

## VRB-25

25NM @ 0.74T

40NM @ 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 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.

- **Weatherproof enclosure suitable for external mounting**
- **Maintenance free LED**
- **Constant-current LED drivers**
- **Direct-drive brushless motor**
- **0.6 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**
- **Available with AIS**



### Monitoring

- **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)**

## Functionality and Features VRB-25

### About the VRB-25

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

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).

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.

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 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.

### Standards

**Electromagnetic Interference (EMI):** EN55015:2006; 2007:Amd1; 2009:Amd2 radiated emissions

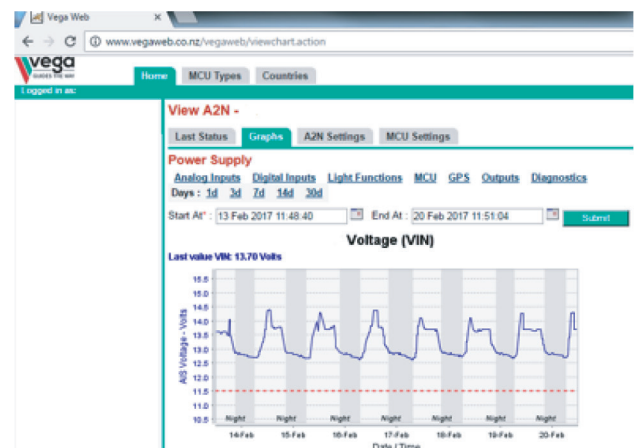
EN61000-4-2:2001 Electrostatic Discharge Immunity, Level 4

EN61000-4-3:2002 Radiated Immunity, Class 1

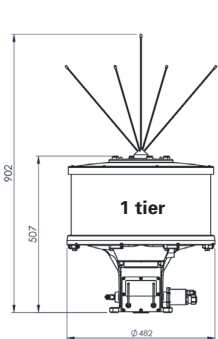
EN61000-4.5:1995 Class 3 Surge Immunity, 0.5kV lead-to-lead FCC 47 CFR Section 15 Class A

### Monitoring Benefits

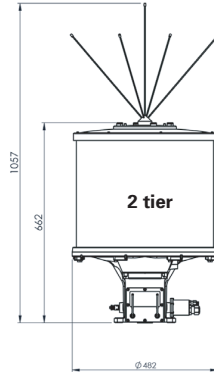
The main benefit of a VegaWeb monitoring system is the ability to take preventive action without the need to visit the beacon, or to respond faster if a fault did occur. As an example, the image on the right displays the voltage of a VRB-25 LED over the course of a week. It shows a stable and well balanced 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.



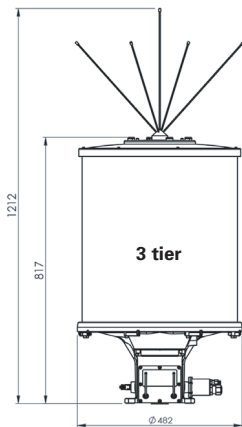
## Technical Specification VRB-25



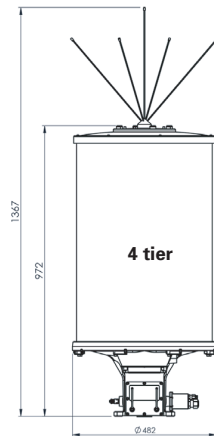
**EST Weight: 43KG**  
**Focal Height: 390mm**



**EST Weight 58KG**  
**Focal Height: 467mm**



**EST Weight: 73KG**  
**Focal Height: 545mm**



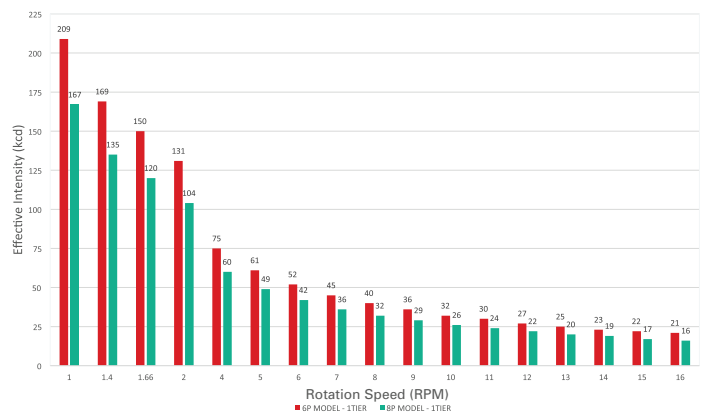
**EST Weight 87KG**  
**Focal Height: 622mm**

### Optical Performance

<b>Maximum intensity</b>	<b>520000 cd</b>	<b>520000 cd</b>	<b>520000 cd</b>	<b>520000 cd</b>
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<b>Light source</b>	High intensity LED
<b>Colours</b>	Red, Warm White, Green, White
<b>Vertical divergence</b>	1.5° @ 5% of specified intensity
<b>Horizontal divergence</b>	1.5° @ 5% of specified intensity
<b>Flash Character</b>	Depend on configuration

VRB-25 LED - Cool White - 1 Tier - Max Effective Intensity Vs. Rotation Speed



## Material

<b>Glazing</b>	5mm acrylic with UV stabilisation
<b>Lens</b>	Machined cast acrylic
<b>Bird spike</b>	316 stainless steel
<b>Frame</b>	Anodised marine grade aluminium
<b>Sealing</b>	O ring
<b>Paint</b>	2-part polyurethane paint on external surfaces

## Environmental

<b>Degree of Protection</b>	IP65
<b>Temperature</b>	-35°C to 50°C
<b>Wind</b>	90kt
<b>Ice Loading</b>	20kg/m <sup>2</sup>
<b>UV Radiation</b>	All external materials are UV resistant

## Electrical performance

<b>Voltage</b>	12VDC
<b>Power consumption</b>	24W (6 panels, 1 tier)
<b>Inputs/Outputs</b>	90kt
<b>Inputs/Outputs</b>	RS232, Beacon-on output, Alarm output, Beacon on/off input
<b>Day/Night transition</b>	Photo sensor, 12 program settings Accuracy: +/- 20 lux

## Motor

<b>Lens motor drive</b>	Brushless direct-drive motor
<b>Speed</b>	240 settings from 0.6RPM - 15.9RPM

# Order Overview VRB-25

## Product code

Code	Note
VRB-25-LED-P-T	
<b>P</b>	Number of panels (6 or 8)
<b>T</b>	Number of tiers (1, 2, 3, 4)