



ROTATING BEACON

VRB-25 LED

High Intensity LED Marine Rotating Beacon

25 NM* MAXIMUM RANGE AT 0.74T
40 NM* MAXIMUM RANGE AT 0.85T

The VRB-25 LED is a high intensity rotating beacon suitable for ranges up to 25 nautical miles. Being an LED beacon, it requires maintenance, is extremely energy efficient and can be monitored digitally.

It is an ideal replacement for beacons with Fresnel lenses in historic lighthouses, or locations requiring intensities greater than what can be achieved with typical stationary beacons.



*4 tier variant at 1 RPM

OUTSTANDING FUNCTIONALITY AND FEATURES

The VRB-25 LED has unique advantages over other stationary beacons:

REDUCED MAINTENANCE

There is no lamp replacement or maintenance required, as the LED beacon will operate for over 70,000 hours. Traditional lighting such as halogen bulbs, metal-halide lamps or fluorescent tubes have lifespans under 4,000 hours.

BRIGHTER

Rotating beacons provide greater intensities with lower power consumption than stationary beacons. As the light is focussed into narrow beams instead of going in all directions at once, it is brighter. Each white LED produces over 520,000cd. When rotating at 1 RPM, the effective intensity is 209,000cd. Depending on rotation speed, the 4 tier beacon is visible up to 25NM (or 40NM at 0.85T).

TRADITIONAL APPEARANCE

The VRB-25 LED maintains the traditional beam of light sweeping through the sky, with the unique build-up and fade-out of brightness which is associated with lighthouses. This effect was lost with stationary LED beacons.

ENERGY EFFICIENT

The VRB-25 LED is ideal for solar-powered applications. Solar panels and batteries can be 80% smaller than was previously required. The VRB-25's brushless motor only consumes 1.2W of power and each LED tier uses 22.7W (6 panel).

FLASH CHARACTERS

Flash characters are produced by setting the rotation speed and selecting 6 or 8 optic panels. Group flashes can be achieved by ordering the VRB-25 with blanking panels instead of LEDs. LED panels can also be disabled if required.

FEATURES

- Weatherproof enclosure suitable for external mounting
- Maintenance free LED
- Constant-current LED drivers
- Direct-drive brushless motor
- 1 to 15.9RPM rotation speed with 240 increments
- Day and night intensity is adjustable from 0 to 100%
- Automatic day/night detection
- Optional security code
- Programmable low-voltage cut-out
- Selectable master/back-up operation mode
- Digital inputs/output
- RS232 port.

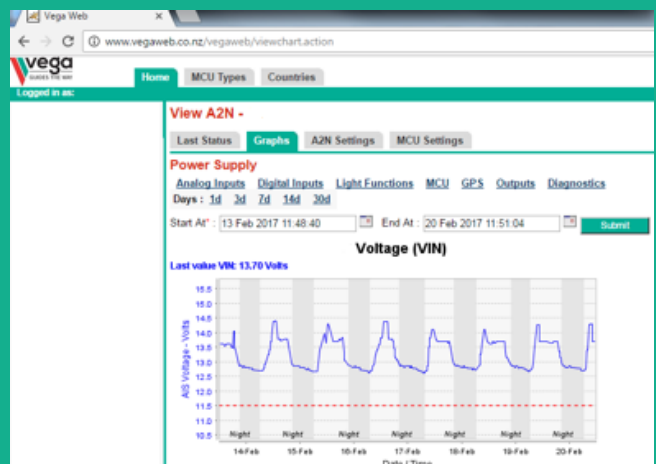
MONITORING

The VRB-25 can be monitored and controlled with a VegaWeb internet subscription, and one of the following products:

- VegaWeb Cellular Transmitter Extended IO (VWEB-GPRS)
- VegaWeb Cellular Transmitter - Standard IO (VWEB-M)
- VegaWeb Satellite Transmitter (VWEB-SAT)
- Vega AIS transponder (VAIS-1E/3E).

MONITORING BENEFITS

The main benefit of a VegaWeb monitoring system is the ability to take preventive action without the need to visit the beacon, or to respond faster if a fault did occur. As an example, the image on the right displays the voltage of a VRB-25 LED over the course of a week. It shows a stable and well balanced system charging throughout the day to reach 14.5V, and discharging throughout the night to 12.5V. If the battery discharged below 11.5V, an alarm system such as email or sms message would alert the user to the issue and allow quick resolution.



SPECIFICATIONS

OPTICAL SPECIFICATION

Light Source	High Intensity LED
Colours Available	White, red, green and warm white
Peak Intensity	520,000cd per lens
Effective Intensity	209,000cd per lens at 1RPM
Vertical Divergence	1.5° vertical, 1.5° horizontal, measured at 5% of specified intensity
Flash Character	Dependent on configuration. Contact Vega Solutions Engineers for assistance.

ENVIRONMENTAL

Temperature	-35°C to +50°C
Intrusion Protection	IP65
Icing	20 kg/square metre on external surface
Design Wind Speed	90 knots (167 kph)
Ultra-Violet Radiation	All external materials are UV resistant

MATERIALS

Glazing	5 mm Acrylic with UV stabilisation
Lens	Machined cast acrylic
Frame	Anodised marine grade aluminium
Bird Spikes	316 Stainless steel
Sealing	O rings
Paint	2-part polyurethane paint on external surfaces

ELECTRICAL PERFORMANCE

Voltage	12VDC
Low Voltage Cut Out	Programmable threshold
Inputs/Outputs	RS232 input/output Beacon-on output Alarm output Beacon on/off input
Day / Night Transition	Photo sensor located on side of the beacon. Twelve program settings for day/night transition. Accuracy of sensor +/- 20 lux
Power consumption	24W*

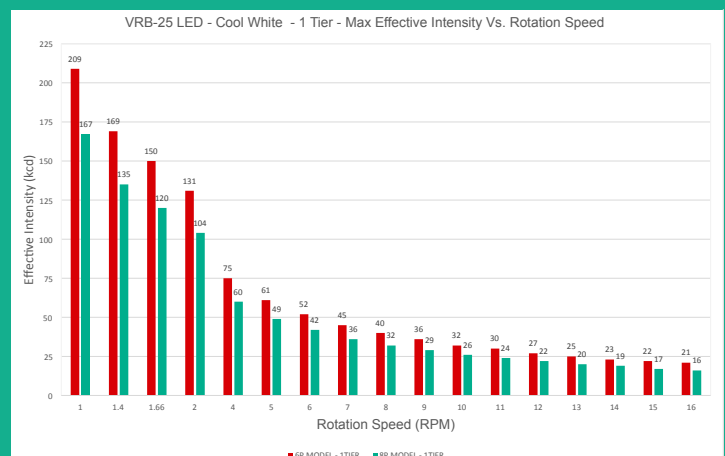
* Power consumption is based on (6 panel, 1 tier, 1 RPM, 22 NM (T=0.74)).

MOTOR

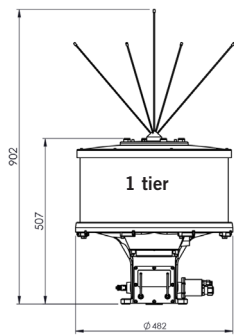
Lens Motor Drive	Brushless direct-drive motor
Speeds	240 settings from 1 RPM to 15.9 RPM

EFFECTIVE INTENSITY

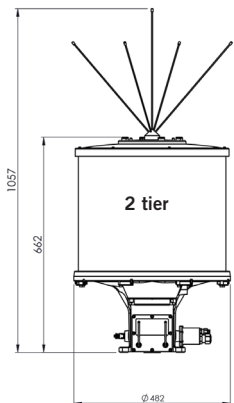
The graph shows the effective intensity for the 6 panel and 8 panel versions of the VRB-25 LED 1 tier beacon. For a beacon with multiple tiers, use the 1 tier intensity and then multiply by the number of the tiers.



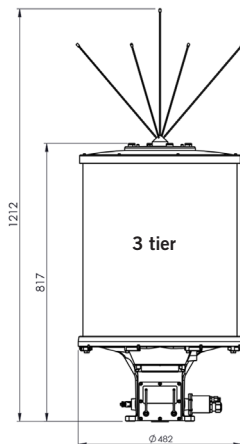
DIMENSIONS & WEIGHTS



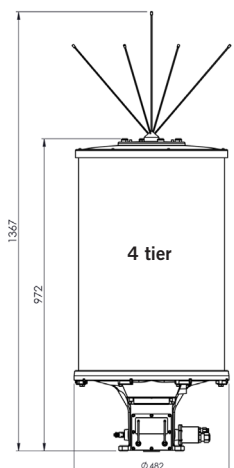
EST Weight: 43KG
Focal Height: 390mm



EST Weight 58KG
Focal Height: 467mm



EST Weight: 73KG
Focal Height: 545mm



EST Weight 87KG
Focal Height: 622mm

PARTS FOR ORDERING

DESCRIPTION

Rotating Beacon

PRODUCT CODE FORMAT

VRB-25-LED-P-T

Where P (Panel)

= Number of panels (6 or 8)

Where T (Tiers)

= Number of tiers (1,2,3 or 4)

Vega's solution engineer will assist you in selecting the right configuration. When making an enquiry, the following details will be discussed:

Effective Intensity and Range

- How many tiers are required
- What rotation speed is required

Flash Character

- How many LED panels are required
- How many blanking panels are required

Installation

- What operating voltage will the beacon be connected to
- Will it be the primary beacon or the stand-by beacon



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