



SERIAL NUMBER



FTB 360i-2R LED Integrated Beacon Radar Compatible System

**Reference Manual
Part Number 7913602R**



Flash Technology, 332 Nichol Mill Lane, Franklin, TN 37067
(615) 261-2000



Intertek

PROGRAM ADMINISTRATOR
DEPARTMENT ALECP
INTERTEK
3933 U.S. ROUTE 11
CORTLAND, NY 13045-0950

REVISION DATE: September 22, 2010

ORIGINAL ISSUE DATE: March 12, 2008

Recertification due: November 2017

An Activity Sponsored and Administered by
Intertek

FLASH TECHNOLOGY
332 Nichol Mill Lane
Franklin, TN 37067

**AIRPORT LIGHTING
EQUIPMENT
CERTIFICATION PROGRAM**

**CERTIFICATE OF
CONFORMANCE**

The product described below is hereby approved for listing in the next issue of the Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5345-53, Appendix 3 Addendum "Airport Lighting Equipment Certification Program. The approval is based on successful completion of tests in accordance with the specifications listed in, and the requirements for approval described in the Advisory Circular, and the reporting to the Program Administrator the results of such tests, accompanied by related documents by an Intertek recognized testing laboratory. The certification is not valid for a product modified with non-OEM replacement parts or non-production components.

L-864 – Lights, Obstruction, Red, 20-40 FPM (AC 150/5345-43F)	
Manufacturer	Manufacturer's Catalog Number
Flash Technology	FTB 360i (413)
NOTE: Lamp (413) D4641011 Red 1 tier LED 20W 120-240VAC	
Equipment meets the requirements of FAA Engineering Brief No. 67B additional requirements for "Light Sources Other Than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures" dated March 12, 2007.	

1. This Equipment requires continuing validation in accordance with the requirements of AC 150/5345-53, and the Intertek Airport Lighting Equipment Certification Program.

2. Product tested and Report issued by: Intertek

(A) Report No: 3189982CRT-001; 3195740MIN-001B;100063263CRT-001

(B) Date of Report: 1/2010; 12/2009; 8/2010

NOTE: PLEASE REVIEW, AND ADVISE ADMINISTRATOR AT INTERTEK IMMEDIATELY IF DATA, AS SHOWN, NEED TO BE CORRECTED.

Approved for Certification by:

Jeremy N. Downs, PE, Program Administrator

Date: September 21, 2010



DECLARATION OF CONFORMITY

We, Flash Technology, 332 Nichol Mill Lane, Franklin, TN 37067, United States of America, declare that the product(s) listed below is/are in conformity with the relevant provision(s) of the directive(s), as well as pertinent clause(s) of the standard(s) and other normative document(s) mentioned on this page.

Council Directive(s):

Electromagnetic Compatibility Directive (EMC) 2004/108/EC

Standard(s):

EMC Emissions:	EN 61000-6-4:2007
EMC Harmonics:	EN 61000-3-2:2006
EMC Flicker:	EN 61000-3-3:1995 +A1:2001 +A2:2006
EMC Immunity:	EN 61000-6-2:2005

Product(s):

FTB 360i

(Signature) 

Name: David Duryea Date: August 18, 2010
Title: Lighting Development Manager

Flash Technology / Tel (615) 261-2000 / Fax (615) 261-2600

www.flashtechology.com





Certificate of Compliance

Certificate: 2389886

Master Contract: 170198

Project: 2393197

Date Issued: January 31, 2011

Issued to: Flash Technology Division of

SPX Corporation
332 Nichol Mill Ln
Franklin, TN 37067
USA
Attention: Anthony Anglin

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



David Lemaux

Issued by: David Lemaux

PRODUCTS

CLASS 3425 85 - LUMINAIRES - Luminaires - Miscellaneous - Certified to US Standards

CLASS 3425 05 - LUMINAIRES - Luminaires - Miscellaneous

LED Beacon, model FTB 360i-2, rated 120V-240V, 60Hz, 28W

APPLICABLE REQUIREMENTS

CSA C22.2 No. 250.0-08 – Luminaires

UL 1598, 3rd Ed. – Luminaires

UL 8750, 1st Ed. – Light Emitting Diode (LED) Equipment for use in Lighting Products

UL 1638, 4th Ed. – Visual Signaling Appliances – Private Mode Emergency and General Utility Signaling (Used as a Guide)

Front Matter

Abstract

This manual contains information and instructions for installing, operating and maintaining the FTB 360i-2R LED Integrated L-864 Beacon with Radar Compatible Interface.

Copyright

Copyright © 2011, Flash Technology®, Franklin, TN, 37067, U.S.A.

All rights reserved. Reproduction or use of any portion of this manual is prohibited without express written permission from Flash Technology and/or its licensor.

Trademark Acknowledgements

Flash Technology® is a registered trademark name.

ElectroFlash™, Flash Tech™, Flash Technology™, FTCA™, Flash™ and the Flash Technology Logo are all trademarks of Flash Technology.

All trademarks and product names mentioned are properties of their respective companies and are recognized and acknowledged as such by Flash Technology.

Disclaimer

While every effort has been made to ensure that the information in this manual is complete, accurate and up-to-date, Flash Technology assumes no liability for damages resulting from any errors or omissions in this manual, or from the use of the information contained herein. Flash Technology reserves the right to revise this manual without obligation to notify any person or organization of the revision.

In no event will Flash Technology be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of or the inability to use this manual.

Warranty

Flash Technology warrants all components, under normal operating conditions, for 5 years.

Personnel Hazard Warning

Dangerous Voltages

Dangerous line voltages reside in certain locations in this equipment. Also, this equipment may generate dangerous voltages. Although Flash Technology has incorporated every practical safety precaution, exercise extreme caution at all times when you expose circuits and components, and when you operate, maintain, or service this equipment.

Avoid Touching Live Circuits

Avoid touching any component or any part of the circuitry while the equipment is operating. Do not change components or make adjustments inside the equipment with power on.

Do Not Depend on Interlocks

Never depend on interlocks alone to remove unsafe voltages. Always check circuits with a voltmeter after turning the circuit breakers off. Under no circumstances remove or alter the wiring or interlock switches.

Table of Contents

ETL Certification	iii
CE Declaration of Conformity.....	iv
CSA Certificate of Compliance	v
Front Matter	vi
Abstract	vi
Copyright	vi
Trademark Acknowledgements	vi
Disclaimer	vi
Warranty	vi
Personnel Hazard Warning	vi
Dangerous Voltages	vi
Avoid Touching Live Circuits	vi
Do Not Depend on Interlocks	vii
Table of Contents	viii
List of Figures	ix
List of Tables	ix
Section 1 - Overview	1
Section 1.1 Beacon Component Identification	2
Section 2 – Installation – Mounting, Wiring, and Checkout	5
2.1 Mounting the Beacon	5
2.2 Wiring the Beacon	7
2.3 Verifying Operation	8
2.3.1 Power up	8
2.3.2 Synchronization Underway.....	8
2.3.3 Synchronization Complete.....	8
Section 3 - Operation	9
3.1 Indicators and Configuration	9
Section 4 - Beacon Theory of Operation	10
4.1 System Overview	10
Section 5 - Maintenance and Troubleshooting	12
5.1 Maintenance	12
5.2 Troubleshooting	13
5.3 Beacon Repair Procedures	14
5.3.1 Replacing the Controller Assembly (11000010471)	14
5.3.2 Replacing the Power Supply (11000010303)	15
5.3.3 Replacing the Surge Suppressors (11000010290)	15
5.3.4 Replacing the LED Module with Controller (11000010472)	16
5.4 Customer Service	23
5.5 Ordering Parts	23
Section 6 – Specifications	24
Section 7 – Regulatory Compliance and Certifications	24
Return Material Authorization (RMA) Policy	25
Return to Stock Policy	25

List of Figures

Figure 1-1 – Beacon - External View	2
Figure 1-2 – Beacon Exploded View	3
Figure 1-3 – Beacon Base Assembly	4
Figure 2-1 – Beacon - Bottom View	6
Figure 3-1 – Beacon Configuration and Indicators.....	9
Figure 4-1 – Beacon Wiring Diagram	11
Figure 5-1 – Beacon Locking Tab	17
Figure 5-2 – Remove Controller Assembly	17
Figure 5-3 – Wiring Harness Connector	18
Figure 5-4 – Remove Wires from Power Supply Connector.....	19
Figure 5-5 – Power Supply Output Connector	19
Figure 5-6 – Remove Surge Suppressor Assembly.	20
Figure 5-7 – Replace Surge Suppressor.....	20
Figure 5-8 – Remove Wires from Terminal Block.....	21
Figure 5-9 – Remove LED Module	21
Figure 5-10 – Base Component Locations.....	22

List of Tables

Table 2-1 – Power Connections	7
Table 2-2 – Beacon and LED States – Day Mode	8
Table 2-3 – Beacon and LED States – Night Mode.....	8
Table 3-1 – Configuration Jumpers	9
Table 3-2 – Status LED’s.....	9
Table 3-3 – Alarm LED’s	9
Table 5-1 – Troubleshooting - Beacon is in Alarm	13
Table 5-2 – Troubleshooting - Beacon does not Flash at night	13
Table 5-3 – Troubleshooting - Beacon flashes but not in sync.....	13
Table 5-4 – Troubleshooting - Beacon flashes in daytime	13
Table 5-5 – Optional Parts	23
Table 5-6 – Spare/Replacement Parts	23

Section 1 - Overview

The FTB 360i-2R LED Integrated L-864 Flashing Red Beacon with Radar Compatible Interface as shown in Figure 1-1, (hereafter referred to as the beacon) operates from 120-240VAC 50/60 Hz without additional configuration to the input power. The unit is equipped with an alarm contact and control input for connection to the radar system interface. The fail-safe design of the interface allows for operation of the beacon if the radar system control wiring is interrupted. The controller has an integrated GPS receiver and antenna that allows synchronization to other beacons with no additional wiring. The beacon consists of 36 high-performance LED's that provide the FAA required light output while consuming 95% less electrical power than an incandescent fixture.

The beacon is designed for the lighting of wind turbines, towers, flare stacks, chimneys, offshore oil platforms, petrochemical facilities and other obstructions to aerial navigation, as specified by the FAA, FCC, ICAO and Transport Canada.

This manual provides guidance and recommendations for the installation and checkout of the beacon assembly. Please read this document in its entirety before installing the beacon.

Section 1.1 Beacon Component Identification

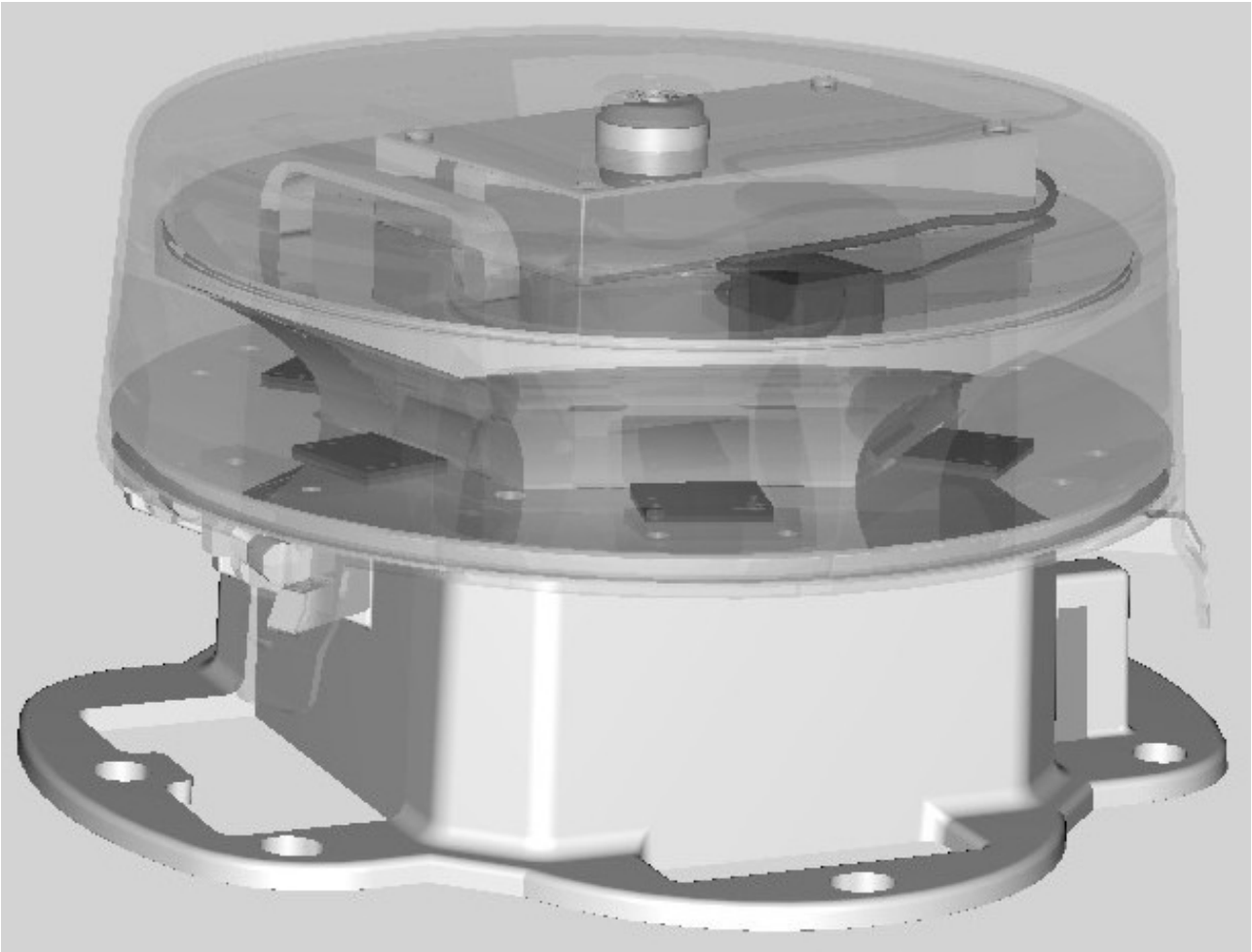


Figure 1-1 – Beacon - External View

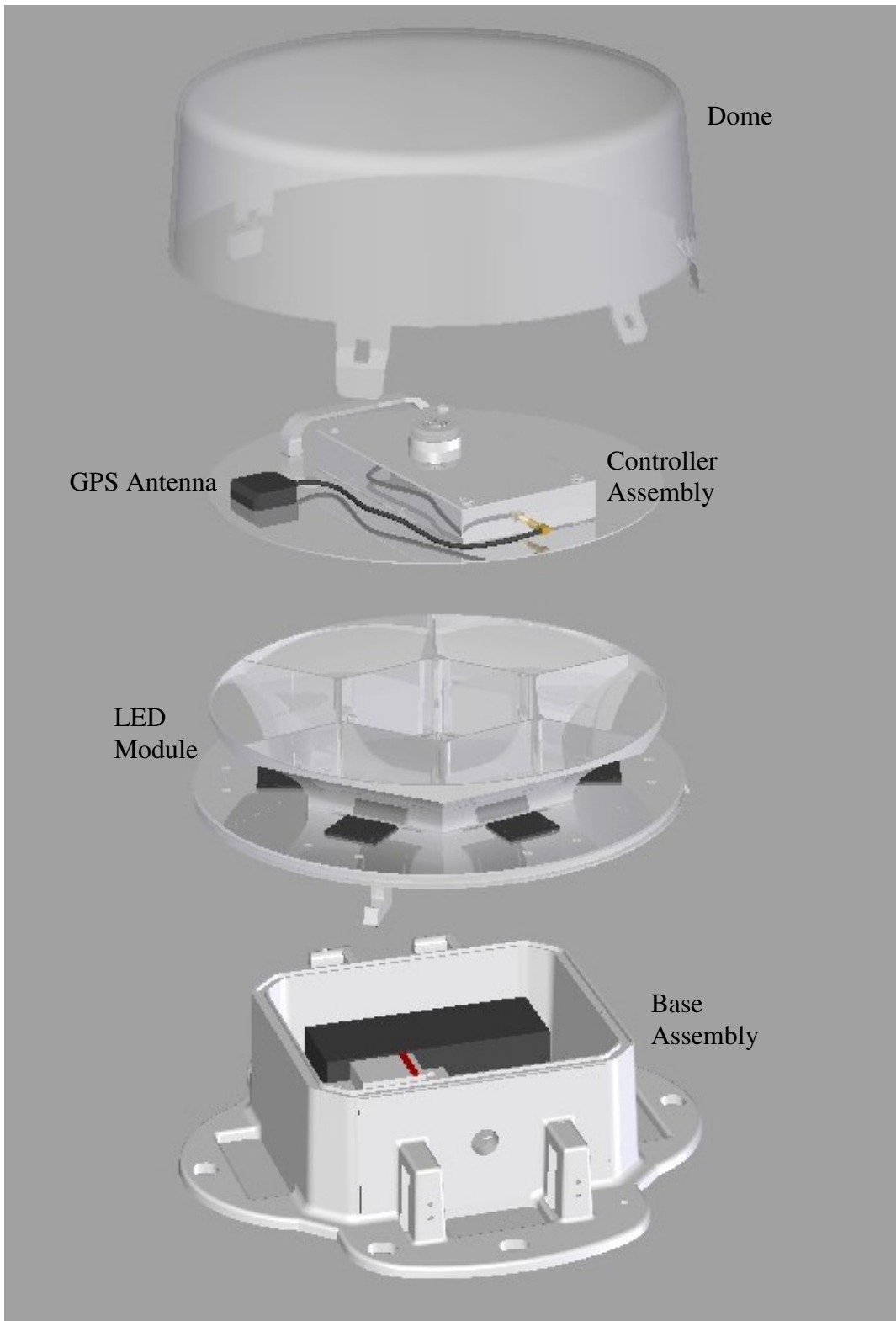


Figure 1-2 – Beacon Exploded View

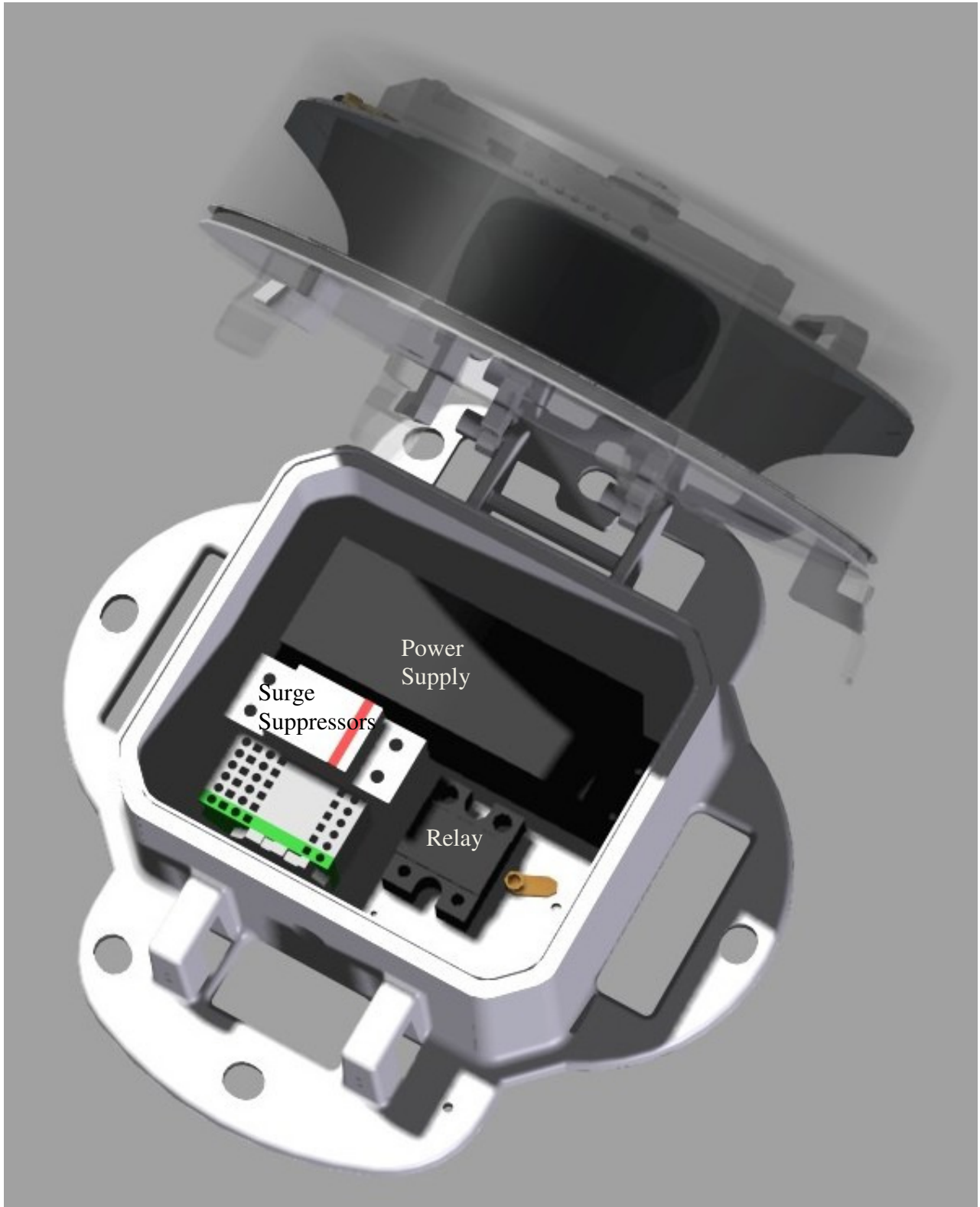


Figure 1-3 – Beacon Base Assembly

Section 2 – Installation – Mounting, Wiring, and Checkout

Warning

Read the warning on page vii now. Remove power from all wiring and circuitry before installing or performing work on the beacon. It is the responsibility of the installer to comply with all applicable electrical codes.

Ensure the base is electrically bonded to the site grounding system.

Installation Procedure:

1. Mount the beacon (Section 2.1)
2. Wire the beacon (Section 2.2)
3. Verify operation (Section 2.3)
4. Confirm monitoring status by disconnecting power to the beacon. This should create an alarm.

After all steps are completed successfully, the installation is complete.

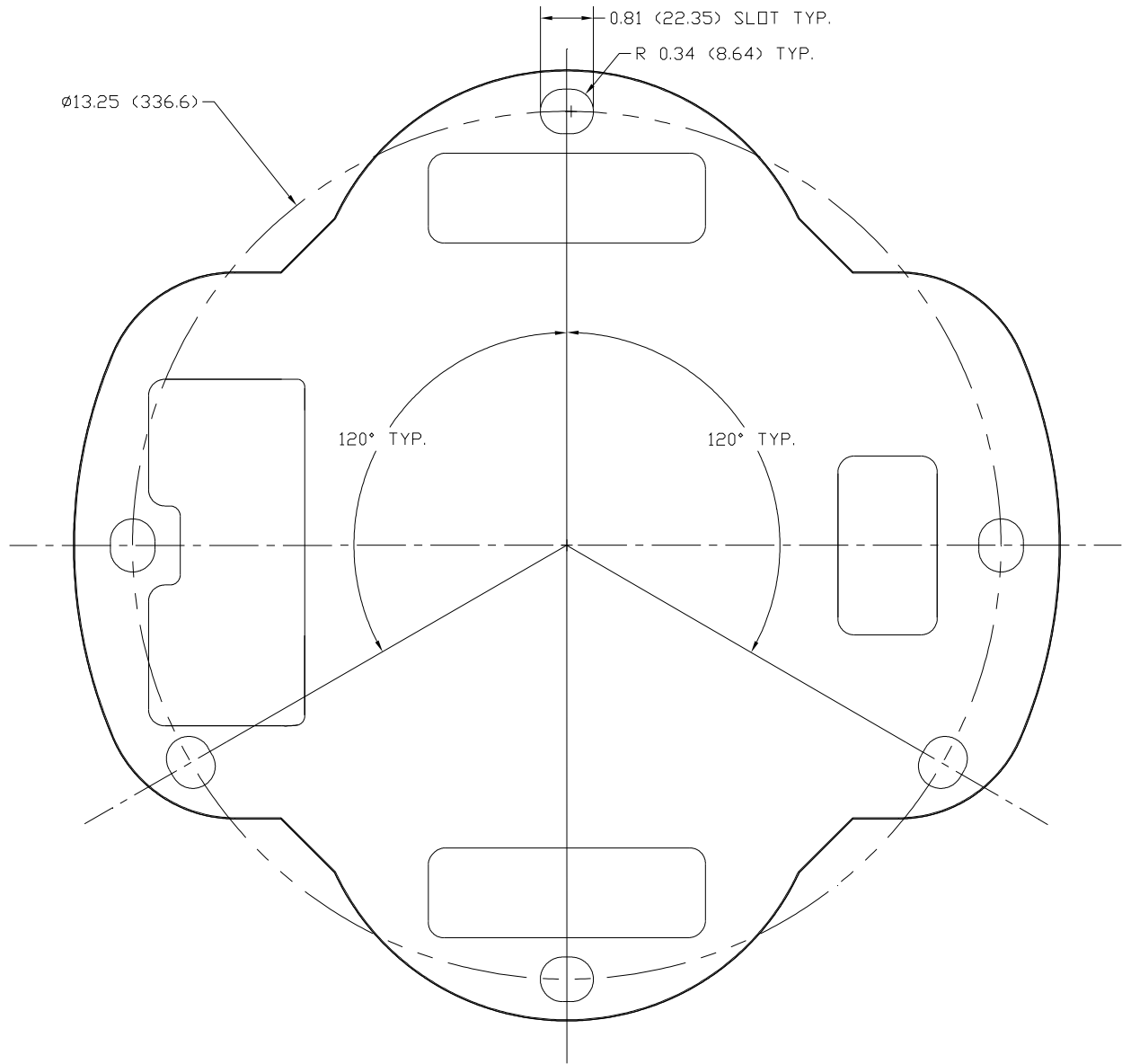
2.1 Mounting the Beacon

Flash Technology recommends the installation of one or more lightning rods near the installed beacon. The lightning rods should extend a minimum of 36” above the height of the beacon and be located no more than 18” away from the beacon.

The beacon should be positioned so that the photocell (Figure 3-1) points to the north and has an unobstructed view of the polar sky. Also, it must not view direct or reflected artificial light. The GPS antenna located on top of the beacon must have an unobstructed view of the sky for proper reception and synchronization.

The beacon is mounted to the tower pedestal or optional mounting bracket* utilizing supplied hardware. Six mounting holes are provided on the beacon base (Figure 2-1). These mounting holes will align with most tower pedestals. The beacon should be installed level to maintain light output in accordance with FAA requirements.

*An optional mounting bracket is available to accommodate various installation configurations and to facilitate leveling the beacon. See Section 5.5 for ordering information.



NOTE: ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)

Figure 2-1 – Beacon - Bottom View

2.2 Wiring the Beacon

Flash Technology ten conductor cable (PN 4362100) should be used for input power and radar system interface connections. Use a Flash Technology approved junction box (PN 1136105) if splicing of the cable is necessary. Refer to Table 2-1 and Figure 4-1 for the conductor connection assignments. The ground wire must be connected for proper operation and protection of the beacon. Consult the radar system manufacturer's installation manual for connection information for the interface cable.

Table 2-1 – Power Connections

Wire Color	Function	FTB 360i-2R Beacon Internal Connections	External Connections
Black	Input Power	TB1 - L1	(120 VAC) - Line (240 VAC) - L1
White	Input Power	TB1 - L2	(120 VAC) - Neutral (240 VAC) - L2
Green	Ground	TB1 - GND	Ground
Red	Alarm Contact	TB1 - COM	Alarm Input*
Orange	Alarm Contact	TB1- NC	Alarm Input*
Brown	Control Input	Relay (PN 11000011950) - L	Control Output*
Blue	Control Input	Relay (PN 11000011950) - N	Control Output*
Violet	Ground	Chassis GND Lug	Ground
Yellow	Ground	Chassis GND Lug	Ground
Gray	Ground	Chassis GND Lug	Ground
Drain	Ground	Chassis GND Lug	Ground

**Refer to the radar system manufacturer's installation manual for connection locations.*

2.3 Verifying Operation

Apply power to the beacon and verify operation as indicated by the beacon and indicator LED's as shown in Table 2-2 and 2-3. More information on the LED indicators is provided in Section 3.1.

Note: During normal operation, the connected radar system may inhibit light output from the beacon. It will not inhibit operation of the controller. Light output can be tested before connecting the radar interface (Brown and Blue wires) to the radar system.

Table 2-2 – Beacon and LED States – Day Mode

	Beacon	Indicator LED's					
		STATUS			ALARM		
		PWR	MODE	SYNC	LED	PEC	SYNC
1. Power Up (10 seconds)	ON	ON	ON	ON	ON	ON	ON
2. Synchronization underway	OFF	ON	OFF	OFF	OFF	OFF	OFF
3. Synchronization complete	OFF	ON	OFF	ON	OFF	OFF	OFF

Table 2-3 – Beacon and LED States – Night Mode

	Beacon	Indicator LED's					
		STATUS			ALARM		
		PWR	MODE	SYNC	LED	PEC	SYNC
1. Power Up (2 seconds)	ON	ON	ON	ON	ON	ON	ON
2. Synchronization underway	FLASH	ON	FLASH	OFF	OFF	OFF	OFF
3. Synchronization complete	FLASH	ON	FLASH	ON	OFF	OFF	OFF

2.3.1 Power up

If powered up during the Day (photocell detects sufficient light), the beacon and all indicator LED's are turned on for 10 seconds, providing easy verification of operation during install. Verify that the beacon is on during this time.

If powered up at Night, the beacon and LED's are initially turned on for only 2 seconds.

2.3.2 Synchronization Underway

Following power up in daytime, the beacon should be off. At nighttime, the beacon and the MODE status LED flash at a rate of 20 flashes per minute. The PWR status LED should be on and all alarm LED's should be off.

After power up or power loss, as much as 15 minutes may be required for synchronization. Synchronization is not complete while the SYNC status LED is off. For synchronization to occur, the GPS antenna located on top of the beacon must have an unobstructed view of the sky.

2.3.3 Synchronization Complete

When synchronization is complete, the SYNC status LED will be on solid. This is the normal operating condition.

Section 3 - Operation

3.1 Indicators and Configuration

Located on top of the beacon are configuration jumpers, LED indicators, and the photocell. A description of each is provided below. See Section 2.3 for more information on the Status LED's.

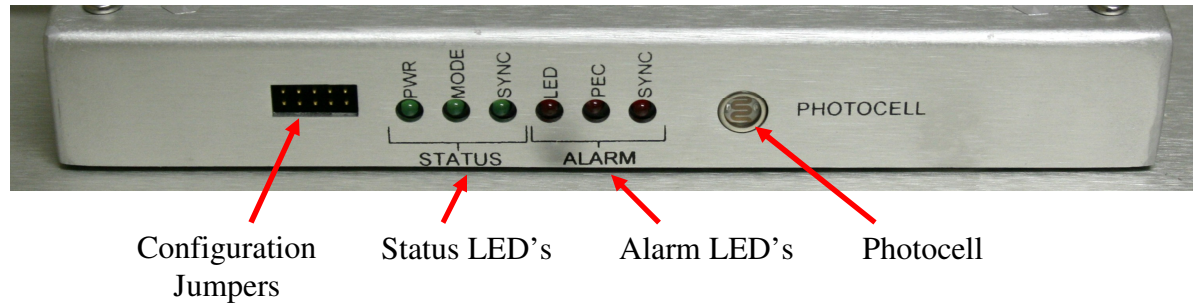


Figure 3-1 – Beacon Configuration and Indicators

Table 3-1 – Configuration Jumpers

To configure a particular option, move the spare jumper shunt to the specified location. See the Dome Removal and Dome Reassembly procedures in Section 5.

PEC DEFEAT	DELAY	NOT USED	MANUAL DAY	MANUAL NIGHT
Disables photocell alarm	Provides Sync with Orga L350-864-G ¹	Holds spare jumper shunt	Forces day operation	Forces night operation

(1) Flash Technology will NOT be responsible for any changes to GPS sync response by other manufacturers.

Table 3-2 – Status LED's

Name	Function
PWR	On indicates the beacon is powered.
MODE	Flashes on corresponding to the beacon flash; off during the day.
SYNC	On indicates proper GPS synchronization. After power up, 15 minutes may be required for synchronization.

Table 3-3 – Alarm LED's

Name	Function
LED	On indicates insufficient or no current drawn by the beacon LED power supply and LED module when flashed.
PEC	On indicates no transition between day and night sensed by the photocell for an extended period (Day > 19 hours, Night > 5 days)
SYNC	On indicates flashing of the beacon is not synchronized.

PHOTOCELL

The Photocell senses day and night light levels for beacon mode control per FAA guidelines.

Section 4 - Beacon Theory of Operation

4.1 System Overview

The beacon wiring diagram is shown in Figure 4-1.

The system interface cable provides connection of the AC line (3 wires), alarm monitoring (2 wires) and radar control interface (2 wires). The AC line may be 120-240VAC 50/60Hz. The alarm dry contact is monitored by the radar system. It is closed when the beacon is operating normally and no fault is detected.

The Solid State relay (11000011950) located in the beacon base is part of the Radar Compatible Interface. The normally closed relay is energized by a dry contact closure in the radar system to inhibit light output from the beacon. When an aircraft is detected by the Radar Interface, the dry contact is opened which will return the beacon light output to normal operation (photocell control still applies). If the Radar Interface wiring is interrupted or is not installed, the beacon will operate normally.

The Controller Assembly (11000010471) senses ambient light with a photocell and at night flashes the LED beacon by connecting AC line voltage to the LED power supply. A GPS antenna and integrated receiver permit synchronization to other beacons. The controller detects alarm conditions including beacon failure, photocell alarm, and synchronization fault. Status and alarm LED's are provided to permit easy determination of proper operation and fault diagnosis.

The LED module contains the 36 high-performance LED's which illuminate when powered by the LED power supply. The LED Module (11000010472), complete with dome and controller, is easily replaced when field service is required.

The LED Power Supply (11000010303) and the Surge Suppressors (11000010290) are located in the base of the beacon. The LED power supply generates the proper DC current to the LED module when AC line voltage is applied at its input. The surge suppressors, wired in line with and directly across the AC Line, provide protection from incoming lightning and transient voltage induced surges.

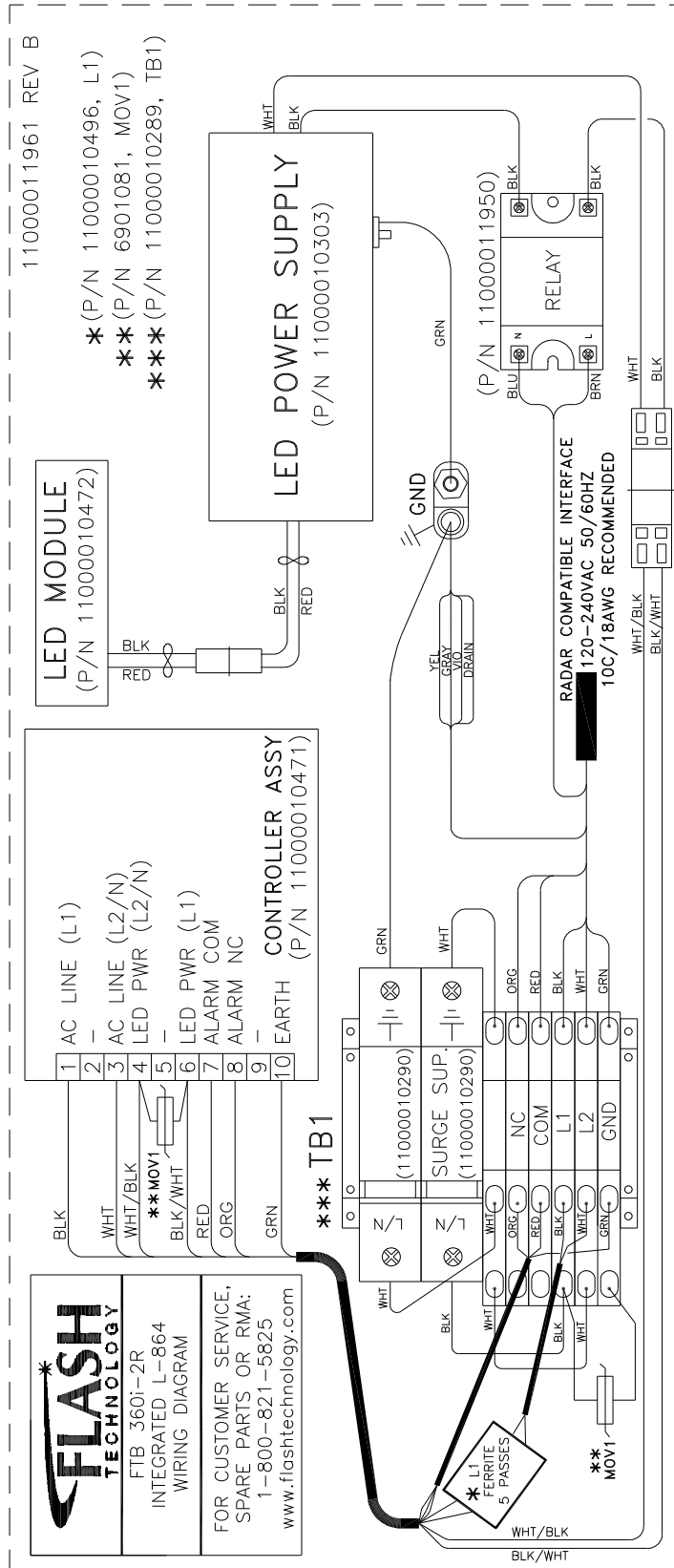


Figure 4-1 – Beacon Wiring Diagram

Section 5 - Maintenance and Troubleshooting

5.1 Maintenance

No regularly scheduled maintenance is required for the beacon.

- Flash Technology warrants the light output of the beacon to meet or exceed FAA requirements for a 5 year period. LED module replacement after 5 years is recommended to insure FAA compliance. See Section 5.3.3.
- Periodic cleaning of the dome is recommended with regular glass cleaning solution, soapy water or any acrylic cleaning solutions. No other cleaning solutions are recommended. Abrasive compounds will scratch the dome.
- Optional mounting brackets should be checked periodically for tightness.

5.2 Troubleshooting

Follow the troubleshooting steps in the tables below as applicable. Beacon repair procedures are provided in Section 5.3

Note: During normal operation, the connected radar system may inhibit light output from the beacon. It will not inhibit operation of the controller. Light output can be tested by disconnecting the radar interface cable (Brown and Blue wires) at the radar system.

Table 5-1 – Troubleshooting - Beacon is in Alarm

Step	Check/Test/Action		Action
1.a	Is beacon flashing at night?	Yes No	Go to Step 1.b Go to Step 2.a
1.b	Is beacon flashing in sync with other FTB 360i-2R beacons? Check beacon <u>SYNC</u> Status and <u>SYNC</u> Alarm LED's.	Yes No	Go to Step 1.c Go to Step 3
1.c	Is beacon <u>PEC</u> Alarm LED on? Does beacon flash in daytime?	Yes No	Go to Step 4

Table 5-2 – Troubleshooting - Beacon does not Flash at night

Step	Check/Test/Action		Action
2.a	Is AC power applied? Measure at beacon terminals (Section 2.1)	Yes No	Go to Step 2.b Correct problem.
2.b	Is the photocell positioned correctly? Check installation (Section 2.2)	Yes No	Go to Step 2.c Correct problem.
2.c	Is beacon <u>PWR</u> Status LED on?	Yes No	Go to Step 2.d Replace controller assembly (See Section 5.3.1)
2.d	Is beacon <u>MODE</u> Status LED flashing?	Yes No	Go to Step 2.e Replace controller assembly (See Section 5.3.1)
2.e	Is beacon <u>LED</u> Alarm LED on?	Yes No	Replace beacon power supply assembly (See Section 5.3.2) Replace controller assembly (See Section 5.3.1)

Table 5-3 – Troubleshooting - Beacon flashes but not in sync

Step	Check/Test/Action		Action
3	Does the GPS antenna (located in top of beacon) have an unobstructed view of sky? See Section 2.2	Yes No	Replace controller assembly See Section 5.3.1 Correct problem

Table 5-4 – Troubleshooting - Beacon flashes in daytime

Step	Check/Test/Action		Action
4	Is the photocell (located on top of beacon) obstructed? Check for any foreign matter on top of beacon.	Yes No	Correct problem Replace controller assembly See Section 5.3.1

5.3 Beacon Repair Procedures

Warning

Read the warning on page vii now. Remove power from all wiring and circuitry before installing or performing work on the beacon. It is the responsibility of the installer to comply with all applicable electrical codes.

5.3.1 Replacing the Controller Assembly (11000010471)

While performing the following steps, check for any loose connections or other damaged components.

Dome Removal

The Dome (11000010306) is secured to the beacon base by three pins (Figure 5-1). Gently pull out and up on the base of the tab to clear the *locking pin*. The dome lanyard is secured to the beacon base support bolt. Once the tabs are clear, the dome may be carefully lifted off the top of the beacon by gently pulling upward. Set the dome aside until ready for re-installation.

Controller Assembly Removal

Remove the four panhead screws (Figure 5-2) securing the controller assembly (11000010471) to the top plate. Lift the controller assembly slightly then unplug the wiring harness connector from the controller PCB (Figure 5-3).

Controller Assembly Replacement

Plug the main harness connector into the replacement controller assembly. Rotate the controller assembly as necessary to position the LED module and lower into position. Reinstall using the four retaining screws.

Operation Verification

Apply power to the beacon and verify that it operates correctly. If not, recheck all connections. If the beacon functions normally, perform the Dome Reassembly procedure provided below.

Dome Reassembly

Refit the dome making sure that the O-ring is in place to insure a proper seal and prevent water intrusion. **CAUTION:** When reinstalling the dome it is important to hold it level and securely by the top outer edge. Make sure that the three locking tabs are lined up with the locking pins. With even pressure gently lower the dome over the o-ring seal until the tabs latch on the locking pins. Push in on each of the tabs to ensure that it is securely locked in place.

5.3.2 Replacing the Power Supply (11000010303)

Power Supply Removal

Unfasten the two latches on the front of the base assembly. Lift the LED module to expose the power supply. Remove the black and white wires from the input power connector to the power supply (Figure 5-4). Disconnect the two position connector (black and red wires) on the output of the power supply (Figure 5-5). Remove the screw attaching the ground wire to the top of the power supply. Remove the four screws that attach the power supply to the base.

Power Supply Reinstall

Place the power supply in the base with the black and white wires nearest the ground lug. Mount the power supply to the base with four screws. Remove the screw on the top corner of the power supply nearest the ground lug and attach the ground wire. Insert a small screwdriver into the end of the power supply input power connector and reconnect the black and white wires. Reconnect the power supply output connector (black and red wires). Lower the LED module to the closed position and secure both latches on the base assembly. Apply power to the beacon and verify that it operates correctly. If not, recheck all connections.

5.3.3 Replacing the Surge Suppressors (11000010290)

Surge Suppressor Assembly Removal

Unfasten the two latches on the front of the base assembly. Lift the LED module to expose the surge suppressors. Disconnect the wires at the L/N and the Ground positions. Insert a flat blade screwdriver into the slot below the Ground position and push the handle toward the terminal block to release the surge suppressor assembly (Figure 5-6). To replace only the surge suppressor, pull up on the surge suppressor module to remove it from the holder (Figure 5-7).

Surge Suppressor Reinstall

Position the L/N end of the surge suppressor over the DIN rail first. Insert a flat blade screwdriver into the slot below the Ground position and push the handle toward the terminal block. Push down on the surge suppressor assembly and remove the screwdriver. Verify that the surge suppressor is firmly attached to the DIN rail. Reconnect the wires to the surge suppressor. Lower the LED module to the closed position and secure both latches on the base assembly. Apply power to the beacon and verify that it operates correctly. If not, recheck all connections.

5.3.4 Replacing the LED Module with Controller (11000010472)

Disconnect Wiring Harness

Unfasten the two latches on the front of the base assembly. Lift the LED module to expose the power supply. Remove the orange, red, black, white and green wires from the terminal block (Figure 5-8). Disconnect the two position connector (black/white and white/black wires) from the power supply input power connector. Disconnect the two position connector (black and red wires) on the output of the power supply (Figure 5-5).

LED Module Removal

From the closed position, raise the LED module to approximately 10° and slide the entire LED module off the hinge pins (Figure 5-9).

LED Module Replacement

Position the hinge on the LED module in line with the hinge pins on the base. Raise the LED module to approximately 10° and slide the entire LED module onto the hinge pins.

Reconnect Wiring Harness

Lift the LED module to expose the power supply. Connect the orange, red, black, white and green wires to the terminal block. Reconnect the two position connector (black/white and white/black wires) to the power supply input power connector. Reconnect the two position connector (black and red wires) to the output of the power supply.

Operation Verification

Lower the LED module to the closed position and secure both latches on the front of the base assembly. Apply power to the beacon and verify that it lights correctly. If not, recheck all connections.

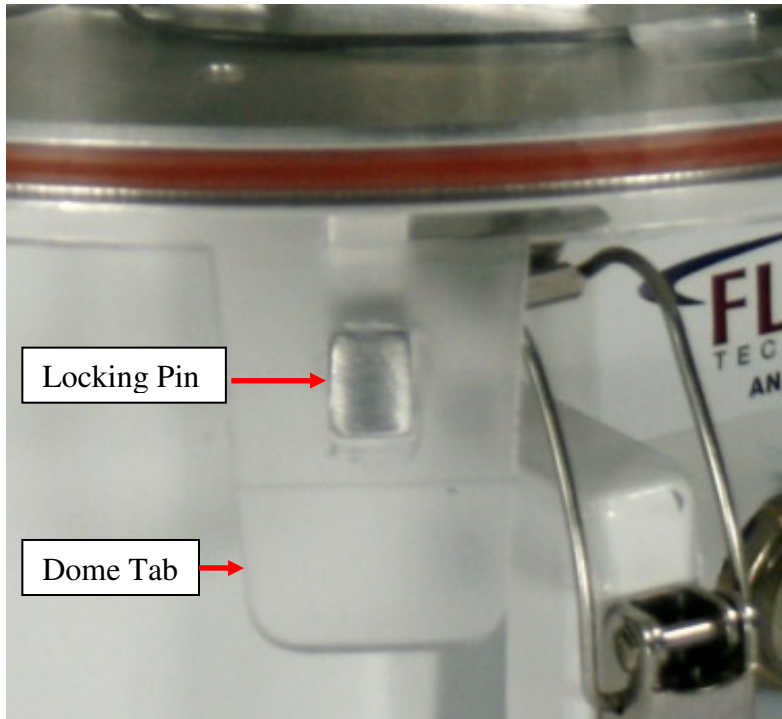


Figure 5-1 – Beacon Locking Tab

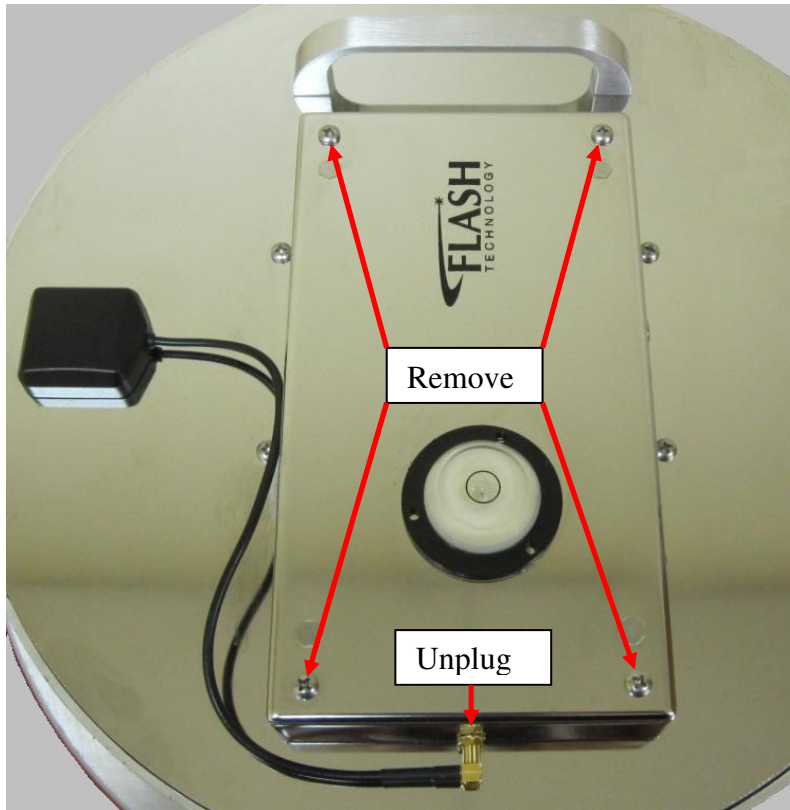


Figure 5-2 – Remove Controller Assembly

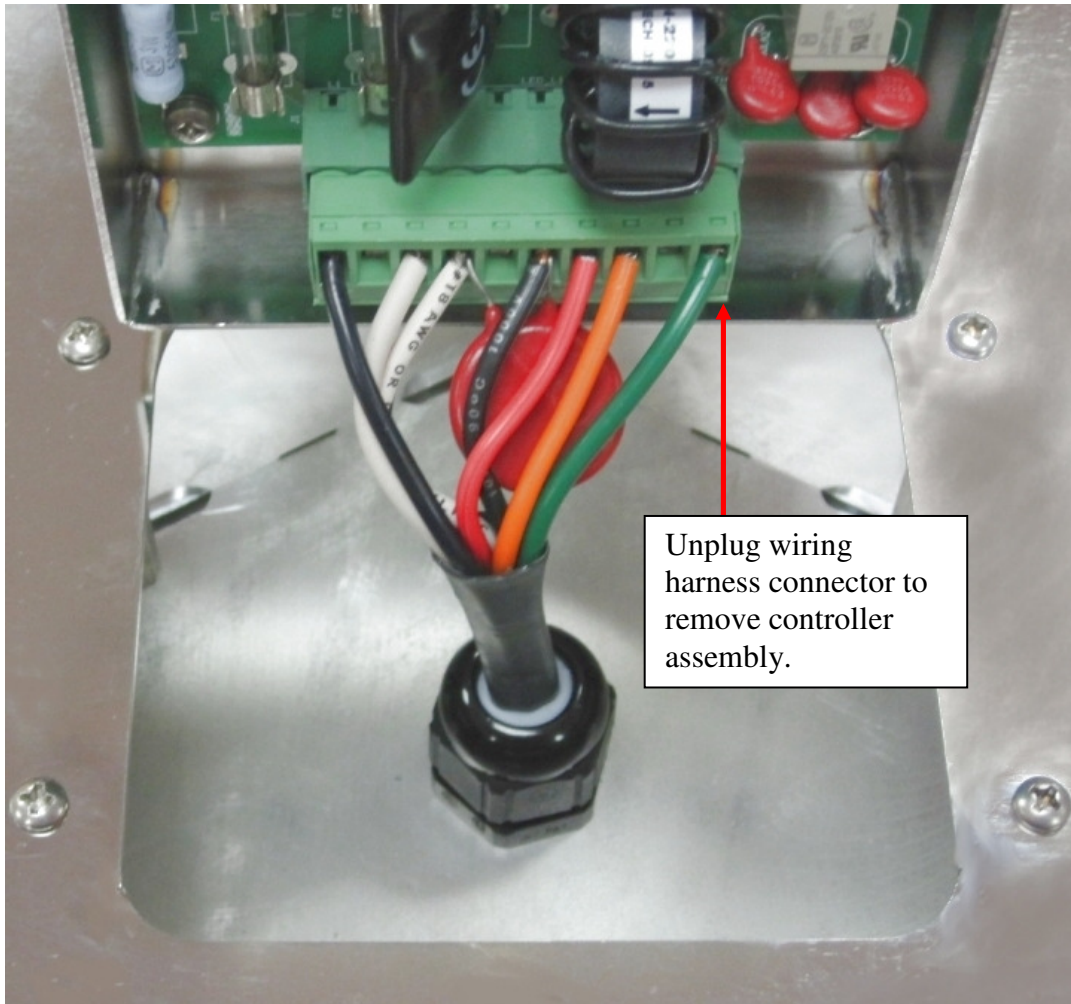


Figure 5-3 – Wiring Harness Connector

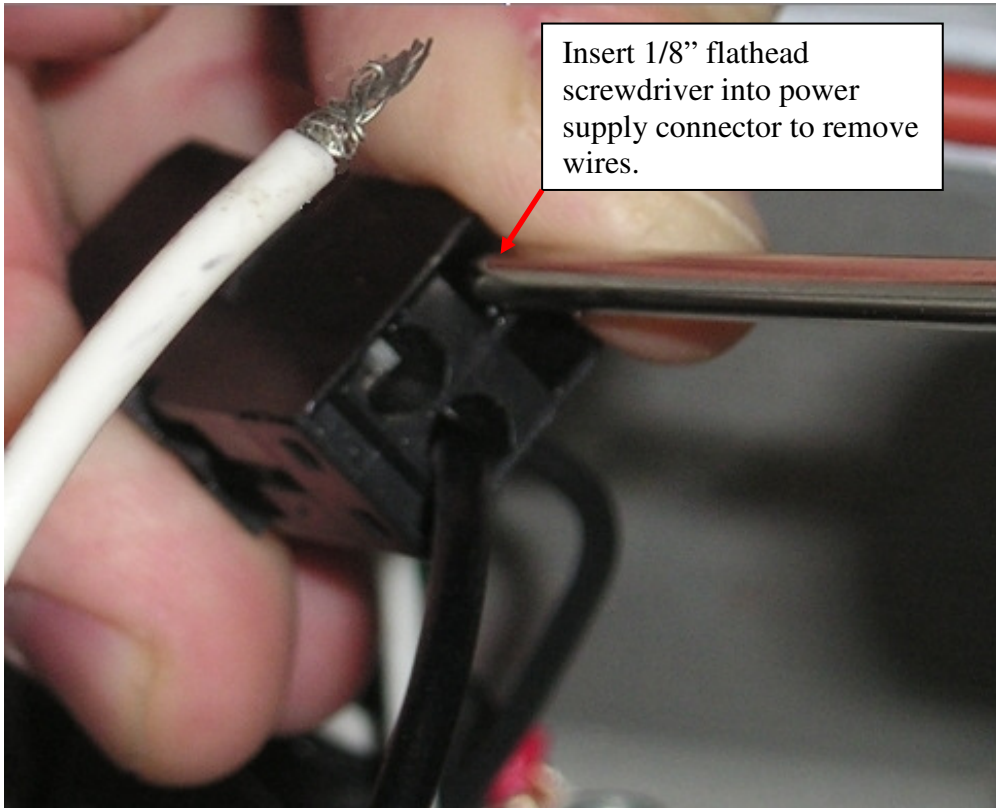


Figure 5-4 – Remove Wires from Power Supply Connector

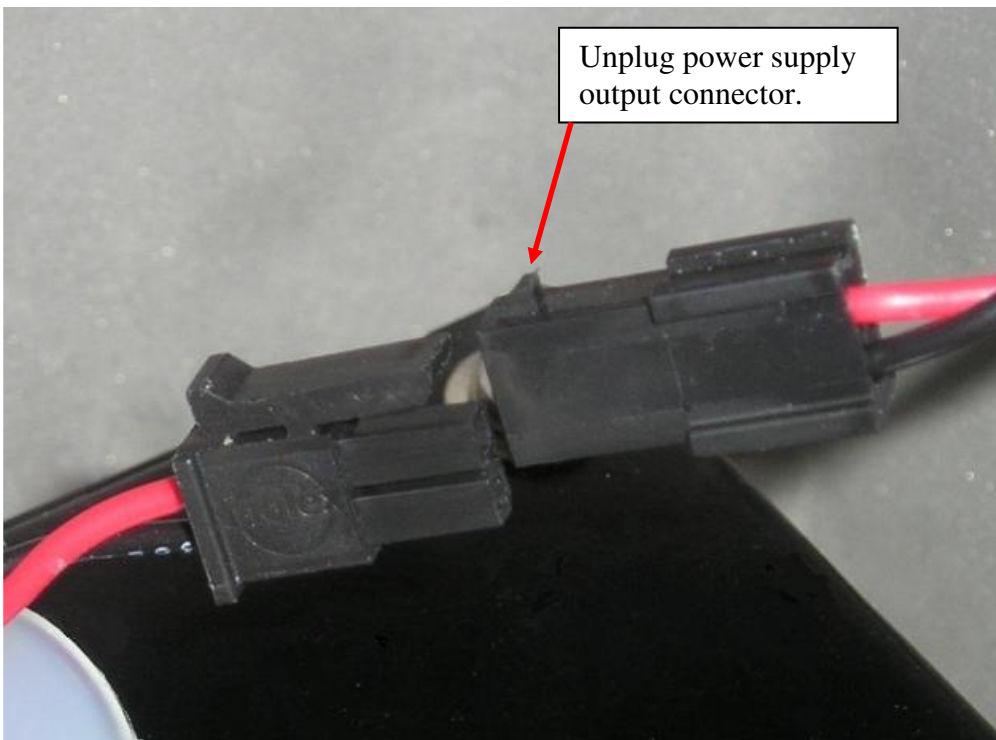


Figure 5-5 – Power Supply Output Connector



Figure 5-6 – Remove Surge Suppressor Assembly.

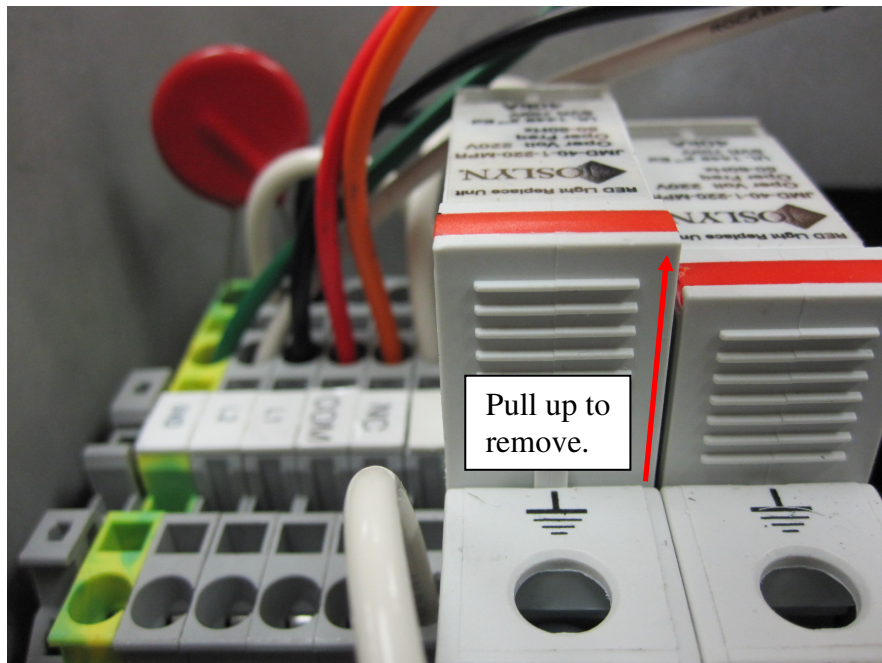
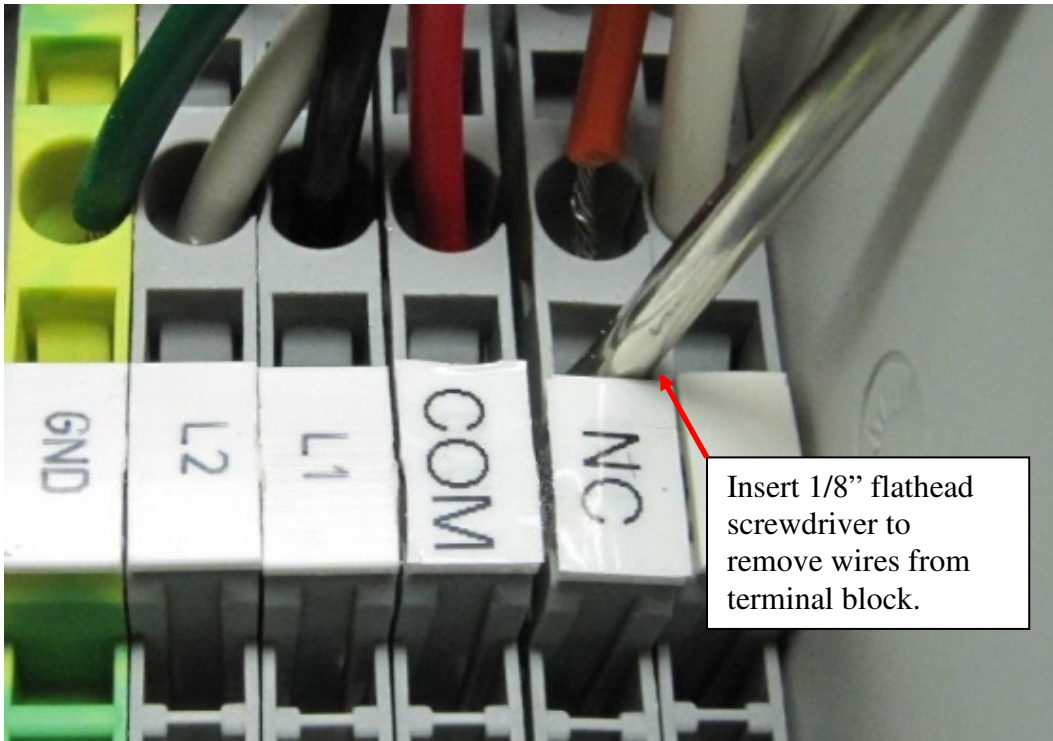
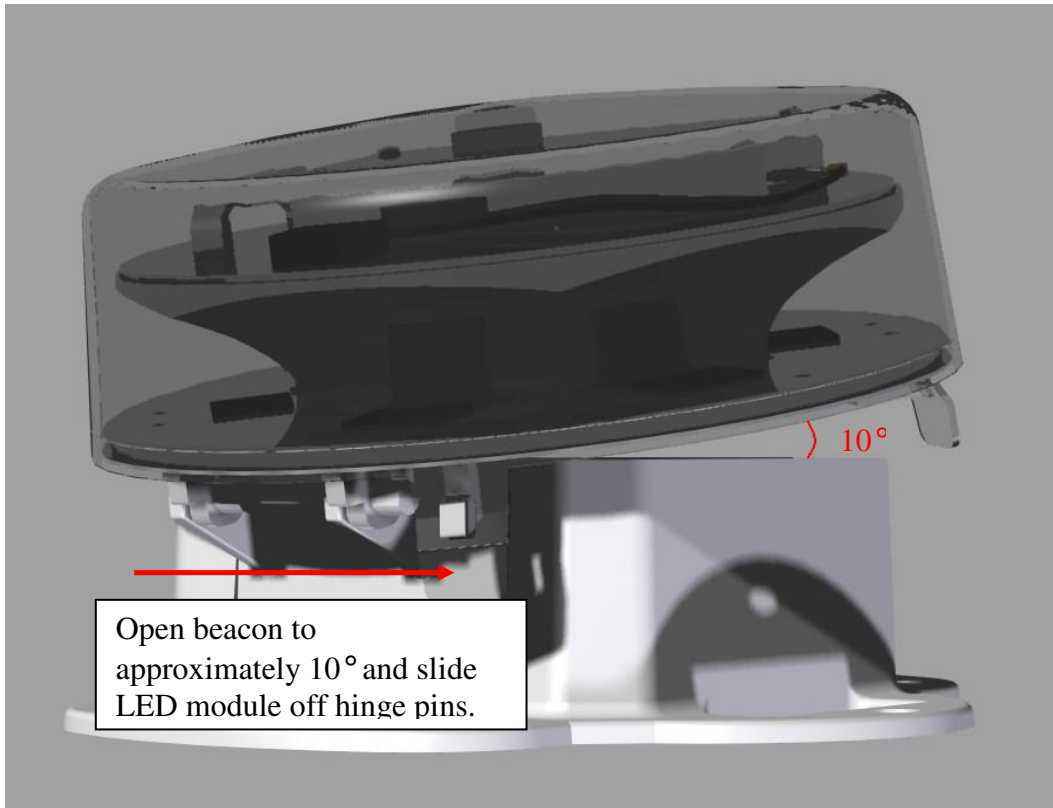


Figure 5-7 – Replace Surge Suppressor



Insert 1/8" flathead screwdriver to remove wires from terminal block.

Figure 5-8 – Remove Wires from Terminal Block



Open beacon to approximately 10° and slide LED module off hinge pins.

Figure 5-9 – Remove LED Module

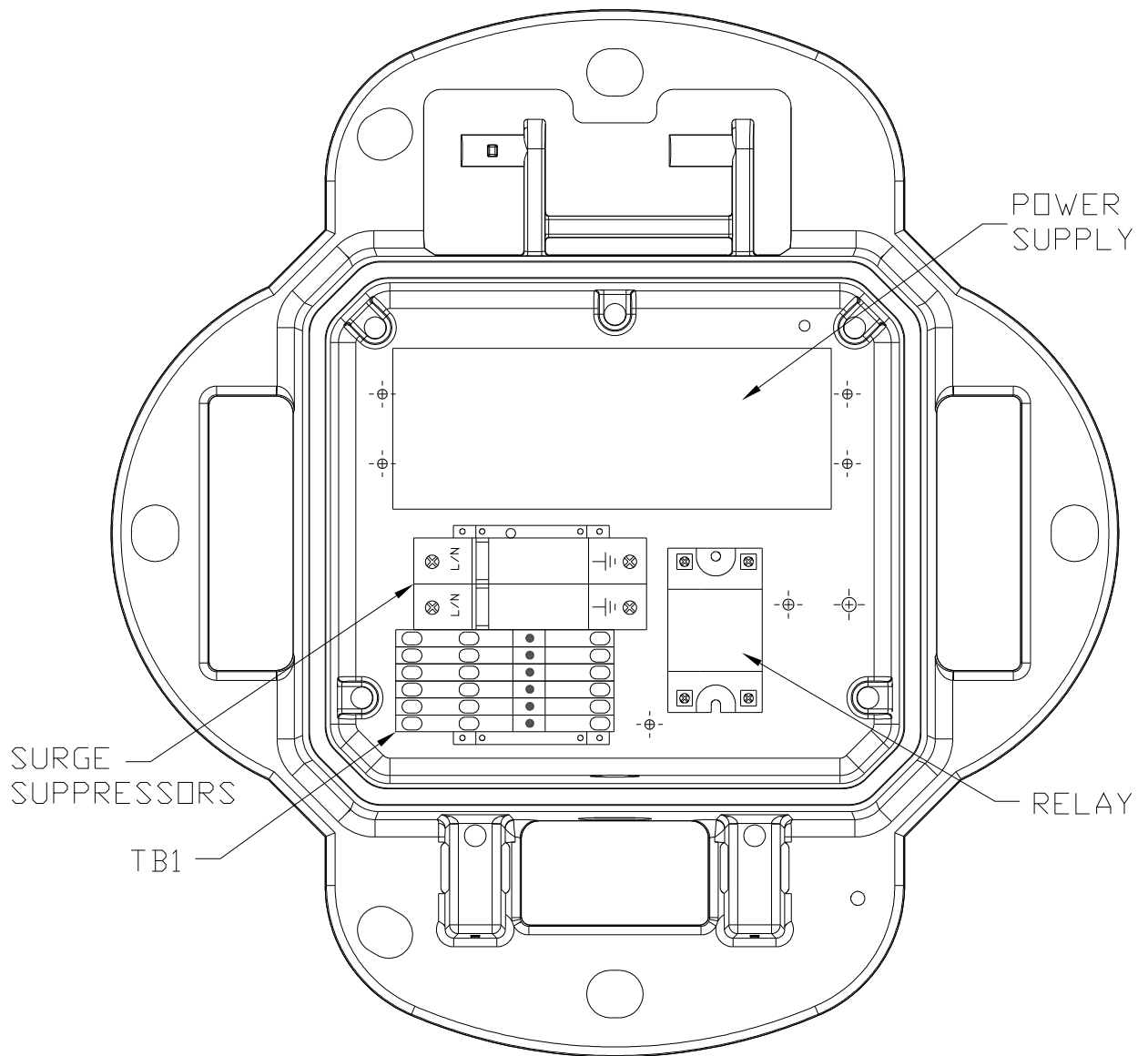


Figure 5-10 – Base Component Locations

5.4 Customer Service

Customer Service: (800) 821-5825

Telephone: (615) 261-2000

Facsimile: (615) 261-2600

Shipping Address:

Flash Technology
332 Nichol Mill Lane
Franklin, TN 37067

5.5 Ordering Parts

To order spare, replacement or optional parts contact Customer Service at 1-800-821-5825.

Table 5-5 – Optional Parts

Description	Part Number
Mounting Bracket Assembly Universal	3991210
Mounting Bracket Assembly (GE)	3991220
Mounting Bracket Assembly Standard	3991240
18 AWG / 10 Conductor Cable	4362100
Junction Box Assembly	1136105

Table 5-6 – Spare/Replacement Parts

Description	Part Number
LED Module (with controller)	11000010472
Dome	11000010306
Controller Assembly	11000010471
Surge Suppressor Assembly 220V 40kVA (2 required)	11000010290
Power Supply	11000010303
Wiring Harness	11000010288
Terminal Block Assembly (TB1)	11000010289
Ferrite (L1)	11000010496
Relay Solid State 120/240 VAC	11000011950
Varistor 230/240V Metal Oxide (MOV1)	6901081

Section 6 – Specifications

FAA Type	L-864 Red Obstruction Light
Flashes per Minute	20 FPM
Intensity	2,000 candela (nominal)
Input Voltage Range	120-240VAC
Input Current	0.5 to 1.0A RMS
Frequency	50/60Hz
Wattage	25W (steady)
Power Factor	>0.9
Operating Temperature	-40°F to +131°F (-40°C to +55°C)
Weight	
Beacon only	22 lbs (10 kg)
Cable, 50 Feet (15.2 m)	6 lbs (2.7 kg)
Beacon w/ 50 Feet (15.2 m) cable	28 lbs (12.7 kg)
Dimensions	
Height	8.4 in (213.4 mm)
Width	15.0 in (381 mm)
Bolt Hold Down Pattern	Standard Pattern Provided (See Figure 2-1)

Section 7 – Regulatory Compliance and Certifications

- ETL Certified to Federal Aviation Administration (FAA): AC No. (150/5345-43F).
- FAA Engineering Brief No. 67
- Compliant to Canadian Aviation Regulation (CAR): CAR 621.19
- International Civil Aviation Organization (ICAO): Annex 14, 4th Edition, July 2004

Return Material Authorization (RMA) Policy

IF A PRODUCT PURCHASED FROM FLASH TECHNOLOGY MUST BE RETURNED FOR ANY REASON (SUBJECT TO THE WARRANTY POLICY), PLEASE FOLLOW THE PROCEDURE BELOW:

Note: An RMA number must be requested from Flash Technology prior to shipment of any product. No returned product will be processed without an RMA number. This number will be the only reference necessary for returning and getting information on the product's progress.

Failure to follow the below procedure may result in additional charges and delays. Avoid unnecessary screening and evaluation charges by contacting Technical Support prior to returning material.

1. To initiate an RMA, customers should call Flash Technology's Network Operation Center at (800-821-5825) to receive technical assistance and a Service Notification number. The following information is required before a Service Notification number can be generated:

- Site Name/Number / FCC Registration number/ Call Letters or Airport Designator
- Site Owner (provide all that apply – owner, agent or subcontractor)
 - Contractor Name
 - Contractor Company
- Point of Contact Information: Name, Phone Number, Email Address, Fax Number and Cell Phone (or alternate phone number)
- Product's Serial Number
- Product's Model Number or part number
- Service Notification Number (if previously given)
- Reason for call, with a full description of the reported issue

2. The Service Notification number will then serve as a precursor to receiving an RMA number if it is determined that the product or equipment should be returned. To expedite the RMA process please provide:

- Return shipping method
- Purchase Order (if non-warranty repair)
- Shipping Address
- Bill To Address
- Any additional information to assist in resolving the issue or problem

3. A P.O. is required in advance for the replacement of product that may be under warranty. Flash will then, at its discretion issue a credit once the validity of the warranty has been determined.

4. A purchase order (P.O.) is also required in advance for all non-warranty repairs. NOTE: the purchase order is required prior to the issuance of the RMA number.

- If the P.O. number is available at the time of the call, an RMA number will be issued and the customer must then fax or email the P.O. with the RMA number as the reference, to ensure prompt processing.
- If the P.O. number is NOT available at the time of the call, a Service Notification Number will be given to the customer and should be referenced on the P.O. when faxed or emailed to RMA Rep.
- Flash will then, at its discretion repair or replace the defective product and return the product to the customer based on the shipping method selected.
- The customer may purchase a new product before sending in the existing product for repair. If Flash Technology determines the existing product is still covered under warranty a credit will be issued to the customer for the new product.

5. After receiving the Flash Technology RMA number, please adhere to the following packaging guidelines:

- All returned products should be packaged in a way to prevent damage in transit. Adequate packing should be provided taking into account the method of shipment.

Note: Flash Technology will not be responsible for damaged items if product is not returned in appropriate packaging.

6. All packages should clearly display the RMA number on the outside of all RMA shipping containers. RMA products (exact items and quantity) should be returned to:

Flash Technology
Attn: RMA #XXX
332 Nichol Mill Lane
Franklin, TN 37067

7. All RMA numbers:

- Are valid for 30 days. Products received after may result in extra screening and delays.
- Must have all required information provided before an RMA number is assigned.

Return to Stock Policy

- Parts can be returned within 60 days of ship date and will be subject to a 25% restocking fee. Product must:
 - Be in the original packaging
 - Not be damaged
- **After 60 days no parts can be returned.**