

PR-500 LED

LONG RANGE SIGNALING and PORT TRAFFIC CONTROL BEACON

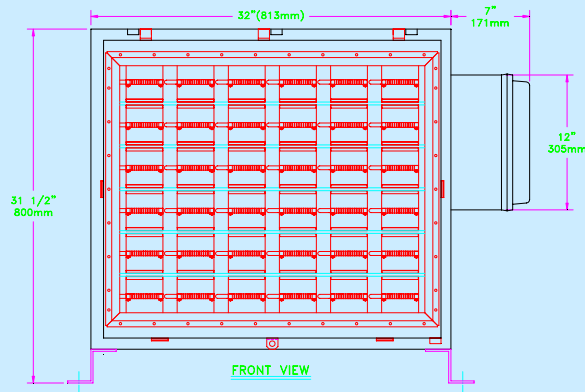


The PR-500 LED is a high intensity, directional, long range signaling lantern suitable for lighthouses, leading lights and multicolor port traffic signaling systems intended to operate as both nighttime and daytime signals.

The key advantage of the PR-500 LED is ability to obtain several years of unattended operation utilizing newly developed LED technology.

The PR-500 LED features high flux LED's mounted at the focal point of stainless parabolic reflector with a specialized dichroic hybrid spectral metal coating. The LED's are mounted on metal core PCB located at the focal point of the mirror. A **patented** passive heat pipe cooling system transports the heat away from the LED's and into the reflector housing. Housed in a weatherproof anodized aluminum enclosure, groups of reflectors are stacked to optimize optical performance. The array system is driven by highly efficient proprietary electronics. The PR-500 LED control electronics, enclosed in a weatherproof fiberglass housing mounted on the side of the beacon, provides flash control, current limiting to the LED, photocell input, and synchronization terminal. The controller has a nominal input of 120-240 VAC 50-60 HZ input. 12 VDC or 24 VDC input voltages are optional.

Beacon dimensions are 45 mm X 90 mm X 120 mm. Shipping Weight is 85 KG.



The PR-500LED Beacon is optimized to project a high intensity, 180 degree, horizontal beam. With a horizontal divergence of ± 45 degrees to 50% of peak intensity, the PR-500 provides signaling performance unmatched by other products on the market. Multiple Beacons can be used to provide 180, 270 or 360 degree horizontal coverage. Vertical divergence is 2.4 degrees.

Using direct emitting colored LED technology, the PR-500 LED is able to generate colored signals with exceptional ranges. A total of 1700 watts of LED arrays may be mounted in the housing. For example, one Port Traffic Control Beacon could house 500 watts of arrays of red, green, amber, and/or white LED's with each color having a daytime range in excess of two miles.

Photometric Data

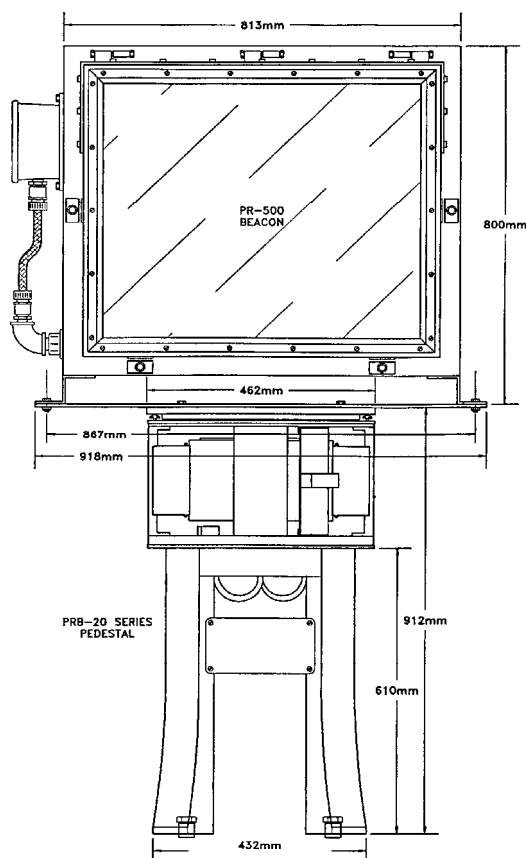
LED POWER	BLUE	AMBER	GREEN	RED	WHITE
500 WATT	42,000	65,000	144,000	146,000	162,000
1000 WATT	84,000	130,000	288,000	292,000	323,000
1500 WATT	126,000	195,000	432,000	438,000	485,000

Patent No.: US 7,461,952



PR-500 LED Beacon

For rotating applications with no existing lantern house, a PRB-22 pedestal and FLPE 24/15 lantern house are required. By incorporating LED into the design, A single (23-mile) or a two-stack (25+ mile) PR-500LED may be mounted on a PRB-22 rotating pedestal to provide a long range lighthouse signal with a very long flash length approximating 25% of the flash period (eg. FL10(2.5)). This is compared to flash lengths of conventional beacons that are typically 2% or less of the flash period. For very long range group flash requirements, multiple beacons may be statically mounted at 90 degree angles and flashed in unison where two beacons will provide 180 degree coverage, three beacons will provide 270 degree coverage and four beacons will provide 360 coverage



PRB-22 GEARLESS PEDESTAL

PR-500 LED BEACON ROTATING ON PRB-22 PEDESTAL

RPM	2	3	4	6	12	STATIONARY INTENSITY
FLASH PERIOD	30 SEC	20 SEC	15 SEC	10 SEC	5 SEC	
FLASH LENGTH	7.5 SEC	5.0 SEC	3.75 SEC	2.5 SEC	1.125 SEC	
LED						
500 WATT	156,000	152,000	149,000	144,000	126,000	162,000
1000 WATT	310,000	304,000	297,000	288,000	252,000	323,000
1500 WATT	465,000	456,000	446,000	432,000	378,000	485,000
1700 WATT	528,000	517,000	506,000	409,000	429,000	550,000

- Over 300 lighthouses in service worldwide.
- One slow-moving assembly (shaft, rotor, and turntable). No gears, brushes or contacts. Heavy duty, self aligning thrust and journal bearings with oil bath lubrication.
- Electronic speed control with adjustable preset speed.
- Bearings, commutators and driving coils can be replaced without removing the lamp array.
- Duplicated independent drive units. Rotation maintained with one drive unit.
- Operates 12 to 18 V DC. 4-6 watts power consumption.
- The control unit incorporates motor drive, voltmeter, ammeter and sensors for drive failure, underspeed, and overspeed. The may be connected via radio or modem unit for remote indication of faults

