



INSTRUCTION MANUAL PHB-37002 POINT HELIPORT BEACON

The PHB LED medium intensity identification beacon is specified to mark the heliport or airport location. All castings are aluminum, all hardware is stainless steel and the lens is glass. There is no plastic. All exterior metal beacon parts are powder coat painted aviation yellow for corrosion resistance that meets the US Military Standard Salt Fog Test conducted per MIL-STD-810F, Method 509.4, Procedure I.

This instruction pertains to fixture types -H, -HA, -M, -MA as described on page 2.

CATALOG NUMBERING SYSTEM

Point Type	-Color	-Fixture Voltage	-Style	-Fixture Type	-Options
PHB-37002	W: White G: Green Y: Yellow R: Red	1: AC 96 to 264V 3: DC 10.8 to 26.4V	'Blank': Standard EX: Class 1, Division 2	H: Heliport 3-color Flash HA: Heli/Airport 2-color Flash M: Morse Code ICAO MA: Morse with Alarms	NC: NVG Compatibility DP: Double Peak White (MIL) MT: Marine Treatment



All Fixtures Conform To: UL STD 844 UL STD 1598 UL STD 1598A	<u>-EX Option Only</u> Class I, Division 2 Groups A, B, C, D Class I, Zone 2 Groups IIA, IIB+H2, IIC T6 85-Degree C @ 55°C Ambient Outside Type
All Fixtures are Certified To: CSA STD C22.2 No. 250.0 CSA STD C22.2 No. 137	

PHB-37002-R-1-M-MT
ICAO MORSE IDENTIFICATION BEACON
WITH MARINE TREATMENT



IMPORTANT NOTICE

The installer assumes full responsibility for the proper application and safe installation of this unit in accordance with these instructions, the National Electric Code, and all other state and local codes and practices. POINT LIGHTING CORPORATION accepts no responsibility for damages to property or injury to personnel for the improper use of this product or its failure under any circumstances. POINT LIGHTING CORPORATION's warranty is limited to the replacement of the defective unit only if the failure is the result of a manufacturing defect.

CATALOG OPTIONS

The basic PHB-37002 beacon catalog number is intended for use with a Point Lighting Corporation Obstruction Controller (POC) for most applications. Other configuration options below are available to be factory installed at time of order. Add the separate FAA Photoelectric Controller to all systems. Add the separate SPU Surge Protector Unit or POC as required by the system.

STYLE OPTIONS

EX	Hazardous Atmosphere (insert -EX after the character for voltage) Class I, Division 2, Groups A B C D, T6 and Class I, Zone 2, Groups IIA IIB+H2 IIC, T6 -EX fixtures Include Marine Treatment option as standard.
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FIXTURE TYPES

M	The Morse code beacon shall comply with ICAO Annex 14, Volume II, paragraph 5.3.2. The basic unit shall flash message "H" unless the user specifies a different message to be factory programmed. The peak beam in white shall be 2,500 candelas. For specific national requirements, the beacon color may be green.
MA	In addition to the features of option -M, the Morse Code beacon shall have an external NEMA 4X control unit displaying LED array failure alarm and flasher failure alarm. An ON-OFF-AUTO switch on the door may be used with an FAA photoelectric controller (ordered separately) in the AUTO position.
H	The 3-color heliport beacon shall flash alternately white (clear), yellow, green at the FAA specified flash rate of 36 flashes per minute. The beacon is low intensity at 2,500 candelas in white intended for use at privately owned heliports where an optional visual aid is desired to enhance marking the heliport site location as noted in FAA Advisory Circular 150/5390-2B, paragraph 210.f (2004). Flash rate: 36 per minute Each color flashes 12 times per minute
HA	The 2-color heliport beacon shall flash alternately white (clear) and green or yellow at the FAA specified flash rate of 24 flashes per minute. The beacon is low intensity at 2,500 candelas in white intended for use at privately owned airports and heliports where an optional visual aid is desired to enhance marking the site location. Flash rate: 24 per minute Each color flashes 12 times per minute

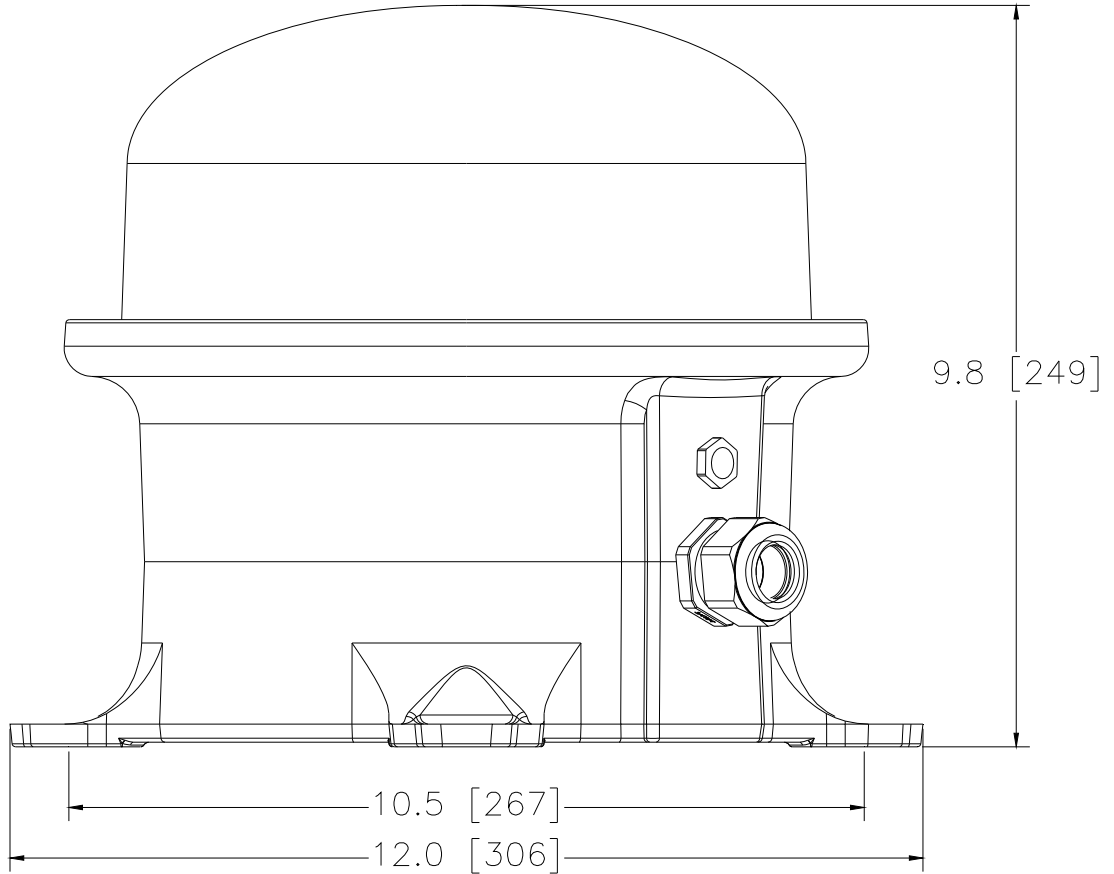
OPTIONS

DP	The flash of the white (clear) LEDs shall be double-peaked (meaning a double flash) as appears in US Military specifications. DP option is for -H/-HA fixture types only.
MT	The fixture shall be treated for marine conditions by cleaning per US MIL method III of TT-C-490, chromate priming per US MIL-C-5541, epoxy powder base coat and glossy polyester powdercoat finish coat in color RAL 6003 (FED-STD-595 color #14097) green. Oven cured per US MIL-PRF-24712A.
NC	NVG Compatibility for night vision
CLxx	Cable Loop 3m is included. For longer specify this option. Example: -CL06 means a 6m cable loop

POINT LIGHTING CORPORATION

Mail: P.O. Box 686, Simsbury, CT 06070 Plant: 61 West Dudley Town Rd, Bloomfield, CT
Tel 01 860.243.0600 USA Fax 01 860.243.0665
email: info@pointlighting.com website: www.PointLighting.com

FIGURE 1
PHB-37002 OUTLINE DRAWING



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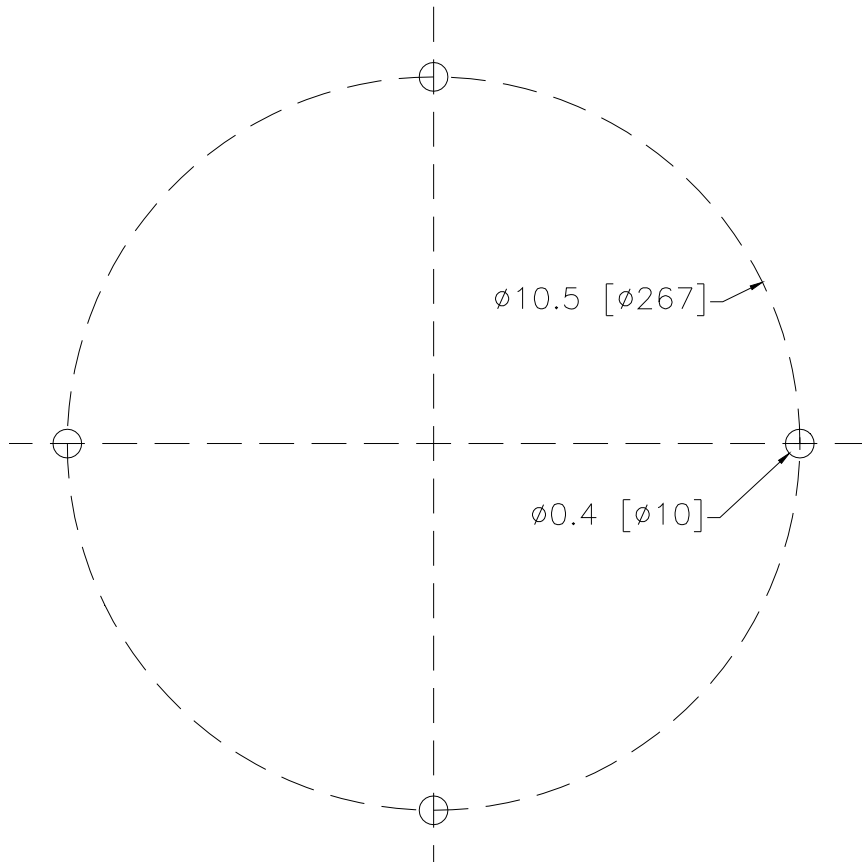
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MOUNTING INSTRUCTION

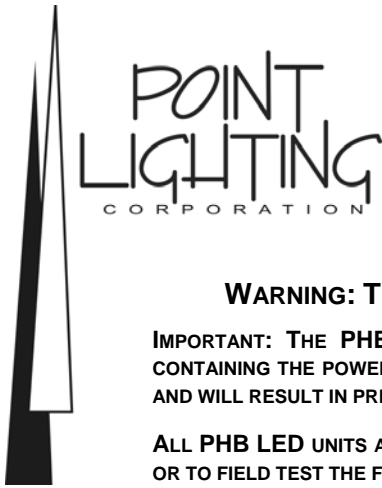
The base of the Point Heliport Beacon is made of industrial grade cast aluminum for use in the most rugged environments. The base has a four (4) hole bolt pattern on a 10.5 inch diameter bolt circle, see Mounting Bolt Pattern. The holes have a maximum diameter of .41 inches (10 mm), Point Lighting recommends using 3/8 inch stainless steel hardware, supplied by others. Mount the LED beacon securely on a flat horizontal surface assuring the PHB is level.

FIGURE 2
MOUNTING BOLT PATTERN
DIMENSIONS: INCHES [MM]
USE 3/8 INCH STAINLESS STEEL HARDWARE



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WIRING INSTRUCTION

WARNING: TURN OFF THE ELECTRICITY AT THE SOURCE BEFORE INSTALLATION.

IMPORTANT: THE PHB FIXTURE IS FACTORY SEALED. REMOVING LENS OR IN ANY WAY ENTERING THE SPACE CONTAINING THE POWER SUPPLY AND LED ARRAY WITHOUT INSTRUCTIONS FROM THE FACTORY, VOIDS THE WARRANTY AND WILL RESULT IN PREMATURE FAILURE OF THE LIGHT.

ALL PHB LED UNITS ARE INDIVIDUALLY TESTED AT THE FACTORY BEFORE SHIPMENT. ANY ATTEMPT TO DISASSEMBLE OR TO FIELD TEST THE FUNCTIONS OF THE LIGHT ASSEMBLY VOIDS THE WARRANTY.

WARNING: CHANGES OR MODIFICATIONS TO THIS UNIT NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

WARNING: DO NOT INSTALL AIR TERMINALS (LIGHTNING RODS) NEAR OR ON ANY POINT LIGHTING FIXTURES. AIR TERMINALS WILL INCREASE THE POSSIBILITY OF FAILURES AND WILL VOID THE FACTORY WARRANTY. FIXTURE GROUND WIRES MUST NOT BE CONNECTED TO BUILDING/TOWER LIGHTNING PROTECTION SYSTEM DOWN CONNECTORS.

NOTE: THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

DO NOT ATTEMPT TO PERFORM ANY TYPE OF HI POTENTIAL (HI-POT) OR INSULATION RESISTANCE TESTING ON THE FIXTURE. YOU WILL DAMAGE THE FIXTURE AND VOID YOUR WARRANTY.

NOTE: THIS PRODUCT CONTAINS METAL OXIDE VARISTOR TYPE SURGE PROTECTION. DUE TO THE LEAKAGE CURRENT INHERENT IN THIS SURGE PROTECTION, POINT LIGHTING DOES NOT RECOMMEND USING GROUND FAULT INTERRUPTER OR SIMILAR TYPE CIRCUIT BREAKERS. CIRCUIT BREAKERS SUCH AS GFI (GROUND FAULT INTERRUPTER), ELCB (EARTH LEAKAGE CIRCUIT BREAKER) OR SIMILAR TYPE CIRCUIT BREAKERS MAY EXPERIENCE NUISANCE TRIPPING.

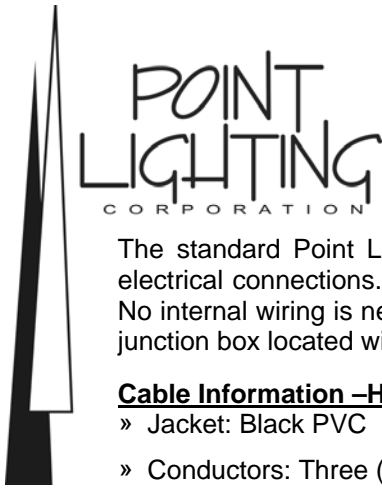
NOTE: ALL ELECTRICAL CONNECTIONS MUST BE MADE INSIDE A SUITABLE JUNCTION BOX WITHIN 3 METERS OF THE FIXTURE. A JUNCTION BOX (PL11220) IS AVAILABLE FOR PURCHASE FROM POINT LIGHTING. THIS JUNCTION BOX MAY ONLY BE USED IN NON-HAZARDOUS LOCATIONS. JUNCTION BOXES TO BE USED WITHIN HAZARDOUS LOCATIONS MUST BE PROVIDED BY OTHER AND BE SUITABLE FOR THE ENVIRONMENT THEY ARE TO BE USED IN.

NOTE: ALL WIRING CONNECTIONS AND SPLICES MUST BE MADE USING PROPER ELECTRICAL PRACTICES PER THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ANY LOCAL ELECTRICAL CODES.

NOTE: THE FIXTURE MUST BE GROUNDED USING PROPER ELECTRICAL PRACTICES PER THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ANY LOCAL ELECTRICAL CODES.

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WIRING INSTRUCTION

The standard Point LED beacon is shipped with three (3) meters of SOOW cable to make all electrical connections. Beacons with the -CLxx Option can have up to thirty (30) meters of cable. No internal wiring is necessary in the field. Electrical connections are to be performed in a suitable junction box located within 3 meters of the fixture. **DO NOT attempt to open the beacon.**

Cable Information -H, -HA, -M:

- » Jacket: Black PVC
- » Conductors: Three (3) conductor, 14 AWG
- » Outer Diameter: .54 inches (13.6 mm)
- » Maximum Voltage: 600V
- » UL Rated

Cable Information -MA:

- » Jacket: Black PVC
- » Conductors: Seven (7) conductor, 16 AWG
- » Outer Diameter: .54 inches (13.7 mm)
- » Maximum Voltage: 600V
- » UL Rated

WIRES - POWER INPUTS

AC Fixtures:

The fixture line power wire is black; splice it to the system line (hot).
The fixture neutral (zero) wire is white; splice it to the system neutral (zero).
The fixture ground is green; splice it to the system ground.

DC Fixtures:

The fixture positive wire is red; splice it to the system positive.
The fixture negative wire is black; splice it to the system negative.
The fixture ground is green; splice it to the system ground.

Make splices using proper electrical practices in suitable splice box per NEC and local codes.

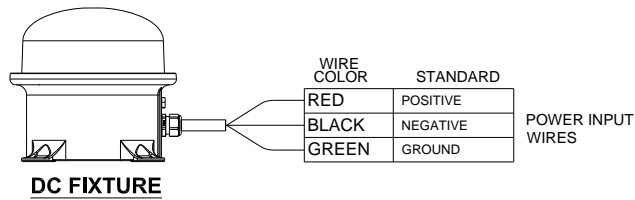
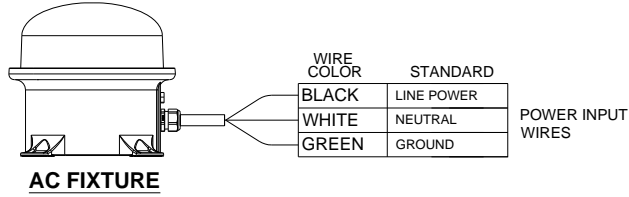
The fixture must be grounded using proper electrical practices per the National Electric Code (NEC) as well as any local electrical codes.

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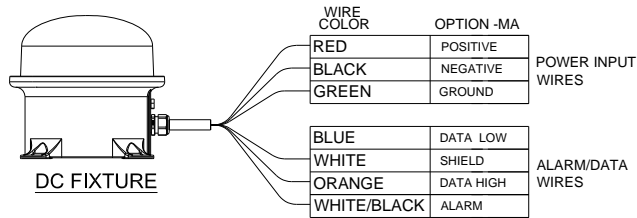
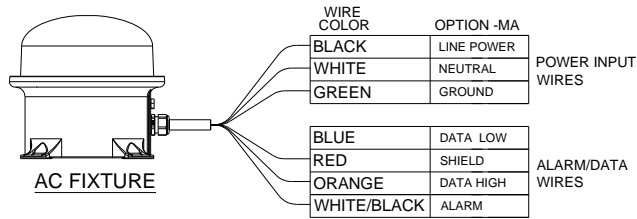
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FIGURE 3

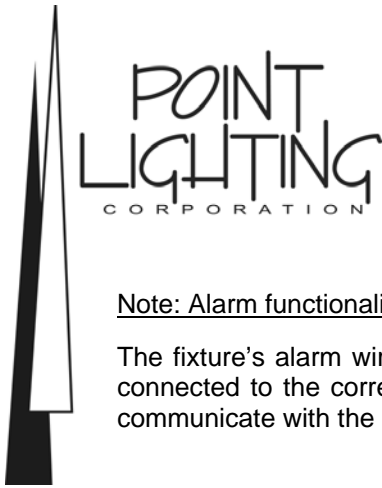
FIXTURE WIRING DIAGRAM –H, –HA, –M



FIXTURE WIRING DIAGRAM –MA



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WIRES - ALARM/DATA

Note: Alarm functionality for -MA Fixture Type only

The fixture's alarm wire is red in AC versions and white in DC versions. This alarm wire must be connected to the corresponding terminal blocks of a Point Heliport Controller. This alarm line will communicate with the controller to monitor the LED beacon for all possible failure conditions.

TROUBLESHOOTING:

In the presence of any alarm the beacon may have malfunctioned or failed. Depending on the LED beacon option, an alarm will activate the red alarm wire with line voltage and the controller shall display the error. A visual inspection will help diagnose the problem. If the LED beacon has stopped flashing, stopped illuminating or the light output has noticeably decreased, the beacon will need to be replaced.

NOTE: Servicing in the field is not possible. Point Lighting recommends keeping a spare beacon in stock. In the event of a failure, the beacon can be swapped out and returned to Point Lighting for diagnosis. This limits the system down time and ensures the beacon gets properly diagnosed.

If the beacon needs to be returned to Point Lighting for diagnosis, return instructions can be obtained by contacting Point Lighting or emailing: info@pointlighting.com

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COMMISSIONING GUIDE

WARNING: HAZARDOUS ATMOSPHERE MAY EXIST. NEVER CONNECT OR DISCONNECT ANY WIRING WHILE THE SYSTEM IS ENERGIZED. ENSURE SYSTEM IS INSTALLED PER LOCAL ELECTRICAL CODES AND THE INSTALLATION IS SUITABLE FOR USE IN YOUR LOCATION. JUNCTION BOXES, SEALING FITTINGS, WIRE, CABLE, CONDUIT (IF REQUIRED) ARE ALL BY OTHERS.

WARNING: THESE NOTES ARE INTENDED TO BE PERFORMED ONLY WHEN THE SURROUNDING ATMOSPHERE IS NON-HAZARDOUS.

- Confirm the PHB beacon is securely mounted to the structure.
- Confirm the mounting hardware includes stainless steel flat washers between the bolt and base casting.
- Confirm that the system voltage matches the PHB label voltage.
- Confirm the PHB beacon is properly connected to system power as shown in the wiring diagram.
- Activate system power.
- Confirm the PHB beacon illuminates.

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