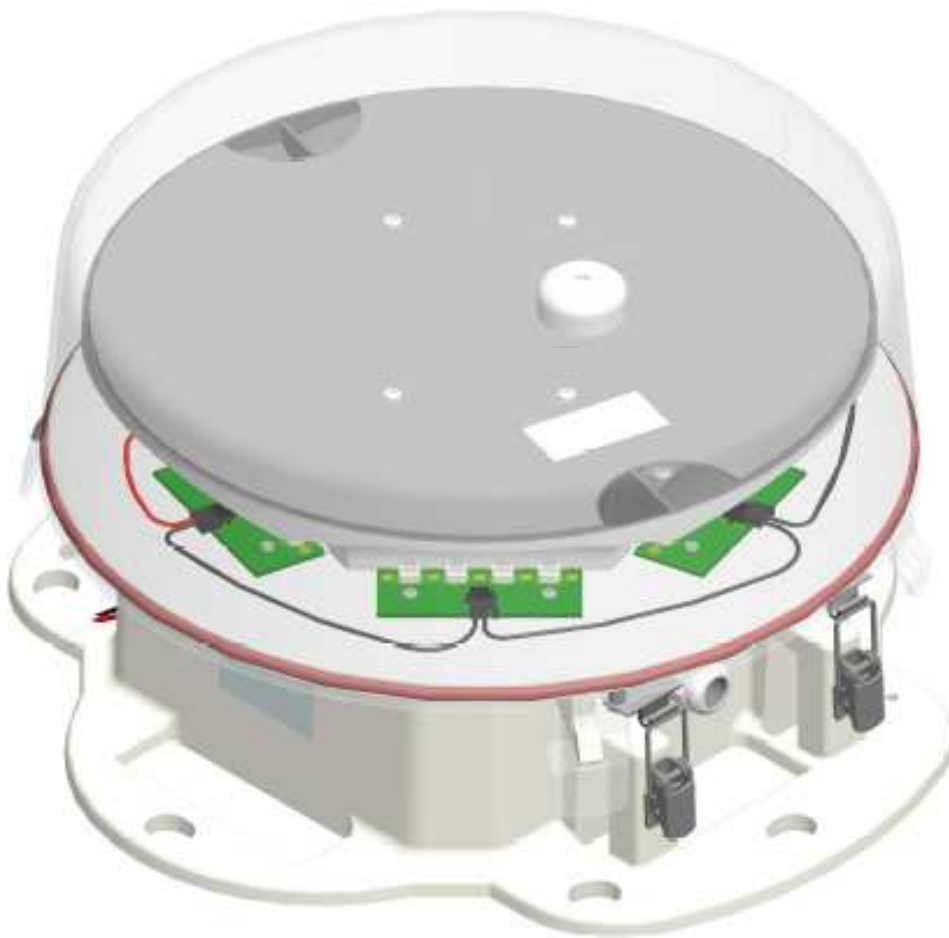

INSTALLATION AND MAINTENANCE MANUAL
FOR
P/N: D464R13001 120/240VAC, 50/60 Hz,
L864 RED / INFRARED MEDIUM INTENSITY
BEACON



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Section 1: Overview

The Dialight Flashing Red Beacon is designed for the lighting of radio towers, wind generators and other obstructions to aerial navigation, as specified by the FAA, FCC, ICAO and Transport Canada.

The L-864 Series D464 Infrared (IR) obstruction light incorporates both Red and IR LEDs in a single unit to ensure visibility around military bases, airfield perimeters, buildings, towers and other obstructions for aircraft pilots, both during normal flight or when aided by night vision systems. Night Vision Goggles (NVGs) and Aviator's Night Vision Imaging System (ANVIS) often employ Class A, B, and C filters. These filters can reduce LED sources that emit light in the visible spectrum. The Vigilant L-864 D464 Series overcomes this obstacle by combining visible red LEDs and IR LEDs in a single unit.

The L-864 Flashing Red Beacon as shown in Figure 1, (hereafter referred to as the Beacon) operates from 120 / 240VAC 50/60 Hz. The beacon consists of visible-light and Infrared-light, high Performance LED's that provide the light output equivalent to an incandescent fixture while consuming a fraction of the electrical power. This manual provides guidance and recommendations for the installation and testing of the beacon assembly. Please read this document in its entirety before installing the Beacon.

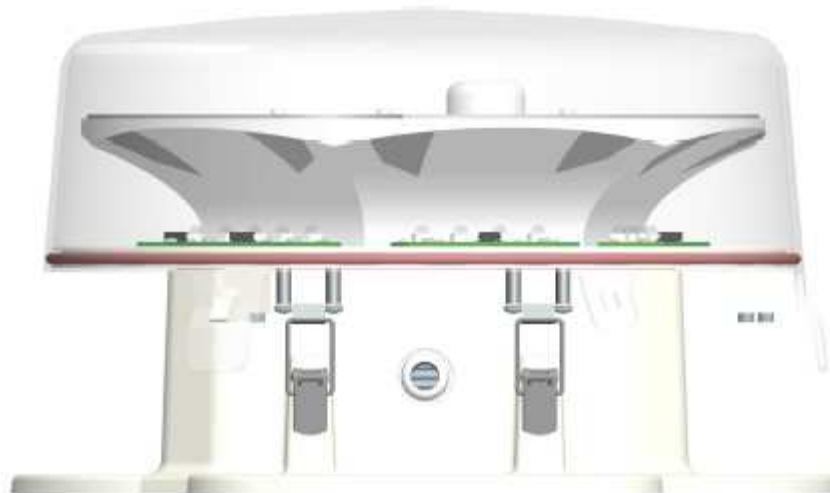


Figure 1
L-864 Flashing Red Beacon Assembly

Section 2: Wiring and Mounting

Warning:

Remove power from all wiring and circuitry before installing or working on the Beacon.

Wiring the Beacon

The Beacon only requires a connection to 120 / 240 VAC, 50/60 Hz power. The ground wire must be connected for proper operation and protection of the Beacon.

Mounting the Beacon

Dialight recommends the installation of one or more lightning rods near the installed Beacon. The lightning rods should extend a minimum of three feet above the height of the Beacon.

The Beacon is mounted to the tower pedestal utilizing customer supplied 1/2" hardware. Six mounting holes are provided on the Beacon base (Figure 2). These mounting holes will align with most tower pedestals. The Beacon must be installed level according to the bulls-eye level inside the light engine to maintain light output in accordance with FAA requirements.

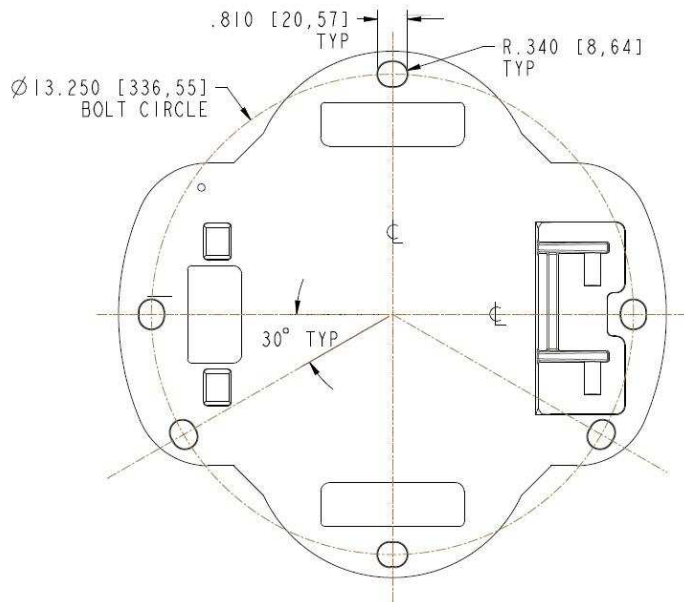


Figure 2
Base - Bottom View

Section 3: Operation and Test

Prior to installation, it is recommended that the unit be tested to ensure no damage was incurred during shipping. This is accomplished by applying power to the beacon. Visual verification of the functioning of the Beacon will indicate proper performance.

Upon completion of this test, the installation may proceed.

Section 4: Beacon Theory of Operation

4.0 System Overview

The block diagram in Figure 4 shows the major components of a typical Beacon installation. The parts of the system are the LED Beacon and Controller. The LED Beacon is made up of one LED module, which lights when current passes through it. The LED Beacon contains its own internal power supply. The Beacon is designed for use with an external controller. This external controller provides the properly timed flashing signal, fault monitoring and alarm interfaces.

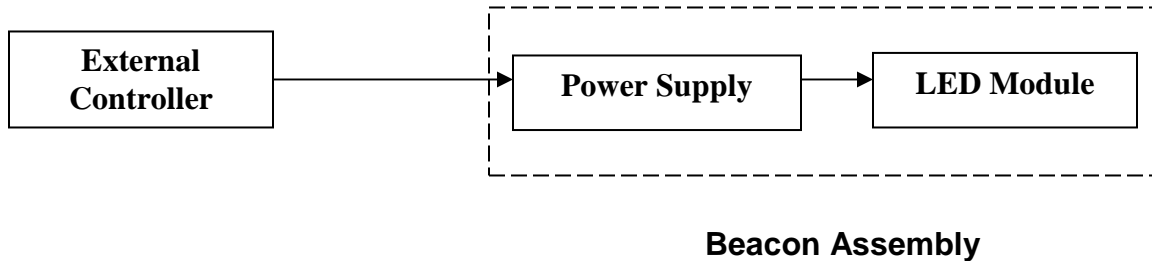


Figure 3 - System Block Diagram

4.1 Lightning Protection

The Beacon incorporates protection against voltage surges (as induced by nearby lightning strikes for example) by means of a Metal Oxide Varistor (MOV) and Gas Discharge Tube (GDT) arrangement.

Section 5: Maintenance and Troubleshooting

No regularly scheduled maintenance is required for the Beacon.

General cleaning of the Dome Assembly should be done using soapy water. No other cleaning solutions are recommended. Abrasive compounds will scratch the Dome Assembly.

Table 1 Lists possible faults and repair procedures for the L-864 Red Beacon

Table 1 Troubleshooting

Symptom	Possible Cause	Corrective Action
Beacon does not light	No AC power	Verify proper AC levels from power source thru supply lines.
	LED Failure	Replace LED Module
	Power supply Failure	Replace power supply
Beacon does not flash	Refer to controller documentation supplied by the manufacturer.	_____

Repair and Replacement

Refer to Table 1 for troubleshooting procedures.

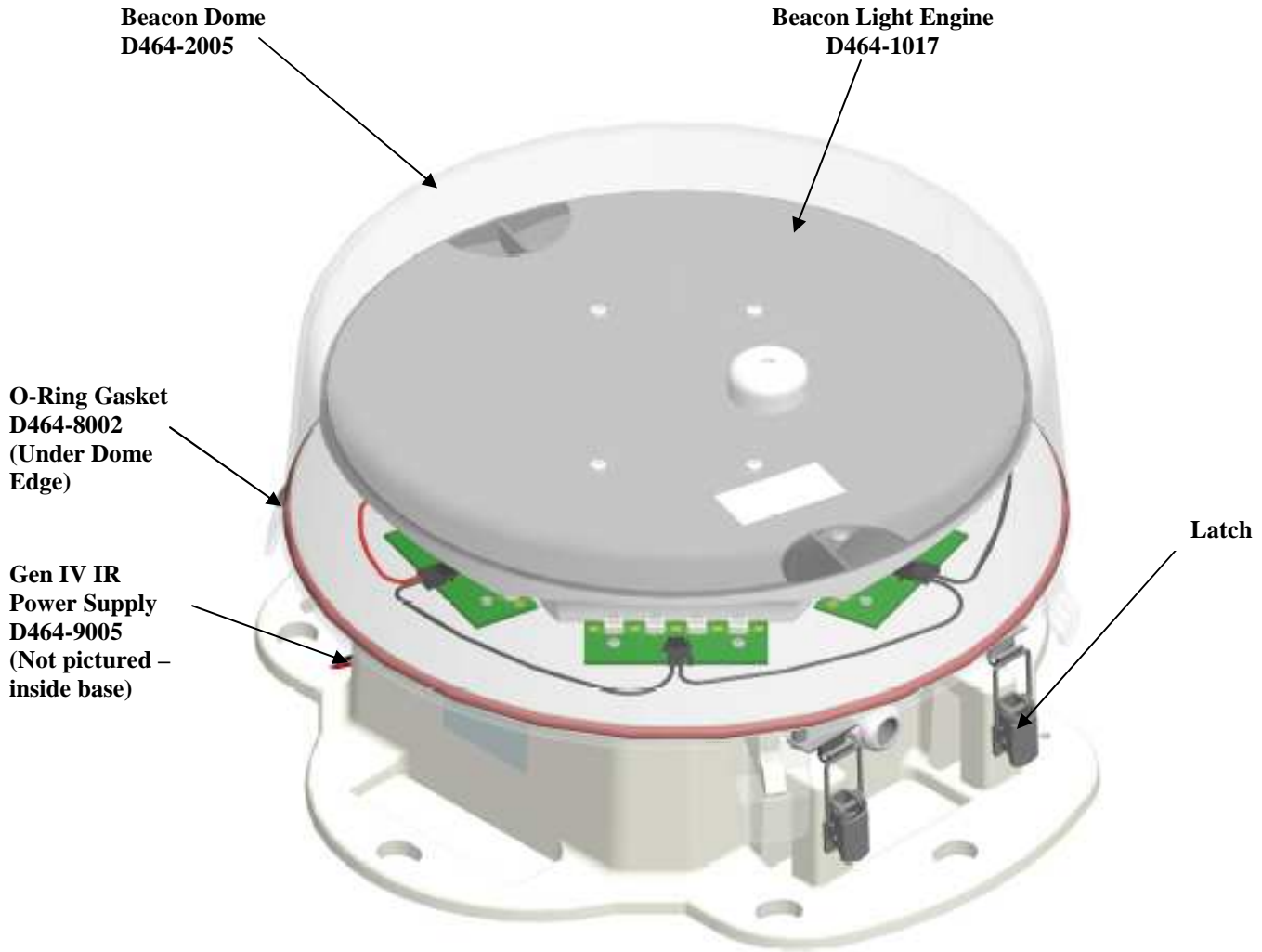


Figure 4 Beacon – External View

Recommended spare parts, User replaceable parts

Description	Dialight Part Number
Beacon Light Engine	D464-1017
Beacon Dome	D464-2005
O-Ring Gasket	D464-8002
Gen IV Power Supply (Inside Base)	D464-9005

The only parts that are serviceable on the Beacon are the Light Engine and Power Supply.

Replacement procedure for the Light Engine

- Step 1 **WARNING:** Power to the Beacon must be removed prior to servicing.
- Step 2 Unclamp the two latches holding the light engine down.
- Step 3 Rotate the light engine back to its open position.
- Step 4 Carefully pull the inline connector between the LED module and power supply apart, and then unscrew the grounding strap from the light engine to separate the two assemblies. Be careful not to lose the screw for the ground strap.

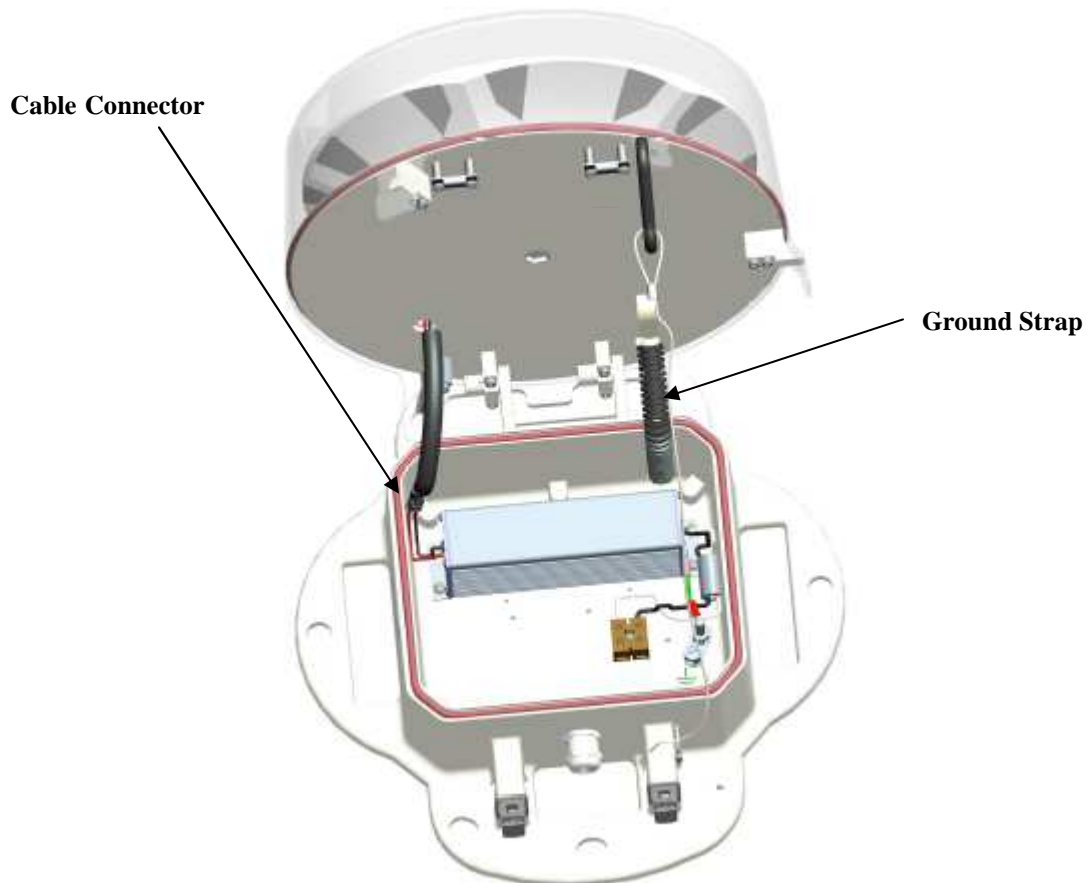


Figure 5 – Beacon in Open Position

- Step 5 Rotate the light engine downwards to approximately 10 degrees from the closed position. The key should line up with the keyway on the hinge and allow for the light engine to be pulled off of its pins.



Figure 6 – Light Engine Install/Removal (Dome and cantilever not shown for clarity)

- Step 6 Slide the new light engine onto the pins to line it up. Rotate it to approximately 10 degrees from closed to again line up the keyway. Push the light engine past the key until it clears and then rotate it back to the open position.
- Step 7 Reconnect the inline connector between the light engine and power supply, followed by the grounding strap.
- Step 8 Rotate the light engine down to the closed position and secure the two latches to complete installation. Apply power to ensure the beacon lights up correctly.

Section 6: Specifications

Power Supply Specifications (D464-9005)

Input Voltage Range	120-240VAC at 50/60Hz
Nominal Input Power	40W
Power Factor	>0.9
ATHD	<20%

Beacon Specifications

Light Color	Red
Weight	20 Pounds
Height	8.4 Inches
Width	15.0 Inches
Bolt Hold down Pattern	Standard Pattern provided (See Fig. 2)

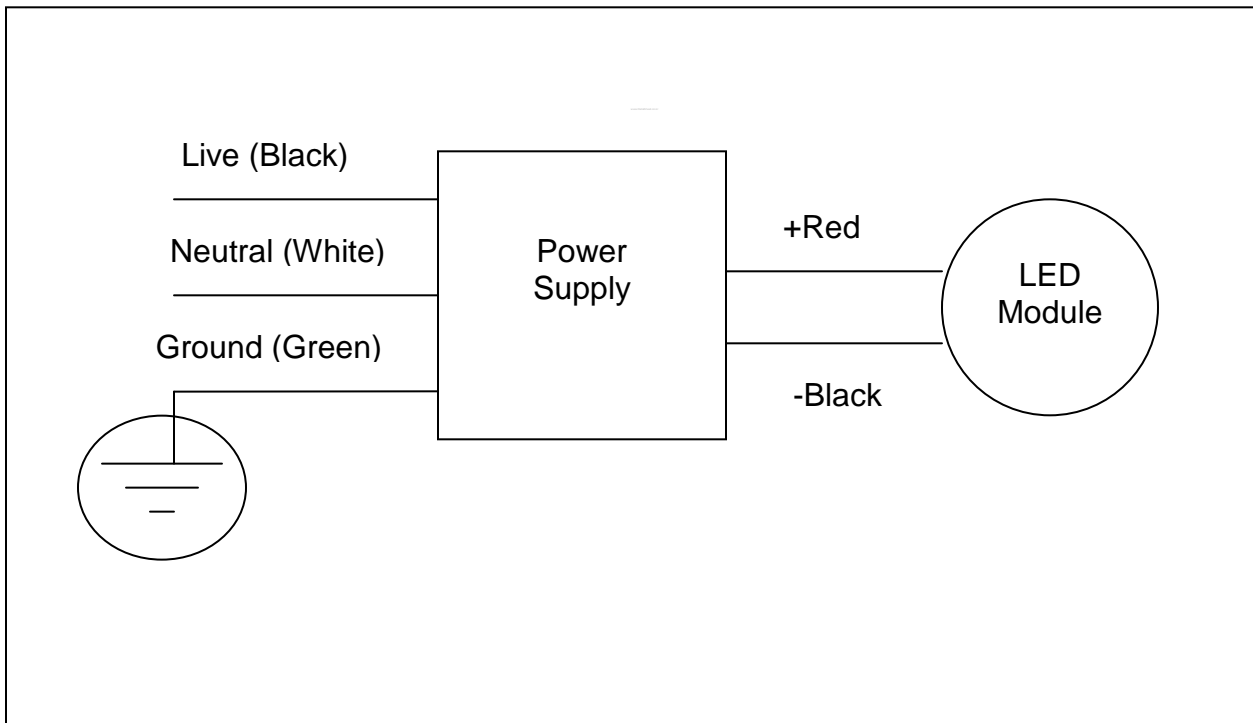
Section 7: Regulatory Compliance and Certifications

7.1 ETL Certified to: Federal Aviation Administration (FAA): AC No. (150/5345-43F).

Section 8: How to Obtain Warranty Service

Refer to www.dialight.com

Beacon Wiring Diagram



REVISION HISTORY

<u>REV</u>	<u>ECO No.</u>	<u>DRN</u>	<u>CKD</u>	<u>APP</u>	<u>QA</u>	<u>CM</u>	<u>DATE</u>
A	----	SA	AR	KH	RL	JB	11-17-11