



POINT FLASHING BEACON

PFB LED

FAA L-864 & L-865

ICAO TYPES A, B & C

SAFE AREA & CLASS I, DIVISION 2

THE ONLY FAA APPROVED OBSTRUCTION BEACON LISTED FOR CLASS I, DIVISION 2

Compliances:

- ETL Listed Class I, Division 2, Groups A B C D, T5 at $\pm 55^{\circ}\text{C}$ (option -EX)
- ETL Listed Class I, Zone 2, Groups IIA IIB+H2 IIC, T5 at $\pm 55^{\circ}\text{C}$ (option -EX)
- ETL Listed UL 1598 & to UL 1598A Marine Vessels, IP66 & IP67
- ETL Listed CSA C22.2 No.250.0-04 Canada
- ETL Verified FAA L-864 & L-865 to FAA Advisory Circular 150/5345-43J
- Verified Compliant to ICAO Annex 14 Medium Intensity Types A, B & C
- Verified Compliant to Transport Canada CL864 & CL865
- Registered ISO 9001:2015
- American Bureau of Shipping (ABS) Type Approved Product

The PFB LED red and white medium intensity flashing beacons are for use on aviation obstructions.

- ☒ The casting is copper-free (< 0.25%) aluminum.
- ☒ The lens is glass.
- ☒ The hardware is 316 (A4) stainless steel.
- ☒ The LED's are rated for 100,000 hours.
- ☒ IP67 rated moisture & humidity venting.
- ☒ IP66 & IP67 tested and listed.
- ☒ Standard with the exclusive Point Lighting Marine Treatment finish that is bonded to the metal and far exceeds the corrosion resistance of the standard FAA approved finish. See page 8.
- ☒ Six (6) years limited warranty subject to Point Lighting "Terms & Conditions of Sale".

Point Type	Color	Voltage	Options & Accessories
PFB-37002	R: Red W: White G: Green Y: Yellow	1: AC 96 to 264V, 50/60 Hz 3: DC 10.8 to 26.4V (red only) 5: DC 43.2 to 52.8V (red only)	SEE TABLES ON PAGE 2 & 3 EX: Class I, Division 2 (Zone 2) Hazardous Location NC: Required for all



PFB-37002-RW-1-EX-F4F5-NC
FAA DUAL RED-WHITE BEACON L-864/865
CLASS I, DIVISION 2, GROUPS A B C D, T5

FOR USE WITH A POC CONTROLLER OR STANDALONE

THE BEACON FLASHHEAD IS SHOWN

THE SEPARATE POWER SUPPLY IS INCLUDED BUT NOT SHOWN



OL213 May, 2024

BEACON SELECTION TABLE

For hazardous atmosphere locations requiring Class I, Division 2 (Zone 2), insert -EX after the voltage digit.
Example: PFB-37002-R-1-EX-F4 All beacons include marine treatment as standard.
For white & dual hazloc beacons, the power supply (PS) is also Class I, Division 2.

PFB-37002-R-x-F4-NC	Red	FAA L-864 red flashing medium intensity beacon
PFB-37002-W-x-F5-NC	White	FAA L-865 white flashing medium intensity beacon 120v
PFB-37002-W-x-F5.2-NC	White	FAA L-865 white flashing medium intensity beacon 220v
PFB-37002-RW-x-F4F5-NC	Red-White	FAA L-864 & L-865 dual red/white flashing beacon 120v
PFB-37002-RW-x-F4F5.2-NC	Red-White	FAA L-864 & L-865 dual red/white flashing beacon 220v
PFB-37002-W-x-A-NC	White	ICAO Type A white flashing medium intensity beacon
PFB-37002-R-x-B-NC	Red	ICAO Type B red flashing medium intensity beacon
PFB-37002-R-x-C-NC	Red	ICAO Type C red steady medium intensity beacon
PFB-37002-RW-x-BA-NC	Red-White	ICAO Types B & A dual red flashing/white flashing
PFB-37002-RW-x-CA-NC	Red-White	ICAO Types C & A dual red steady/white flashing
PFB-37002-R-x-T4-NC	Red	Transport Canada CL864 red flashing beacon
PFB-37002-W-x-T5-NC	White	Transport Canada CL865 white flashing beacon
PFB-37002-RW-x-T4T5-NC	Red-White	TC CL864 & CL865 dual red/white flashing beacon
PFB-37002-R-x-DL-NC	Red	UK CAA CAP 168 steady low intensity Group B
PFB-37002-R-x-DM-NC	Red	UK CAA CAP 168 steady medium intensity beacon

Note: Every white and dual (red-white) beacon includes the flashhead (FH) and the separate wall-mounted power supply (PS).
Maximum distance of PS to FH is 30m. Red beacons do not use a separate power supply.
Systems of two or more white or dual beacons that must flash in sync requires a POC controller and data cable.

OPTIONS

NC	NVG Compatibility for night vision. This is standard for all beacons and must be added to the catalog number.
CLxx	Cable Loop 3m is included. For longer specify this option. Example: -CL06 is a 6m cable loop. Limit is 30m.
-Fxxx	Flashing at custom rate up to 120 fpm.
-GPS	Flashing synchronized by GPS. Only applicable to red beacons. Includes PL10880-x-SW control unit. Requires option -MA1S and external PPC-40700-1.

BACKUP OPTIONS

SB	Standby Beacon: add this option to the 2 nd beacon to operate upon failure of the primary beacon. This standby beacon & the primary beacon will be side by side. One mounting bracket PL11216 & stainless steel hardware for both beacons should be added.
BBS	Battery Backup System: Contact Point Lighting specific configurations Use this option for a single PFB beacon.

Options continue on page 3

The basic PFB-37002 beacon catalog number is intended for use with a Point POC Controller 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 POC Controller as required by the system. Touchscreen is optional for red lighting POC controllers.

OPTIONS

SS	Power supply enclosure is stainless steel. Only applicable to white or dual beacons.
	Note: Touchscreen is standard for every POC controller operating PFB white or dual LED beacons.
S12	Shield 120°: White beacons only. For use on cylindrical structures such as stacks to eliminate "flash bounce" against the structure. Also reduces power consumption.
S18	Shield 180°: White beacons only. For use on flat walls such as buildings to eliminate "flash bounce" against the structure. Also reduces power consumption.

ALARM & CONTROL CONFIGURATION OPTIONS FOR RED BEACONS

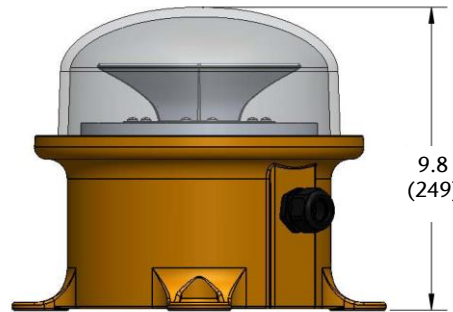
K	Required on any red beacon connected to any POC-68xxx series digital controller.
	The MA options are required for two or three red beacons to be synchronized without a controller. For four (4) or more red beacons, a POC controller is required. Not available for white or dual units.
MA1M	Master red beacon to be synchronized with one or more secondary beacons with internal flasher & non-isolated alarm line powered by the line voltage; one master beacon per system.
MA1S	Secondary red beacon synchronized by the above master beacon with internal flasher & non-isolated alarm line powered by the line voltage; 1, 2 or 3 secondary beacons per system.

RECOMMENDED OR REQUIRED ACCESSORIES

Required	Each PFB red beacon requires one (1) junction box which includes terminal blocks. Includes connections for the data cable shield. The junction boxes will be selected by Point suitable for the system to be installed.
Required	For every data cable splice, every PL11220 junction box and every white or dual beacon power supply, two (2) data cable shield solder sleeves PL10836-S are required.
Optional	Wall mounting or tower-pole brackets. See file 0BRACKETS or ask Point.
POC	See file OL302POC to select the correct system controller. Red POL only system: POC-68002 with optional touchscreen on the door. Red PFB system: POC-68003 with optional touchscreen on the door. White PFB system: POC-68503 includes touchscreen as standard Dual PFB system: POC-68503 includes touchscreen as standard Note: No touchscreen for Class I, Division 2 controllers.
PPC	One FAA Photoelectric Controller is required per system. Separately ordered and separately mounted. PPC-40700-1-34T For red AC systems with a POC-68002 or POC-68003 Controller PPC-40700-1-EX Same for Class I, Division 2 PPC-40702-1-34T For white or dual AC systems with a POC-68503 Controller PPC-40702-1-EX Same for Class I, Division 2

POINT LIGHTING

POINT FLASHING BEACON PFB LED FAA L-864 & L-865 ICAO TYPES A, B & C SAFE AREA & CLASS I, DIVISION 2



Dimensions: Inches
(mm)

FAA RED BEACON		FAA WHITE BEACON *	
Intensity:	2,000 candelas red night As defined by FAA L-864 Advisory Circular 150/5345-43J	Intensity:	20,000 candelas white day 2,000 candelas white night As defined by FAA L-865 Advisory Circular 150/5345-43J
Wattage:	35.5 watts AC peak 7.0 watts AC average F4, T4, B 28.5 watts AC average C 40.4 watts 24V DC peak 5.4 watts 24V DC average	Wattage:	422.0 watts AC peak (day) 84.0 watts AC average (day) 103.0 watts AC peak (night) 19.0 watts AC average (night)
Volt-Amps:	77.0 VA AC peak 17.4 VA AC average F4, T4, B 33.5 VA AC average C	Volt-Amps:	428.0 VA AC peak (day) 112.0 VA AC average (day) 115.0 VA AC peak (night) 20.0 VA AC average (night)
Input Range:	See voltage ranges page 1	Input Range:	AC only; see voltage range page 1
Temp Rating:	± 55° C per FAA certification test	Temp Rating:	± 55° C per FAA certification test
LED Life (hours):	100,000	LED Life (hours):	100,000
Cable Loop:	Diameter 0.52-inch (13.2mm)	Cable Loop:	Diameter 0.73-inch (18.5mm)
Weight:	17.0 lbs 7.7 kg	Weight:	17.0 lbs 7.7 kg
Mounting:	4 Holes on 10.5-inch circle	Mounting:	4 Holes on 10.5-inch circle
Note: Requires one (1) junction box PL11220 and two (2) data cable solder shields PL10836-S when used with a POC controller (option -K).		* Note: Each white beacon assembly consists of a flashhead (FH) and a separate wall-mounted power supply (PS). The PFB PS is connected to the FH by cable loop which exits the beacon and may not be spliced. Conductors are #16 AWG. The maximum cable run length is 30m. See next page for PS enclosure details.	
Note: Cable loop is not replaceable at the beacon but may be spliced. Conductors are #16 AWG.		Note: Requires two (2) data cable solder shields PL10836-S when used with a POC controller.	
Note: A system of one PFB and multiple POL's may use controller POC-60301 and a data cable is not required.		Note: Systems of two or more white or dual beacons that must flash in sync requires a POC controller and data cable.	

DATA CABLE PL10836

All PFB beacons connected to a POC system controller require Point Lighting brand data cable PL10836 (page 9). This cable is one run from the POC controller to the first beacon location and then to each beacon in turn ("daisy-chain"). Each beacon is tagged and labeled with a location address number and the beacons must be connected to the data cable run in that numerical order. This is how the POC identifies each specific beacon and the system will not operate properly unless the beacons are connected in the specified order.

POINT LIGHTING

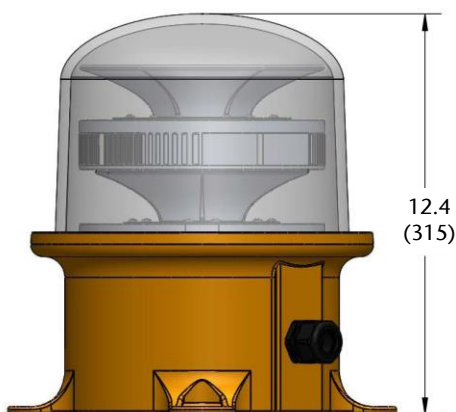
POINT FLASHING BEACON

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FAA L-864 & L-865

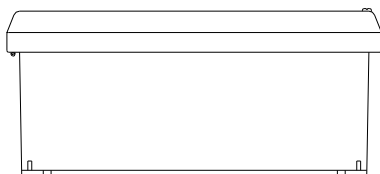
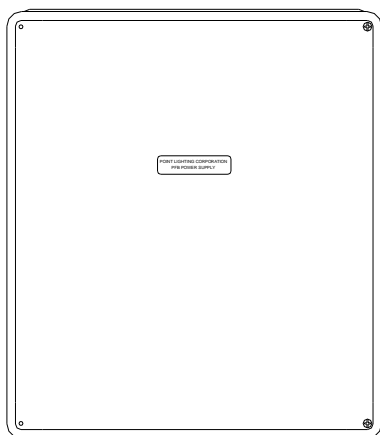
ICAO TYPES A, B & C

SAFE AREA & CLASS I, DIVISION 2



Dimensions: Inches
(mm)

PFB POWER SUPPLY
NON-METALLIC ENCLOSURE
FOR EACH WHITE & DUAL BEACON



Inches (millimeters) H W D
NEMA 4X Enclosure: 15.3 (389) x 13.3 (338) x 6.7 (172)
Mounting Pattern: 14.75 (427) x 10.00 (305)
Mounting Holes (4): 0.32 (8) diameter
NEMA 4X, IP66 Rated Non-Metallic Enclosure

FAA DUAL RED/WHITE BEACON *

Intensity: 20,000 candelas white day
 2,000 candelas red night
 As defined by FAA L-864/865
 Advisory Circular 150/5345-43J

Wattage: 422.0 watts AC peak (day)
 84.0 watts AC average (day)
 58.4 watts AC peak (night)
 7.0 watts AC average (night)

Volt-Amps: 428.0 VA AC peak (day)
 112.0 VA AC average (day)
 63.5 VA AC peak (night)
 24.0 VA AC average (night)

Input Range: AC only; see voltage range page 1

Temp Rating: ± 55° C per FAA certification test

LED Life (hours): 100,000

Weight: 26 lbs 11.8 kg

Mounting: 4 Holes on 10.5-inch circle

* Note: Each dual beacon assembly consists of a flashhead (FH) and a separate wall-mounted power supply (PS). The PFB PS is connected to the FH by cable loop which exits the beacon. Conductors are #16 AWG. The maximum cable run length is 30m.

Note: Systems of two or more white or dual beacons that must flash in sync requires a POC controller and data cable.

See Data Cable note on page 4.

PFB BEACON VENTED TO IP67 & HAZARDOUS LOCATIONS FOR PREVENTION OF MOISTURE INGRESS

Severe environmental conditions with varying temperatures and humidity cause an air pressure differential that results in seal failure of IP66 and IP67 enclosures. Certified fixtures and enclosures begin to leak moist air which the temperature changes turn into condensation. This water can cause failure of the electronic components and corrosion of the metal parts and housing. Point Lighting Corporation uses a very fine pore membrane vent that allows air to pass freely, but water, dust and dirt are prevented from entering. The vent is certified to IP66 & IP67, IEC 600-2-78 humidity, IEC60068-2-11 salt fog, GR-3108-CORE corrosive gases and other IEC standards.

Beacon PFB-37002
with PL10961-M12-HF Vent
Installed above the cable entry gland



PFB BEACON FREEZE & HEAT CYCLING TEST PROGRAM TO CONFIRM PREVENTION OF MOISTURE INGRESS CALIBRATED ENVIRONMENTAL CHAMBER

Turn on the chamber, humidity control, dry air purge and ramp to 75°F (24°C) and 70% humidity for baseline readings.

Ramp to -67°F (-55°C) and 50% humidity at the rate of 2.5°F/min (1h 15m).

Hold at -67°F (-55°C) for 1 hour.

Ramp to 130°F (+55°C) and 95% humidity at a rate of 2.5°F/min (1h 15m).

Hold at 130°F (+55°C) and 95% humidity for 1 hour.

Repeat steps 2 - 5 Twenty (20) times

POINT LIGHTING

POINT FLASHING BEACON PFB LED FAA L-864 & L-865 ICAO TYPES A, B & C SAFE AREA & CLASS I, DIVISION 2

STANDARD FINISH: MARINE TREATMENT

Our Marine Treatment tolerates marine, high salt content air and other corrosive environments. The FAA specified finish used by competitors flakes and fails in a short time under such conditions.

Point Lighting Corporation is the only obstruction lighting manufacturer that offers this standard finish. We are the foremost manufacturer of marine offshore helideck lighting operating in severe environments.

The fixture shall be treated for marine conditions by cleaning per US Department of Defense TT-C-490 method III, pretreated with chrome-free aluminum conversion coating per US MIL-C-5541 type II, epoxy powder base coat primer and glossy polyester powder coat finish. Powder coating per US Department of Defense MIL-PRF-24712A type VI and oven cured.

OPTIONAL PL40139 HEAT SHIELD

The beacon heat limit is 55-deg C. Installation in higher temperature locations is not warranted.

The heat shield is framed in stainless steel to be suspended in the air space between the heat source and the beacon. The heat shield is fabricated of a rigid alumina fiber matrix that is stable for continuous use at temperatures up to 3128-deg F (1720-deg C). The material is not affected by oil or water and is resistant to chemicals. The heat shield is 24-inches wide by 36-inches high. The shield should be oriented as required to maximize protection.

Shown below on a flare shielding an incandescent beacon.



The PL40139 Heat Shield limits transmission of heat in accordance with these tested temperatures:

STACK FACE	BEACON FACE
800	252 F
1200	343 F
1600 F	429 F

These temperatures are surface measurements on opposite faces of the PL40139 Heat Shield. It is expected that the air spaces between the stack skin and the shield and between the shield and the beacon will further limit the heat transmission. See file OL830 for details.

SYSTEM CONTROLLER WITH TOUCHSCREEN POC-68003 & POC-68503



Handheld Programmer PL11248

Required for assigning in the field each beacon's data cable address for replacements and for relocated beacons.



FAA PHOTOELECTRIC CONTROLLER PPC-40700-1-34T-OS INCLUDES OVERRIDE SWITCH

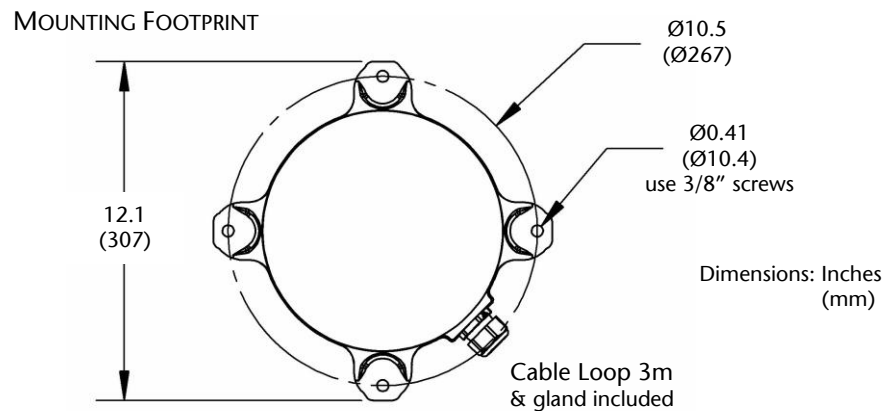
SERVICE

The beacon is permanently sealed. Do not attempt to open the beacon. Contact Point Lighting Corporation for return repair service instructions. Do not attempt any testing or procedure not stated in the manual.

SPARE PARTS

The beacon is permanently sealed. We recommend purchasing a spare PFB beacon matching the catalog number of the installed beacons. A spare PFB beacon must be assigned the data address location number of the beacon it is replacing. Therefore, the handheld Field Programmer device must also be purchased (one per site).

PL11248 Handheld programmer for assigning the beacon address in the field



MOUNTING BRACKETS

Beacon:

PL11215	Bracket, aluminum with hardware* for bolting to a wall
PL11215-TPM	Bracket, aluminum with hardware*; Tower-Pole Mount
PL11216	Bracket, as above for wall for two beacons
PL11216-TPM	Bracket, as above for two beacons; Tower-Pole Mount
PL11217	Bracket, carbon steel with hardware* for one beacon
PL11218	Bracket, carbon steel with hardware* for two beacons

Power Supply:

PL11372	Bracket, aluminum with hardware* for bolting to a wall Fits both fiberglass and stainless steel enclosures Fits single and standby type power supplies
PL11372-TPM	Bracket, aluminum with hardware*; Tower-Pole Mount Fits same as above

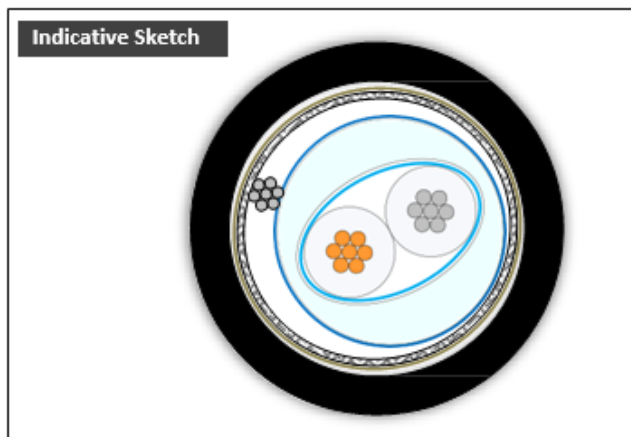
* 316 stainless steel hardware for attaching the PFB to the bracket

POINTUSA® Data Cable PL10836 is REQUIRED

The data cable is REQUIRED for systems using POC-68003, POC-68503 and POC-68504 controllers.
The data cable is NOT required for systems using POC-68002 and POC-60301 controllers.

The data cable is used as one (1) run from the POC controller to the first beacon flashhead's (FH) power supply (PS) and then to each successive beacon PS in turn ("daisy-chain") that terminates at the last numbered beacon PS with the PL11266 Terminating Resistor installed. The beacons are numbered in sequence and MUST be installed on the data cable in that sequence. This allows the POC system controller to identify and monitor each beacon and synchronize the flashing of the system.

The data cable is a data bus and may be routed as required with the numbered beacons connected at any point. Each beacon is tagged and labeled with a location address number and the beacons must be connected to the data cable run in that numerical order.



Homologation UL AWM Style: 2661



Accordance to Directives:
2014/35/UE; 2011/65/CE; 2015/863/UE



Accordance to Directives:

Electrical Equipment (Safety) Regulations 2016
The Restriction of the Use of Certain Hazardous Substances in
Electrical and Electronic Equipment Regulations 2012.



Conductors:	Stranded bare copper wire; Nom. 0.56mm ² - 2 x AWG20; nominal diameter 1mm. Lay agree with UL 758 tab 5.9; conforms to EN 13602 - ETP1, DIN 40500 E-Cu 58.	
Insulation:	Polyolefin compound; Nominal diameter 2.05mm	
Inner jacket:	Polyolefin compound; Nominal diameter 5.1mm	
Shield:	Al/PET/Al over inner jacket; Optical coverage 100%. Braid type; Tinned copper wire; Nominal optical coverage 85%.	
Drain Wire:	Stranded tinned copper wire; Nom. 0.34mm ² - AWG22; nominal diameter 0.75mm; Under braid shield	
Jacket:	PVC; hardness 79 ShA; Diameter 8.4 ±0.3mm; Colour Black similar RAL9005; Conform to UL AWM Style 2464	
Cable Markings:	<i>POINTUSA D-CABLE TWINAX 100 OHM - PL10836 - E172949 AWM STYLE 2661 90°C 300V</i> <i>AWM I/II A/B 90°C 300V FT1 - (2xAWG20)C 100 Ω - CE - RoHS - UKCA "week/year"</i>	

Electric:	Operating voltage	300 Vrms
	Voltage test	2000 VAC
	Max conductor resistance (bare)	34.1 Ω/Km - 10.4 Ω/1000ft (IEC60344) - 9.9 ohm/1000ft (linear)
	Max conductor resistance (tinned)	34.8 Ω/Km - 10.6 Ω/1000ft (IEC60344) - 10.1 ohm/1000ft (linear)
	Nominal capacitance	50 pF/m - 15.24 pF/ft
Physical:	Nominal impedance	100 Ω
	Operating temperature range	-25°C to +90°C (fixed)
	Operating temperature range	-10°C to +90°C (flex, free movement not continuous)
Chemical:	Silicone, Pb, Cd, Hg, FCKW free	Yes
Flame:	Flame resistant	UL Cable flame test; CSA FT1; IEC 60332-1-2