

Compliances: ETL Verified FAA L-864 to FAA Advisory Circular 150/5345-43J  
 UL Tested to IP66  
 Compliant to ICAO Annex 14 Medium Intensity Types B & C  
 Compliant to Transport Canada CL864  
 Registered ISO 9001:2015

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

- Integral GPS module for flash synchronization.
- Integral flasher module.
- The hardware is 316 (A4) stainless steel.
- Moisture & humidity venting.
- Flashing synchronized by a POC system controller or by the standard internal GPS module.
- Beacon cable conductors include AC powered alarm line & data lines (when used).
- Six (6) years limited warranty subject to Point Lighting "Terms & Conditions of Sale".
- Integral FAA photoelectric control.
- Very low weight for tower climbers.
- The LED's are rated for 100,000 hours.
- IP66 tested and listed.

Point Type	Color	Voltage	Options
PFB-37003	R: Red	1: AC 96 to 305V, 50/60 Hz 5: DC 43.2 to 52.8V	See page 2

**PFB-37003-R-1**  
MEDIUM INTENSITY RED BEACON



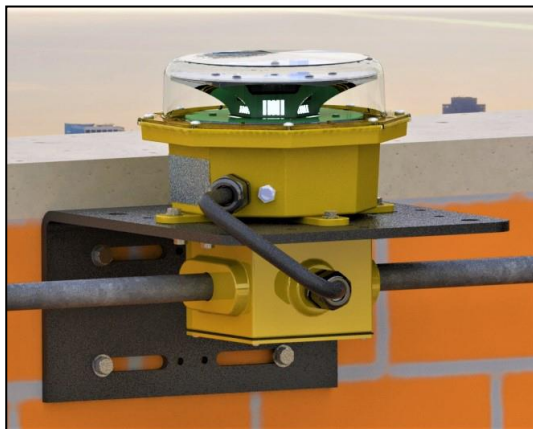
### STANDARD FEATURES

---	NVG Compatibility for night vision
---	Flashing synchronized by a POC system controller or by GPS Note: Standalone beacons automatically flash in sync by GPS Note: Loss of data signal from the POC, beacons automatically sync by GPS
---	Integral FAA photocontrol Note: Active for each standalone beacon.
---	Beacon automatically syncs to POC controller via data cable or to other beacons via internal GPS.
---	Cable loop 3m is included. Includes data lines for use with POC controller and voltage powered alarm line as alternative. Note: The cable loop length is fixed at 3 meters.

### OPTIONS

-Px	Factory Programming: see page 5. Default: GPS & PEC both enabled.
-C	ICAO Type C red steady-burning medium intensity beacon.
SOL	Solar powered standalone beacon Note: Multiple beacons will flash in sync via GPS.
UPS	Uninterruptible Power Supply: See page 3. Automatic operation upon loss of power & restoration. Automatic charging. Input: 96-264V AC. Note: Intended for emergency use only; do not use for regular shutdowns of power such as nights and weekends.

PFB-37003 BEACON  
WITH PL11215-V3 WALL BRACKET  
AND PL11545-34 JUNCTION BOX  
INSTALLED TO THE BRACKET



PFB-37003  
FLASHING RED LED BEACON



### SOLAR POWERED RED FLASHING BEACON SYSTEM

#### PFB-37003-R-5-SOL

Solar power "days of autonomy" is the number of days where no power generation is possible due to clouds or rain, despite the fact that you continue to consume energy and we add a 30% safety margin. The battery is designed to withstand deep discharge cycling. The system solar power controller is solid-state, encapsulated and mounted in a listed outdoor NEMA 4X enclosure. The controller does not have a low battery cutoff as the obstruction lights must stay ON despite marginal conditions.

The manufacturer of the lighting must be an FAA certified manufacturing facility. Beware of competitors' quotes by distributors and others who are not FAA approved manufacturers. They use lights that do not accurately state the true power consumption, do not meet international standards for obstruction lighting, and do not allow sufficient safety factors. Thus, competitors dramatically undersize the power system that may cause the light(s) to be out of service for days or months. The solar power system should be specified by the manufacturer of the lighting, not assembled by distributors lacking the proper software and who do not understand the critical backup safety capacity that is required. The power consumption of the light should be measured and third party certified by Intertek Testing Service (ETL).



- Typically five (5) days autonomy (battery backup)
- Proprietary computer calculations using solar radiation data
- FAA certified lighting manufacturer
- No under sizing as done by distributors of solar products
- Automatic operation based on light levels sensed by the output of the solar array
- Photovoltaic array output to load ratio always exceeds 1-1 year round
- Includes 3m beacon cable loop, solar array & solar controller
- Sealed marine grade deep discharge batteries
- PV panels using high quality crystalline silicone cells

### Uninterruptible Power Supply (UPS)

Add option -UPS for a standalone beacon or purchase PL11609-1 to power multiple beacons and/or POL low intensity obstruction lights for your building or tower.

#### Option -UPS PL11609-1 UPS Unit

Run-Time in Number of Nights (12 hours)

	0 POL	1 POL	2 POL	3 POL	4 POL	5 POL	6 POL
0 PFB		9.4	5.4	3.8	2.9	2.3	1.9
1 PFB	5.8	3.9	2.9	2.3	1.9	1.6	1.4
2 PFB	3.0	2.4	1.9	1.6	1.4	1.2	1.1
3 PFB	2.0	1.7	1.4	1.3	1.1	1.0	0.9
4 PFB	1.5	1.3	1.2	1.0	0.9	0.9	0.8

#### Notes on run-times and battery capacity:

FAA photocontrol is required; already onboard for one PFB or add PPC-40700-1-34T for multiple.

Run-times are based on a 77-deg F (25-deg C) ambient temperature.

Battery capacity will be between 65-85% at 0-deg C (32-deg F)

Battery capacity will be between 25-45% at -20-deg C (-4-deg F)

"POL" means POL-21006-1F-R number of operating heads. POL-21005-1B-R may be used.

"PFB" means PFB-37003-R-1 flashing red beacon.



## TYPICAL BEACON PROGRAMMING

All beacons ordered will be factory programmed to accommodate the specific project. See the programming settings below which are set at time of production. The default programming has the GPS and PEC enabled. We will assign option -P3 or -P4, when required, at time of quotation or at time of order. The installer only has to make the wire connections in the field. Distributors and contractors who purchase quantities for stock will be able to program each beacon as required by their customers. A replacement beacon can be ordered with the correct program or may be reprogrammed in the field using a PL11248 handheld device. The PFB-37003 is truly universal.

The PFB-37003 may be deployed as standalone, in a system with flashing sync'd by GPS or in a system operated by a POC system controller. The program set may be changed in the field to change the photometric standard or to change whether the beacon operates standalone or as part of a system of beacons.

Note: In all cases where the beacon is operating from a POC system controller or using a remote PPC photocontrol, failure of the signal from the POC will cause the beacon to activate automatically and generate an alarm while maintaining the beacon's operation.

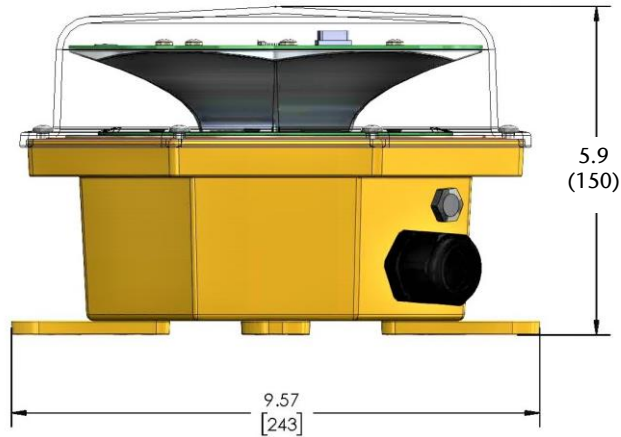
Internal Global Positioning System (GPS) System Controller (POC)	Internal FAA Photoelectric Control (PEC) External FAA Photoelectric Control (PPC)
---------------------------------------------------------------------	--------------------------------------------------------------------------------------

- |                                                            |                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Standard (Flashing):<br/><b>Default Programming</b></p> | <p>Each standalone red beacon operates independently and flashes in sync. See file OL308ADU for a passive PL40195 Alarm Display Unit (ADU).<br/>GPS: Enabled<br/>PEC: Enabled</p>                                                                                                                                                         |
| <p>Simple System (Flashing):<br/><b>Option -P3</b></p>     | <p>Multiple red beacons on one circuit switched by a PPC-40700 photocontrol. Or when using a POC-60301 system controller. Data cable is not required. Beacons sync via GPS. Each beacon has an alarm wire that sends the AC alarm signal back to the POC or other remote alarm relay.<br/>GPS: Enabled<br/>PEC: Disabled</p>              |
| <p>Simple System (Steady):<br/><b>Option -C</b></p>        | <p>Each red beacon operates independently using onboard photocontrol. May use a POC-60301 system controller or PL40195 Alarm Display Unit. Each beacon has an alarm wire that sends the AC alarm signal back to the POC, ADU or other remote alarm relay.<br/>GPS: Disabled<br/>PEC: Enabled</p>                                          |
| <p>Full System (Flashing):<br/><b>Option -P4</b></p>       | <p>Uses a POC-68003 or POC-69001 system controller. Data cable is required. Beacons are sync'd and multiple alarm functions are monitored via the data cable which is one run from the POC and looped to each beacon. Each beacon has a data address. The POC with PPC switches the system power.<br/>GPS: Disabled<br/>PEC: Disabled</p> |

## SERVICE

The beacon may be serviced. However, do not attempt to open the beacon before contacting Point Lighting Corporation for instructions. Do not attempt any testing or procedure not stated in the manual.

Dimensions: Inches  
(mm)



### FAA RED BEACON

Intensity:	2,000 candelas red night As defined by FAA L-864 Advisory Circular 150/5345-43J
Wattage:	39.0 watts AC peak 6.3 watts AC average 36.4 watts 48V DC peak 5.3 watts 48V DC average
Volt-Amps:	88.0 VA AC peak 17.4 VA AC average
Input Range:	See voltage ranges page 1
Temp Rating:	± 55° C per FAA certification test
LED Life (hours):	100,000
Cable Loop:	Diameter 0.54-inch (13.7mm)
Weight:	6.2 lbs 2.8 kg
Mounting:	4 Holes on 8.3-inch circle for ¼-20 (M6) screws

### DATA CABLE

PFB beacons connected to a POC system controller may require a data cable. This cable is one run from the POC controller to the first beacon location and then to each beacon in turn ("daisy-chain"). This is normally the most direct method, but the cable is a data bus and may be routed as required with the beacons connected at any point. Each beacon is assigned 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. Certain other configurations do not require a data cable.

### PFB BEACON VENTED 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 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-37003  
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.

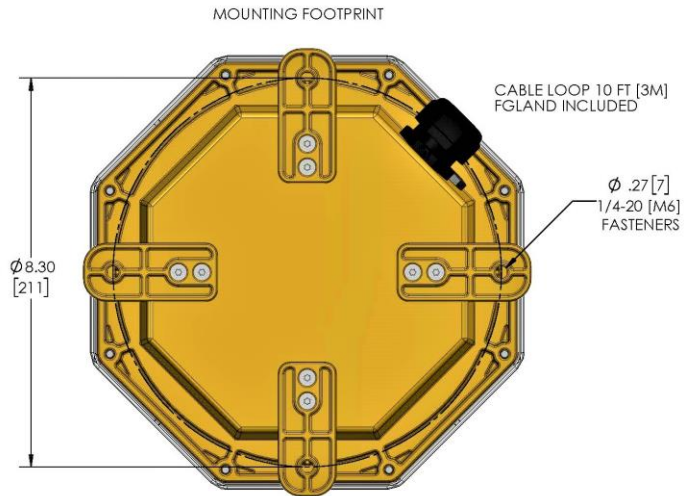
Ramp to -67°F (-55°C) and 50% humidity at the rate of 2.5°F/min (1h 15m).

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



### SPARE PARTS

We recommend purchasing a spare PFB beacon. A spare PFB beacon may require programming to match the beacon to be replaced. Therefore, the handheld Field Programmer device should also be purchased (one per site).

- PL11248 Handheld programmer for use in the field to set the photometric standard and to assign the beacon's system address when required.
- PL11525-S Lens, Spare includes spare O-ring that seals the lens to base
- PL11555-1 Electronic Subassembly AC complete internal assembly: optics and electronics
- PL11555-5 Electronic Subassembly 48V DC complete internal assembly: optics and electronics

SYSTEM CONTROLLER  
WITH TOUCHSCREEN  
POC-68003



HANDHELD PROGRAMMER  
PL11248

Required for changing the photometric standard and/or controller compatibility. Also, when used with a POC-6800x series controller, for assigning in the field each beacon's data cable address for replacements and for relocated beacons.



FAA PHOTOELECTRIC  
CONTROLLER  
PPC-40700-1-34T



Note: Used when a POC system controller is installed