



# POINT FLASHING BEACON

## PFB LED

FAA L-864 & L-865  
ICAO TYPES A, B & C  
SAFE AREA & HAZARDOUS LOCATION

Compliances: ETL Listed to UL 1598 & to UL 1598A Marine Vessels, IP66 & IP67  
 ETL Listed to CSA C22.2 No.250.0-04 Canada  
 ETL Verified FAA L-864 & L-865 to FAA Advisory Circular 150/5345-43H  
 Compliance to ICAO Annex 14 Medium Intensity Types A, B & C  
 Compliance to Transport Canada CL864 & CL865  
 Compliance to UK CAP 168 Medium Intensity & Low Intensity (Group B)  
 Class I, Division 2, Groups A B C D, T5 at  $\pm 55^{\circ} \text{C}$  (option -EX)  
 Class I, Zone 2, Groups IIA IIB+H2 IIC, T5 at  $\pm 55^{\circ} \text{C}$  (option -EX)  
 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



### PFB-37002-RW-1-BA-K

ICAO MEDIUM INTENSITY RED-WHITE BEACON TYPES B & A  
 FOR USE WITH A POC  
 THE BEACON FLASHHEAD IS SHOWN  
 THE SEPARATE POWER SUPPLY IS INCLUDED BUT NOT SHOWN

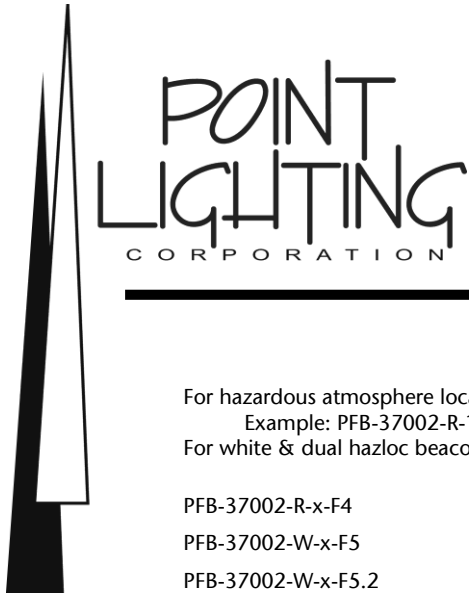


### PFB-37002-R-1-F4

FAA L-864 MEDIUM INTENSITY RED BEACON  
 STANDALONE 230V WITH MARINE TREATMENT



OL213 November, 2020



# POINT FLASHING BEACON

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### FAA L-864 & L-865 ICAO TYPES A, B & C

#### SAFE AREA & HAZARDOUS LOCATION

#### 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	Red	FAA L-864 red flashing medium intensity beacon
PFB-37002-W-x-F5	White	FAA L-865 white flashing medium intensity beacon 120v
PFB-37002-W-x-F5.2	White	FAA L-865 white flashing medium intensity beacon 220v
PFB-37002-RW-x-F4F5	Red-White	FAA L-864 & L-865 dual red/white flashing beacon 120v
PFB-37002-RW-x-F4F5.2	Red-White	FAA L-864 & L-865 dual red/white flashing beacon 220v
PFB-37002-W-x-A	White	ICAO Type A white flashing medium intensity beacon
PFB-37002-R-x-B	Red	ICAO Type B red flashing medium intensity beacon
PFB-37002-R-x-C	Red	ICAO Type C red steady medium intensity beacon
PFB-37002-RW-x-BA	Red-White	ICAO Types B & A dual red flashing/white flashing
PFB-37002-RW-x-CA	Red-White	ICAO Types C & A dual red steady/white flashing
PFB-37002-R-x-T4	Red	Transport Canada CL864 red flashing beacon
PFB-37002-W-x-T5	White	Transport Canada CL865 white flashing beacon
PFB-37002-RW-x-T4T5	Red-White	TC CL864 & CL865 dual red/white flashing beacon
PFB-37002-R-x-DL	Red	UK CAA CAP 168 steady low intensity Group B
PFB-37002-R-x-DM	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. See OL302POC.

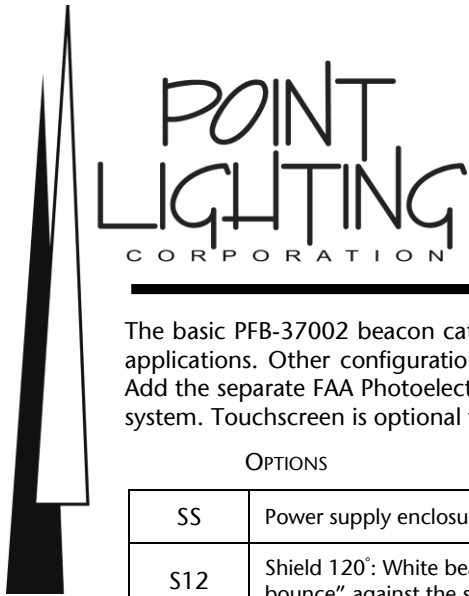
#### OPTIONS

NC	NVG Compatibility for night vision
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 <b>red</b> 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 <sup>nd</sup> beacon to operate upon failure of the primary beacon. This standby beacon & the primary beacon will be side by side. Includes mounting bracket PL11216 & stainless steel hardware for both beacons.
BBS	Battery Backup System: Contact Point Lighting specific configurations Use this option for a single PFB beacon.

Options continue on page 3



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SAFE AREA & HAZARDOUS LOCATION

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.
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

K	Required on every beacon connected to any POC-68xxx series digital controller except 68301.
Lx	Standalone white or dual individual beacon used with PPC photoelectric control. x = nominal voltage 1: 120v 2: 220v Note: Not required for a red standalone beacon. Note for FAA approval: L1 range is 108v to 132v; L2 range is 198v to 242v
	Note: Touchscreen is standard for every POC controller operating PFB white or dual LED beacons.
	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

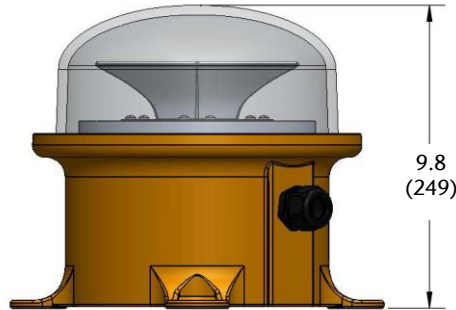
Required	Each PFB red beacon requires one (1) junction box PL11220 which includes terminal blocks. This is a nominal 8 x 10 x 5-inch NEMA 4X fiberglass box. Includes connections for the data cable shield. PL11220 is also specified for every major cable junction in a vertical riser to ensure proper wiring of all systems including white & dual beacons. Add option –SS for stainless steel enclosure.
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 list on page 8 and pages 14-18.
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
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-40700-1-34T-OS For red AC beacons without a POC; includes override switch PPC-40702-1-34T For white or dual AC systems with a POC-68503 Controller



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SAFE AREA & HAZARDOUS LOCATION



Dimensions: Inches  
(mm)

**FAA RED BEACON**

Intensity: 2,000 candelas red night  
As defined by FAA L-864  
Advisory Circular 150/5345-43H

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

Volt-Amps: 77.0 VA AC peak  
17.4 VA AC average F4, T4, B  
33.5 VA AC average C

Input Range: See voltage ranges page 1  
Temp Rating: ± 55° C per FAA certification test  
LED Life (hours): 100,000  
Cable Loop: Diameter 0.52-inch (13.2mm)  
Weight: 17.0 lbs 7.7 kg  
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: Cable loop PL11205-6 is not replaceable at the beacon but may be spliced. Conductors are #16 AWG.

Note: A system of one PFB and multiple POL's may use controller POC-60301 and a data cable is not required.

**FAA WHITE BEACON \***

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

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: 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: AC only; see voltage range page 1  
Temp Rating: ± 55° C per FAA certification test  
LED Life (hours): 100,000  
Cable Loop: Diameter 0.73-inch (18.5mm)  
Weight: 17.0 lbs 7.7 kg  
Mounting: 4 Holes on 10.5-inch circle

\* 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 PL10828-14 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: Requires two (2) data cable solder shields PL10836-S when used with a POC controller (option -K).

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

### DATA CABLE

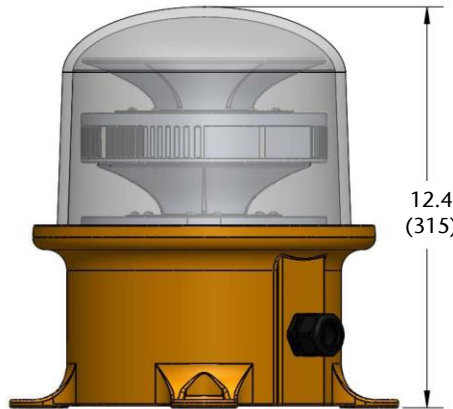
All PFB beacons connected to a POC system controller require a data cable. This cable is one run from the POC controller to the first beacon location and then to each beacon in turn ("daisy-chain"). This is normally the most direct method, but the cable is a data bus and may be routed as required with the beacons connected at any point. Each beacon is 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 FLASHING BEACON

## PFB LED

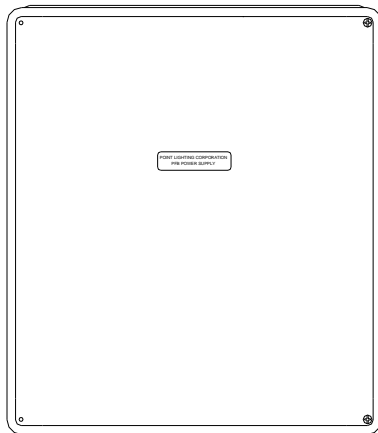
FAA L-864 & L-865  
ICAO TYPES A, B & C  
SAFE AREA & HAZARDOUS LOCATION



Dimensions: Inches  
(mm)

12.4  
(315)

### PFB POWER SUPPLY FIBERGLASS ENCLOSURE For each white & dual beacon



NEMA 4X ENCLOSURE: 17.36(441) x 15.3(389) x 6.67(169)  
INCHES(mm)            H            W            D  
ENCLOSURE MOUNTING PATTERN: 16.73(425) X 12(305)  
MOUNTING HOLE DIAMETER (QTY 4): 0.32(8)  
ENCLOSURE MATERIAL: FIBERGLASS

### FAA DUAL RED/WHITE BEACON \*

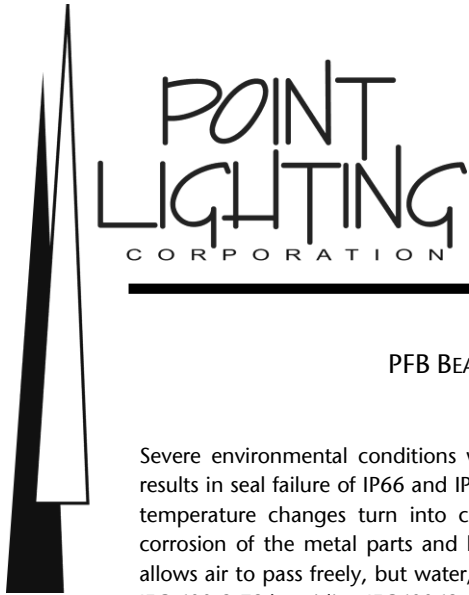
Intensity:	20,000 candelas white day 2,000 candelas red night As defined by FAA L-864/865 Advisory Circular 150/5345-43H
Wattage:	422.0 watts AC peak (day) 84.0 watts AC average (day) 58.4 watts AC peak (night) 7.0 watts AC average (night)
Volt-Amps:	428.0 VA AC peak (day) 112.0 VA AC average (day) 63.5 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 PL10828-20 which exits the beacon. Conductors are #16 AWG. The maximum cable run length is 30m.

Note: Requires two (2) data cable solder shields PL10836-S when used with a POC controller (option -K).

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.



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### 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



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### 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 OL-8.3.0 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



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## SERVICE

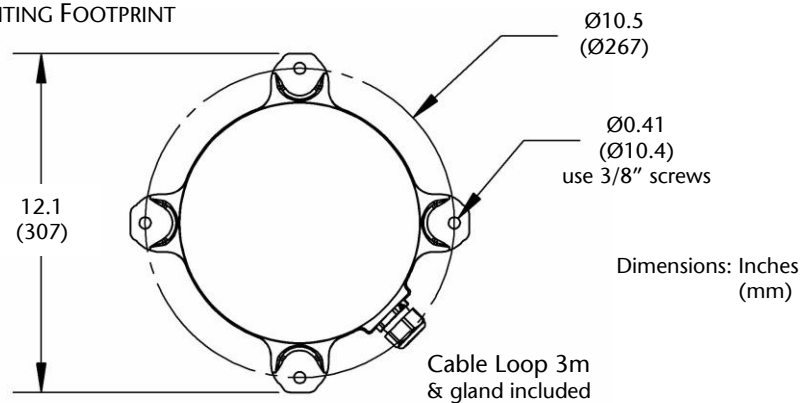
The beacon is permanently sealed. Do not attempt to open the beacon. Contact Point Lighting Corporation for return repair service instructions. Do not attempt any testing or procedure not stated in the manual.

## 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 FOOTPRINT



## 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
PL10902	Bracket, leveling for wind turbine

### Power Supply:

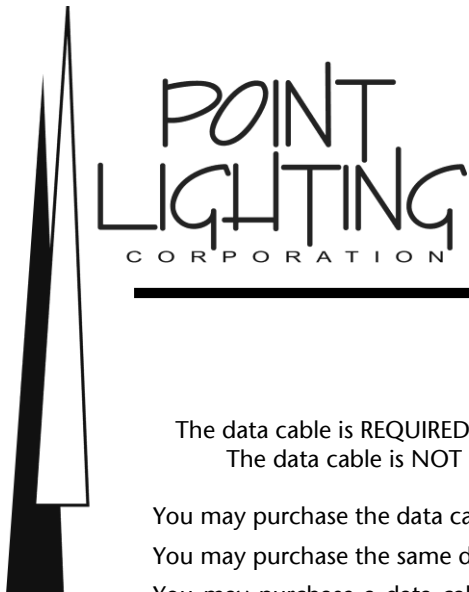
PL11372	Bracket, aluminum with hardware* for bolting to a wall Fits both fiberglass and stainless steel enclosures Fits single and standby type power supplies
PL11372-TPM	Bracket, aluminum with hardware*; Tower-Pole Mount Fits same as above

### Junction Box:

PL11371	Bracket, aluminum with hardware* for bolting to a wall Fits -94 & -98; fiberglass and stainless steel
PL11371-TPM	Bracket, aluminum with hardware*; Tower-Pole Mount Fits same as above

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





# POINT FLASHING BEACON PFB LED FAA L-864 & L-865 ICAO TYPES A, B & C SAFE AREA & HAZARDOUS LOCATION

## DATA CABLE

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.

You may purchase the data cable from Point Lighting under stock number PL10836.

You may purchase the same data cable from others as Belden 9207 Twinax – Twinaxial Cable.

You may purchase a data cable from others equal to the above Belden cable with the characteristics listed below. Note: You are responsible to confirm the specifications are equal to the above cable which was used during certification testing. Use of inferior cable may result in improper operation of the system.

The data cable is used as one (1) run from the POC controller to the beacon #1 junction box and then to each beacon junction box in turn ("daisy-chain") that terminates at the last numbered beacon. 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.

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.

PL10836-S shield solder sleeve is required to terminate shield at junction boxes or in-line splice the data cable. See Figure 5 below excerpted from our instructions.

### Specifications for your cable supplier:

20 AWG stranded (7x28) one tinned copper conductor, one bare copper conductor, polyethylene (PE) insulation, PE inner jacket, metal foil-polyester taped shield 100% coverage, tinned copper braid shield 85% coverage, PVC outer jacket, suitable for outdoor use, UL maximum operating voltage 300V RMS.

Conductors: Single pair (2 wires); #20 AWG; 7x28 strand

Insulation: Polyethylene

Outer Shield: Metal foil-polyester tape with tinned copper braid

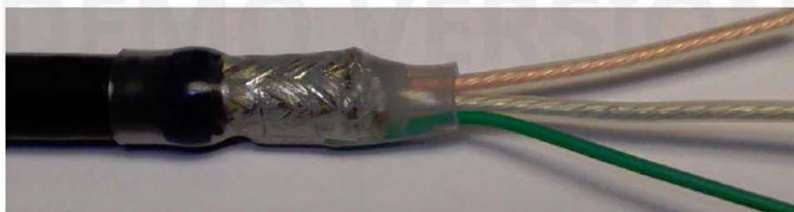
Standard: NEC/UL CMG & CL2 with CE mark

Impedance: 100 ohms Inductance: 0.155  $\mu$ H/ft VP: 66% Delay: 1.54 ns/ft

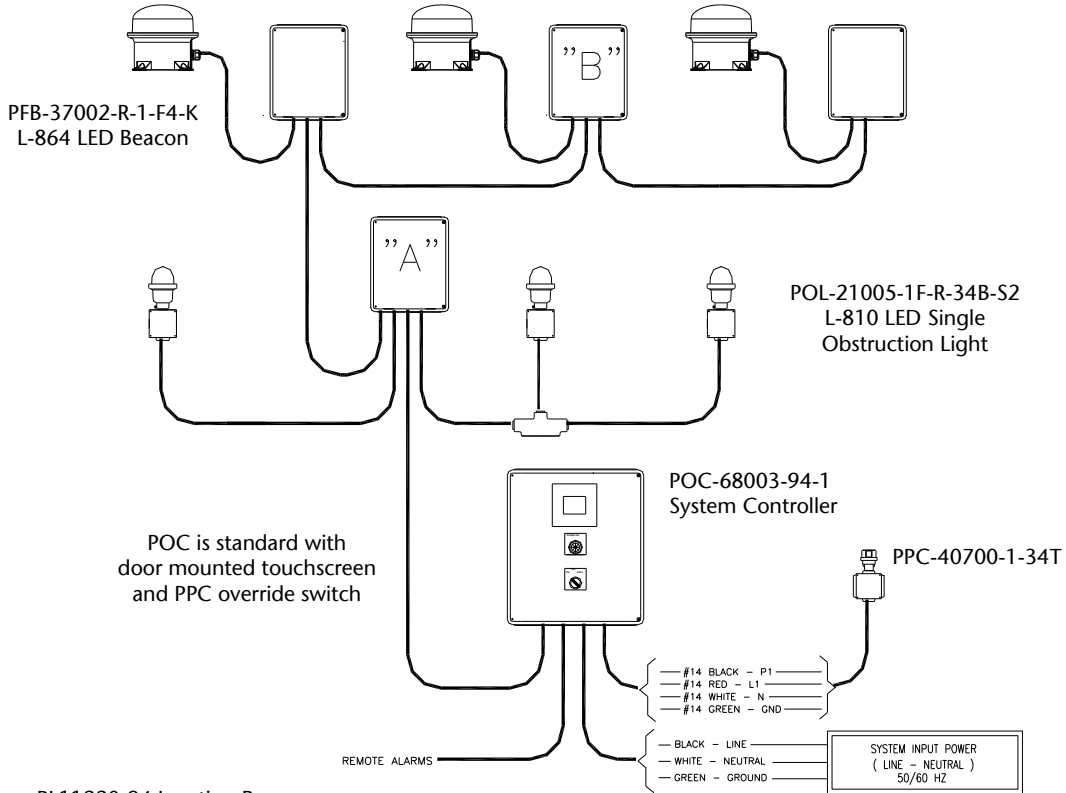
Capacitance conductor to cond.: 14.5 pF/ft Capacitance cond. to shield: 23.0 pF/ft

The shield of the incoming data cable must be terminated with a PL10836-S Solder Sleeve. Using a heat gun, heat the solder sleeve until the solder melts, and the blue band has adhered to the data cable. See [Figure 5](#) for a correct example of this termination. The shield will become the green wire shown in [Figure 5](#).

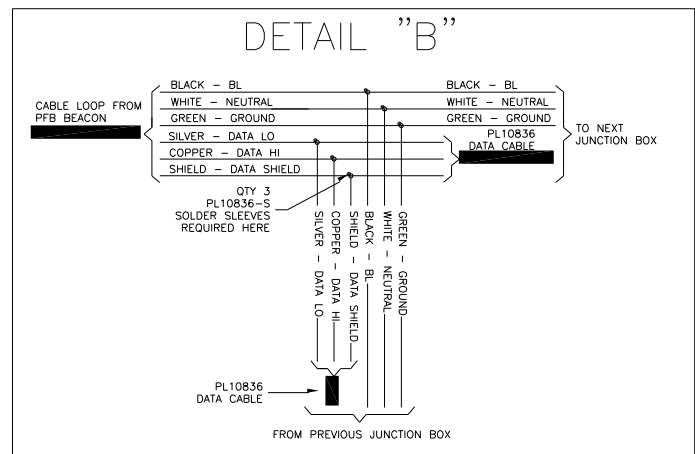
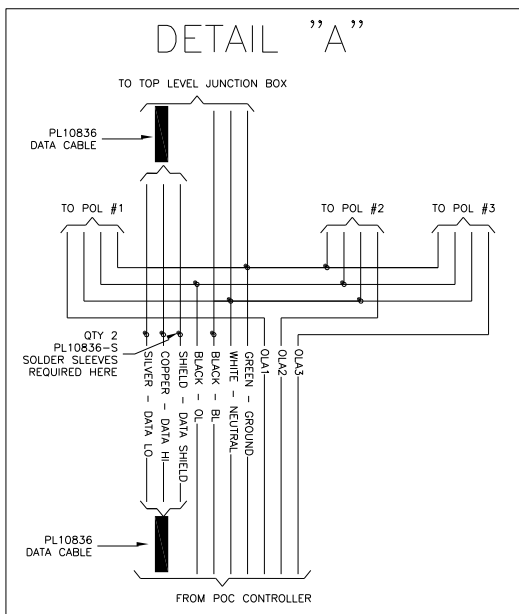
**FIGURE 5**  
**DATA CABLE (PL10836) WITH SOLDER SLEEVE (PL10836-S)**



### TYPICAL RED BEACON SYSTEM AUTOMATIC NIGHT OPERATION WITH FIXED BRIGHTNESS

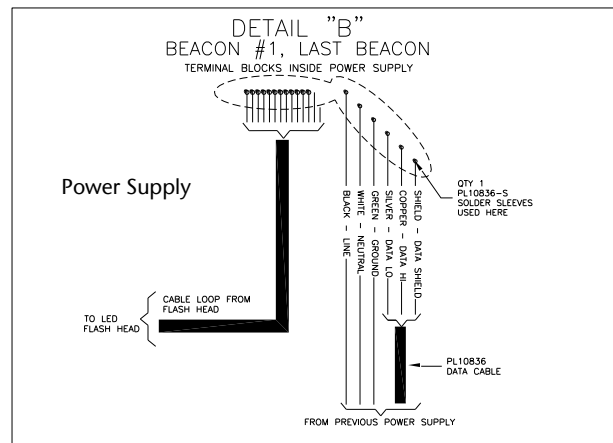
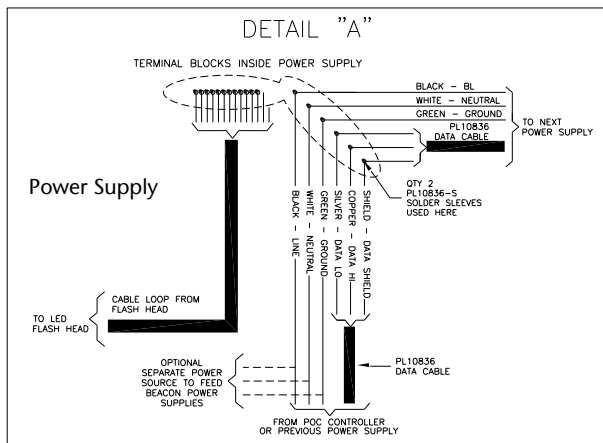
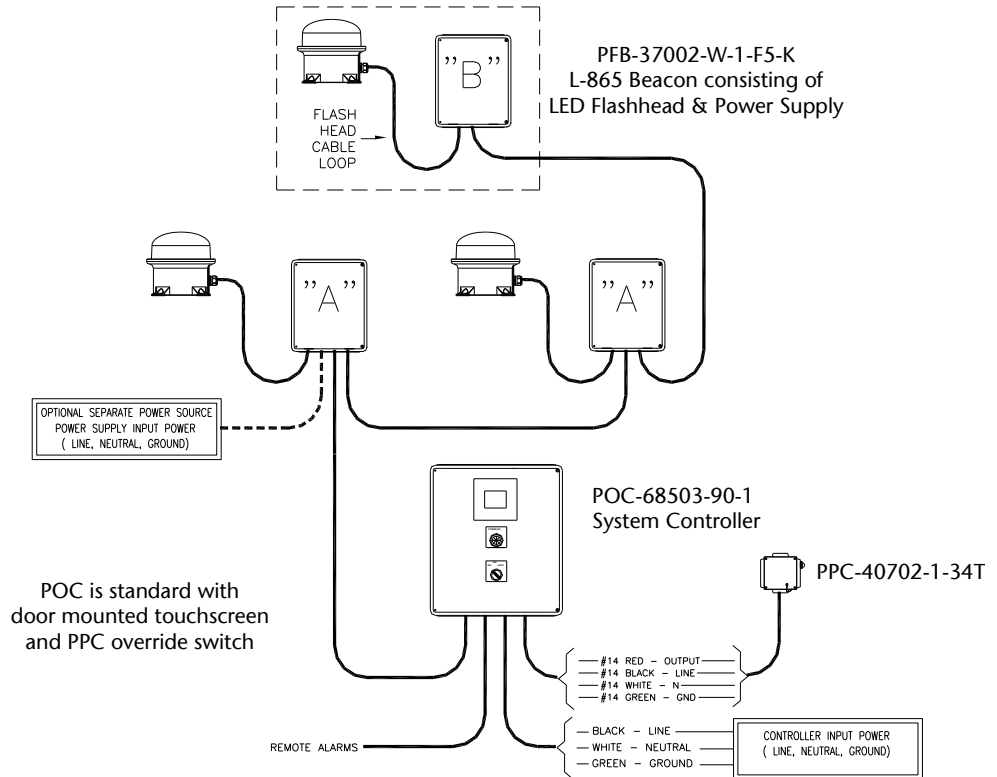


PL11220-94 Junction Box



PL11220-94 Junction Box

### TYPICAL WHITE BEACON SYSTEM AUTOMATIC 24-HOUR OPERATION WITH TWO BRIGHTNESS LEVELS

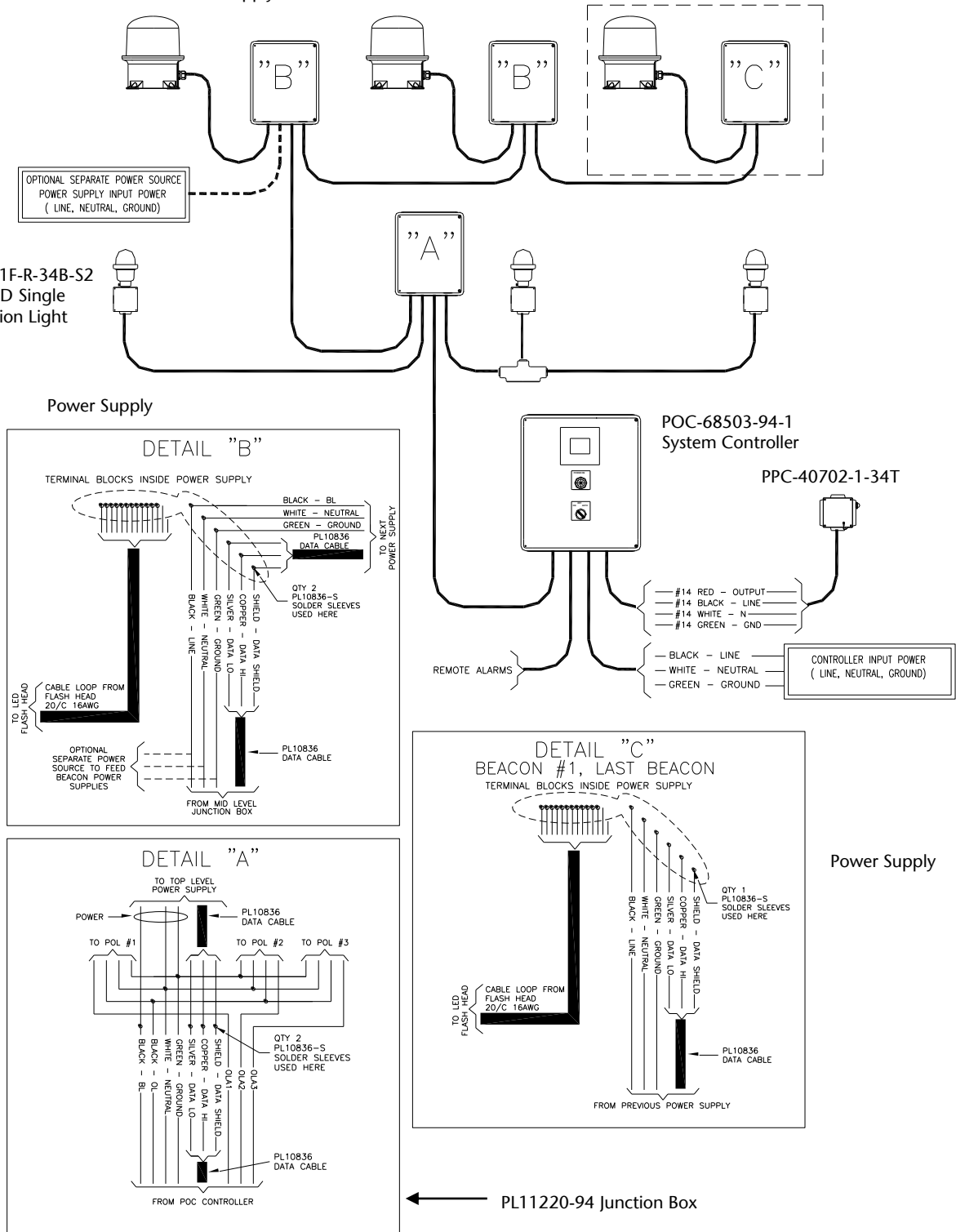


## POINT FLASHING BEACON PFB LED FAA L-864 & L-865 ICAO TYPES A, B & C

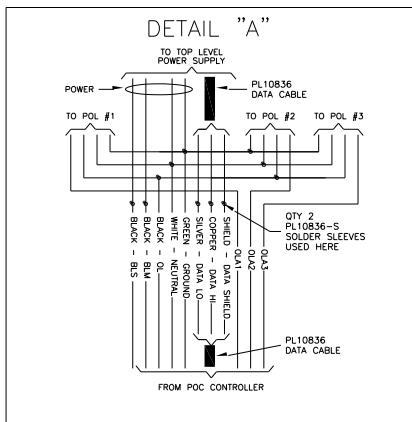
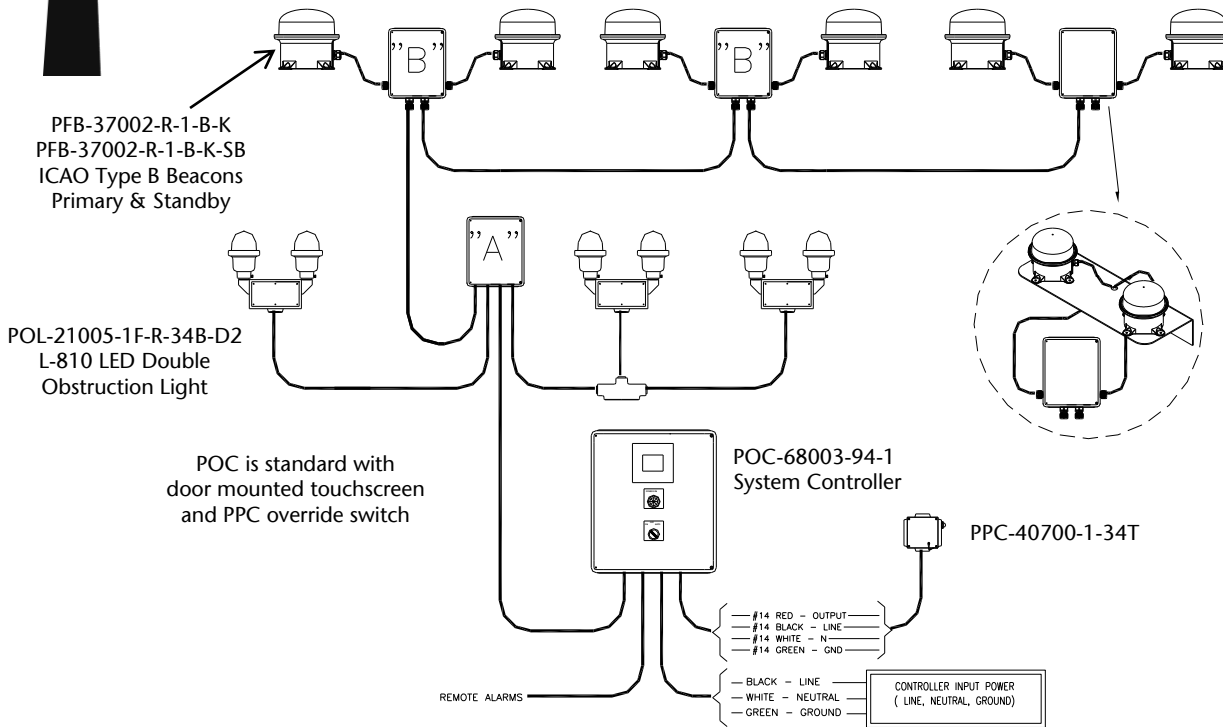
PFB-37002-RW-1-F4F5-K  
L-864/865 Beacon consisting of  
LED Flashhead & Power Supply

TYPICAL DUAL WHITE & RED BEACON SYSTEM  
AUTOMATIC 24-HOUR OPERATION WITH TWO BRIGHTNESS LEVELS

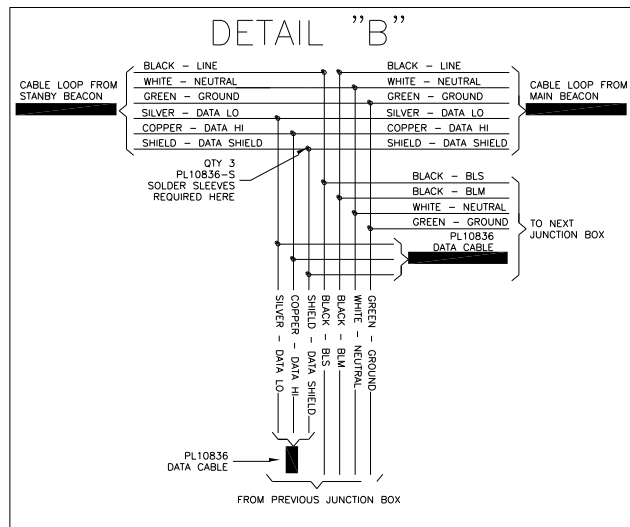
POL-21005-1F-R-34B-S2  
L-810 LED Single  
Obstruction Light



### STANDBY RED BEACON ARRANGEMENT PRIMARY BEACON & SIDE LIGHTS WITH AUTOMATIC TRANSFER TO STANDBY

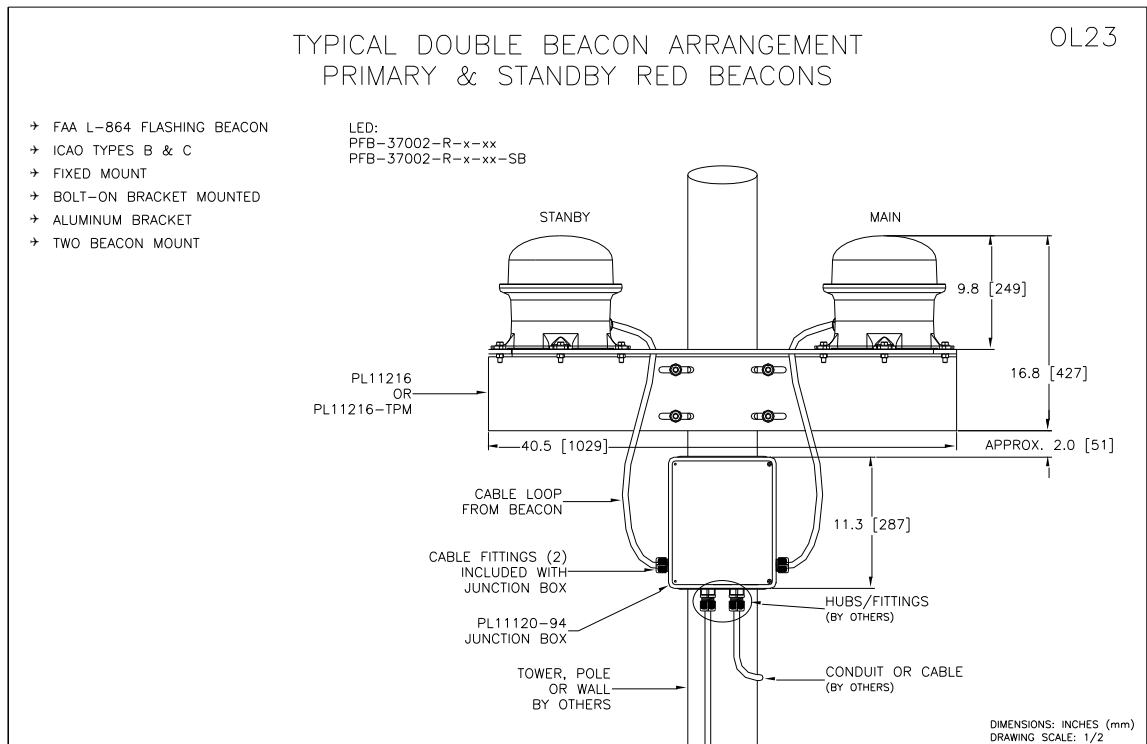
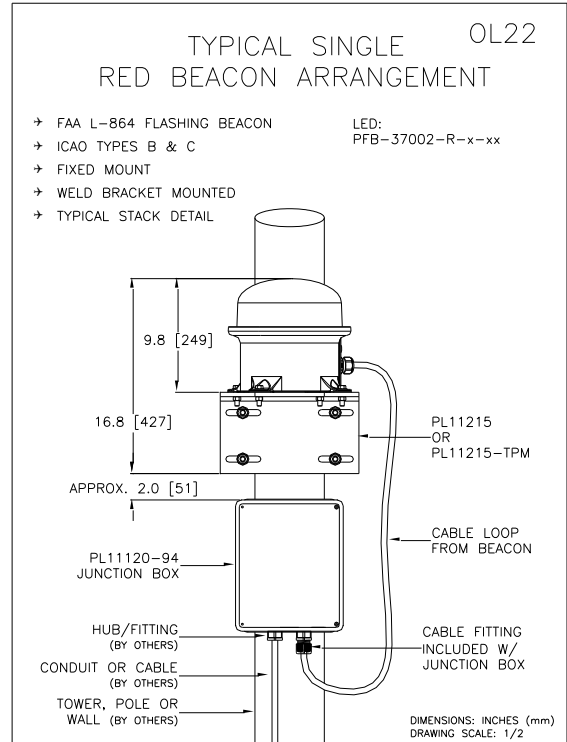
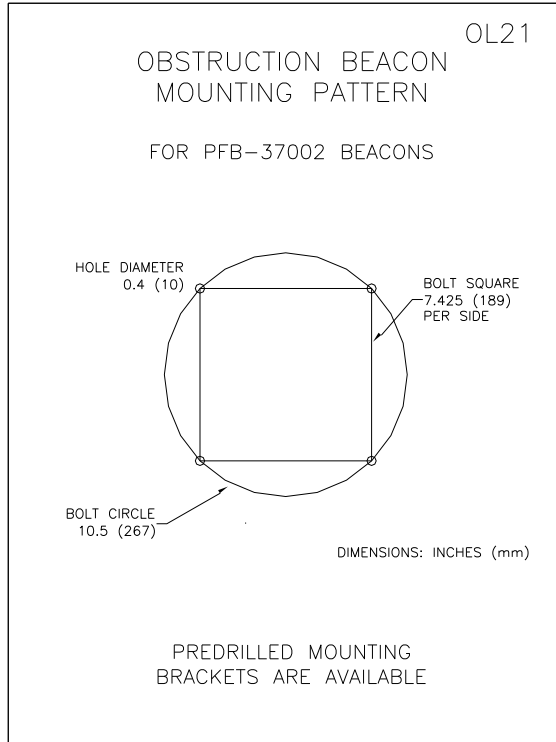


PL11220-94 Junction Box

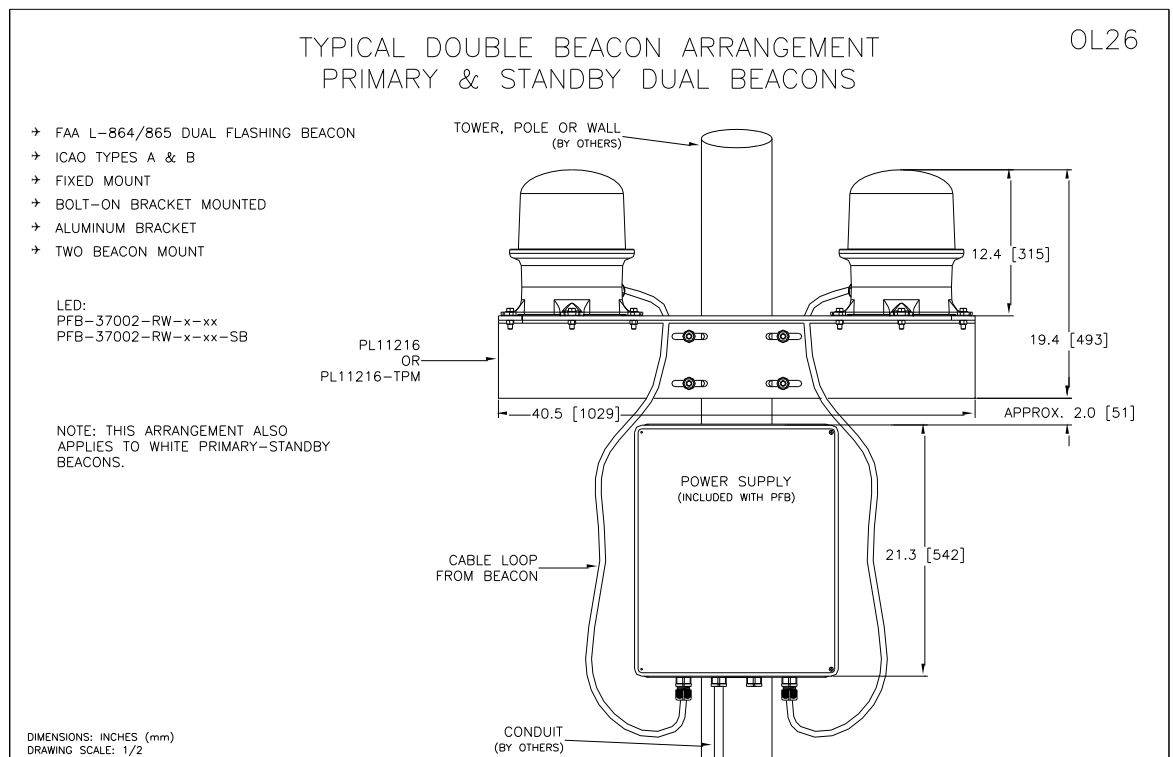
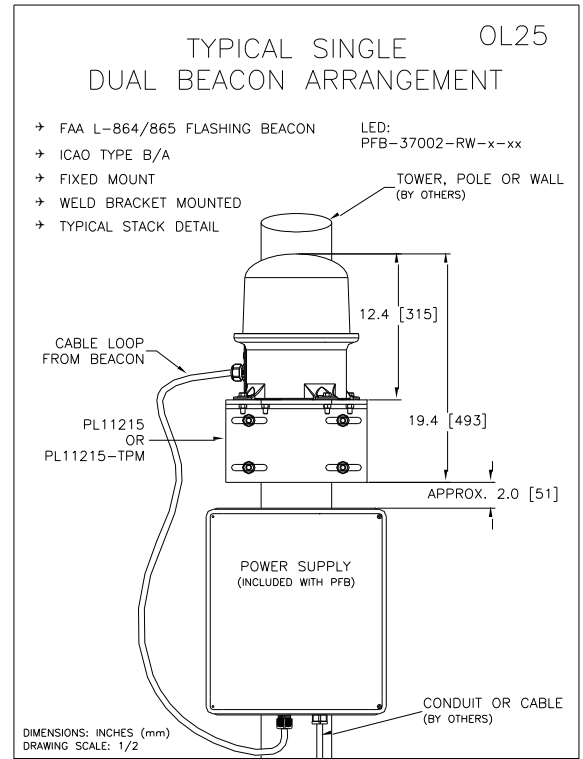
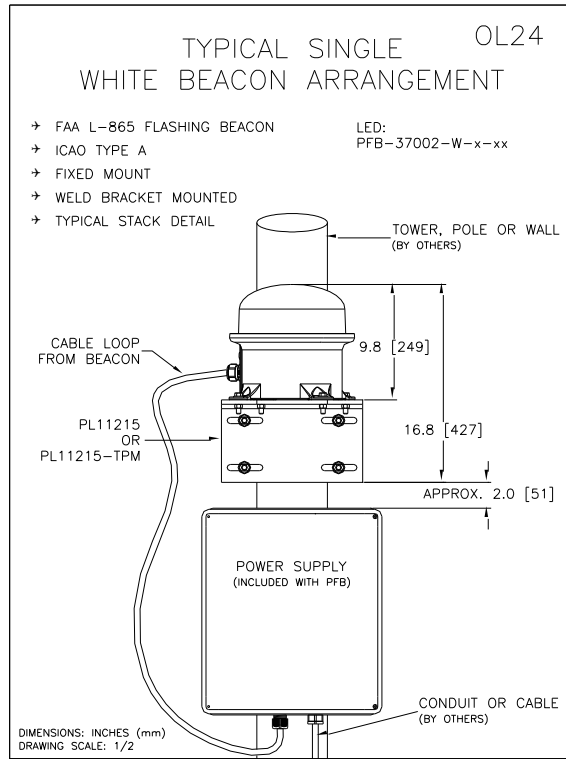


PL11220-94 Junction Box

## BEACON MOUNTING DETAILS

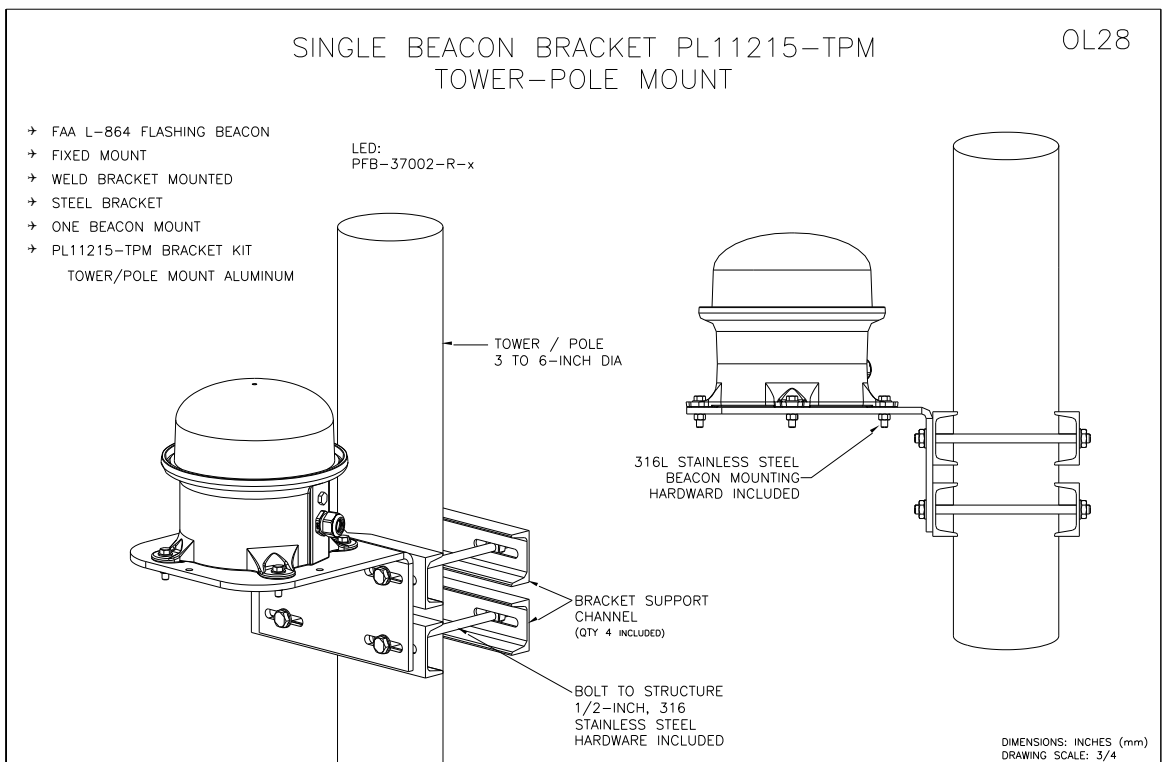
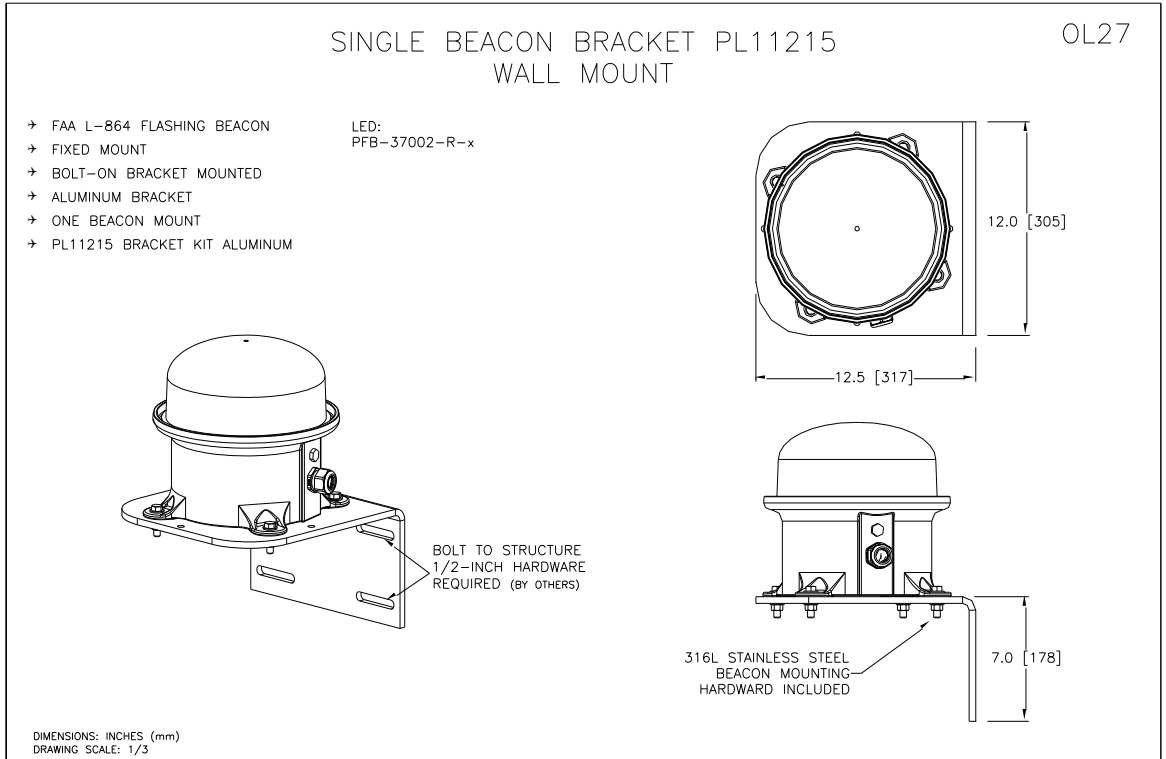


## BEACON MOUNTING DETAILS

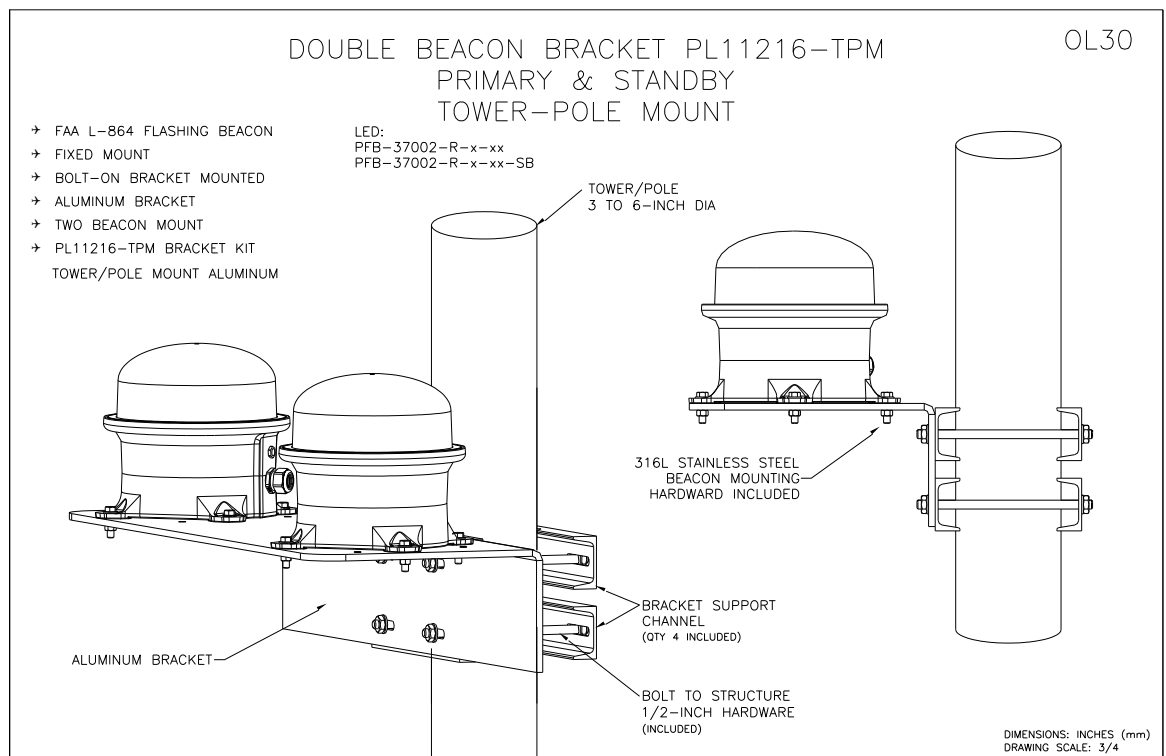
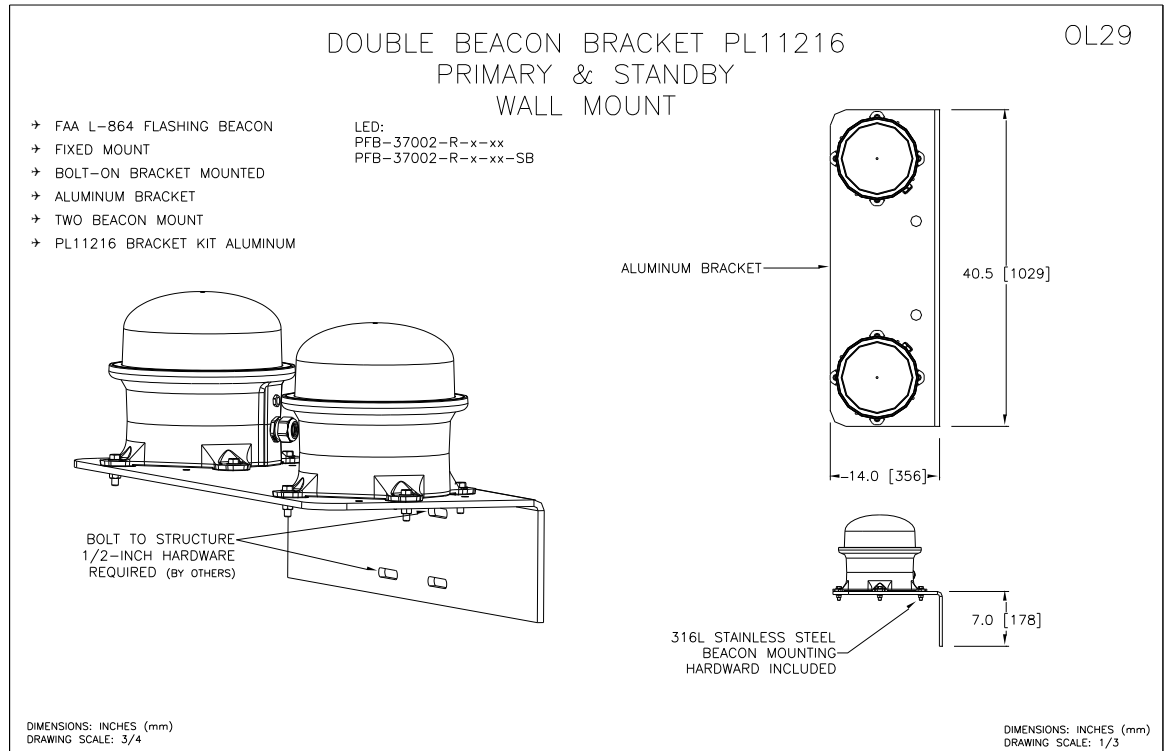




## BEACON MOUNTING DETAILS





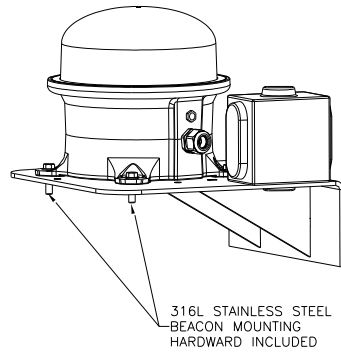


### STEEL BRACKET OPTION WELD MOUNT

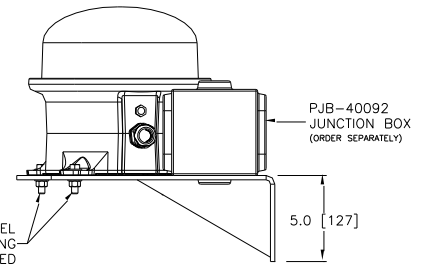
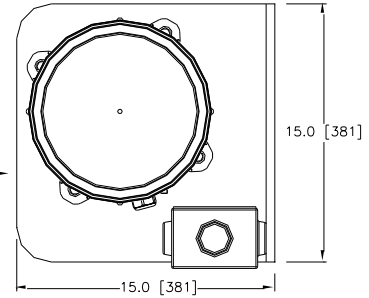
OL31

- FAA L-864 FLASHING BEACON
- FIXED MOUNT
- WELD BRACKET MOUNTED
- STEEL BRACKET
- ONE BEACON MOUNT
- PL11217 BRACKET KIT STEEL

LED:  
PFB-37002-R-x



CARBON STEEL BRACKET



DIMENSIONS: INCHES (mm)  
DRAWING SCALE: 3/4

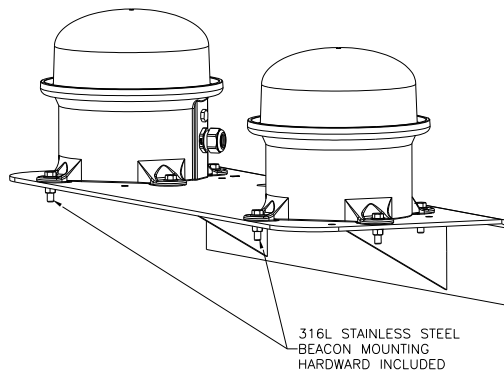
DIMENSIONS: INCHES (mm)  
DRAWING SCALE: 3/4

### STEEL BRACKET OPTION WELD MOUNT

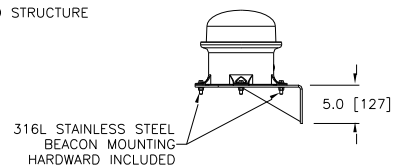
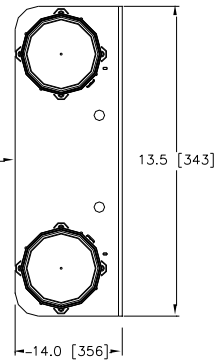
OL32

- FAA L-864 FLASHING BEACON
- FIXED MOUNT
- WELD BRACKET MOUNTED
- STEEL BRACKET
- TWO BEACON MOUNT
- PL11218 BRACKET KIT STEEL

LED:  
PFB-37002-R-x-xx  
PFB-37002-R-x-xx-SB



CARBON STEEL BRACKET



DIMENSIONS: INCHES (mm)  
DRAWING SCALE: 3/4

DIMENSIONS: INCHES (mm)  
DRAWING SCALE: 1/3