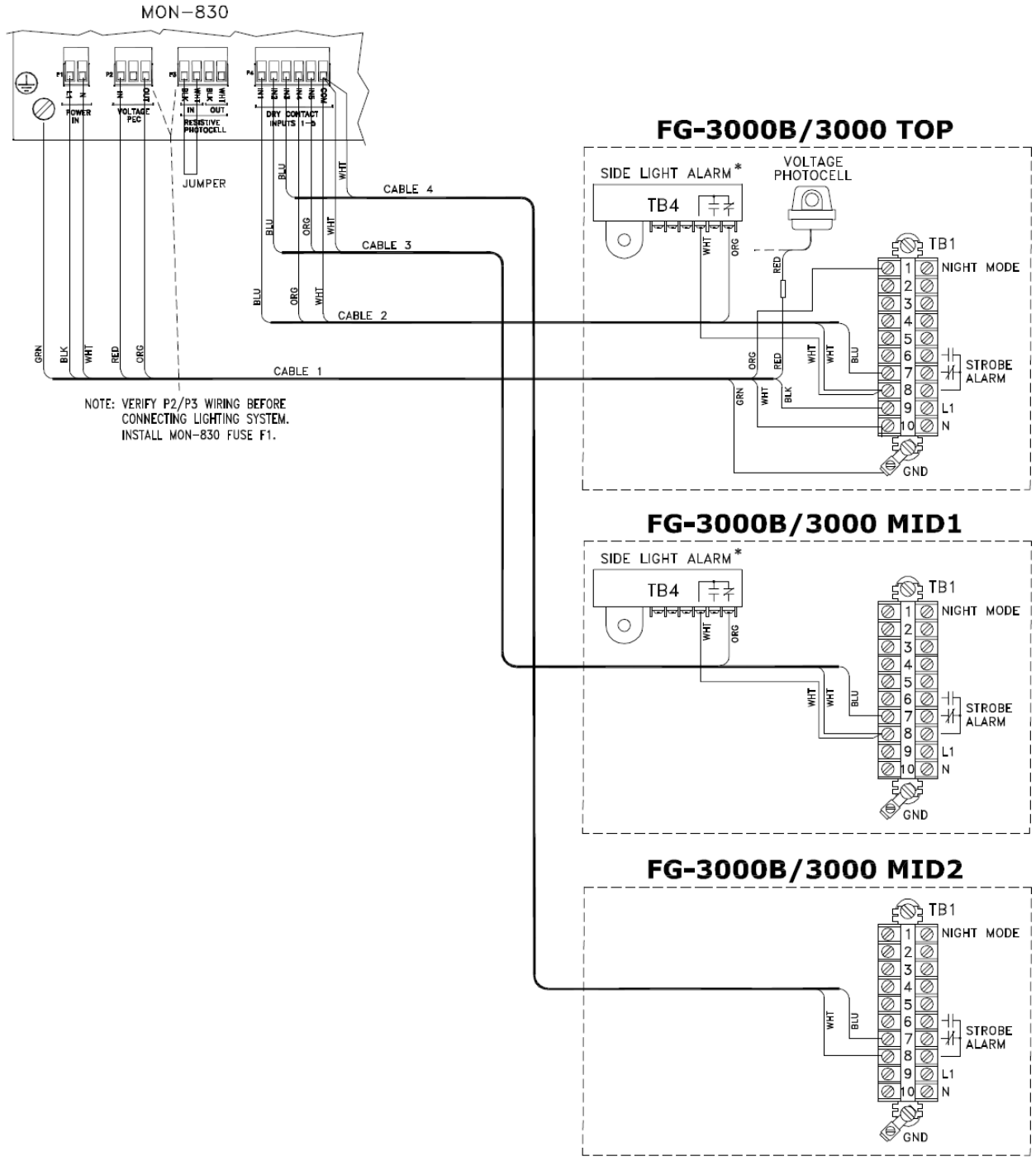

Figure 14: FG-3000/3000B/2000/2000B Triple Beacon Wiring Diagram

E-1DB Wiring Diagram

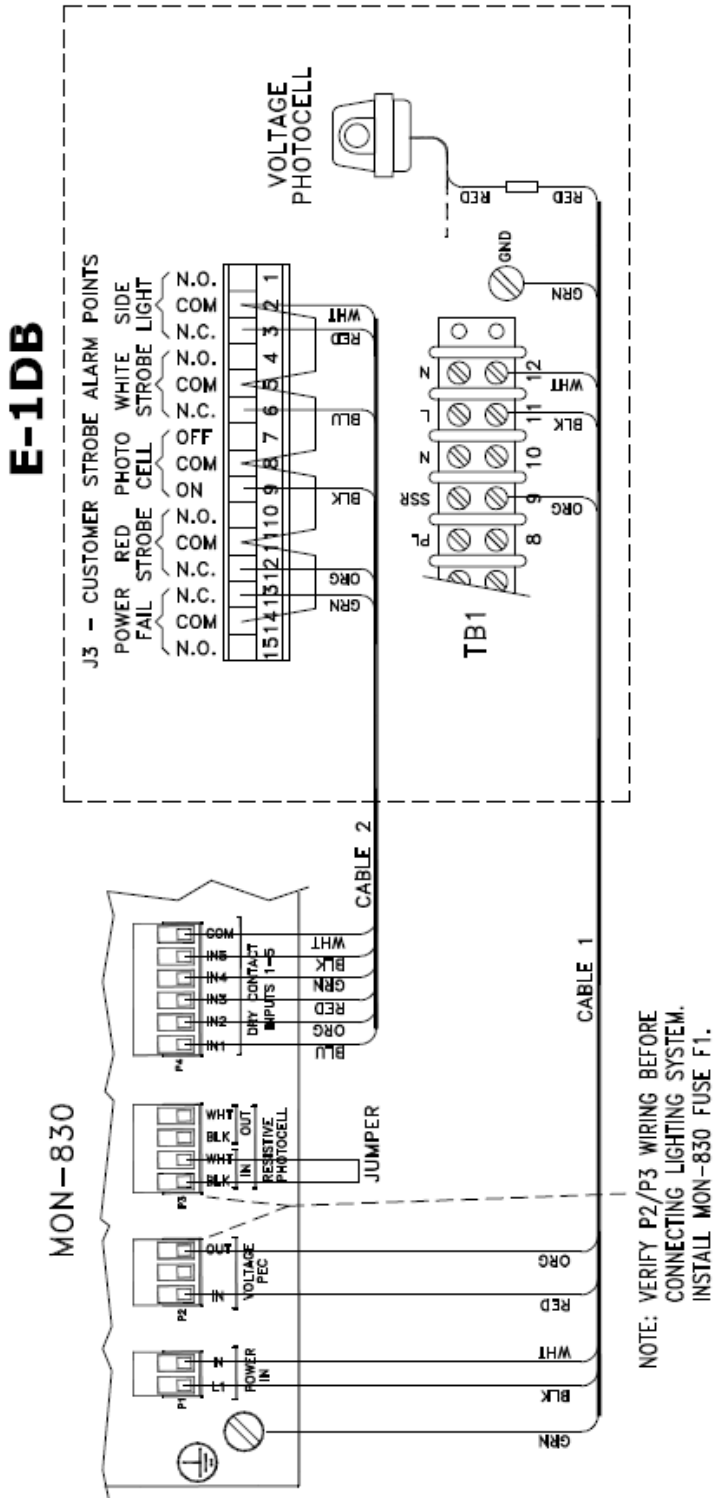

Figure 15: E-1DB Wiring Diagram

E-2/3DB Wiring Diagram

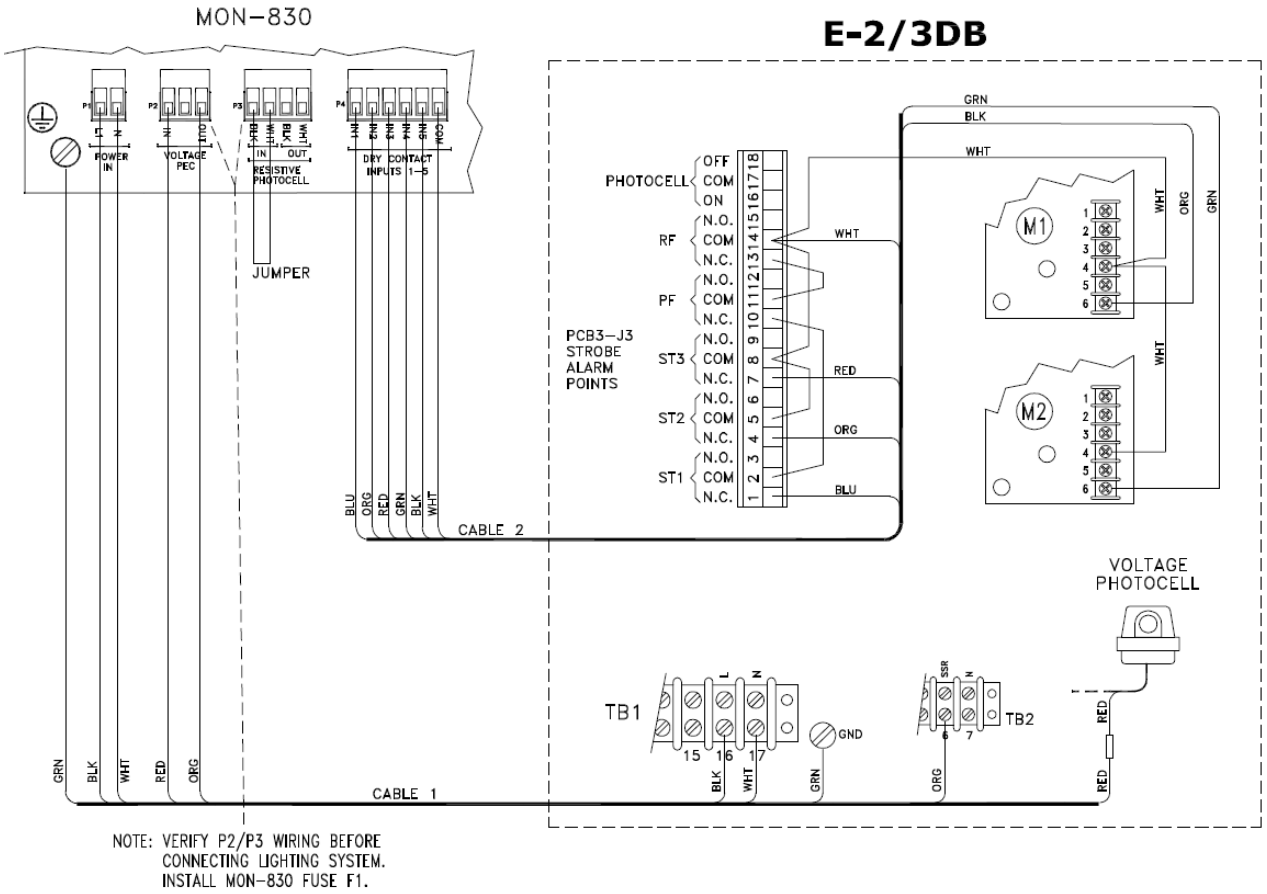

Figure 16: E-2/3DB Wiring Diagram

D-1LVS Wiring Diagram

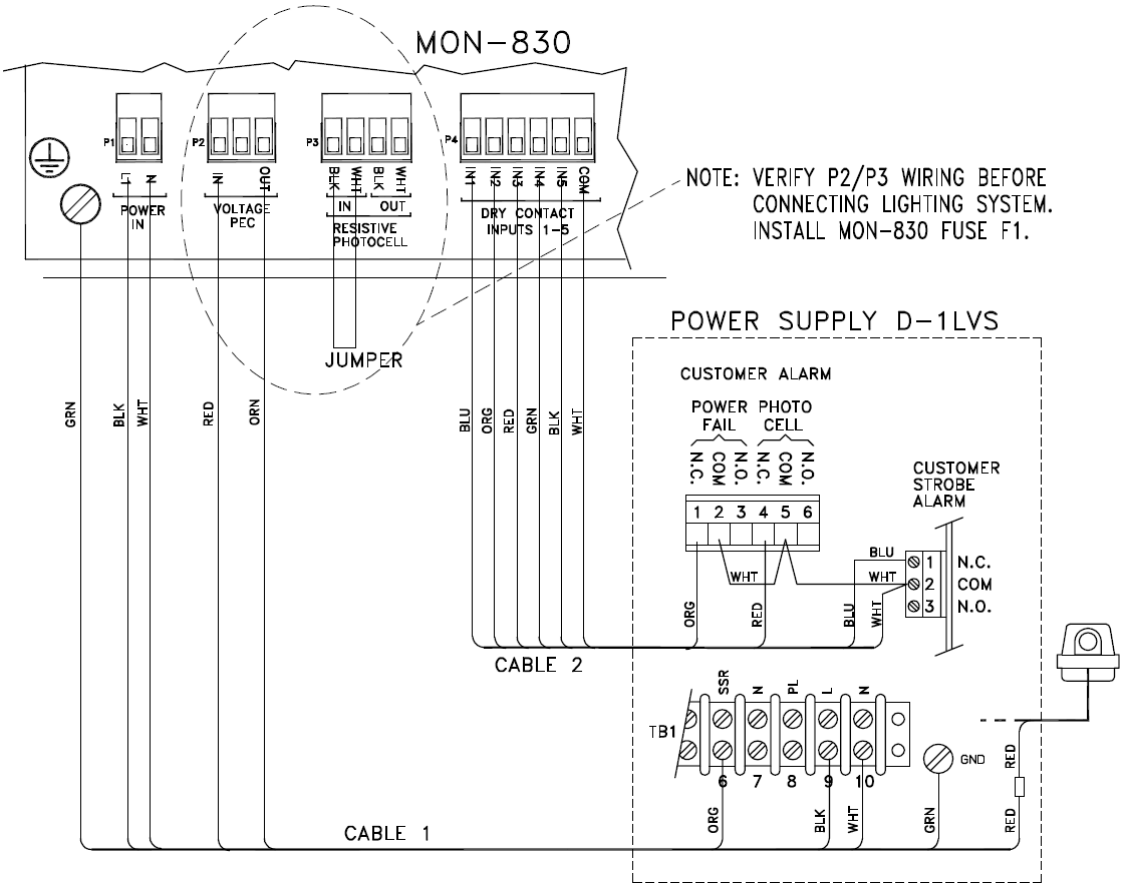

Figure 17: D-1LVS Wiring Diagram

A-1LVS Wiring Diagram

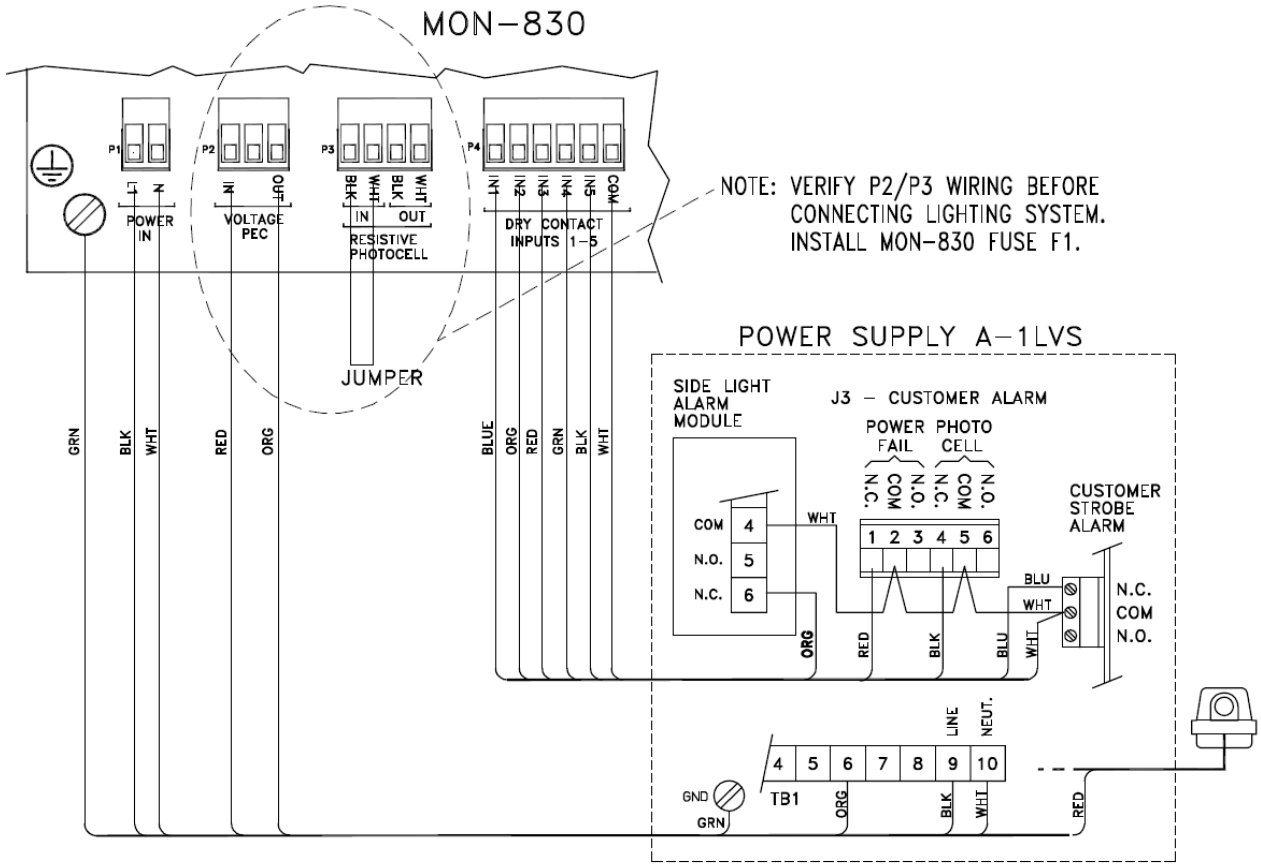

Figure 18: A-1LVS Wiring Diagram

A1 Wiring Diagram

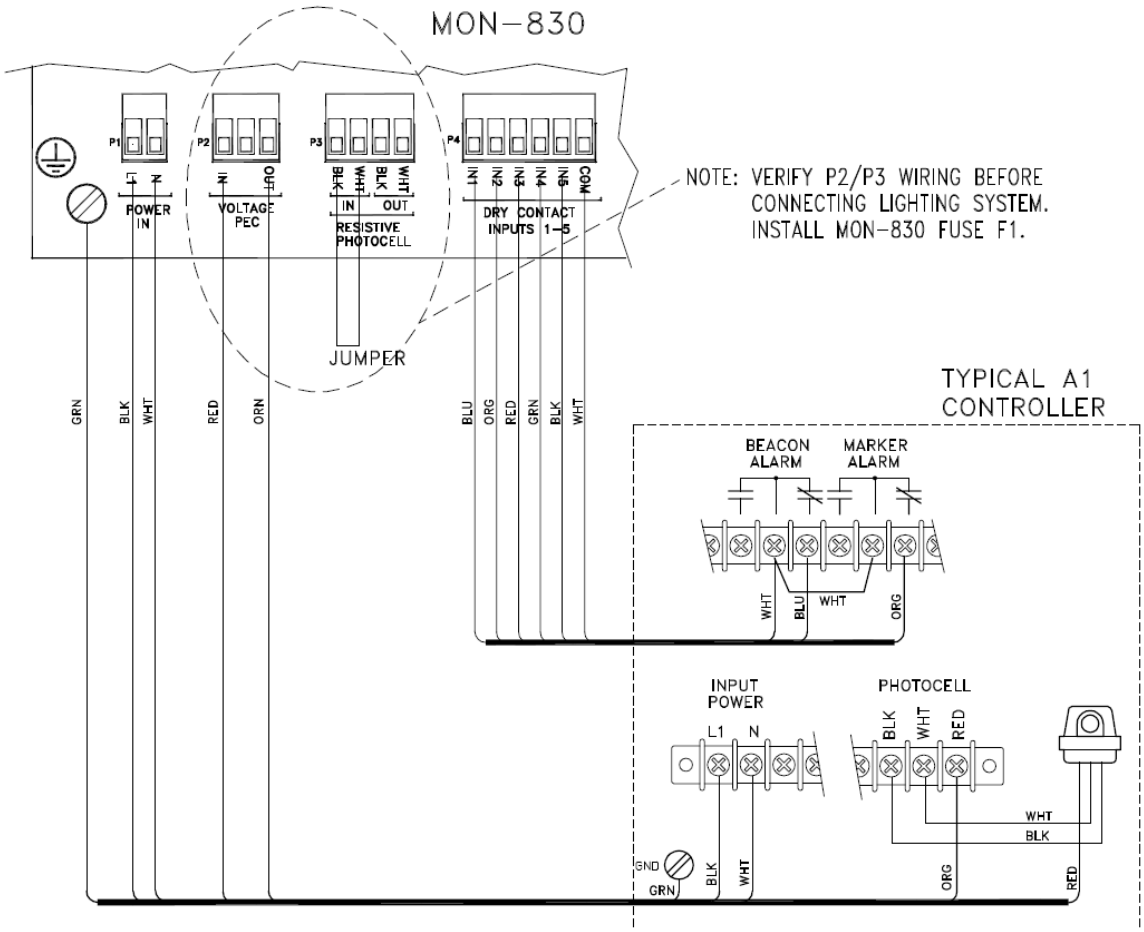

Figure 19: A1 Wiring Diagram

A2 Wiring Diagram

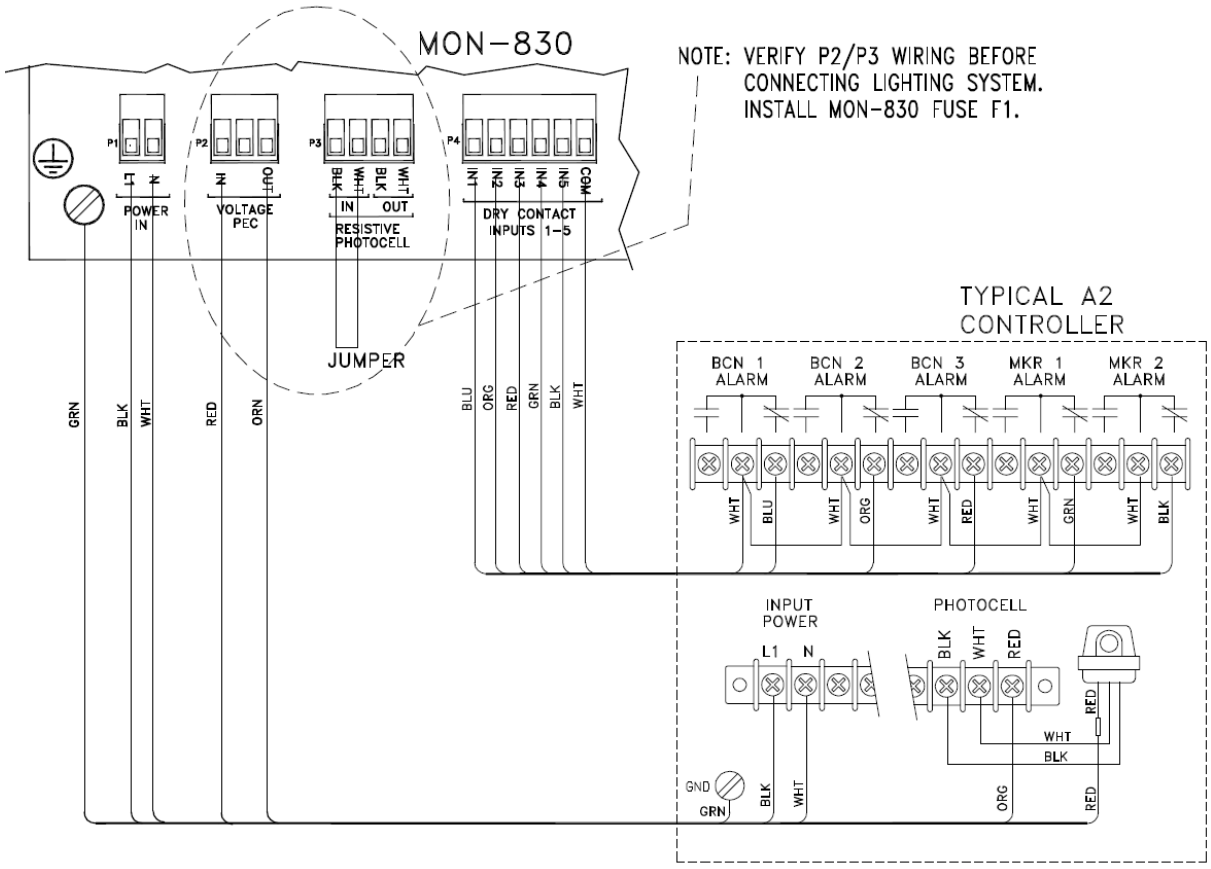

Figure 20: A2 Wiring Diagram

KG-225 Triple Beacon Wiring Diagram

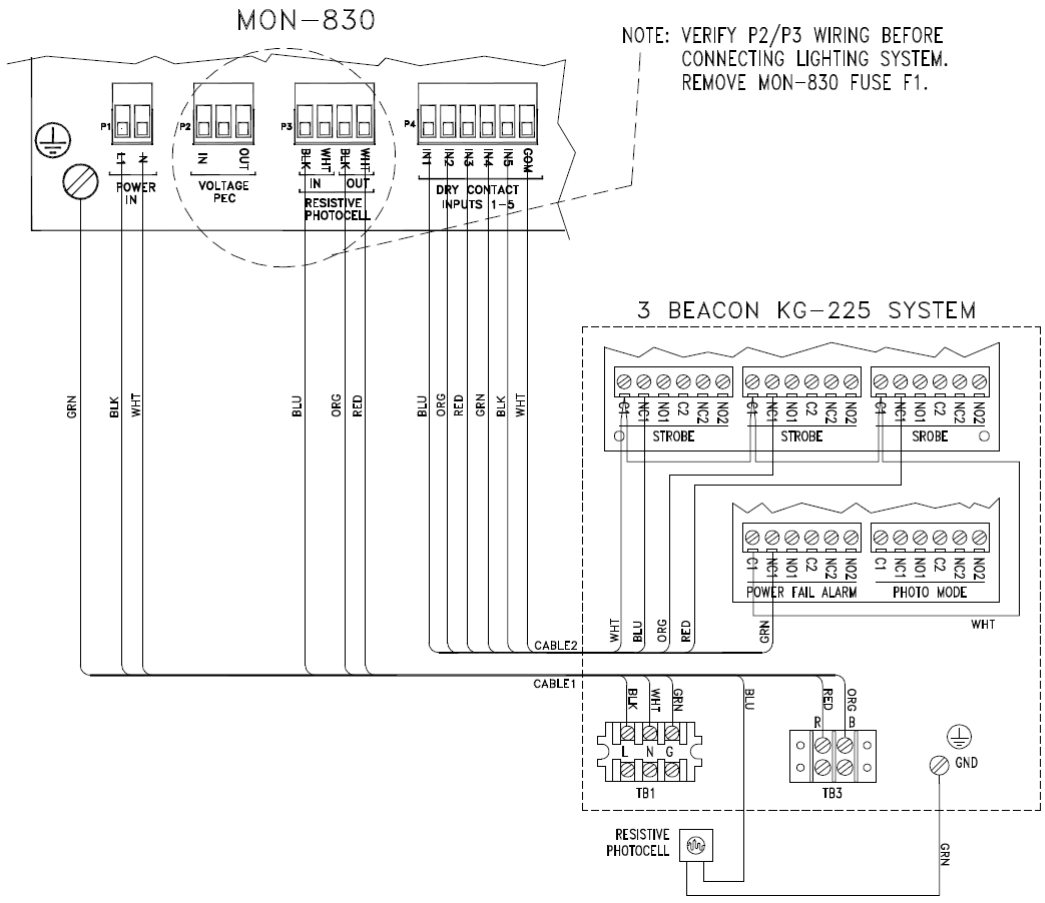

Figure 21: KG-225 Triple Beacon Wiring Diagram

RLC-201 Wiring Diagram

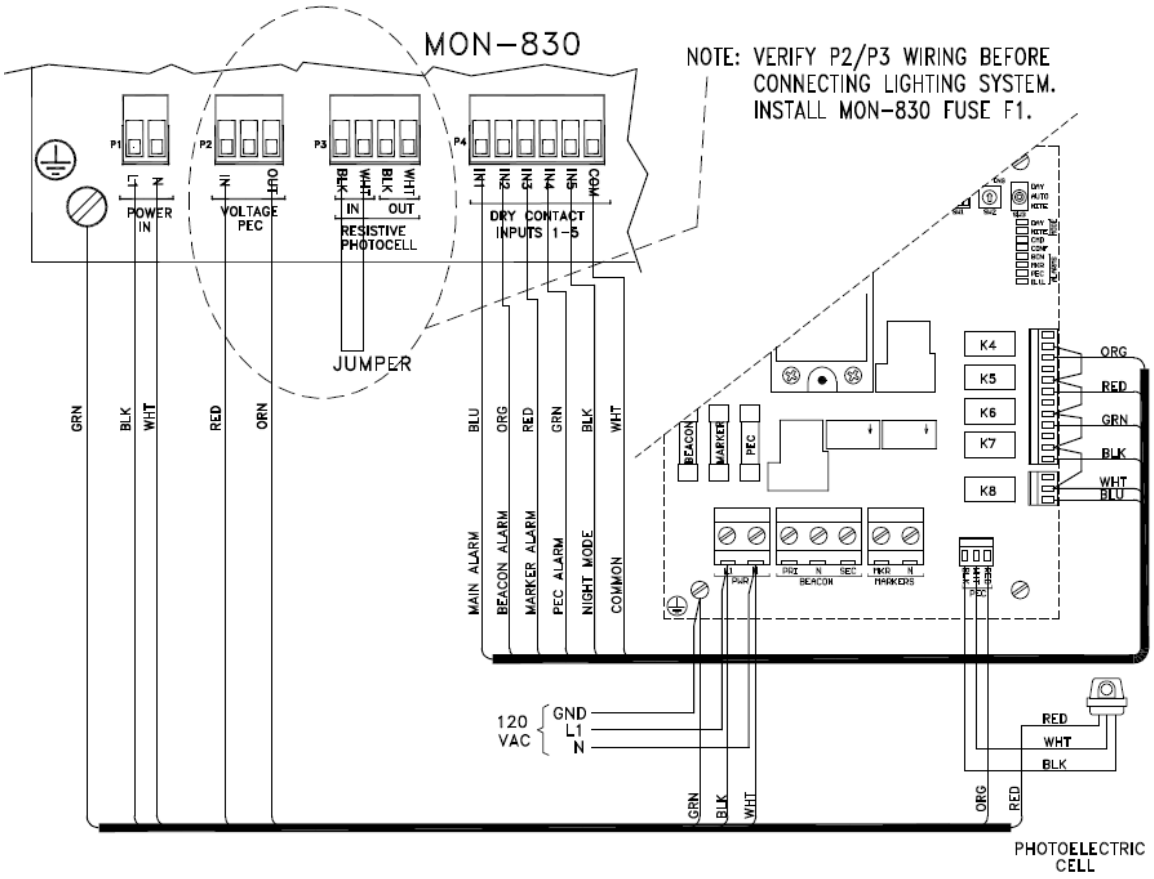

Figure 22: RLC-201 Wiring Diagram

Technical Support and Contact Info

Contact Info

For information on the ITL lighting systems' basic functions, refer to this manual and the accompanying drawings. 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

Monitoring System Info: http://www.itl-llc.com/monitoring-systems.html

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
3	Update cover sheet.	7/02/2012	Prepared By: Elke Hinson Approved By: Andy Rudolph