

POINT HELIDECK LIGHTS PRL-LSM LED v4 LOW SURFACE MOUNT LIGHT

Compliances: ETL Listed to UL 1598A Marine Vessels at -40 deg C to +55 deg C
 ETL Listed to CSA C22.2 No. 137-M1981 & No. 250.0-08 Canada
 ETL Listed to UL 1598 at -40 deg C to +55 deg C
 Tested & Certified to IP66, IP67 & IP69 Ingress Protection
 IMO 2009 MODU Code (2010) paragraph 13.5.20
 FAA AC 150/5390-2B Heliport Design Guide
 ICAO Annex 14, Volume II
 Registered ISO 9001:2015
 UK CAA CAP 437 ed. 8 (2016), Chapter 4 & Appendix C
 Transport Canada TP14371, AGA 7.17
 American Bureau of Shipping (ABS) Type Approved Product
 ABS Green Passport per MEPC179 (59)



The PRL-LSM is an 8-inch diameter surface mounted light *only 146mm high* used for metal helidecks or existing pavement heliports on the FATO perimeter. Only 2.2 watts and 3.5 VA at 120V.

- 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.
- Switchable color option available.
- IP66, IP67 & IP69 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 below.
- Six (6) years limited warranty subject to Point Lighting "Terms & Conditions of Sale".

| Point Type | Voltage | Array | Color | Mounting & Options |
|------------|---|---|--|---|
| PRL-97004 | 1: 120v ^ 2: 220v 3: 12v DC 4: 24v DC 6: 277v | C: Helideck N: Infrared only H: ICAO FATO | G: Green Y: Yellow W: White R: Red B: Blue IR: Infrared NVG | VB: Variable Brightness LSM: Low Surface Mount Base MTY: Marine Treatment Yellow CF: Cable Gland (NPT only) M2x: Metric Thread (M20-M25) NC: NVG compatibility** SC: Switchable Color (see pg 2) TB: Terminal Blocks |



The C-array exceeds ICAO Annex 14 & meets CAP 437

^ Operates properly using 110v DC and 125v DC.
 Certification testing was performed at 120v AC.

Visibility range as tested:

Visible Color > 8 nautical miles
 Option -NC ** > 3 nautical miles

** For Night Vision Goggles (NVG)
 Option -NC adds IR LED at 855 nm
 Radiant Power: C-array 137 mW/sr

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.

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 in color RAL 6003 (FED-STD-595 color #14097) dark green. Powder coating per US Department of Defense MIL-PRF-24712A type VI and oven cured.



SWITCHABLE COLOR OPTION -SC

Point Lighting offers a unique and proprietary designed option for two color switching within the highly certified PRL package. This is applicable to all mounting forms of the PRL in both safe area and hazardous location Class I, Division 2 and Class I, Zone 2.

In addition to option -SC on the PRL, this system requires use of the color switching PHC-61001 heliport controller with its option -SC1 or -SC2. This permits switching the perimeter lights between two (2) colors.

Application Examples

Example 1: To mark a helipad as available to land (green) or as closed to landing (red). This could be for an emergency or to designate one pad for landing among two or more.

Each PRL light is switchable from green to red:

PRL-97004-1C-G+R-PLB-SC

The required controller can manually switch the color of all perimeter lights:

PHC-61001-1-SC1 with a rotary switch "GREEN – OFF – RED"

Example 2: An offshore marine helideck has alternating yellow and blue perimeter lights, but the owner wants the option to change all the lights to green when the rig is re-tasked.

Each PRL light is switchable from either blue or yellow to green.

PRL-97004-1C-B+G-LSM-SC

PRL-97004-1C-Y+G-LSM-SC

The required controller can manually switch the color of all perimeter lights:

PHC-61001-1-M-SC1 with a rotary switch "BLUE/YELLOW – OFF – GREEN"

Example 3: An offshore marine helideck has green perimeter lights and a CAP 437 helideck status light system. Upon manual or automatic activation of the Point PSL status light system, the PRL perimeter lights change to red and flash in sync warning pilots not to land.

Each PRL light is switchable from green to red.

PRL-97004-1C-G+R-LSM-SC

The PSL status light system is ordered with PHC combination helideck lighting controller that includes the integral PSL control unit. In the AUTO position the default color for the lights is green, but upon activation of the PSL the perimeter lights switch to flashing red, but may be manually switched to steady-burning red:

PHC-61001-1-M-SCSL-SL with a rotary switch "GREEN – OFF – AUTO – RED"

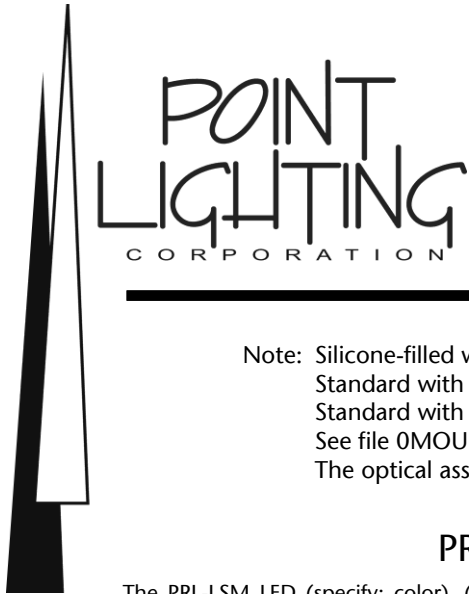
Note: Infrared (IR) cannot be one of the two colors. Both colors must be visible light. Option -NC is available in all cases where the IR LED operates with the visible color.

HELIPORT LIGHTING CONTROLLER
PHC-61001-1-SC1



MARINE HELIDECK LIGHTING CONTROLLER
PHC-61001-1-M-SCSL-SL
Integral PSL Control Unit





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Note: Silicone-filled wire connectors are included.
Standard with our marine treatment finish and internal ground lug.
Standard with 2 x 1-inch NPT entries at 0 & 180-degrees.
See file 0MOUNTINGS for details.
The optical assembly is sealed mechanically without the use of chemical sealants.

PRL-LSM LED SPECIFICATIONS

The PRL-LSM LED (specify: color), (specify: voltage) 50/60 Hz surface mounted light shall not exceed 150mm in height. The unit shall operate properly within an input voltage supply range of 93V to 144V for 120V units and for 176V to 250V for 220V units. Within the preceding ranges, the output to the LED board shall be a controlled, stabilized constant current.

The heliport lights shall be listed *Suitable for Use in Wet Locations* to UL1598A Marine Vessels (for AC), UL1598 2nd Edition Luminaries; CSA C22.2 No. 250.0-08, 2nd Edition; UL50 11th Edition Standard for Enclosures for Electrical Equipment and CSA C22.2 No. 94-M91 Special Purpose Enclosures for use at -40 deg C to +55 deg C and sealed to IP66, IP67 and IP69 ingress protection.

Per ICAO Annex 14, Volume II, Figure 5-9, Array H complies with a minimum of 15 candelas in green under 5-degrees vertical and a minimum of 30 candelas at the peak beam range. Array C complies with CAP 437 which is brighter in certain areas up to a maximum of 60 candelas.

The light shall be compliant and tested to UK CAA CAP 437 ed. 8, Chapter 4 and Appendix C including IP66 & IP67.

The light shall be copper-free cast aluminum and assembled with all external hardware grade 316 (A4) stainless steel. The lens and lamp housing (optical assembly) shall be sealed mechanically without the use of chemical sealants. Entry to the light housing shall be by means of conduit or watertight cable compression fitting(s). The manufacturer shall include silicone-filled wire connectors for use by the installer for watertight connections.

The LED lighting circuits shall be remotely dimmable by means of a heliport controller designed and produced by the lighting manufacturer. Option -VB variable brightness requires installing the PHC-66002 heliport controller. The PHC Heliport Lighting Controller shall incorporate an IEC approved surge suppressor and current limiting circuit breakers on each load output.

The LED light shall have a tested and verified power consumption not to exceed (see chart next page). The unit shall be warranted to withstand an ambient temperature range of: +130 deg F (+55 deg C) to -67 deg F (-55 deg C).

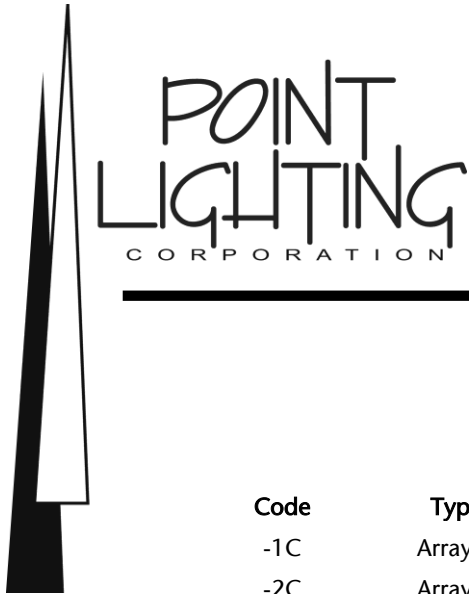
The fixture shall be treated for marine conditions by cleaning per US Department of Defense TT-C-490 method III, pretreated with chrome-free aluminum conversion coating per US MIL-C-5541 type II, epoxy powder base coat primer and glossy polyester powder coat finish in color RAL 6003 (FED-STD-595 color #14097) dark green. Powder coating per US Department of Defense MIL-PRF-24712A type VI and oven cured. The outer glass lens shall be smooth and rounded to reduce the adhesion of dirt, ice and snow. The glass shall be clear to maximize light transmissivity.

The color emitting LEDs shall meet the chromaticity requirements of US MIL-C-25050. The high output LED's shall be the latest technology providing uniform light output. The LED average life shall exceed 100,000 hours. The LEDs shall be soldered in a factory set position to insure consistent light output. Wire mounted raised LEDs that can be bent out of position shall be unacceptable and cause for rejection. The LED board shall be treated with a protective dielectric conformal coating for protection from moisture and corrosion.

The power supply board shall include short circuit and open circuit protection and the unit shall be protected from line surges by metal oxide varistors (MOVs). There shall be a clear design element for the dissipation of LED heat to insure the LEDs do not fail prematurely. Note: It is strongly recommended that the circuit also be directly protected by a Point Lighting Corporation surge suppression device such as in a PHC, SPU or PRC unit.

PRL shall be secured to the LSM mounting base by three (3) socket head stainless steel screws supplied by the manufacturer. A ground lug shall be included as standard.

The LED aviation inset light shall be POINTSPEC Series PRL-97004-LSM manufactured by Point Lighting Corporation.



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POWER CONSUMPTION

| Code | Type | Voltage | Frequency | Watts* | VA* |
|------|---------|---------|-----------|--------|-----|
| -1C | Array C | 120 AC | 50/60 Hz | 2.2 | 3.5 |
| -2C | Array C | 220 AC | 50/60 Hz | 2.5 | 5.8 |
| -3C | Array C | 12 DC | --- | 2.1 | --- |
| -4C | Array C | 24 DC | --- | 2.5 | --- |

Option -NC Add 1.0 watt and 1.1 VA

*Power consumption for AC units includes the effect of the unit's power factor which accounts for the difference between watts and volt-amperes. Measurements were made at the nominal AC voltages. The operating range for 120v units is 93 - 144v. The operating range for 220v units is 176 - 250v.

Point Lighting Corporation recommends return for factory repair and refurbishment of LED PRL lights

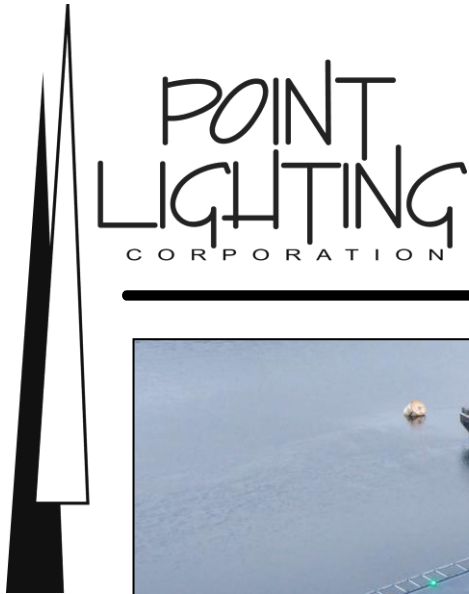
RECOMMENDED TOOLS

Point Lighting Corporation recommends return for factory repair and refurbishment of LED PRL lights. In the event of field service, the PL10839 preset torque wrench kit use with the instruction manual is recommended to assure proper resealing of the fixture.

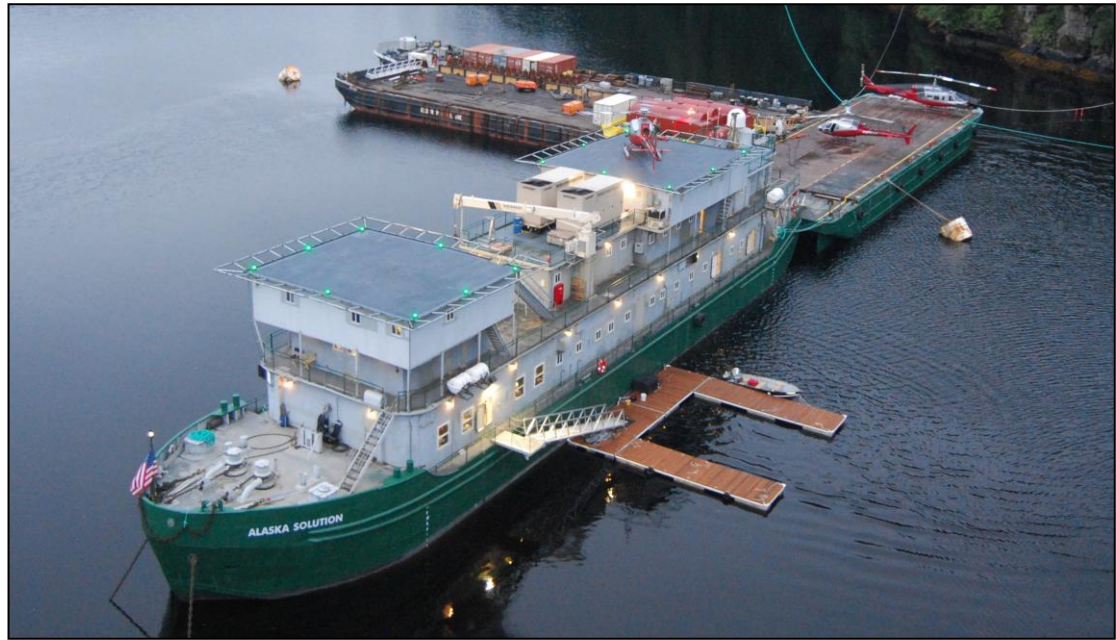


PL10860
Tool, T-handle Wrench
For the three socket head screws fixing the PRL optical subassembly to the LSM mounting base.

PL10839
Tool, Preset Torque Wrench Kit
For the socket head screws fixing the PRL lens clamp ring and for fixing the power supply subassembly.
Consult the factory and the manual before attempting field repair.



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Night Vision Goggles (NVG)

Point Lighting Corporation offers options for combining infrared without NVG. Select option -NC.

Instruction Sheet: IS97004-LSM
 LED Life (hours): 100,000
 Housing Dia: 8.0 (203)
 Height: 5.75 (146)
 Bolt Circle (4): 9.75 (248)
 Bolt Hole diam: 0.406-inch
 10.3 mm
 Weight: 12.0 lbs 5.5 kg

Replacement Parts

PL10523G-C Lens, Clear*
 PL10901-G-C LED Array C, Green
 PL10926-G-C LED Array C, Green with -NC
 PL10530 Gasket, Lens Upper
 PL10531 Gasket, Lens Lower
 PL10532 Gasket, Lamp Housing
 PL10049-4-6 Gasket, Base
 PL10524-125 Screw, Socket Head
 PL10839 Tool, preset torque wrench kit
 PL10860 Tool, T-handle wrench

* All PRL v4 lights use a clear outer lens.



POINT LIGHTING