FLASH TECHNOLOGY

AN SPX DIVISION

FTS 2301 DC Red Light System

Reference Manual

Part Number F7912301

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

Front Matter

Abstract

This manual contains information and instructions for installing, operating and maintaining the FTS 2301 System Components.

Copyright

Copyright © 2010, 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 licenser.

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 controller components, under normal operating conditions, for 1 year. LED Lighting components are warranted for 5 years.

Table of Contents

FTS 2301 DC Red Light System i
Front Matter ii
Abstract ii
Copyright ii
Trademark Acknowledgements ii
Disclaimer ii
Warranty ii
List of Figures iv
List of Tables iv
Section 1 – Introduction 1
FTS 2301 System 1
Specifications 2
Operation 3
Controller 3
Beacon/Marker Connection 3
Manual Override Operation 3
Controller Board 3
Beacon / Marker Setpoint 7
Custom Setpoints 7
Checkout Procedure 8
Using the Photodiode 8
Using the Mode Override Switch 8
Section 2 – Outline, Mounting and Installation 9
Unpacking 9
Tools 9
Controller Access 9
Mounting 9
Location 9
Controller 9
Photodiode Sensor 9
Installation Wiring 10
Wiring 10
Lightning Protection 11
Installation Checklist 12
Section 3 – Maintenance and Troubleshooting 19
Maintenance 19
Troubleshooting 19
Component Removal and Replacement 19
PCB1 Controller Board 20
Section 4 – Major Replaceable Parts 21
Customer Service 21
Ordering Parts 21
Replacement Parts 21
Repackaging the Controller 21
RETURN MATERIAL AUTHORIZATION (RMA) POLICY 22

List of Figures

Figure 1-1 PCB1 Controller Board 4
Figure 2-1 FTC 2301 Controller Mounting and Outline 13
Figure 2-2 Photodiode Sensor (PHD 512) Mounting and Outline 14
Figure 2-3 Connection Diagram 15
Figure 2-4 FTC 2301 Typical Installation Wiring For Beacon and 1 Tier of Markers 16
Figure 2-5 FTC 2301 Typical Riser Diagram 17
Figure 2-6 FTC 2301 Recommended Alarm Wiring 18

List of Tables

Table 1-1 Custom Configuration Switch Block 5
Table 1-2 System Status LEDs 6
Table 3-1 Major Troubleshooting Symptoms 20
Table 4-1 Major Replaceable Parts 21

Section 1 – Introduction

FTS 2301 System

The FTS 2301 System is comprised of an FTC 2301 Controller and one or more DC powered L-810 / L-864 lighting fixtures.

The FTC 2301 Controller is a 12 – 48 VDC powered unit with two control channels. Each channel controls one L-864 LED Beacon[1] or up to eight L-810 LED marker lights.[2] The FTC 2301 Controller directs beacon flashing and reports light operating status. It allows photodiode or manual override mode control. The auxiliary synchronization input /output allows for synchronization of multiple FTC 2301 Controllers with no separation limit between units.[3]

[1] L-864 LED Beacon minimum voltage is 24 VDC.

[2] Up to four L-810 LED markers can be controlled at 12 VDC. Up to eight L-810 LED markers can be controlled at 18 – 48 VDC.

[3] An FTW 170-2 is required for separation greater than 500'.

Specifications

Parameter	Specification
FTC 2301 Controller	
Physical Dimensions (H x W x Depth, Wt) (See Figure 2-2 for mounting dimensions)	9.62 x 7.5 x 4.74 in., 4 lbs. 244 x 191 x 121 mm., 1.81 kg
Operating Temperature Range	-40 to +85 degrees Centigrade
DC Input Voltage	12 – 48 VDC
Power Consumption	4 Watts
Flash Rate	Steady / 20 fpm / 30 fpm
Alarm Relay Contact Rating	10 Amp @ 250 VAC / 8 Amp @ 24 VDC, Isolated contacts
L-864 LED Beacon	
Physical Dimensions (H x Diameter, Wt)	8.4 x 15.00 in., 20 lbs / 213 x 381, 12.7 kg
Flash Intensity (nominal)	Night (Red) 2,000 ± 25% ECD
Beam Spread	Horizontal: 360º / Vertical: 3º
Power Requirement:	24 Watts (Steady)
L-810 LED Marker (M type):	
Physical Dimensions (H x Diameter, Wt):	
OL-1	5.25 x 5.3 in, 1.8 lbs / 133.4 x 134.6 mm, 0.82 kg
OL-2	6.0 x 11 in, 4.0 lbs / 152.4 x 279.4 mm, 1.82 kg
Intensity (nominal):	Night (Red) 32.5 ± 25% ECD
Beam Spread:	Horizontal: 360º / Vertical: 10º
Power Requirement:	3.5 Watts (per fixture)

Operation

Controller

The controller begins programmed operation as soon as the main power is applied. The controller will be programmed for your application at the factory and it is fully field customizable.

Beacon/Marker Connection

The FTC 2301 controller has two connections for beacons and/or markers labeled Channel A and Channel B. Either channel can be configured as steady or flashing. The Channel A connections are at J1 terminals 4, 5 and 6. Connect the positive lead to J1 terminal 4 and the negative lead at J1 terminal 5. The ground connection is at terminal 6. The Channel B connections are at J1 terminals 7, 8 and 9. Connect the positive lead at J1 terminal 7, and the negative lead at J1 terminal 8. The ground connection is at terminal 9.

Manual Override Operation

Operation of the unit can be manually controlled by pressing the Manual Mode button. Press the button once for night mode and twice for day mode. The unit will stay in the selected mode for 30 minutes. The Manual Mode LED will be lit and the corresponding mode LED (Day or Night) will blink.

Controller Board

PCB1 has switches, connectors, and LEDs whose functions are described in the following headings. Figure 1-1 provides a pictorial of the standard PCB1 Controller Board.

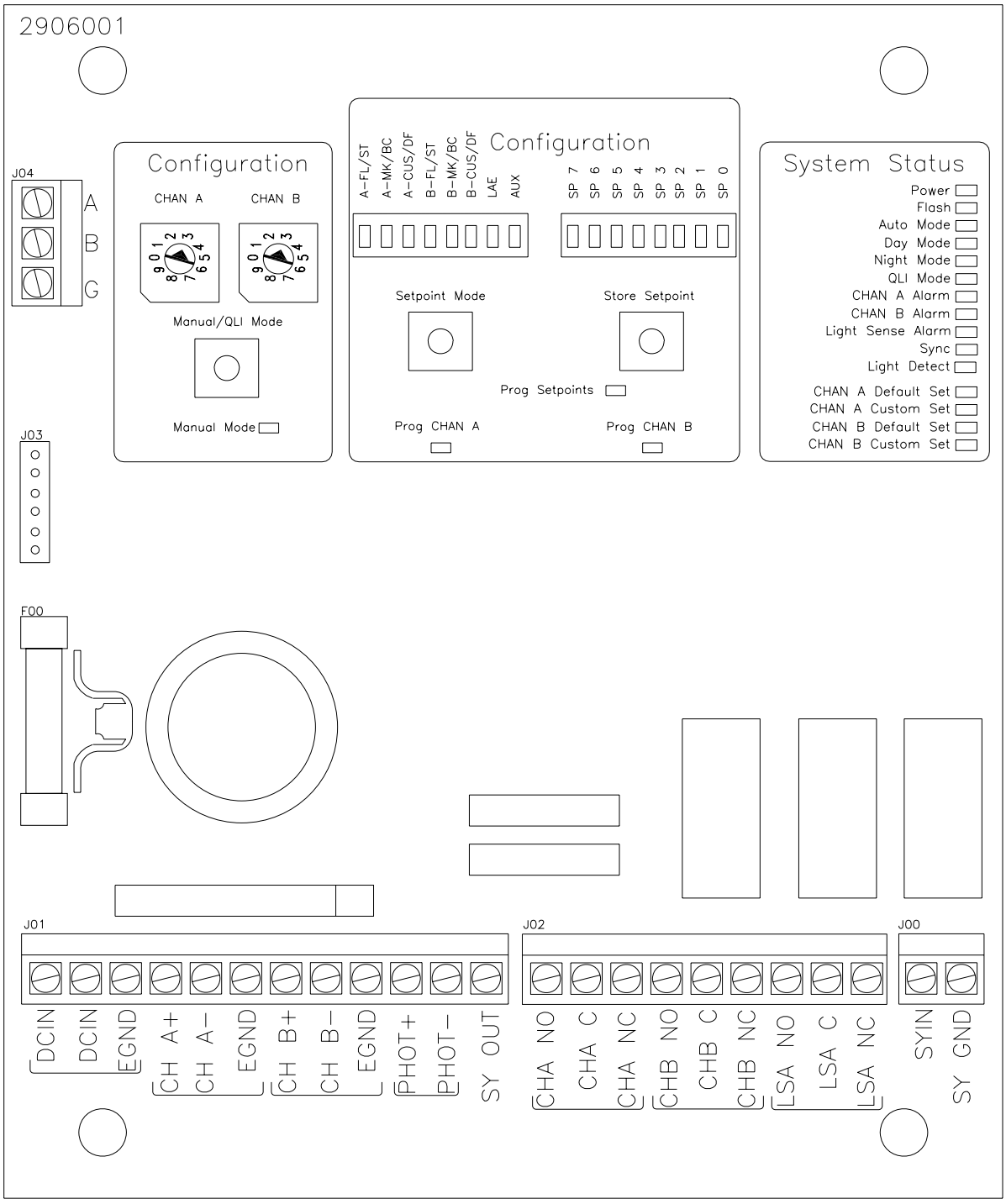


Figure 1-1 PCB1 Controller Board

Table 1-1 Custom Configuration Switch Block
(left block)

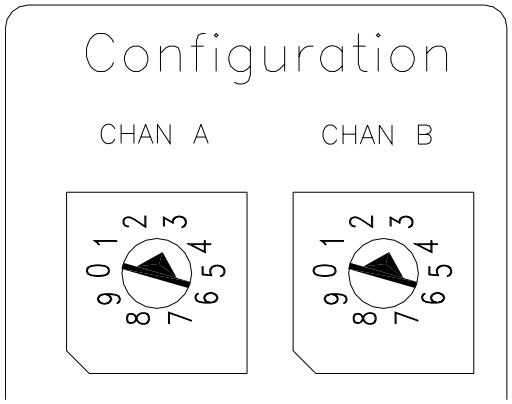
Switch	On	Off
A-FL/ST	Channel A Flash	Channel A Steady
A-MK/BC	Channel A is configured for LED Beacon	Channel A is configured for LED Marker
A-CUS/DF	Channel A is configured for custom setpoints. *Note: Switch "*A-MK/BC" *is ignored if Switch "*A-CUS/DF" *is "On".*	Channel A is configured for default programming.
B-FL/ST	Channel B Flash	Channel B Steady
B-MK/BC	Channel B is configured for LED Beacon	Channel B is configured for LED Marker
B-CUS/DF	Channel B is configured for custom setpoints. *Note: Switch "*B-MK/BC" *is ignored if Switch "*B-CUS/DF" *is "On".*	Channel B is configured for default programming.
LAE	Light sense alarm is enabled. System will alarm if the photodiode does not trigger a mode change for 19 hours.	Light sense alarm is disabled. Switch "LAE" should be set to the "Off" position if a photodiode is not installed.
AUX	AUX	Reserved for future applications.

Switch Block 2 (right block) is reserved for future applications.

Table 1-2 System Status LEDs

LED	Function
Power	Input power is applied
Flash	Blinks in sync with the flash output to Channel A and Channel B.
Auto Mode	The unit is being controlled by the Light Sense Input.
Day Mode	The unit is operating in Day Mode. Steady for automatic operation and blinking for manual operation.
Night Mode	The unit is operating in Night Mode. Steady for automatic operation and blinking for manual operation.
QLI Mode	Indicates that a QLI is being performed.
ChA Alarm	An alarm is present on Channel A.
ChB Alarm	An alarm is present on Channel B.
Light Sense Alarm	The unit has fialed to change modes for more than 19 hours via the Photodiode sensor.
Sync	Blinking indicates that a Sync signal has been received from an external source.
Light Detect	Indicates that a photodiode is connected to the unit.
ChA Default Set	Indicates that Switch “A-CUS/DF” is “Off” and Channel A is operating with factory default setpoints.
ChA Custom Set	Indicates that Switch “A-CUS/DF” is “On” and Channel A is operating with custom setpoints.
ChB Default Set	Indicates that Switch “B-CUS/DF” is “Off” and Channel B is operating with factory default setpoints.
ChB Custom Set	Indicates that Switch “B-CUS/DF” is “On” and Channel B is operating with custom setpoints.

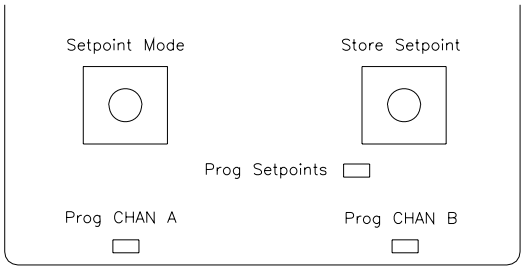
Beacon / Marker Setpoint



Channel A
Set the rotary switch to match the total number of markers installed. Set the rotary switch to 1 if a beacon is connected to Channel A. The unit will alarm when the current falls below the number selected.

Channel B
Set the rotary switch to match the total number of markers installed. Set the rotary switch to 1 if a beacon is connected to Channel B. The unit will alarm when the current falls below the number selected.

Custom Setpoints



The FTC 2301 can be configured to work with various LED markers and beacons. The following steps describe how to change the setpoints for each channel.

1. Set the rotary configuration dials to match the number of fixtures connected to each channel.
2. Press and hold the “Setpoint Mode” button for 5 seconds.
   - The “Prog Setpoints” LED will be illuminated.
   - Channel A program mode is activated.
   - Manual mode “Night” is activated.
3. Press and hold the “Store Setpoint” button for 5 seconds to set new Channel A parameters.
   - “Prog Setpoints” LED blinks while the button is pressed and goes solid when the new setpoint is confirmed.
4. Press “Setpoint Mode” button (briefly) to program Channel B.
   - “Prog Setpoints” LED blinks while the button is pressed and goes solid when the new setpoint is confirmed.
5. Press “Setpoint Mode” button (briefly) to return to normal operation.

Checkout Procedure

Using the Photodiode

Note: Verify that Switch "LAE" on Switchblock #1 is not in the "Off" position.

Cover the photodiode to block it from all light. With no alarms or errors and after a 60 second delay:

- The system is now in NIGHT mode.
- The beacon/marker(s) connected to Channel A should be on and operating as programmed.
- The beacon/marker(s) connected to Channel B should be on and operating as programmed.

Uncover the photodiode so as to allow light to strike it, or shine a light on it. With no alarms or errors:

- The system is now in DAY mode.
- The beacon(s)/marker(s) connected to both channels should turn off.

Using the Mode Override Switch

1. Press the "Manual Mode" switch.

   With no alarms or errors:

   - The system is now in NIGHT mode.
   - The beacon(s) and/or marker(s) should turn on and operate as programmed. See Table 1-1.

2. Press the "Manual Mode" switch again.

   With no alarms or errors:

   - The system is now in DAY mode.
   - The beacon(s)/marker(s) should be off.

If the operation is not as described, go to Troubleshooting in Section 3.

Section 2 – Outline, Mounting and Installation

Unpacking

Inspect shipping cartons for signs of damage before opening. Check package contents against the packing list and inspect each item for visible damage, and promptly report damage claims to the freight handler.

Tools

• 1/8” non-flared flat blade screw driver
• Digital volt-ohm meter
• Wire strippers
• Tools required to mount controller.

Controller Access

A quick-release latch secures the enclosure’s door. When you release the latch you can open the door for internal access.

Mounting

Outline and mounting dimensions for the controller are shown in Figure 2-1 and those for the photodiode are shown in Figure 2-2.

Location

Locate the FTC 2301 Controller in an area with restricted access. You can place the controller any practical distance from the beacon(s) / marker(s). Do not allow the voltage drop at the fixture to exceed 3% of the supply voltage due to line loss.

Controller

Use the following guidelines for mounting the controller:

- Ensure that adequate space exists around the equipment for access during installation, maintenance and servicing.
- Allow space for air flow around the controller.

FTCA does not furnish mounting hardware unless you order it as part of an installation kit.

Photodiode Sensor

Mounting and outline dimensions for the photodiode are shown in Figure 2-2.

Use the following guidelines for the photodiode:

Locate the photodiode where it has an unobstructed view of the polar sky.

It must not view direct or reflected artificial light.

The photodiode may be supported directly by electrical conduit.

Mount the photodiode vertically on the top end of a vertical length of conduit to prevent water from entering and damaging the unit.

Installation Wiring

Refer to Figures 2-3 through 2-5 for general system wiring diagrams.

NOTE

Only general information for a typical installation is presented here, and more specific information may be needed for your site.

Wiring

NOTE

If installation drawings prepared specifically for your site disagree with information provided in this manual, the site installation drawings should take precedence. Consult any site-specific installation wiring diagram supplied with your equipment.

FTCA wiring diagrams define only minimum requirements recommended for satisfactory equipment operation. It is the responsibility of the installer to comply with all applicable electrical codes.

To wire the PHD 512, use #16 AWG stranded wire. The photodiode is supplied with an attached cable.

All installation wiring should have an insulation rating of 600 volts.

Wire size for the lights on each wire run is calculated from the number of beacons and/or marker lights, and the length of the wire on that run. Wire for the lights should be sized so that the voltage drop does not exceed 3%. Total power required is the sum of all lights plus 4 watts additional for the FTC 2301 Controller. Consult power requirements for each type of light in the Specifications table in Section 1.

Securing the Cable

Flash Technology recommends the following method for securing the beacon and marker cable to a skeletal structure:

1. Run the cable along one of the tower legs and wrap two full turns of two-inch Scotchwrap™ #50 tape, or the equivalent, around the cable and tower leg at regular intervals of about 5 feet (1.5 meters).

2. Wrap three full turns of one-inch Scotchwrap Filament #890 tape, or the equivalent, over the Scotchwrap #50 tape.

3. Wrap four full turns of two-inch Scotchwrap #50 tape, or the equivalent, over the Scotchwrap Filament #890 tape.

4. Perform steps 1 through 4 directly above and below any tower leg flanges that the cable may cross. The cable should be spaced approximately 1 inch from the edge of each flange to provide stress relief from vibration that may damage the jacket of the cable. A 5 foot service loop should be located near the beacon and the controller.

Figure 2-3 shows the FTC 2301 Controller wiring in a typical beacon/marker installation.

Make electrical connections to J01 at the following terminals:

- Main power DCIN Terminals 1 & 2
- Ground at Terminal 3.
- Channel A (CHA+ & -) at Terminals 4 & 5.
- Channel A (EGND) Ground at Terminal 6.
- Channel B (CHB+ & -) at Terminals 7 & 8.
- Channel B (EGND) Ground at Terminal 9.
- Photodiode (PHOT + & -) Terminals 10 & 11.
- Auxiliary Sync input (AUX IN) at Terminal 12.

Note:

Ground the wire shield around the photodiode wires, if one is present. Do not ground the shield to the photodiode, but ground it at the Controller at J01 Terminal 3.

Alarm monitoring connections for Channel A, Channel B and the Photodiode are provided at J02 Terminals 1 – 9. Each alarm point offers both NO and NC alarm connections.

Note

To ensure proper alarm monitoring, Flash Technology recommends monitoring Normally Closed contacts (open on alarm).

Lightning Protection

All Flash Technology equipment is designed to withstand severe transient over-voltages. However, a lightning arresting system should be installed to prevent eventual damage by lightning. Transient suppressors from line-to-line and line-to neutral are recommended at the primary power load center.

Installation Checklist

Use the following checklist when installing the system:

1. Equipment Damage:
   Inspect all equipment for damage.
2. Required Equipment:
   Verify the received equipment against the packing list to ensure completeness.
3. Consult site installation drawings for placement, mounting, wiring details, and power phasing.
4. Provide a power disconnect switch or a circuit breaker.
5. Check the lightning protection system.
6. Be sure that junction boxes will drain properly.
7. Position and mount the controller allowing adequate clearance to open the cover.
   - Ensure that the unit is mounted upright.
   - Check the internal hardware to ensure that all screws are tight.
   - Ensure that no holes are punched or drilled on the top surface of the enclosure.
   - Ensure that air can flow around the enclosure.

Complete the following steps before applying power:

8. Examine the installation drawings:
   - Check for proper incoming service voltage. Verify that primary power voltage is the value stated on the ID plate.
   - Wire each unit according to the instructions.
   - Check all electrical connections for tightness.
   - Check all terminal strip connections for tightness.
   - If external alarm detection circuit responds to closed contacts, ensure that they are wired to the contacts that close on alarm (C & NO).
   - If external alarm detection circuit responds to open contacts, ensure that they are wired to the contacts that open on alarm (C & NC).
   - Protect alarm wiring by using shielded wires, grounding the shield, and placing wires in a conduit.
   - Connect the photodiode to the controller: the white wire to ‘PHOT +” Terminal 10 and the black wire to “PHOT -” Terminal 11.

After completing all the steps listed above, turn on the power and perform an operational checkout from procedures in Section 3 of this manual.

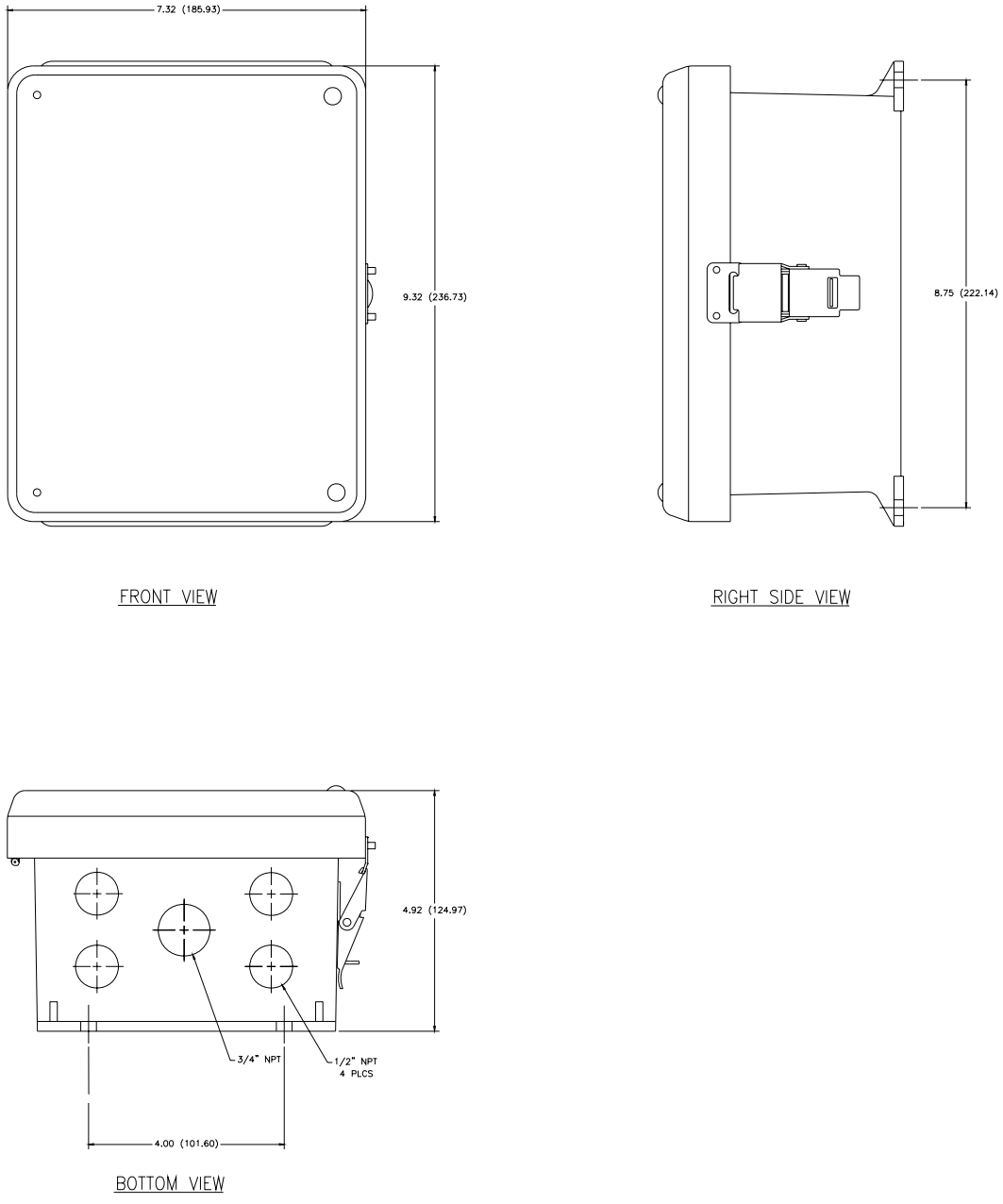


Figure 2-1 FTC 2301 Controller Mounting and Outline

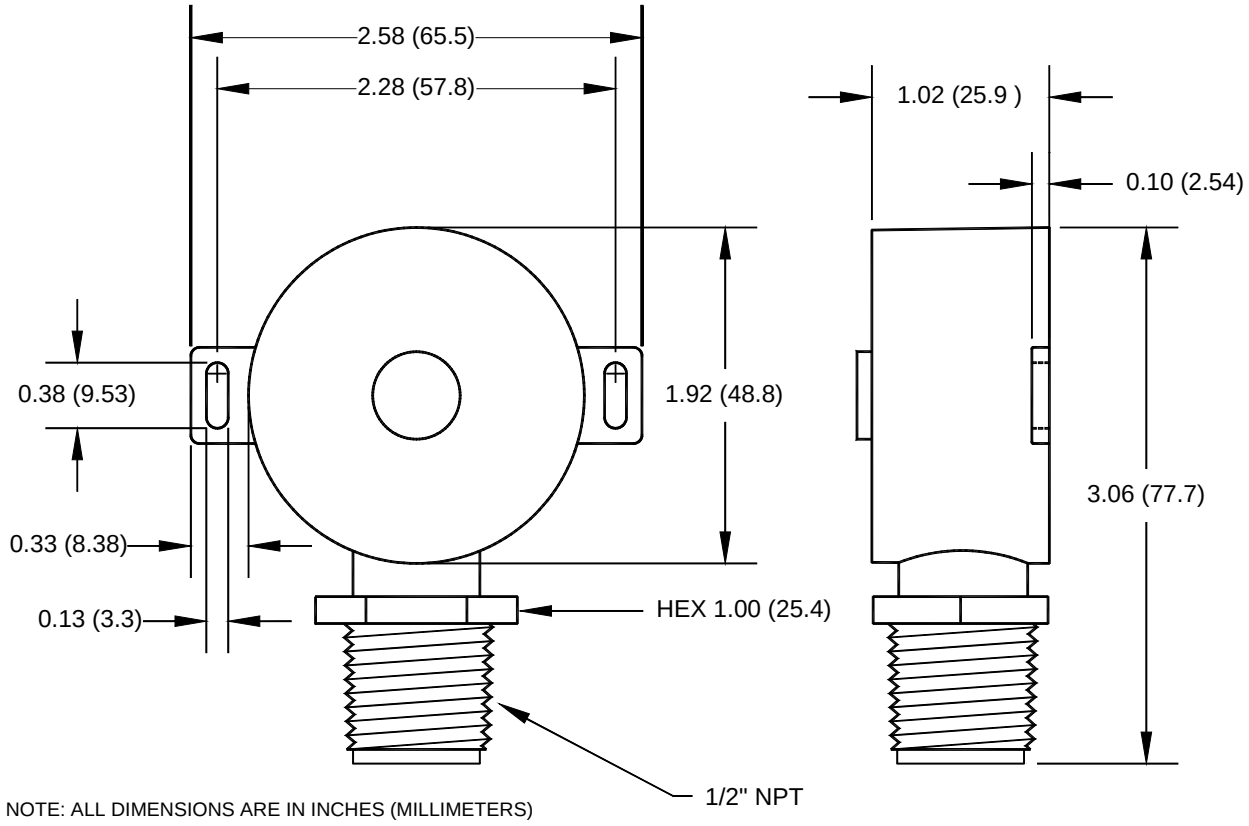


Figure 2-2 Photodiode Sensor (PHD 512) Mounting and Outline

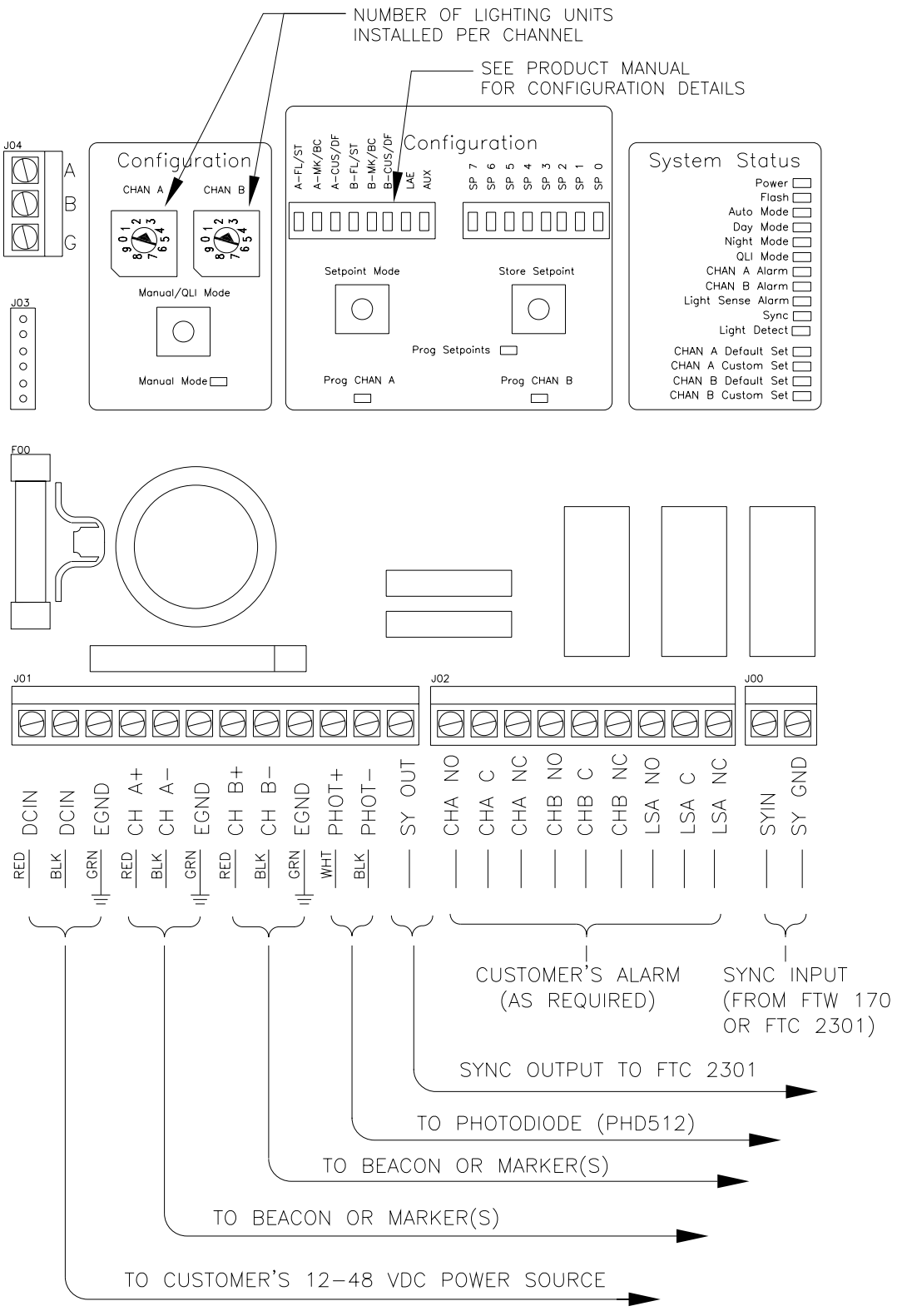


Figure 2-3 Connection Diagram

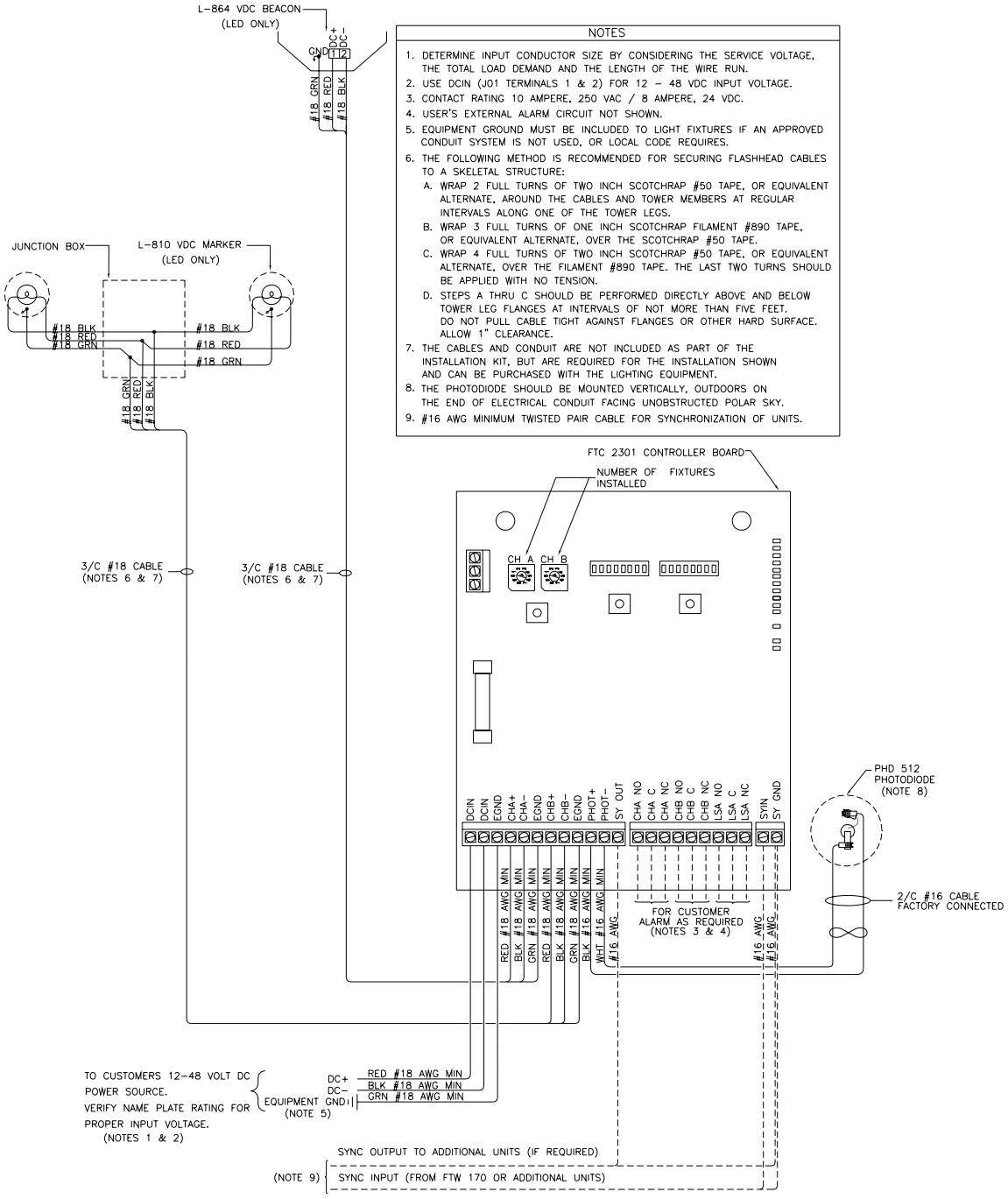


Figure 2-4 FTC 2301 Typical Installation Wiring For Beacon and 1 Tier of Markers

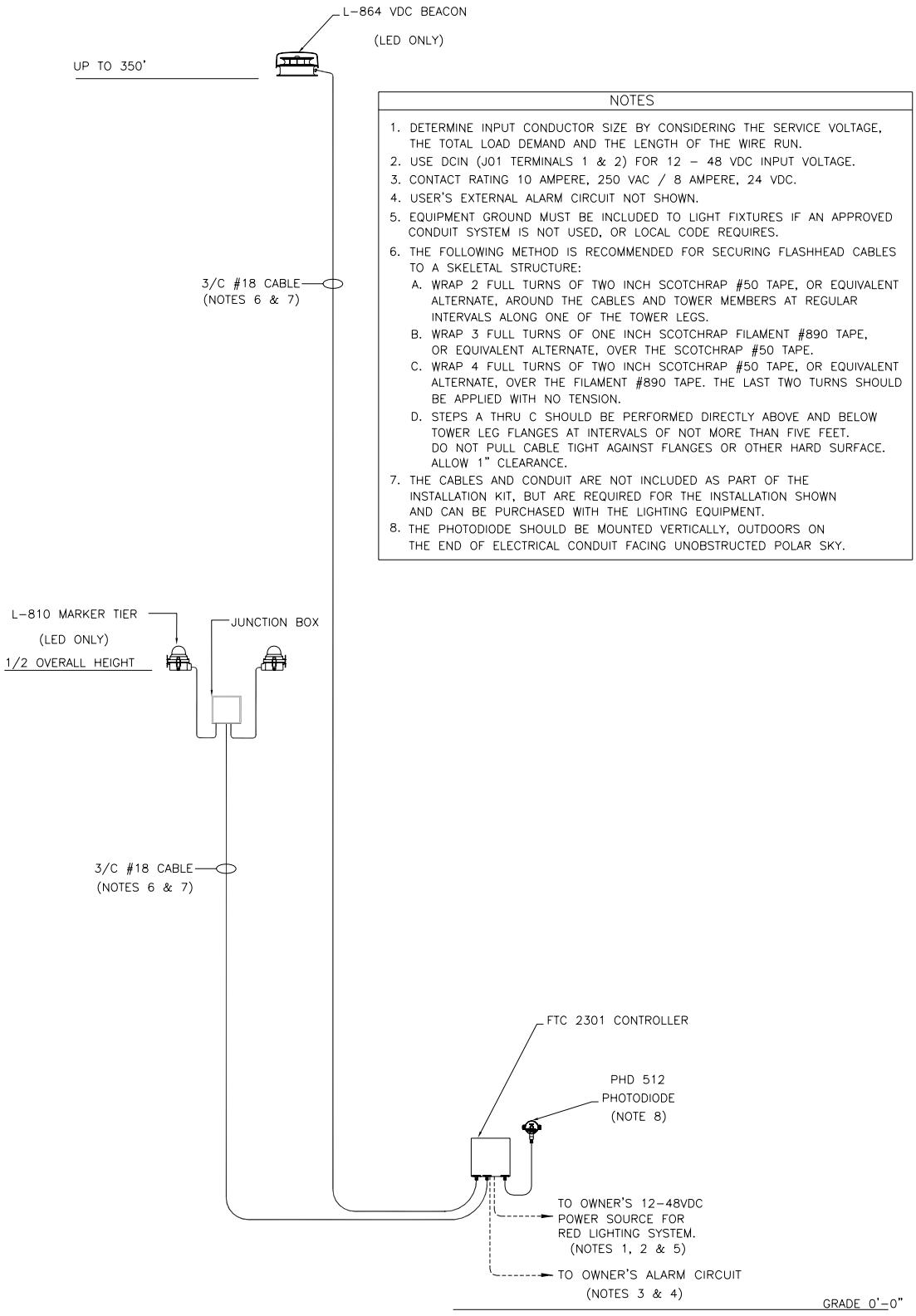


Figure 2-5 FTC 2301 Typical Riser Diagram

FLASH TECHNOLOGY ALARM RELAY CONTACTS ARE PROTECTED FROM VOLTAGE TRANSIENTS OF UP TO 1000 VOLTS. HOWEVER, WIRED ALARM CONTACTS CAN BE SUBJECTED TO VOLTAGES GREATER THAN 1000 VOLTS BECAUSE OF LIGHTNING. THE FOLLOWING RECOMMENDATIONS MINIMIZE THE POSSIBILITY OF DAMAGE CAUSED BY HIGH VOLTAGE TRANSIENTS ON THE ALARM RELAY CONTACTS OF FLASH TECHNOLOGY POWER CONVERTERS.

THE INSTALLER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE ELECTRICAL CODES.

NOTES:

1. USE SHIELDED CABLE TO ATTACH FLASH TECHNOLOGY ALARM RELAY CONTACTS TO EXTERNAL EQUIPMENT.
2. ATTACH THE SHIELD WIRE TO A GND (GROUND) TERMINAL ON THE FLASH TECHNOLOGY EQUIPMENT AS SHOWN.
3. WHEN POSSIBLE, ROUTE ALARM CONTACT WIRING IN METALLIC, GROUNDED CONDUIT.
4. FOR ADDITIONAL PROTECTION, ADD MOVs (VARISTORS) FROM EACH ALARM RELAY CONTACT TERMINAL TO A GND TERMINAL AT THE FLASH TECHNOLOGY POWER CONVERTER.

Figure 2-6 FTC 2301 Recommended Alarm Wiring

Section 3 – Maintenance and Troubleshooting

Maintenance

The circuit boards should be kept free of accumulated dust. Brush and vacuum as necessary.

NOTE

Do not use compressed air to clean this equipment.

Troubleshooting

The most effective troubleshooting procedure begins with observing the behavior of the system. This often leads directly to a faulty component or other abnormal condition.

Table 3-1 contains information to help locate the cause of a problem.

Component Removal and Replacement

Note the wiring connections and wire colors when you remove wires from their connections. These must be replaced exactly as they were.

For all service that requires removal or replacement, turn off or disconnect the power.

Table 3-1 Major Troubleshooting Symptoms

Symptom	Possible Cause in Likely Order of Frequency
All lights fail	- Main power failure - External circuit breaker - PCB1 failure
Single light fails	- Check wiring for short or open in that line -Failure of individual lighting fixture
Erratic operation	- Loose connections - PCB1
Alarm	- Normal if a light or tier is out -PCB1 is configured incorrectly for the connected lighting equipment. *See Table 1-1 and Beacon/ Marker Setpoint.*
False alarm	- Check for correct alarm connections: normally open (NO) contacts close on alarm, normally closed (NC) contacts open on alarm - PCB1 failure
Lights do not flash	-Switch “A-FL/ST” and/or Switch “B-FL/ST” are set to the “Off” position. -PCB1 failure.
Lights operate continuously	-A photodiode is not connected at J01 terminals 10 & 11. -Photodiode failure. -PCB1 failure.
Light Sense alarm will not reset	-Alarm can only be reset by a mode transition controlled by the photodiode. -Check the photodiode connections.

PCB1 Controller Board

Removal

1. Disconnect cable connectors and wires.
2. Loosen four Phillips-head screws located near the corners of PCB1.
3. Lift the board out of the enclosure.

Replacement

Reverse the removal procedure.

Section 4 – Major Replaceable Parts

Customer Service

Customer Service: 1-800-821-5825

Telephone: (615) 261-2000

Facsimile: (615) 261-2600

Internet Address:
http://www.flashtechnology.com

Shipping Address:
Flash Technology
332 Nichol Mill Lane
Franklin, TN 37067

Ordering Parts

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

Replacement Parts

Table 4-1 lists the major replaceable parts for the system. Refer to Figure 1-1 for component locations.

Repackaging the Controller

Equipment must be returned in a container that provides maximum protection during shipping and handling.

If the original cartons and packaging material are no longer available, package the Controller in a strong double corrugated carton using a double thickness cardboard container and adequate padding. Do not drop. Use appropriate warning labels on the outside of the container.

Table 4-1 Major Replaceable Parts

Item	Description	Part Number
F1	†Fuse, 20A	11000011529
PCB1	*Controller Board	2906001
Photodiode	†PHD 512	1855512
Cable	18 AWG/3C Cable (for Beacon, Marker & Input Power)	5991990
FH 3610-2DC	L-864 24-48VDC LED Beacon	11000010811
MKR 3701 (Single)	L-810 OL1 LED 3.5W DC Marker	1116000
MKR 3702 (Double)	L-810 OL2 LED 7W DC Marker	1116600

† Recommended as a spare part.
* Varies by configuration ordered.

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 National Operations Center (NOC) 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 purchase order (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 P.O. is also required in advance for all non-warranty repairs. NOTE: the P.O. 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 Technology 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.**