



# Installation Instruction Manual

MON-950

Monitoring  
System



Toll Free: +1 (866) 624-8309 • [www.itl-llc.com](http://www.itl-llc.com)



## Front Matter

### Copyright & Trademarks

Copyright © 2009-2015 by ITL, LLC. All rights reserved. This document contains proprietary information, photographs, graphics, and other material (collectively, "the Content") protected by copyright, and this manual and all accompanying hardware, software and documentation are copyrighted. No part of this document may be photocopied or reproduced by mechanical, electronic, or other means in any form without written consent of ITL, LLC.

*"International Tower Lighting, LLC", "ITL, LLC", MON-800, MON-805, MON-830, MON-920-LAN, MON-930, MON-940, ITL-920-LAN, ITL-0930, ITL-0940, ITL-0950, ADP OnSite, ADP Lite, ADP Standard, and ADP Enterprise, and the ITL logo are all trademarks of ITL, LLC. All other trademarks and brand names are the property of their respective proprietors.*

### Limited Warranty and Disclaimer

ITL, LLC guarantees that every MON-950 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.

In no event shall ITL, LLC's liability exceed the price paid for the product from direct, indirect, special, incidental, or consequential damages resulting from the use of the product, its accompanying software, or its documentation. ITL, LLC makes no warranty or representation, expressed, implied, or statutory, with respect to its products or the contents or use of this documentation and all accompanying software, and specifically disclaims its quality, performance, merchantability, or fitness for any particular purpose unless otherwise stated.

The technical documentation is being delivered to you AS-IS. ITL, LLC makes no warranty as to its accuracy or use. Any use of the technical documentation or the information contained therein is at the risk of the user. Documentation may include technical or other inaccuracies or typographical errors. ITL, LLC reserves the right to revise or update its products, software, or documentation without obligation to notify any individual or entity.

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.

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

Front Matter .....	2
Copyright & Trademarks .....	2
Limited Warranty and Disclaimer .....	2
Safety Warning .....	2
Battery Warning and Disposal .....	3
List of Illustrations and Tables .....	6
Introduction .....	8
Product Description .....	9
Specifications .....	10
Environment .....	10
Mechanical .....	10
Enclosure .....	10
Electrical .....	10
Model: MON-950-000 .....	10
Model: MON-950-24V (Option Available Upon Request) .....	10
Communication Module .....	10
Installation .....	11
Unpacking your Monitoring System .....	11
Tools for Installation .....	11
Quick Installation Guide .....	12
Mounting Enclosure Panel .....	13
Mounting Details for the Enclosure Panel .....	13
Circuit Board .....	14
1. ITL-0950 Circuit Board Assembly .....	14
A. Ethernet connection .....	15
B. Battery connection .....	15
C. Digi Modem Connection .....	16
2. LED Indicators .....	17
A. Communication and Mode .....	17
B. Inputs and Output Relays .....	18
C. Indicator Function .....	18
Input Connections .....	19
Web Pages .....	20
Alarm Page .....	21
PEC / Photocell .....	22
Input Configuration .....	23
Custom String Configuration .....	24
Output / Modem Control .....	25
Network / System Configuration .....	27
SNMP Configuration .....	29
SNMP .....	31

MIB .....	31
1. Object Identifiers (OIDs) and Names .....	33
System OIDs .....	33
Product OIDs .....	33
Trap Setup OIDs .....	34
Alarm OIDs .....	35
Installation Diagrams .....	36
ILS-3400 Wiring Diagram .....	36
ILS-3400 Triple Beacon Wiring Diagram .....	37
ILS-2400 Wiring Diagram .....	37
ILS-2400 Triple Beacon Wiring Diagram .....	39
ILS-1700-CAT Triple Beacon Wiring Diagram .....	40
ILS-1700-CAT Five Beacon Wiring Diagram .....	40
ILS-D1RW Wiring Diagram .....	42
ILS-D1RW Triple Beacon Wiring Diagram .....	43
FTB-324/312/311/310 Wiring Diagram .....	43
FTB-324/312/311 Triple Beacon Wiring Diagram .....	45
FG-3000/3000B/2000/2000B Wiring Diagram .....	46
FG-3000B/3000 Triple Beacon Wiring Diagram .....	47
FG-2000B/2000 Triple Beacon Wiring Diagram .....	48
E-1DB Wiring Diagram .....	49
E-1DB2 Wiring Diagram .....	50
E-1DBSL Wiring Diagram .....	51
D-1LVS Wiring Diagram .....	52
D-2/3LVS Wiring Diagram .....	53
E-2/3DB Wiring Diagram .....	54
E-2/3DBSL Wiring Diagram .....	55
AA0M-TSS Wiring Diagram .....	56
AA1-M Wiring Diagram .....	57
RLC-200 Wiring Diagram .....	58
Technical Support and Contact Info .....	59
Contact Info .....	59
RMA .....	59

List of Illustrations and Tables

Figure 1: Mounting Details and Dimensions of Enclosure Panel ..... 13

Figure 2: ITL-0950 Circuit Board ..... 14

Figure 3: ITL-0950 Ethernet Connection ..... 15

Figure 4: ITL-0950 Battery Connection..... 15

Figure 5: ITL-0950 Wireless Modem Connection ..... 16

Figure 6: ITL-0950 Communication Status LEDs ..... 17

Figure 7: ITL-0950 Dry Contact Input LEDs, Output Relays & LEDs..... 18

Figure 8: ITL-0950 Indicator Lights Description ..... 18

Figure 9: ITL-0950 Connections ..... 19

Figure 10: Web Browser Address Bar ..... 20

Figure 11: Alarms Page ..... 21

Figure 12: PEC/Photocell Page ..... 22

Figure 13: Input Configuration Page..... 23

Figure 14: Input Configuration Page..... 24

Figure 15: Output Relay and Modem Control Page..... 25

Figure 16: Network Configuration Page..... 27

Figure 17: SNMP Configuration Page ..... 29

Figure 18: SNMP Verbose Trap ..... 30

Figure 19: MON-950 MIB ..... 32

Figure 20: System OIDs ..... 33

Figure 21: Product OIDs..... 33

Figure 22: Trap Setup OIDs ..... 34

Figure 23: Alarm OIDs..... 35

Figure 24: ILS-3400 Wiring Diagram ..... 36

Figure 25: ILS-3400 Triple Beacon Wiring Diagram ..... 37

Figure 26: ILS-2400 Wiring Diagram ..... 38

Figure 27: ILS-2400 Triple Beacon Wiring Diagram ..... 39

Figure 28: ILS-1700-CAT Triple Beacon Wiring Diagram ..... 40

Figure 29: ILS-1700-CAT Five Beacon Wiring Diagram ..... 41

Figure 30: ILS-D1RW Wiring Diagram..... 42

Figure 31: ILS-D1RW Triple Beacon Wiring Diagram..... 43

Figure 32: FTB-324/312/311/310 Wiring Diagram ..... 44

Figure 33: FTB-324/312/311 Triple Beacon Wiring Diagram..... 45

Figure 34: FG-3000/3000B/2000/2000B Wiring Diagram ..... 46

Figure 35: FG-3000B/3000 Triple Beacon Wiring Diagram ..... 47

Figure 36: FG-2000B/2000 Triple Beacon Wiring Diagram ..... 48

Figure 37: E1DB Wiring Diagram ..... 49

Figure 38: E1DB2 Wiring Diagram ..... 50

Figure 39: E1DBSL Wiring Diagram ..... 51

Figure 40: D-1LVS Wiring Diagram ..... 52

Figure 41: D-2/3LVS Wiring Diagram ..... 53

Figure 42: E-2/3DB Wiring Diagram ..... 54

Figure 43: E-2/3DBSL Wiring Diagram..... 55

---

Figure 44: AA0M-TSS Wiring Diagram.....	56
Figure 45: AA1-M Wiring Diagram.....	57
Figure 46: RLC-200 Wiring Diagram .....	58

## Introduction

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

We trust that ITL's reputation for technical excellence, experience in product development, commitment to our customers and testing will ensure your complete satisfaction.

You have chosen one of the most technologically innovative monitoring systems for monitoring tower lighting systems available on the market today. This product is the result of many years of engineering with extensive input from field service personnel.

This manual covers both, the MON-0950-000 hardwired Ethernet based system and the MON-0950-DIGI wireless monitoring system.

Please take the time to read and familiarize yourself with this manual. It contains the information necessary to install, test and troubleshoot the MON-950 monitoring system.



## Product Description

ITL's MON-950 systems are designed to provide complete monitoring solutions for all types of tower lighting systems. The monitoring system's rich set of features is directly applicable to monitoring any type of strobe lighting system and red light controller system.

All MON-950 controllers are SNMP enabled and support SNMP v1 and SNMP v2c capabilities to allow for M2M communication. Additionally, the system has built-in web pages to provide a more intuitive human interface and is supported by most web browsers. The web pages include pre-defined templates for the most common tower lighting configurations for quick and reliable installation.

The MON-950 systems have ten 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 when needed. Both resistive and 120VAC powered photocells are supported. The MON-950 systems are pre-cabled for up to five dry-contact inputs and battery backup is included as a standard feature.

Both, hardwired Ethernet connection and wireless modem communication are supported.

Typical wireless applications include the use of a secure software tunnel provided by a third party for communication between the MON-950 (Agent) equipment and network management system (NMS) or SNMP manager.

## Specifications

### Environment

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

### Mechanical

#### Enclosure

Dimension	Height: 15.32" (389mm)
	Width: 13.30" (338mm)
	Depth: 7.00" (178mm)
Weight	14 lbs (6.4Kg) max

### Electrical

#### Model: MON-950-000

Input Power	120/240VAC at 60Hz, 12VA (max.)
Suppression	45 Joule, 275V, Input Power, Photocell
	45 Joule, 275V, Input Power, Photocell
	23 Joule, 275V, Dry Contact Inputs
Relay Outputs	120/230 VAC, 1 Amp, Form-C

#### Model: MON-950-24V (Option Available Upon Request)

Input Power	24VDC
Suppression	23 Joule, 275V, Dry Contact Inputs
Relay Outputs	120/230 VAC, 1 Amp, Form-C

### Communication Module

Digi Connect WAN  
Digi WR21

## Installation

The following section describes how to install the MON-950 series 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 shows how to install the MON-950 series monitoring systems. The guide provides only basic instructions to personnel familiar with these type of installations. 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-950 to tower lighting controller to be monitored using supplied harness
- Apply power to unit
- All input LEDs should be on solid or blinking
- Determine unit's IP number from either the LCD display .
- Use web browser to configure basic network settings

## Mounting Enclosure Panel

The MON-950 should be mounted to a properly grounded H-frame or a structure which provides a direct low impedance connection to earth ground.

The mounting can not 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

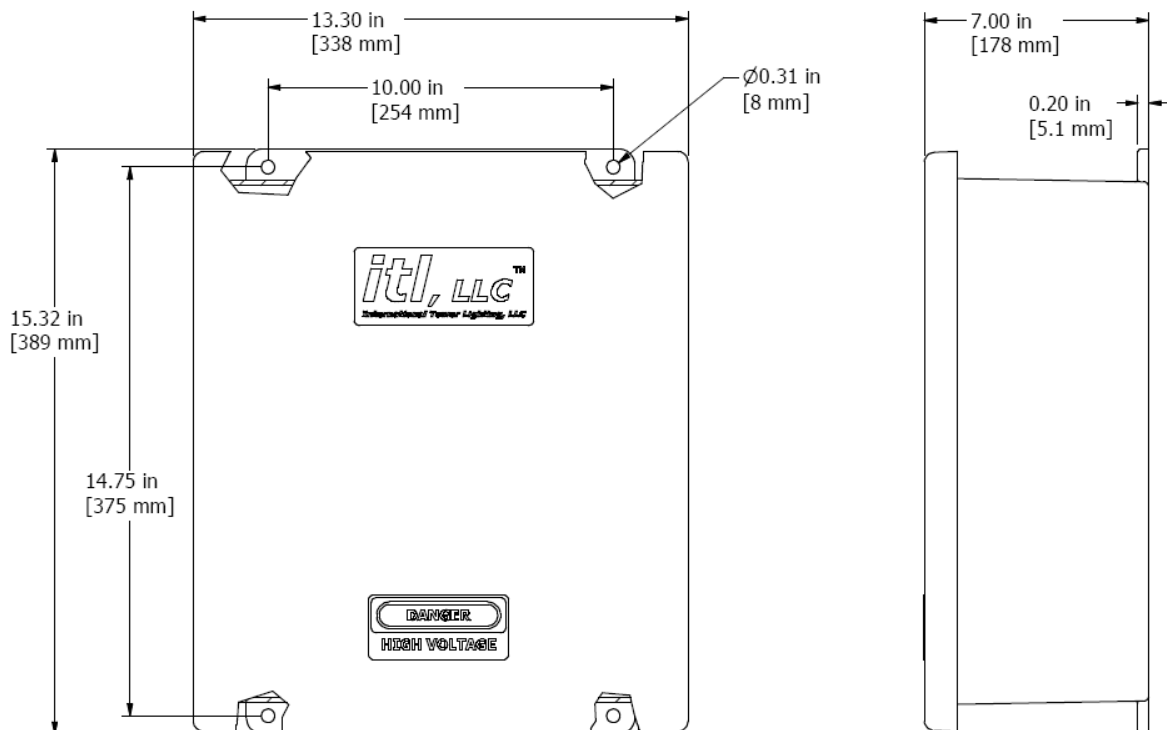


Figure 1: Mounting Details and Dimensions of Enclosure Panel

## Circuit Board

The following sections detail the MON-950 internal circuit board assembly.

### 1. ITL-0950 Circuit Board Assembly

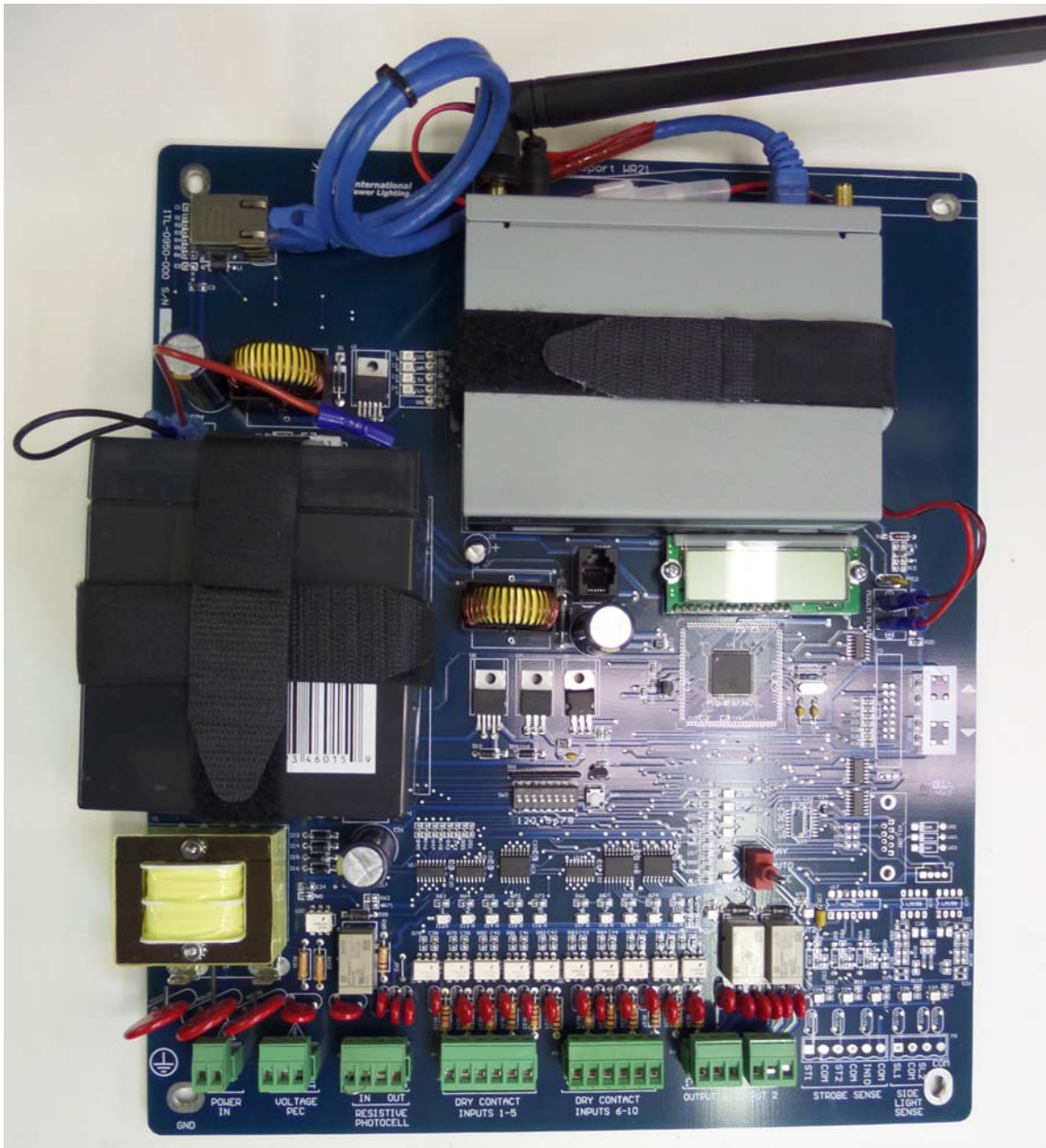


Figure 2: ITL-0950 Circuit Board

### A. Ethernet connection

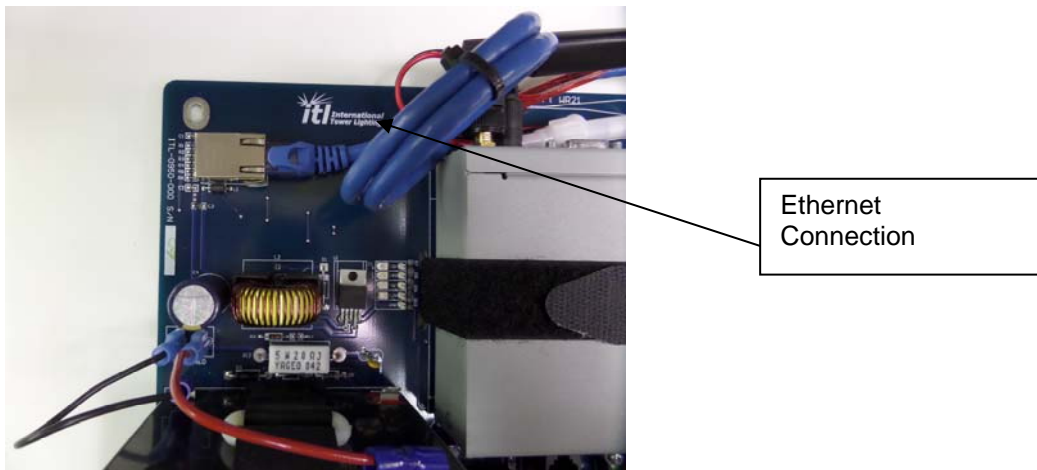


Figure 3: ITL-0950 Ethernet Connection

### B. Battery connection

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

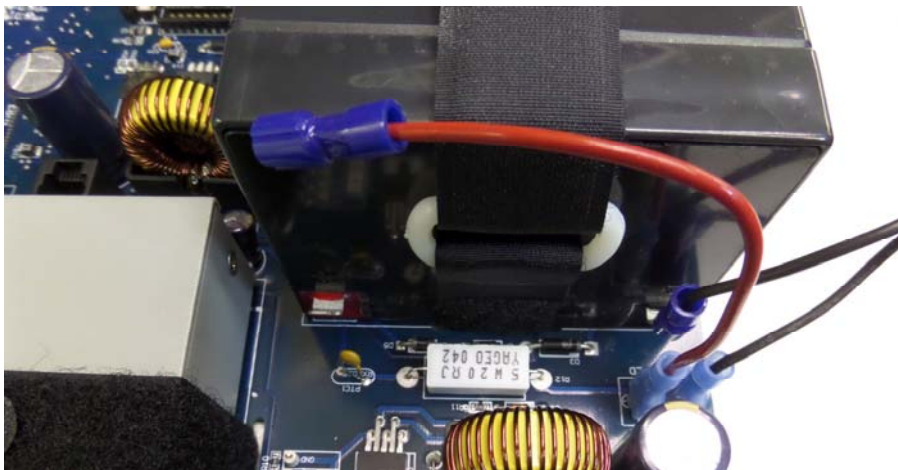
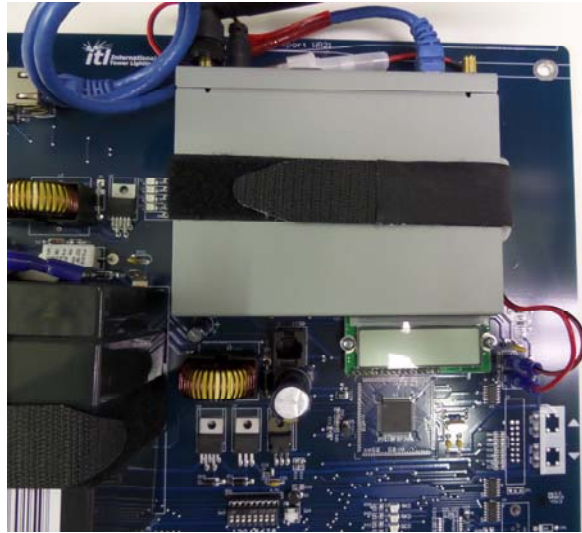


Figure 4: ITL-0950 Battery Connection

### C. Digi Modem Connection

Observe polarity when connecting and disconnecting the modem's power cord to the circuit board.



*Figure 5: ITL-0950 Wireless Modem Connection*



## 2. LED Indicators

### A. Communication and Mode

The Day/Nite LEDs will indicate the actual operating mode of the MON-950. Under normal conditions the board will follow the state of the PEC and/or Photocell inputs.

For diagnostics purposes the normal operating mode can be changed manually with the on-board Manual Mode Switch. The board will follow the Manual Mode Switch if it is not in Auto mode and blink the corresponding LEDs, indicating that it is no longer following the PEC / Photocell inputs. The Manual Mode Switch will automatically time out after 8 hours, the LEDs will stop blinking, and the board will revert to following the PEC and/or Photocell inputs.

The MON-950's operating mode can also be overridden remotely in which case the LEDs will also blink. This special mode will not time out since it can be changed remotely.

Both special modes will through an exception, i.e. send SNMP traps if enabled, and/or report alarms to ADP if available.

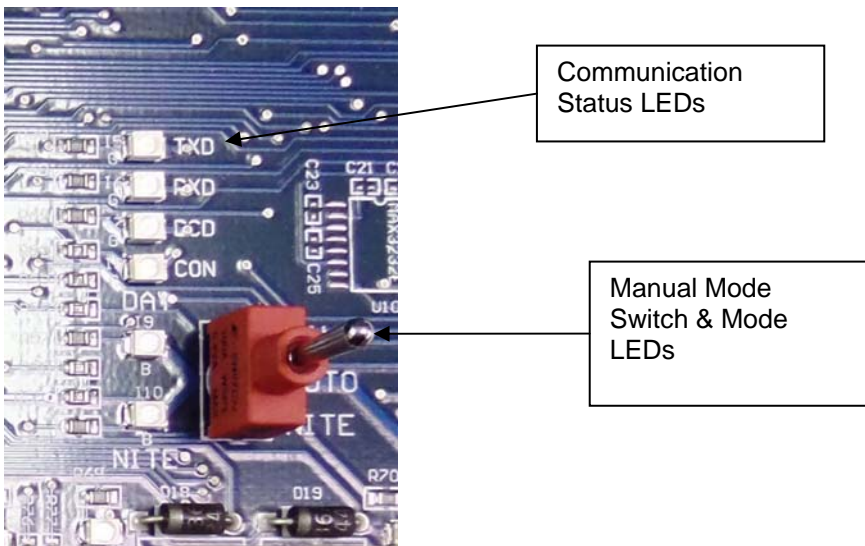


Figure 6: ITL-0950 Communication Status LEDs

## B. Inputs and Output Relays

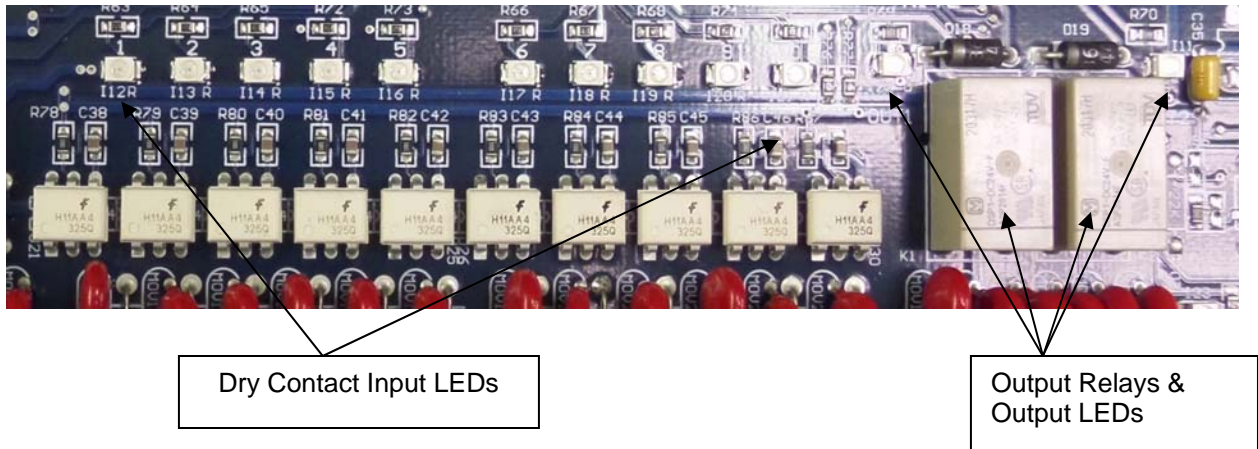


Figure 7: ITL-0950 Dry Contact Input LEDs, Output Relays & LEDs

## C. Indicator Function

Description	Function
INPUTS 1-10	Flashing – Alarm Steady – Status Input Active / Enabled Off – No Alarm / Status Input Not Active / Disabled
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-950 transmits data
RXD	On when the MON-950 receives data
DCD	Status of Data Carrier Detect
CON	On when the MON-950 establishes a communication connection

Figure 8: ITL-0950 Indicator Lights Description

## Input Connections

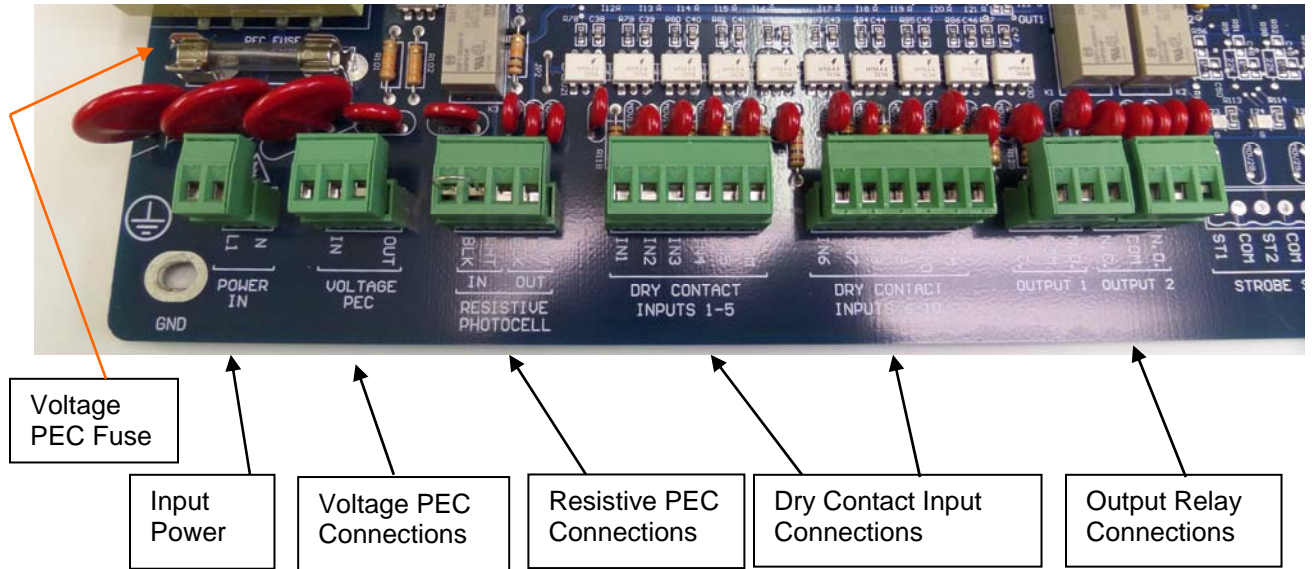
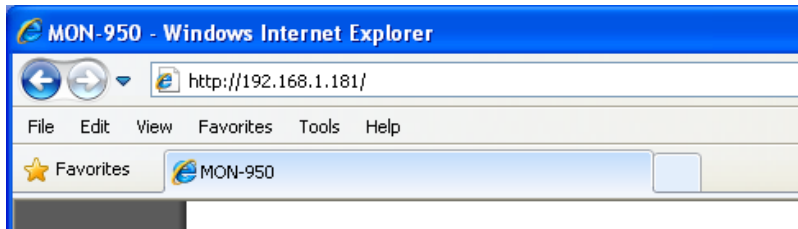


Figure 9: ITL-0950 Connections

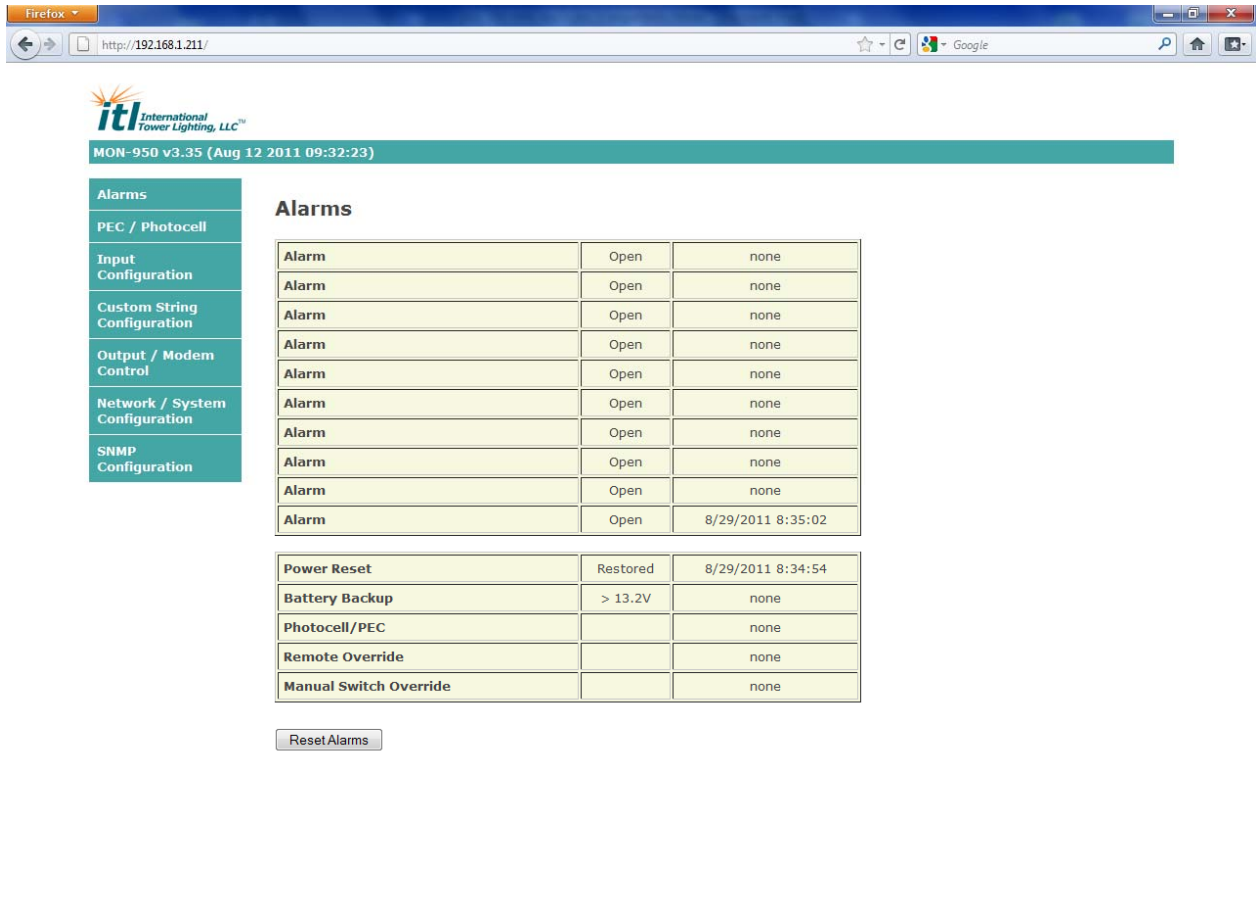
## Web Pages

The MON-950 has a built-in web pages for a more intuitive human interface. The web pages can be accessed with most web browsers by directly typing in the device's IP address into the browser's address bar. The IP address is indicated on the MON-950's on-board the LCD display. An example on how to access the product via a web browser is shown below:



*Figure 10: Web Browser Address Bar*

## Alarm Page



MON-950 v3.35 (Aug 12 2011 09:32:23)

**Alarms**

Alarm	Open	none
Alarm	Open	none
Alarm	Open	none
Alarm	Open	none
Alarm	Open	none
Alarm	Open	none
Alarm	Open	none
Alarm	Open	none
Alarm	Open	8/29/2011 8:35:02

Power Reset	Restored	8/29/2011 8:34:54
Battery Backup	> 13.2V	none
Photocell/PEC		none
Remote Override		none
Manual Switch Override		none

Copyright © 2009-2011 International Tower Lighting, LLC.

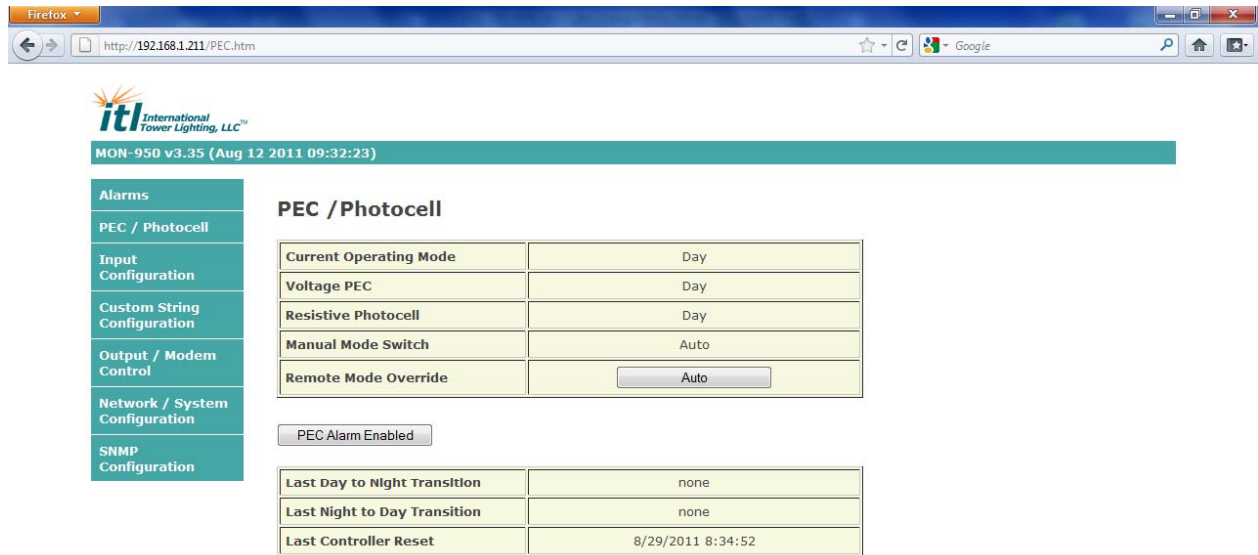
Figure 11: Alarms Page

The alarm page contains status of all input alarms, along with power, battery, remote override and PEC/Photocell status. Each entry will either indicate 'none' if no alarm exists or a timestamp when the alarm occurred. Additionally, an either *Open* or *Closed* state is indicated where applicable.

Alarms can be reset from this page.

The Alarm descriptions match the selections from the Input Configuration page. Table entries which are grayed indicate disabled inputs.

## PEC / Photocell



MON-950 v3.35 (Aug 12 2011 09:32:23)

**PEC / Photocell**

Current Operating Mode	Day
Voltage PEC	Day
Resistive Photocell	Day
Manual Mode Switch	Auto
Remote Mode Override	Auto

PEC Alarm Enabled

Last Day to Night Transition	none
Last Night to Day Transition	none
Last Controller Reset	8/29/2011 8:34:52

Copyright © 2009-2011 International Tower Lighting, LLC.

*Figure 12: PEC/Photocell Page*

The PEC/Photocell page displays the system’s operating mode along with PEC, Photocell, Manual Mode Switch and Remote Override Status. The system’s mode can be changed remotely through this page if needed for test purposes or in case of a PEC/Photocell failure.

The page also indicates the last time the system switched from Day to Night Mode, Night to Day Mode and the last time power has been restored to the controller.

## Input Configuration

MON-950 v3.35 (Aug 12 2011 09:32:23)

**Input Configuration**

	Description	Severity	Alarm	View Only	OFF	Alarm On Close	Input Delay [sec]
Input 1	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10
Input 2	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10
Input 3	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10
Input 4	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10
Input 5	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10
Input 6	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10
Input 7	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10
Input 8	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10
Input 9	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10
Input 10	Alarm	Major	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	10

**Equipment Selection**

	Additional Description
Custom Configuration	

Save Inputs Config

Copyright © 2009-2011 International Tower Lighting, LLC.

Figure 13: Input Configuration Page

- The Input Configuration page provides access to the MON-950's built-in templates for selecting different manufactures' lighting systems to match this manual's included installation diagrams. Once a template has been selected those inputs cannot be further changed with the exception of the Input Delay. All remaining unused inputs can be disabled or assigned to monitor additional devices' dry contacts.
- Custom Input Strings that have been saved will be listed in the top ten spots of the Menus on each input.
- Copper Theft alarm will take over the contact for Output 2 giving connections for user supplied external sirens and/or lights.

This page will require a password to access. The default factory login/password is *admin / itl*

## Custom String Configuration

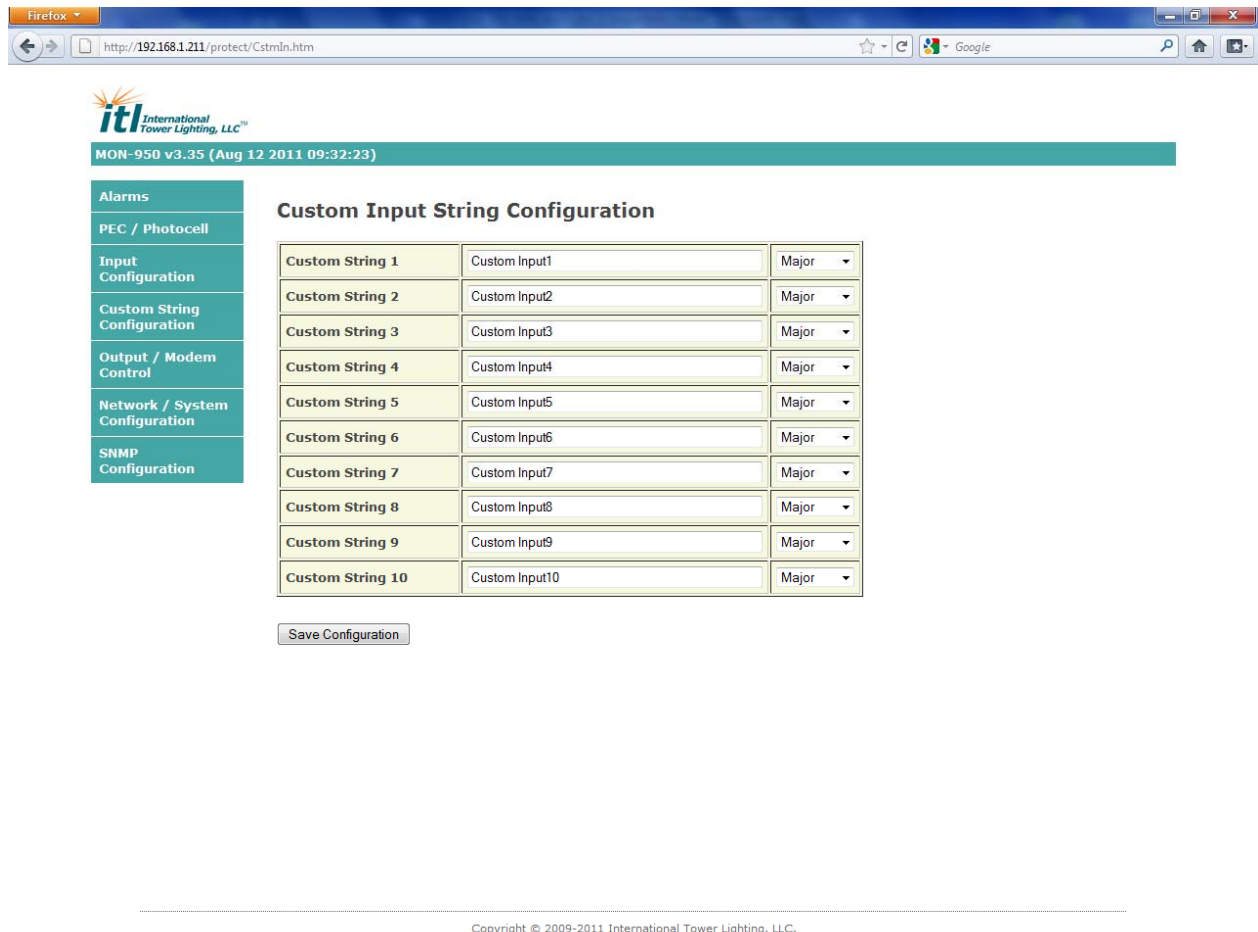


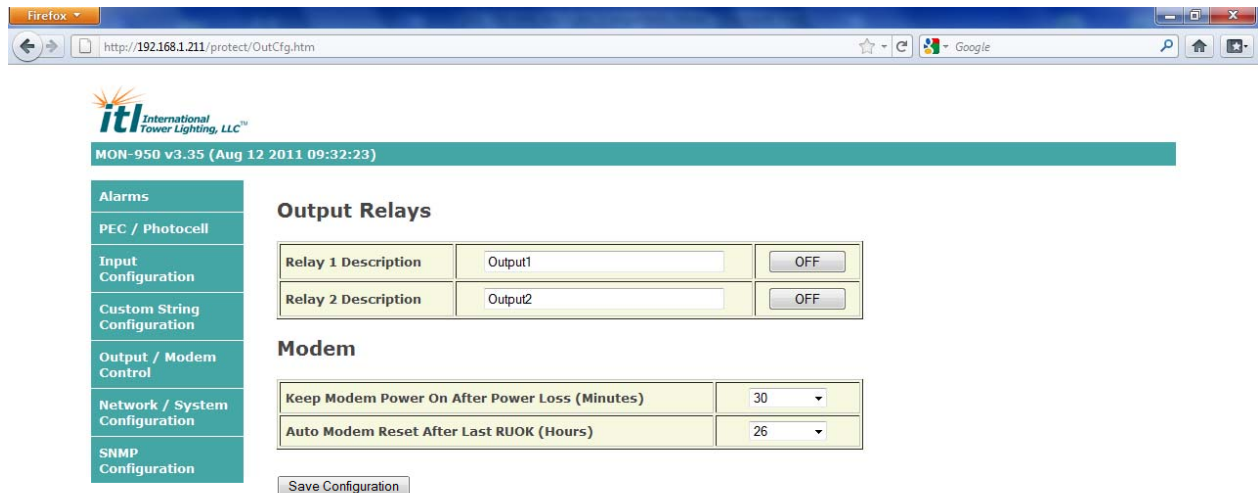
Figure 14: Input Configuration Page

The Custom String Configuration page provides access to the MON-950's ten optional user defined alarm strings. If a Custom input is needed the user can name and set the severity of the input choice. Once a name and severity have been added the user must save and this will allow them to select it on the dropdown menu from the Input Configuration page.

This page will require a password to access. The default factory login/password is *admin / itl*



## Output / Modem Control



Copyright © 2009-2011 International Tower Lighting, LLC.

Figure 15: Output Relay and Modem Control Page

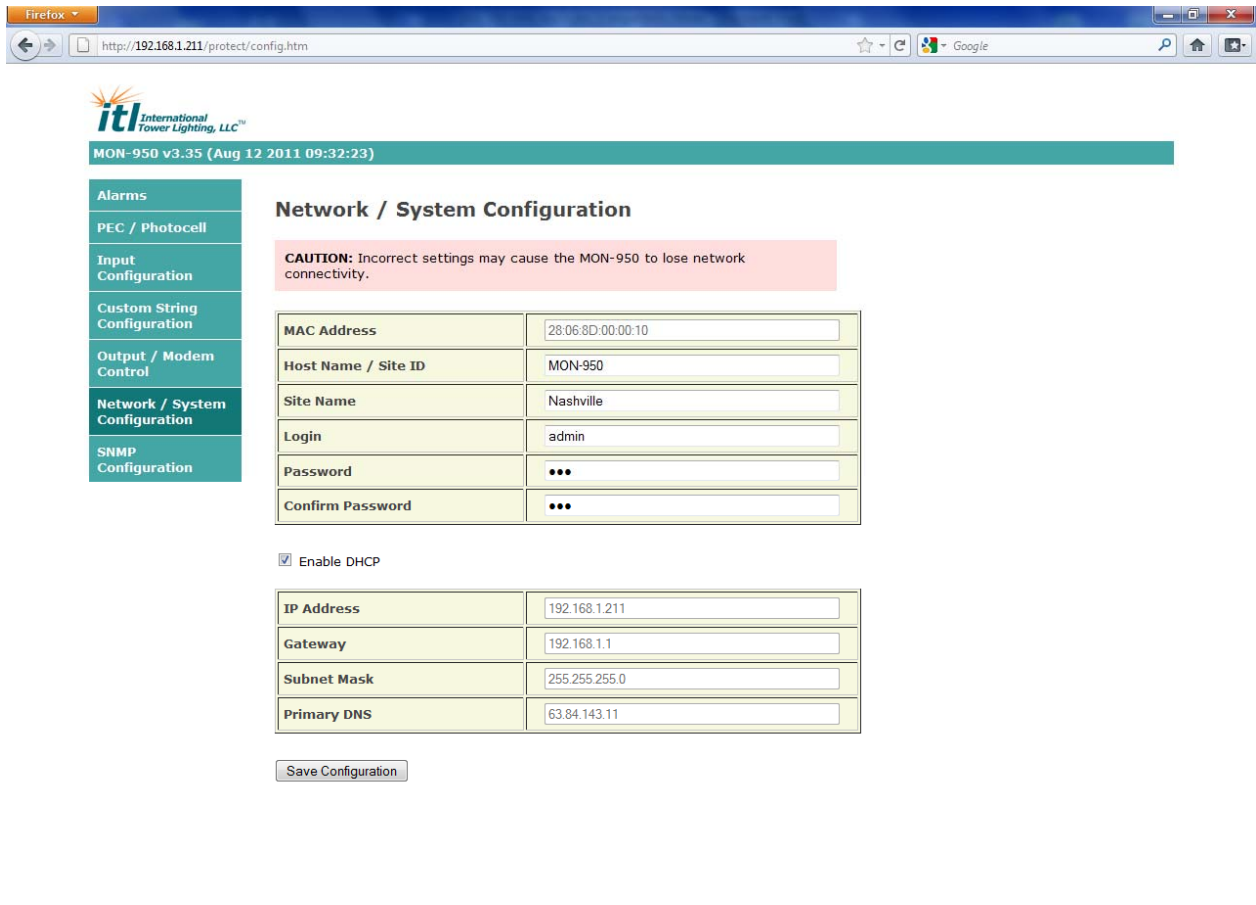
This page provides access to the MON-950's two Form-C output relays which can be utilized as needed for custom applications. For convenience a custom description can be added to further detail the function of each relay.

The page also controls how long the modem (if connected) should remain on after a primary power loss. By default, the MON-950 will shut the modem down 10 minutes after a power loss in order to extend the time the unit can operate without draining the battery. As long as primary input power is not present, the unit will remain in shutdown but awake every 12 hours to re-report alarms.

The Auto Modem Reset option controls the interval at which the MON-950 will perform an automatic internal modem reset after it last communicated with a remote NMS manager. This will assure that the modem will typically reset at least once every 24 hours.

This page will require a password to access. The default factory login/password is *admin* / *itl*

## Network / System Configuration



Copyright © 2009-2011 International Tower Lighting, LLC.

Figure 16: Network Configuration Page

This page provides access to the basic network settings. The *Host Name / Site ID* and *Site Name* are both included for reporting verbose SNMP traps.

### Default Settings Are:

- DHCP = Disabled
- IP Address = 192.168.1.191
- Gateway = 192.168.1.1
- Subnet Mask = 255.255.255.0

This page will require a password to access. The default factory login/password is *admin* / *itl*

## SNMP Configuration

MON-950 v3.35 (Aug 12 2011 09:32:23)

**SNMP Agent Configuration**

Trap IP Address 1	192.168.1.144	<input checked="" type="checkbox"/> Enable
Trap IP Address 2	0.0.0.0	<input type="checkbox"/> Enable

Enable Verbose Traps

Save SNMP Config    Download MON-950 MIB

Copyright © 2009-2011 International Tower Lighting, LLC.

*Figure 17: SNMP Configuration Page*

This page allows for setting SNMP destination IP addresses for sending SNMP traps. The enable option must be checked for traps to be sent.

*Enable Verbose Traps* will send SNMP traps in human readable format rather than numeric. Verbose Traps follow the format

SiteID : SiteName : AlarmDescription : Severity

An example is shown in Figure 18 below.

<b>Source:</b>	192.168.1.11	<b>Timestamp:</b>	3 seconds	<b>SNMP Version:</b>	1
<b>Enterprise:</b>	.iso.org.dod.internet.private.enterprises.itl				
<b>Specific:</b>	1				
<b>Generic:</b>	enterpriseSpecific				
<b>Variable Bindings:</b>					
<b>Name:</b>	.iso.org.dod.internet.private.enterprises.itl.alarmMIB.alarmTable.alarmEntry.alarmDescription.0				
<b>Value:</b>	[OctetString] TN00100-A:ENA Airport 2:Power Alarm:Major				
<b>Description:</b>					

*Figure 18: SNMP Verbose Trap*

This page will require a password to access. The default factory login/password is *admin / itl*

## SNMP

Besides the MON-950's intuitive web interface the system can also act as a SNMP agent for administrators to query configuration and status of the unit.

The SNMP enabled MON-950 supports both, SNMP v1 (RFC 1157) and community based SNMP v2c (RFC 3416) application layer protocols over User Datagram Protocol (UDP) transport layer, in order exchange information between the MON-950 (agent) and a central SNMP manager or Network Management System (NMS).

The agent uses UDP Port 161 to respond (listen) to the SNMP manager and UDP Port 162 to send traps and notifications to the SNMP manager. Get, Get\_Bulk, Get\_Next, Set and Trap Protocol Data Units (PDUs) are supported.

## MIB

File *950-ANS1.MIB* contains the MON-950 reference MIB with information relating to the MON-950 in Abstract Syntax Notation Version 1 (ASN.1) format. The file is not part of the agent and can be obtain separately from ITL, LLC's technical support group via email.

Figure 19 below details the 950-ANS1.MIB tree

The image shows a tree view of SNMP MIBs. The root is 'MIB Tree', which branches into 'SNMPv2-MIB.iso.org.dod.internet' and 'ITL.iso.org.dod.internet.private.enterprises.itl'. Under the ITL branch, there are folders for 'product' and 'alarmMIB'. The 'product' folder contains 'prodName', 'prodVersion', and 'prodDate'. The 'alarmMIB' folder contains 'alarmTable', 'alarmEntry', 'alarmIDNumber', 'alarmState', 'alarmAcknowledged', and 'alarmDescription'. The 'alarmDescription' object is highlighted with a blue selection box. Below the tree view is a table with properties for 'alarmDescription'.

Name	alarmDescription
OID	.1.3.6.1.4.1.35367.4.1.1.4
MIB	ITL
Syntax	DisplayString (SIZE (0..39))
Access	read-only
Status	mandatory
DefVal	
Indexes	trapReceiverNumber
Descr	Alarm Description

Figure 19: MON-950 MIB



## 1. Object Identifiers (OIDs) and Names

With the exception of system Object Identifiers (OIDs), all MON-950 OIDs will start with the ITL enterprise specific group number, IEEE Organizationally Unique Identifier (OUI), 43.6.1.4.1.35367 and branch from there as indicated below. The following objects are provided.

### System OIDs

The following OIDs are read only and follow the

OID Branch: iso(1).org(3).dod(6).internet(1).mgmt(2).system(1)

OID	Name	Description
1.3.6.1.2.1.1.1	sysDescr	Description
1.3.6.1.2.1.1.2	sysObjectID	Object ID
1.3.6.1.2.1.1.3	sysUpTime	Up Time
1.3.6.1.2.1.1.4	sysContact	Contact
1.3.6.1.2.1.1.5	sysName	Name
1.3.6.1.2.1.1.6	sysLocation	Location
1.3.6.1.2.1.1.7	sysServices	Services

Figure 20: System OIDs

### Product OIDs

The following OIDs are read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.1.1	prodName	Site ID
1.3.6.1.4.1.35367.1.2	prodVersion	Firmware Version
1.3.6.1.4.1.35367.1.3	prodDate	Firmware Date

Figure 21: Product OIDs

## Trap Setup OIDs

The MON-950 supports sending traps to up to two destination IP addresses. Traps can be enabled and configured through a SNMP manager or the MON-950's build-in web pages. If enabled, traps are sent for any change-of-state of MON-950 parameters which have been configured through the web pages.

Traps are automatically retransmitted until they have been acknowledged (see Alarm OIDs). The MON-950 will retransmit traps in the following time interval until acknowledged: 1 minute, 5 minutes, 15 minutes, 30 minutes, 1 hour, 1 hour ... for a total of 24 hours. After 24 hours the timer will be reset and the sequence will repeat in the same order as long as the event causing the trap is still present or active.

The following OIDs are read / write with the exception of the trap index which is read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.2.1.1.1	trapReceiverNumber	Trap Index, 0..1
1.3.6.1.4.1.35367.2.1.1.2	trapEnabled	Trap Enable, 0..1
1.3.6.1.4.1.35367.2.1.1.3	trapReceiverIPAddress	Trap Destination IP, 0..1

Figure 22: Trap Setup OIDs

## Alarm OIDs

Only the acknowledge OID is read/write, all other OIDs are read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.4.1.1.1	alarmIDNumber	Alarm Index, 1..14
1.3.6.1.4.1.35367.4.1.1.2	alarmState	Alarm Active, 1..14 (0=inactive, 1=active)
1.3.6.1.4.1.35367.4.1.1.3	alarmAcknowledged	Alarm Acknowledge, 1..14 (0=not acknowledged, 1=acknowledged)
1.3.6.1.4.1.35367.4.1.1.4	alarmDescription	Alarm Description, ASCII string
1.3.6.1.4.1.35367.4.2	heartBeat	12 hour alive-trap

*Figure 23: Alarm OIDs*

Alarms are acknowledged by issuing a SNMP Set to the corresponding OID. This will prevent the alarm from being resent unless the alarm re-occurs.

## Installation Diagrams

The following section details various installation diagrams for connecting the MON-950 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

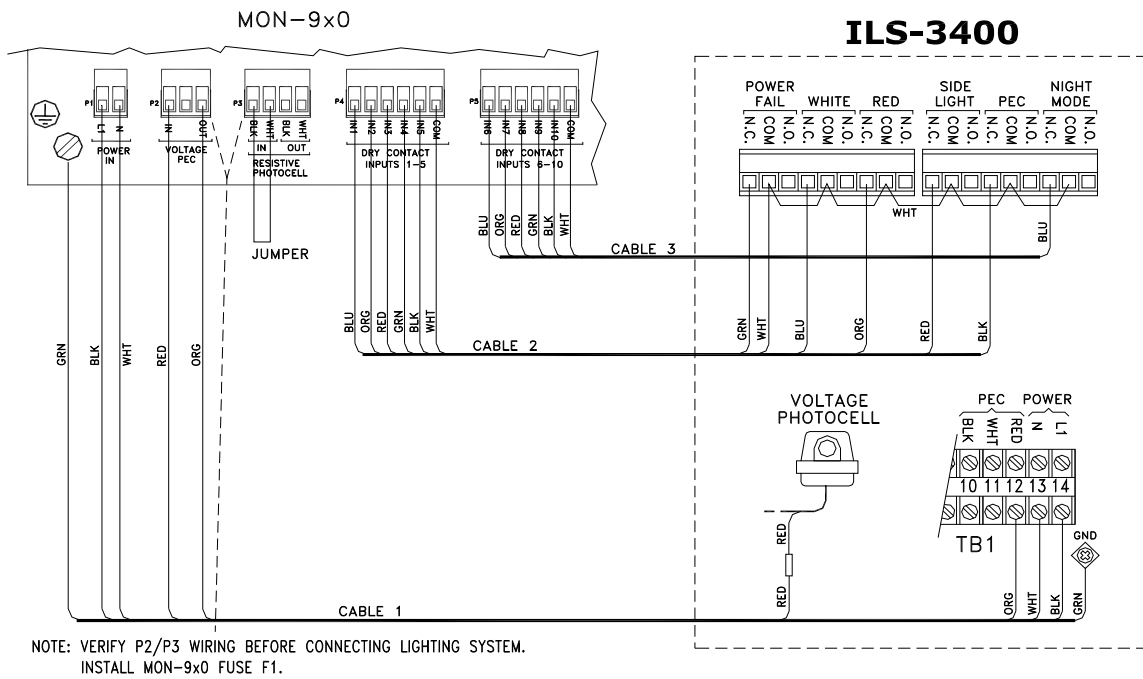


Figure 24: ILS-3400 Wiring Diagram

### ILS-3400 Triple Beacon Wiring Diagram

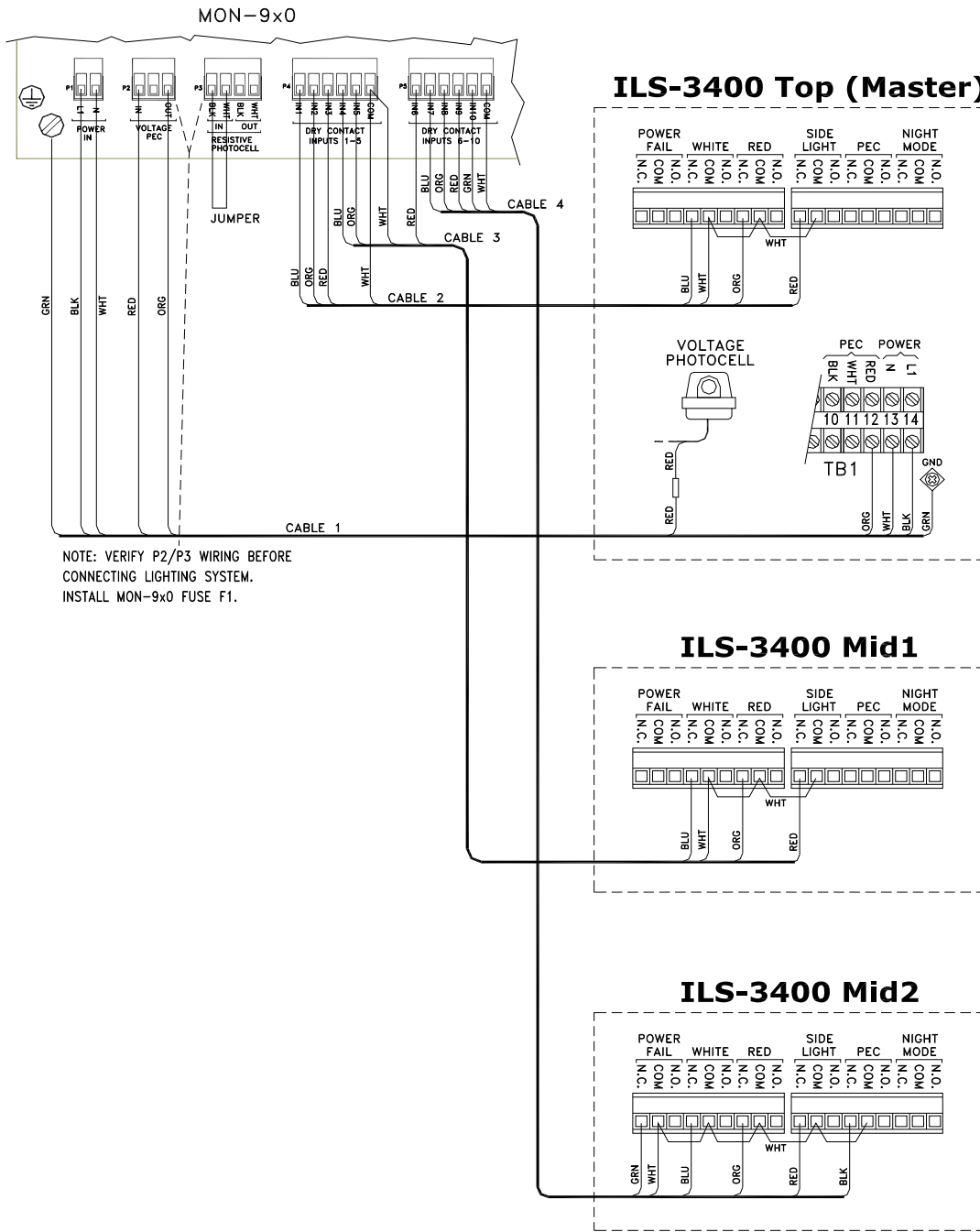
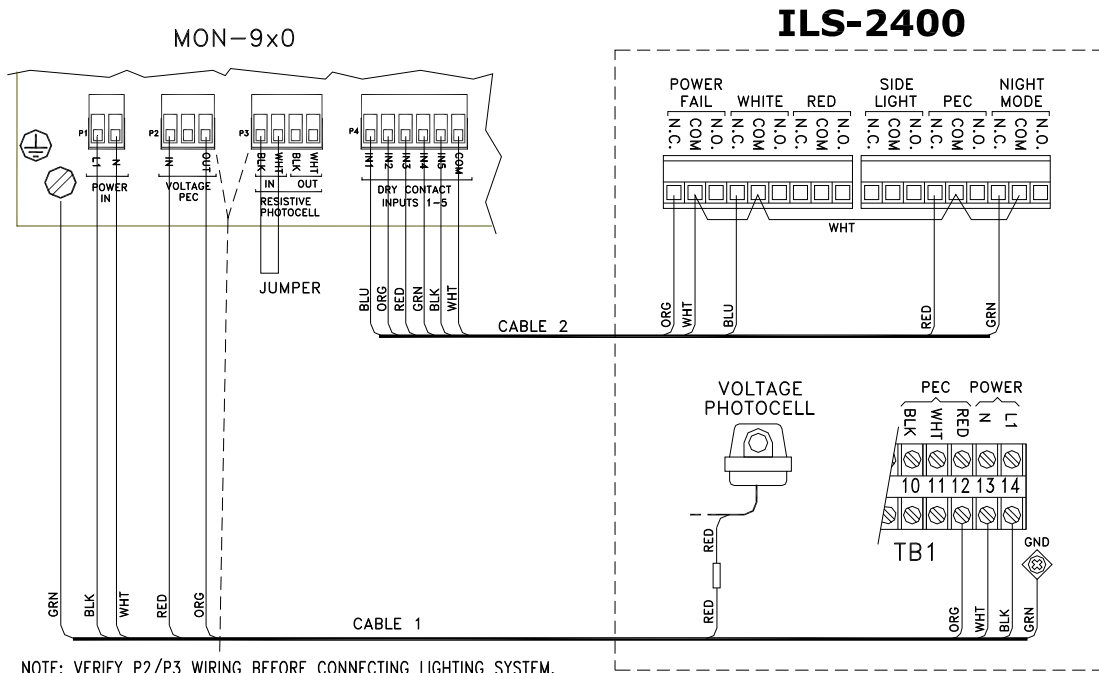


Figure 25: ILS-3400 Triple Beacon Wiring Diagram

ILS-2400 Wiring Diagram



NOTE: VERIFY P2/P3 WIRING BEFORE CONNECTING LIGHTING SYSTEM.  
INSTALL MON-9x0 FUSE F1.

Figure 26: ILS-2400 Wiring Diagram

## ILS-2400 Triple Beacon Wiring Diagram

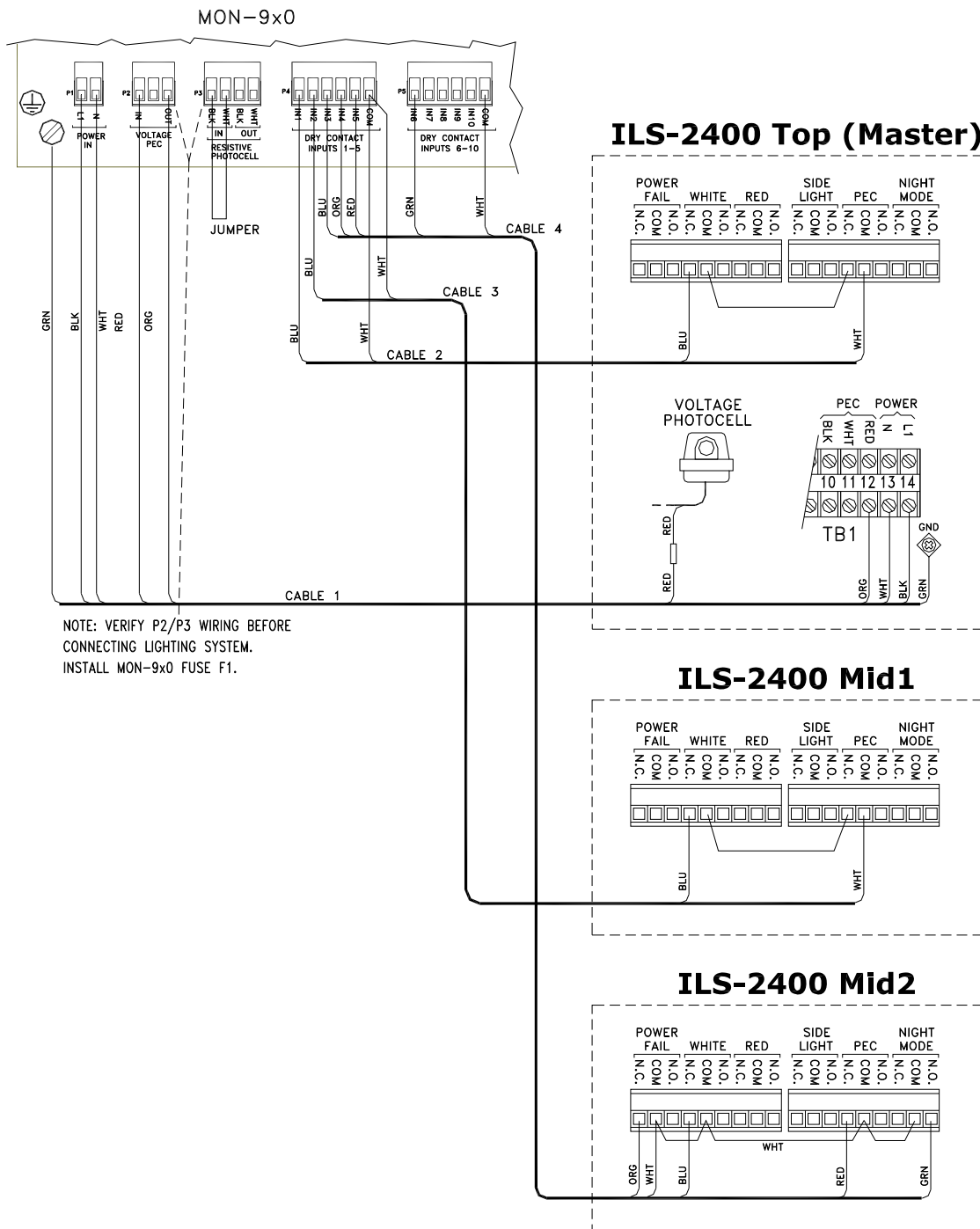


Figure 27: ILS-2400 Triple Beacon Wiring Diagram

ILS-1700-CAT Triple Beacon Wiring Diagram

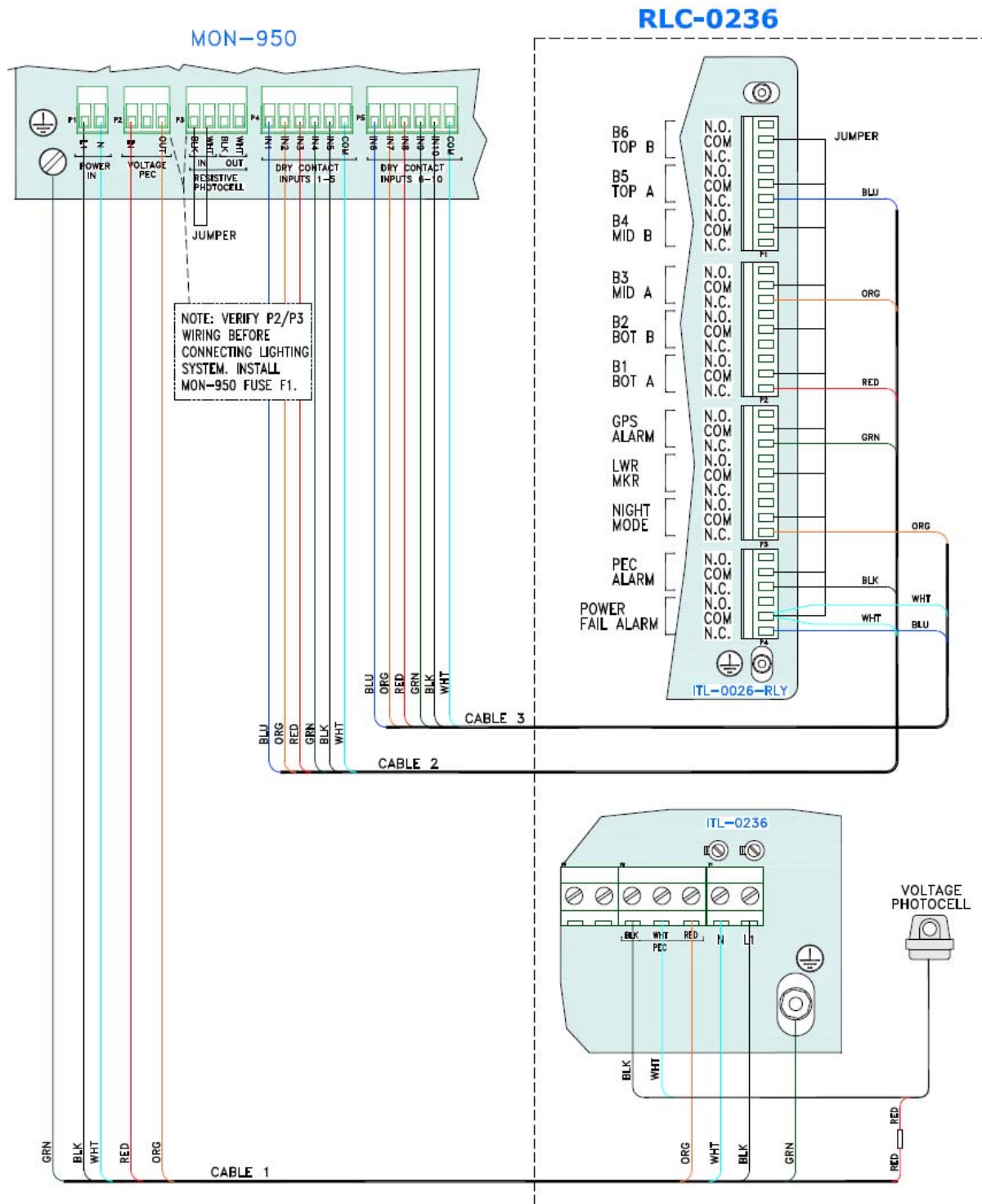


Figure 28: ILS-1700-CAT Triple Beacon Wiring Diagram



ILS-1700-CAT Five Beacon Wiring Diagram

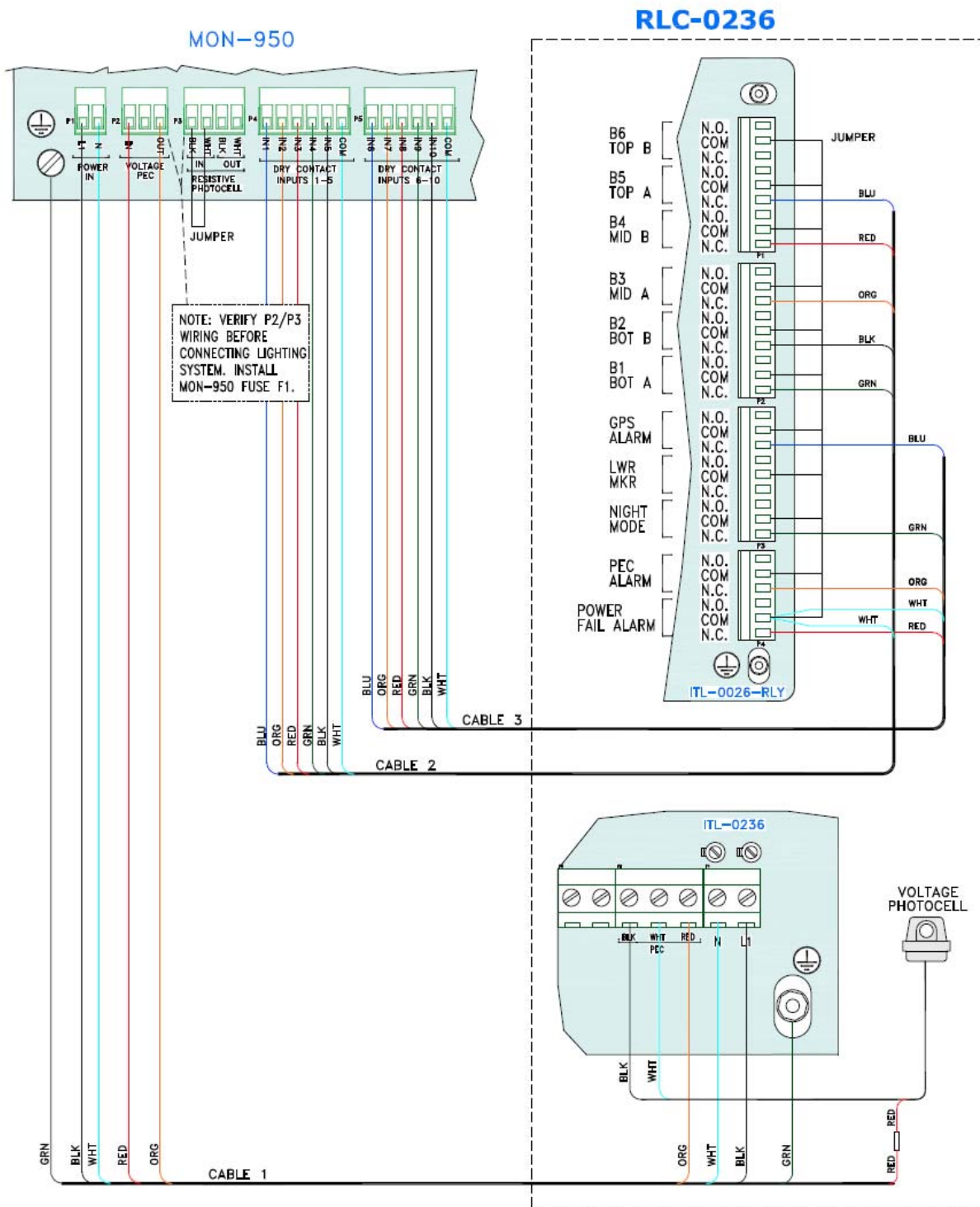
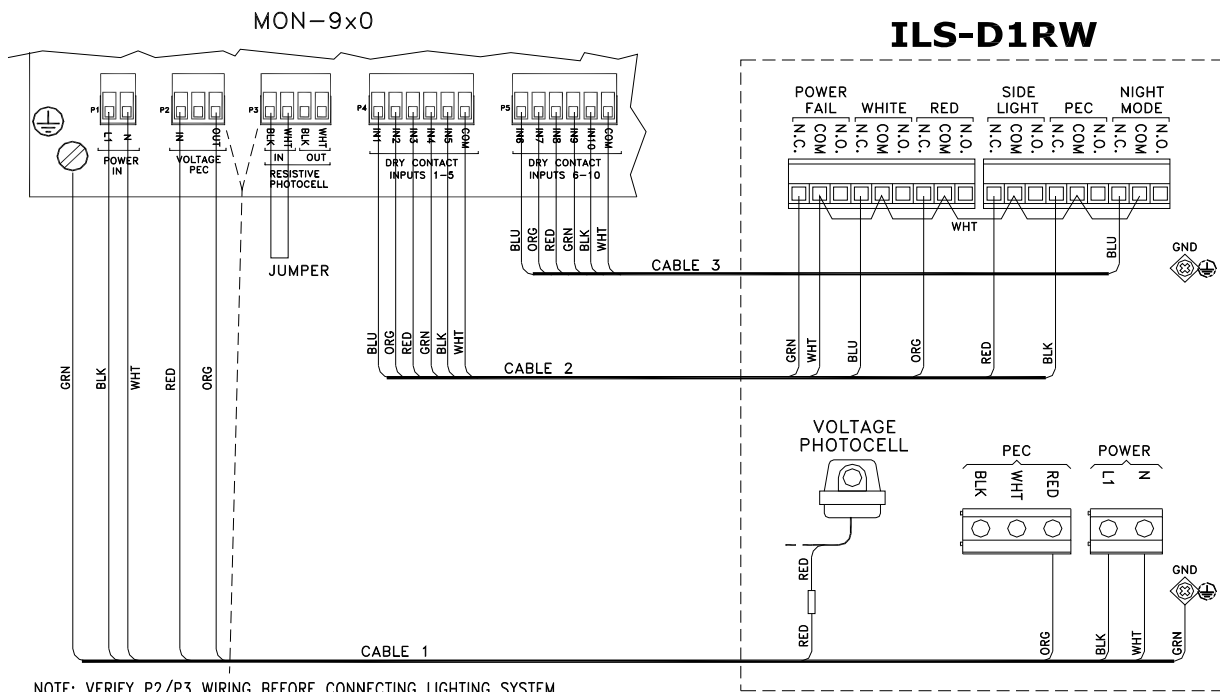


Figure 29: ILS-1700-CAT Five Beacon Wiring Diagram

### ILS-D1RW Wiring Diagram



NOTE: VERIFY P2/P3 WIRING BEFORE CONNECTING LIGHTING SYSTEM.  
INSTALL MON-9x0 FUSE F1.

Figure 30: ILS-D1RW Wiring Diagram

### ILS-D1RW Triple Beacon Wiring Diagram

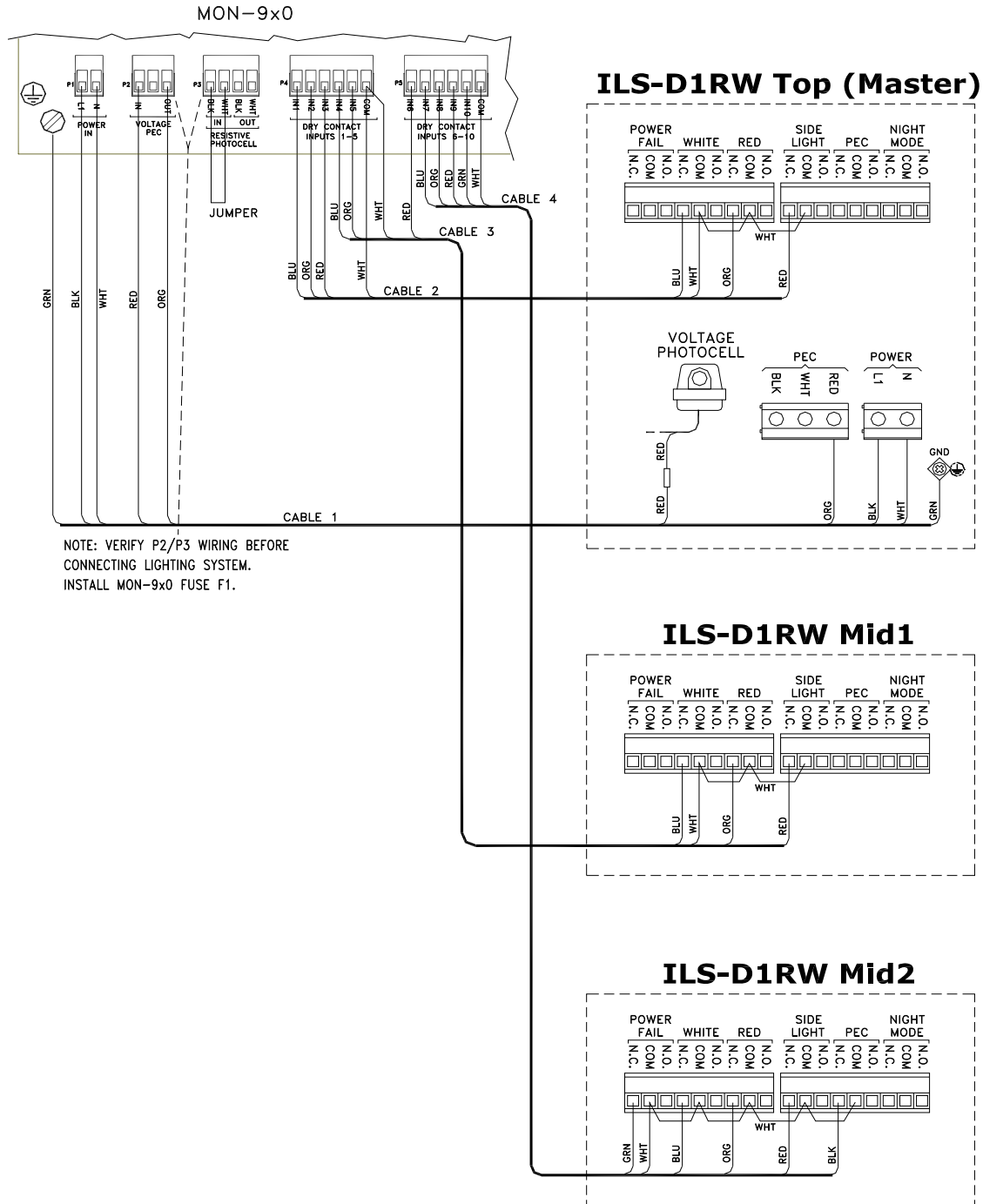


Figure 31: ILS-D1RW Triple Beacon Wiring Diagram

FTB-324/312/311/310 Wiring Diagram

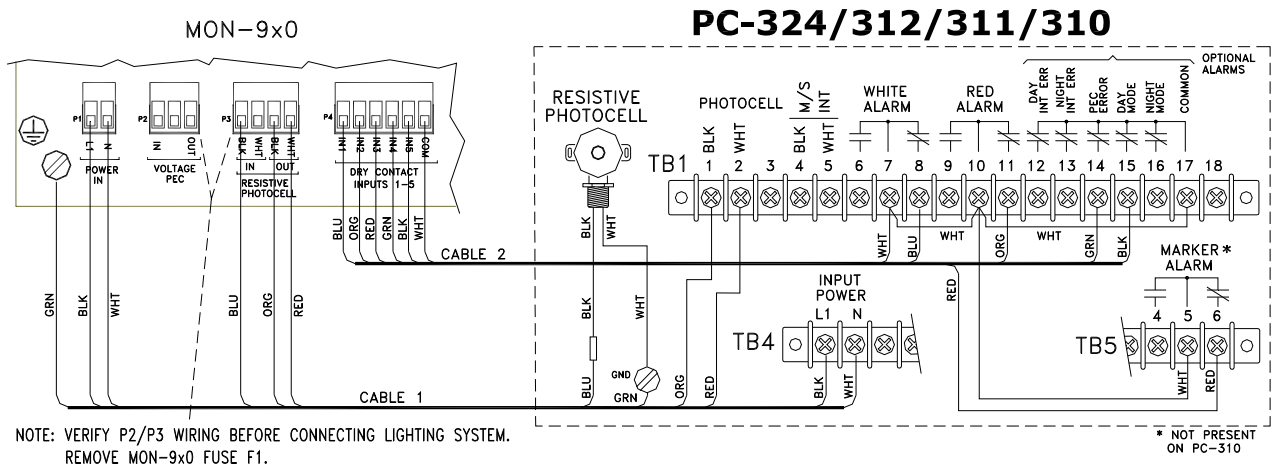


Figure 32: FTB-324/312/311/310 Wiring Diagram

### FTB-324/312/311 Triple Beacon Wiring Diagram

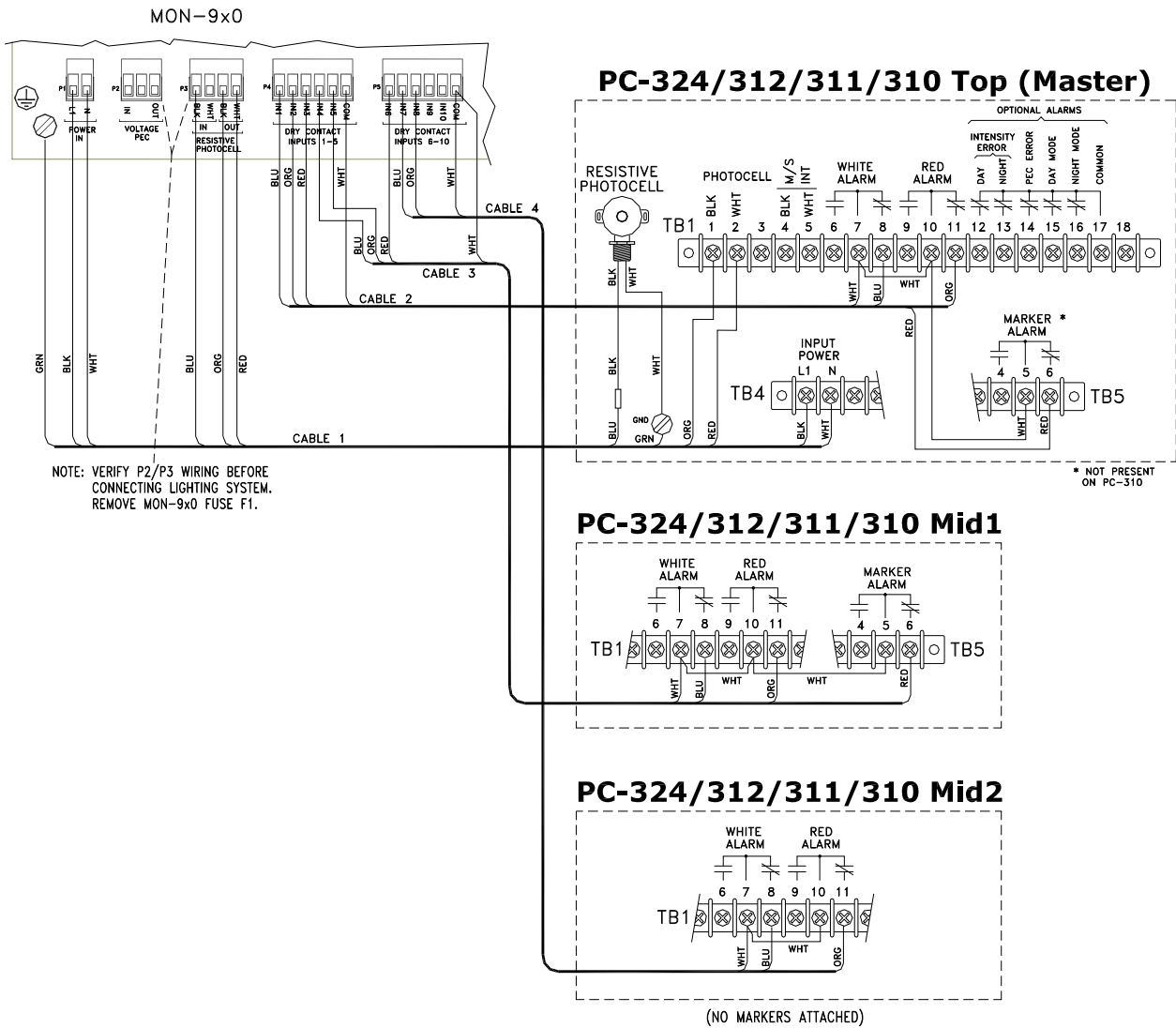
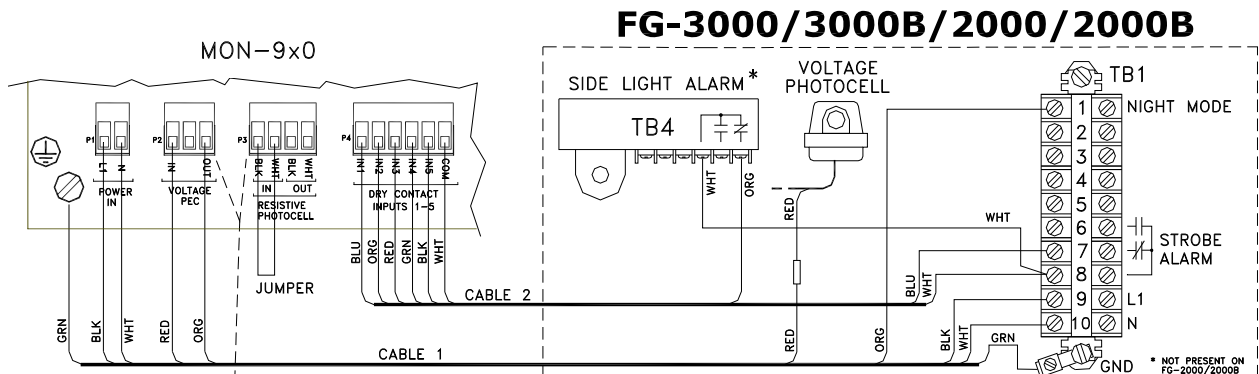


Figure 33: FTB-324/312/311 Triple Beacon Wiring Diagram

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



NOTE: VERIFY P2/P3 WIRING BEFORE CONNECTING LIGHTING SYSTEM.  
INSTALL MON-9x0 FUSE F1.

Figure 34: FG-3000/3000B/2000/2000B Wiring Diagram

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

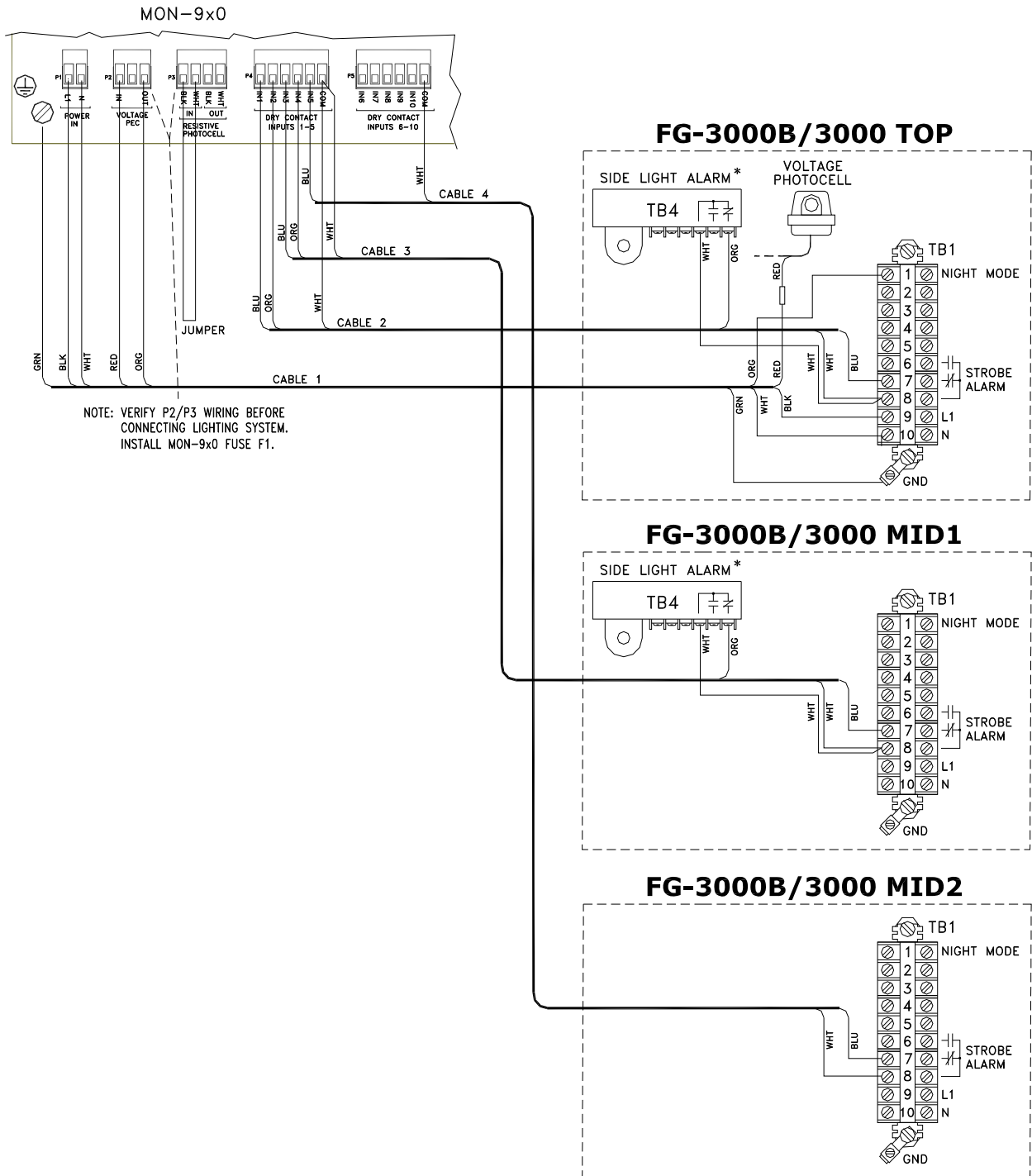


Figure 35: FG-3000B/3000 Triple Beacon Wiring Diagram

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

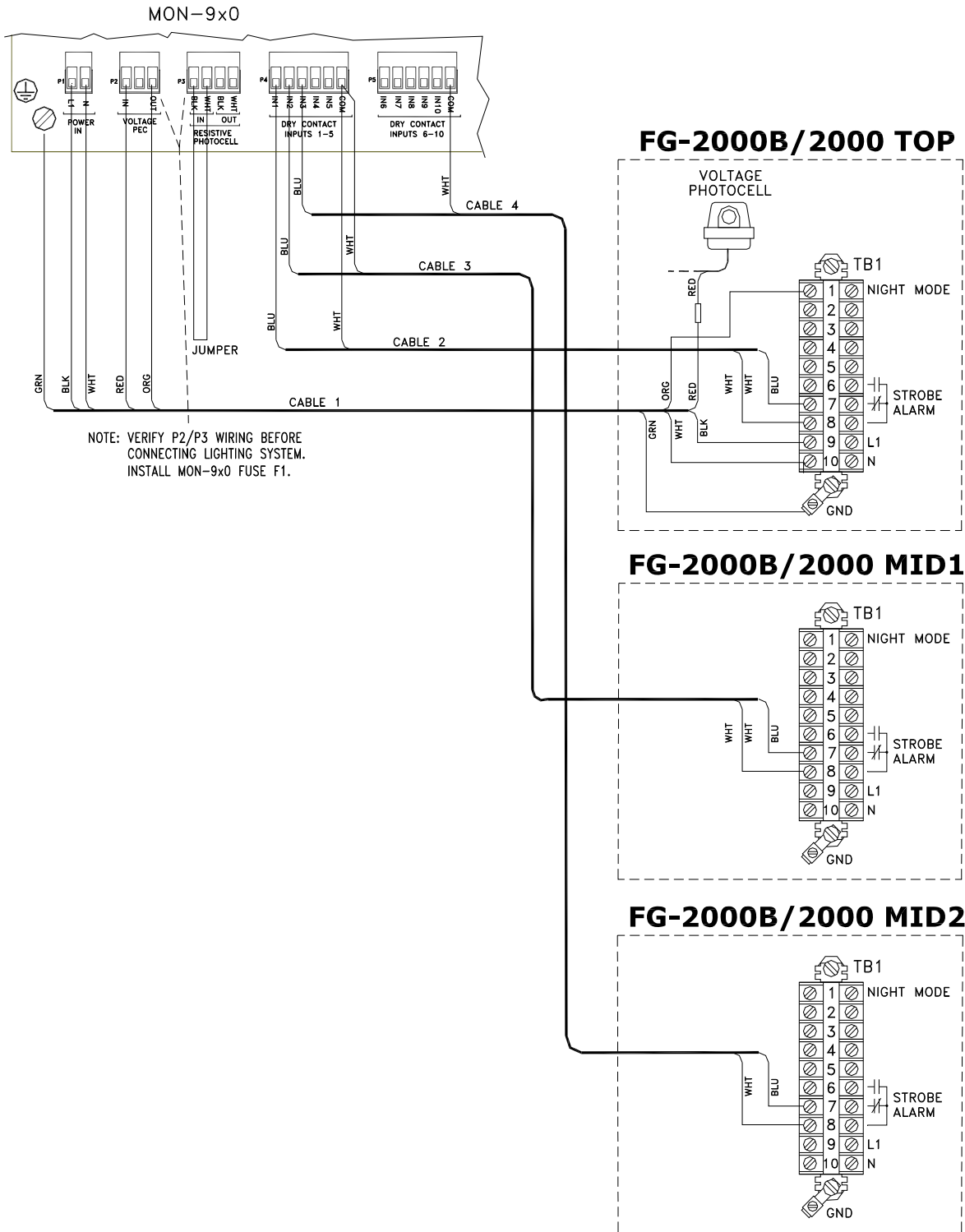


Figure 36: FG-2000B/2000 Triple Beacon Wiring Diagram



E-1DB Wiring Diagram

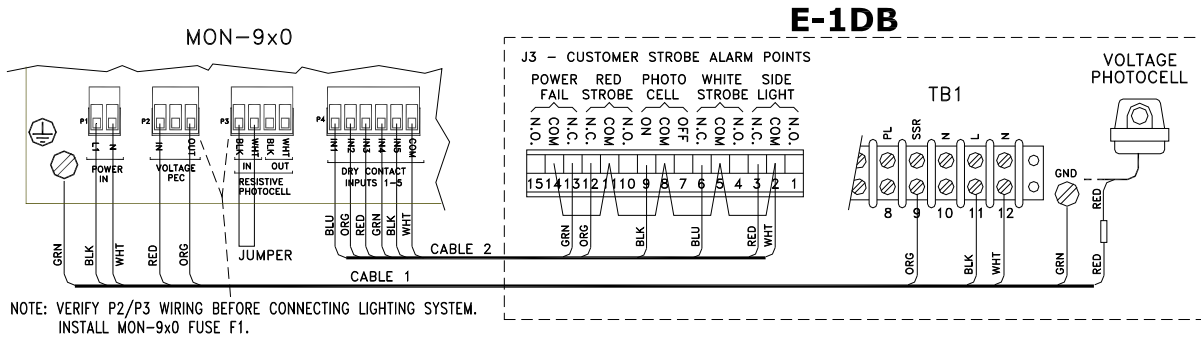


Figure 37: E1DB Wiring Diagram

E-1DB2 Wiring Diagram

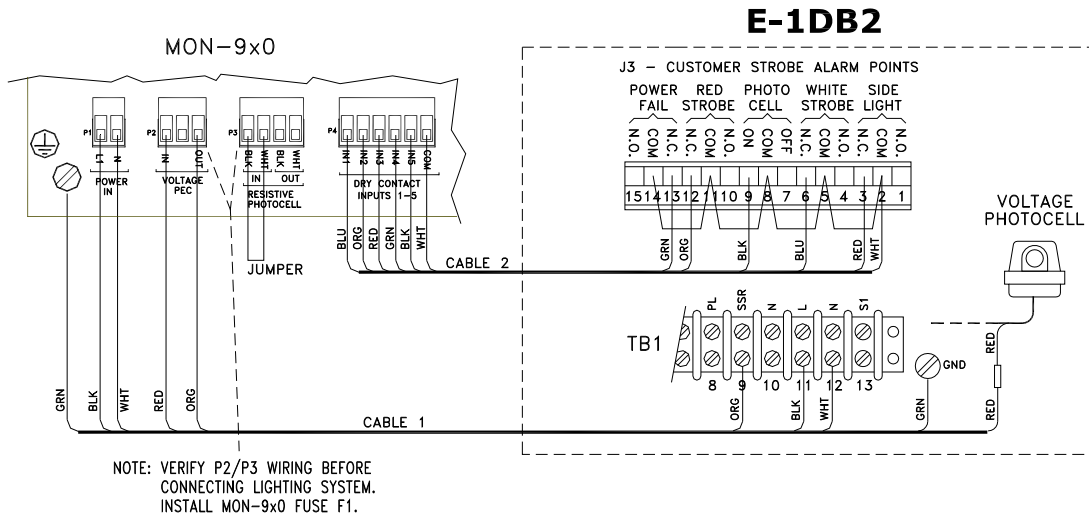


Figure 38: E1DB2 Wiring Diagram

E-1DBSL Wiring Diagram

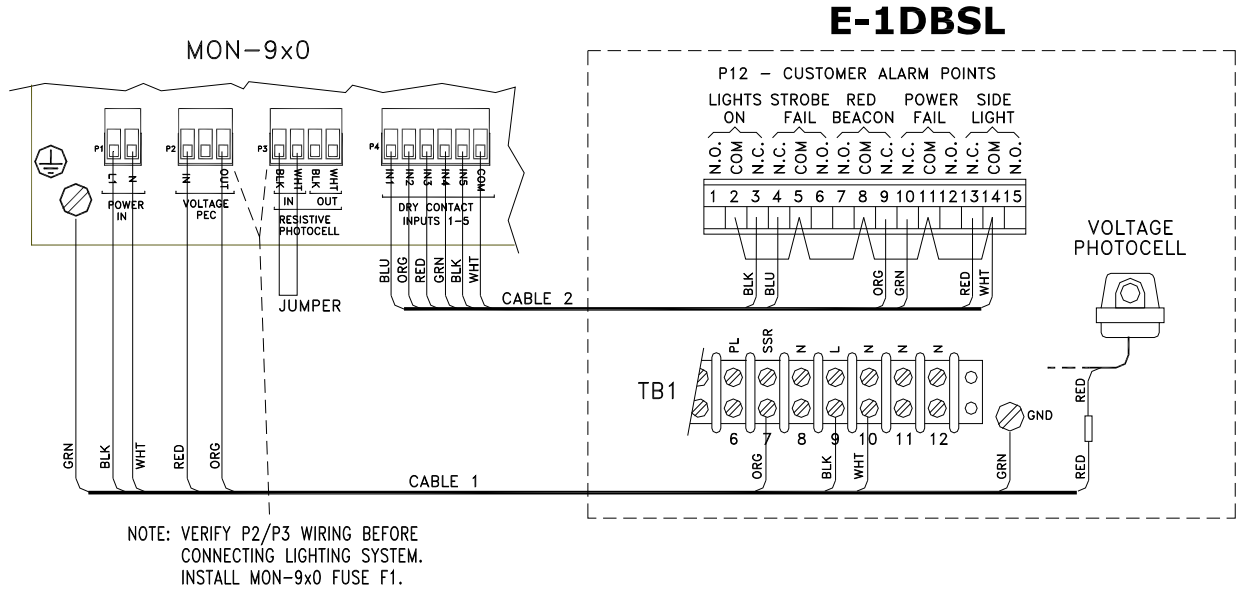


Figure 39: E1DBSL Wiring Diagram

D-1LVS Wiring Diagram

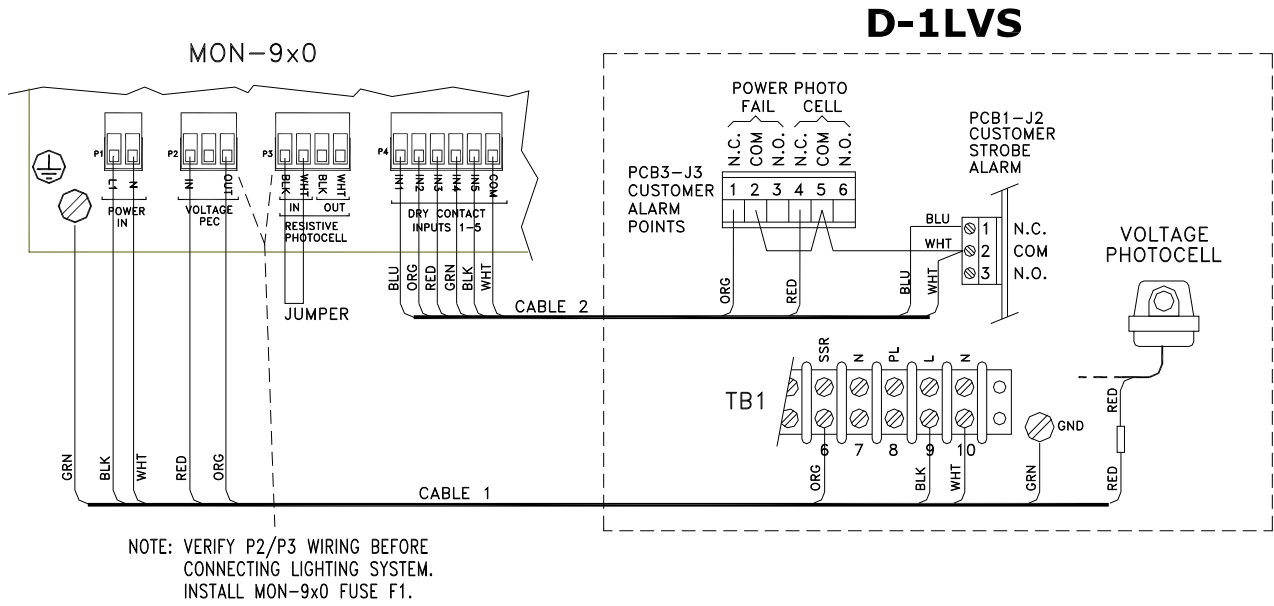


Figure 40: D-1LVS Wiring Diagram

D-2/3LVS Wiring Diagram

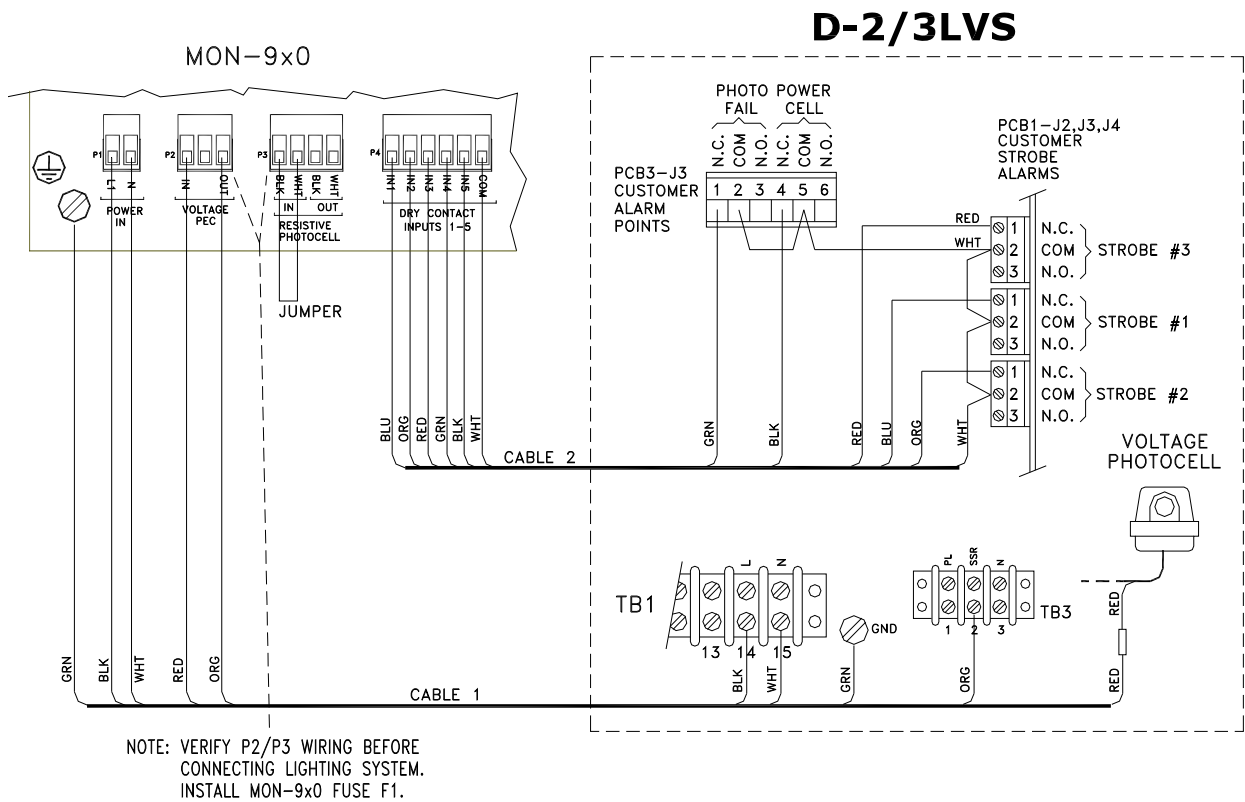
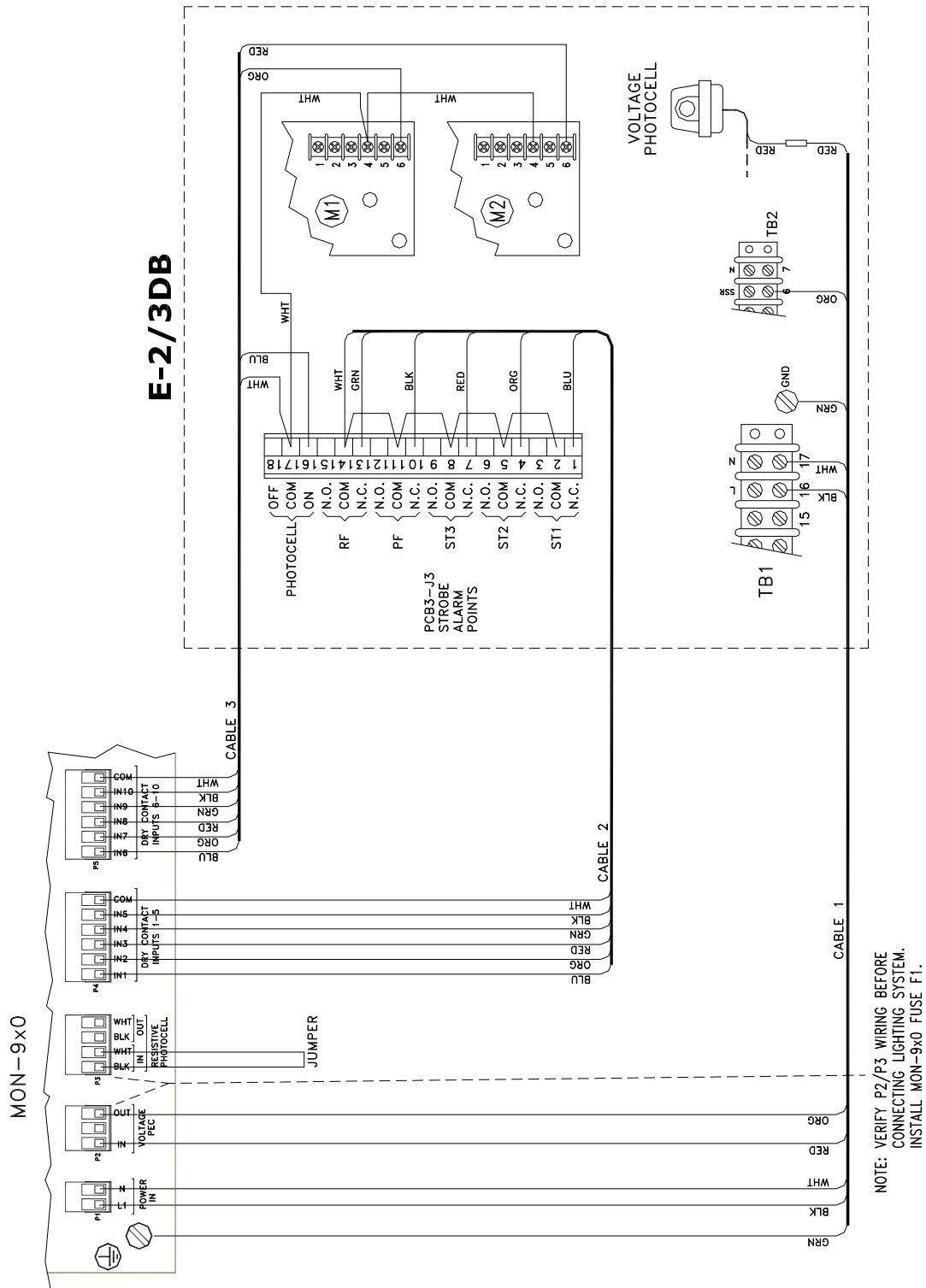


Figure 41: D-2/3LVS Wiring Diagram

E-2/3DB Wiring Diagram



NOTE: VERIFY P2/P3 WIRING BEFORE  
CONNECTING LIGHTING SYSTEM.  
INSTALL MON-9x0 FUSE F1.

Figure 42: E-2/3DB Wiring Diagram

### E-2/3DBSL Wiring Diagram

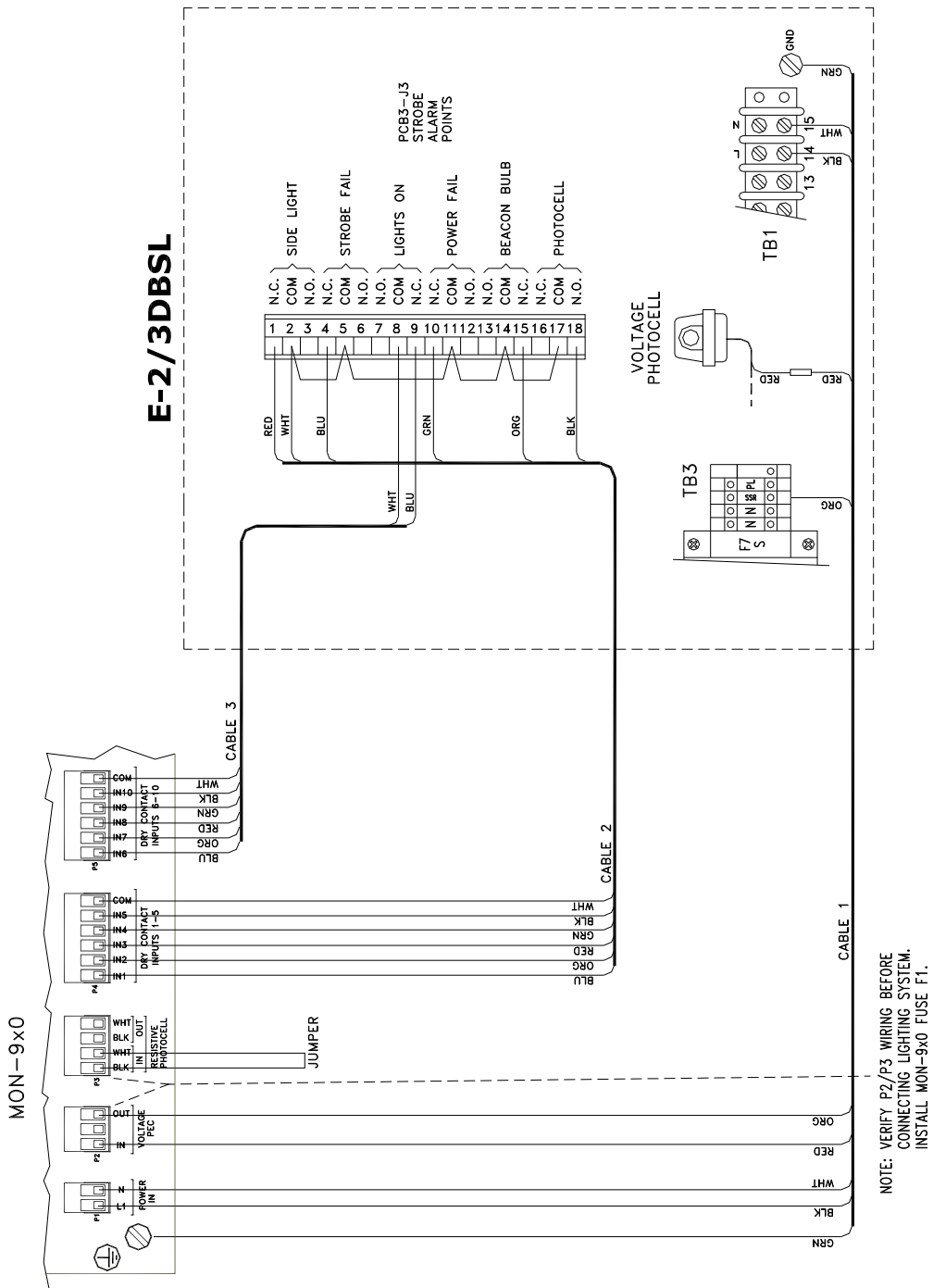


Figure 43: E-2/3DBSL Wiring Diagram

AA0M-TSS Wiring Diagram

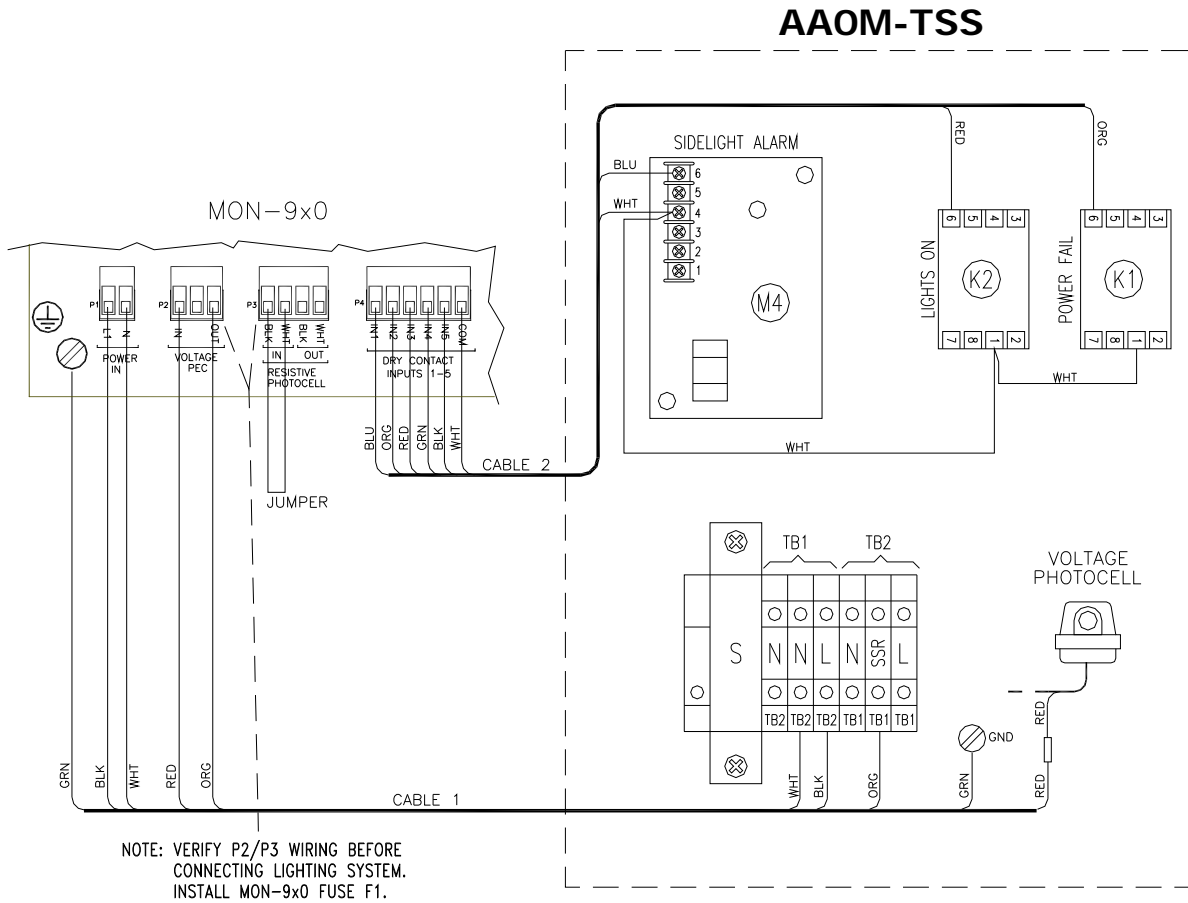


Figure 44: AA0M-TSS Wiring Diagram



AA1-M Wiring Diagram

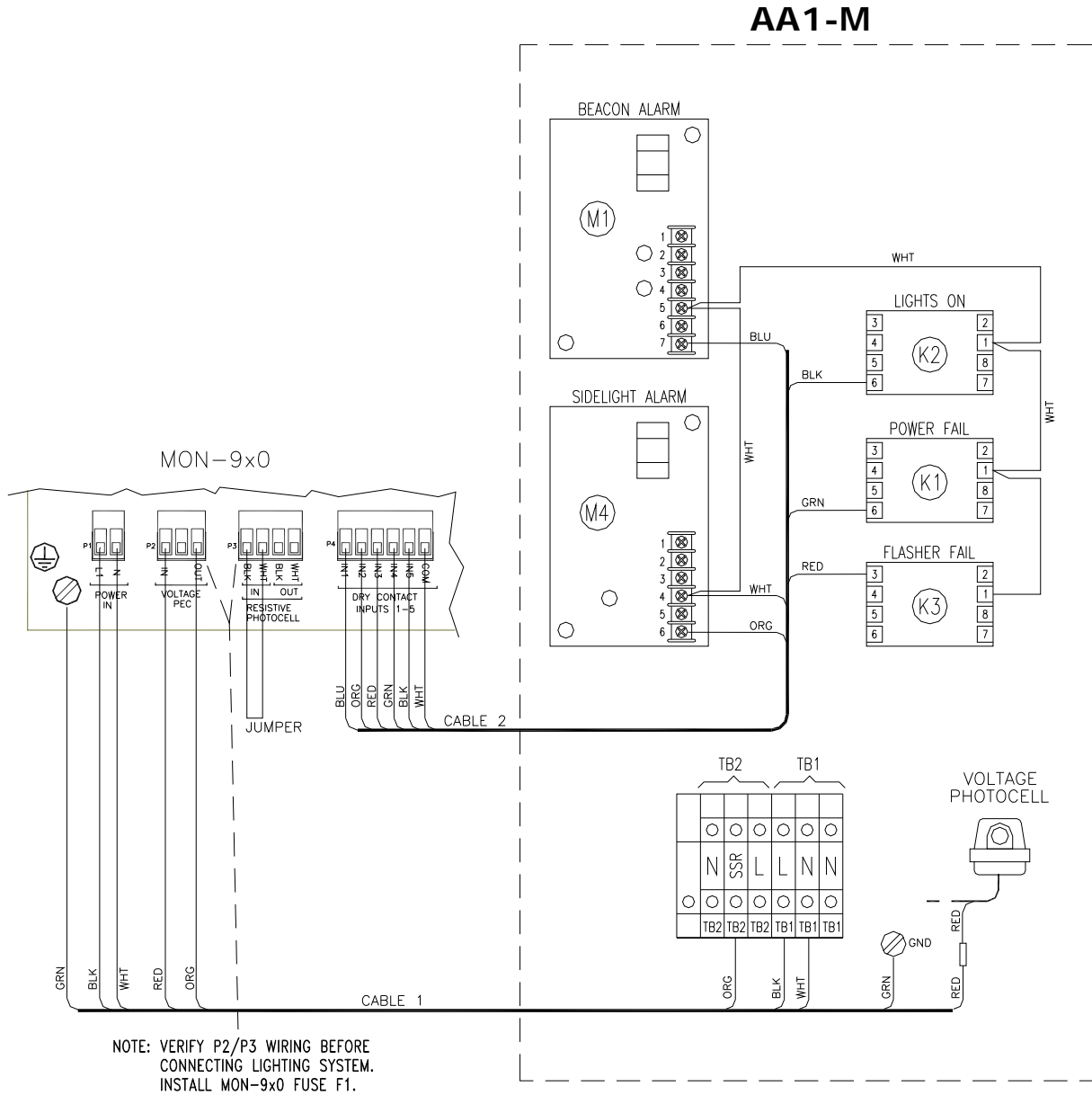


Figure 45: AA1-M Wiring Diagram



## 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](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
5	Updated cover sheet.	7/09/2012	Prepared By: Elke Hinson Approved By: Andy Rudolph
6	Added Wiring diagrams for ILS-1700-CAT. Added Digi WR21. Updated Installation Guide, Removed device discoverer software information, updated system configuration.	7/09/2012	Prepared By: Elke Hinson Approved By: Andy Rudolph