



# 5.5 NM MARINE BEACON

## VLB-5X

SHORT-RANGE LANTERN 5.5 NM AT 0.74T

Vega's flagship short range beacon is available in four models, to suit a wide range of locations and environments. The VLB-5X includes the latest LED technology; new battery technology; and an advanced charging algorithm, which supports the battery to perform well in extreme weather conditions.

Benefits include:

- Optical range – 5.5 NM
- Battery technology and advanced charging algorithm
  - Excellent battery life in hot climates
  - Excellent battery capacity in cold climates
  - Excellent battery tolerance to becoming flat
- Large solar cell capacity 8W or 16W



VLB-5X SS



Approved for use as Class B & C lights for artificial island and structures in USCG 8th District under CFR 33 Part 66 and Part 67. USCG Compliant under CFR 33 Part 66 for 3 and 5 mile private navigation.

# OUTSTANDING FUNCTIONALITY AND FEATURES

The VLB-5X has a long-life battery that is expected to keep the beacon flashing for more than eight years in hot and cold climates. In-house testing shows 45% greater autonomy in cold temperatures of -25°C and 25% greater autonomy in temperatures over 20°C, compared to other batteries.

Besides being ideal for extreme conditions, the battery is also robust. The battery can be discharged to low levels without damage or affecting its long-term capacity to be recharged to 100%.

The infrared remote on the VLB-5X makes programming straightforward. It allows for a hands-free configuration in all conditions, day or night.

The VLB-5X is designed for installation on buoys, fixed poles and land locations. It is available in four models:

- (SA) stand-alone beacon for use with external 12VDC power sources
- (SS) standard self-contained solar beacon
- (LS1) large self-contained beacon with 12Ah battery
- (LS2) large self-contained beacon with 24Ah battery for high latitude or heavy duty applications.

#### Features include:

- remote programming in less than 2 minutes
- the 5X battery will continue to charge between -40°C and +65°C
- high autonomy (days with no solar charge) in a completely sealed, self-contained unit
- five colours meeting IALA chromaticity requirements
- light intensity automatically adjusts with flash character setting (Schmidt-Clausen).

#### Programming features (with Vega IR Remote Programmer)

##### include:

- 12 options for day to night transition light levels
- more than 256 flash characters
- one custom character
- optional security codes
- ON/OFF control using sync wire
- calendar control of beacon operation
- alarm output (system notification).

To check how the beacon will perform in your planned location, use the solar calculator on our website ([www.vega-navigation.com](http://www.vega-navigation.com)). Enter the intensity, range and flash character you require and the calculator will take into account the lowest solar month as well as temperature. It will also provide details of expected solar autonomy based on the worst conditions likely to be encountered.

#### VLB-5X solar power details:

Model	Solar	Battery
Stand-alone (SA)	N/A	N/A
Self-contained Standard (SS)	8W	12Ah 12V
Self-contained Large 1 (LS1)	16W	12Ah 12V
Self-contained Large 2 (LS2)	16W	24Ah 12V

## EXAMPLE CALCULATION FOR ANCHORAGE, ALASKA U.S

Latitude	61° North
Flash	FL 10s 1.0
Colour	White
Distance	4.5 NM
Divergence	7°
Effective Intensity	54 Candela
Autonomy	Standard (SS)- Not suitable Large One (LS1) – 41 days Large Two (LS2) – 82 days

## EXAMPLE CALCULATION FOR ABERDEEN, SCOTLAND

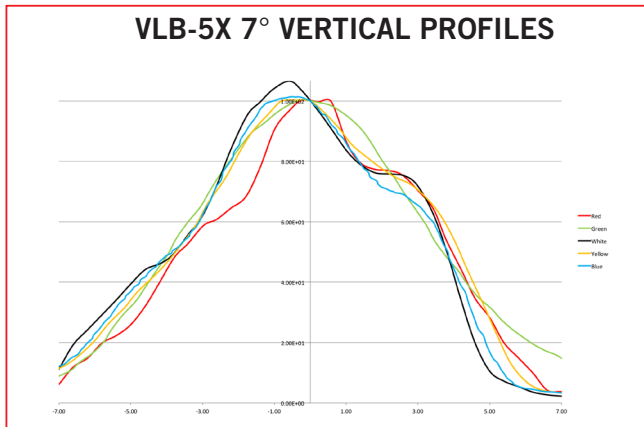
Latitude	57.1°
Flash	FL 5s 0.3
Colour	Red
Distance	4.0 NM
Divergence	7°
Effective Intensity	37 Candela
Autonomy	Standard (SS) – 76 days Large One (LS1) – 76 days Large Two (LS2) – 152 days

# SPECIFICATIONS

## OPTICAL SPECIFICATION

<b>Maximum Intensity</b>	0.5 – 106cd (excluding blue and yellow). 177cd maximum peak intensity LEDs are temperature monitored to control intensity. Light intensity automatically adjusts with flash character setting (Schmidt-Clausen)
<b>Vertical Divergence</b>	7° at 50% of peak intensity
<b>Chromaticity</b>	Colours meet IALA chromaticity requirements

Range (NM)	Effective Intensity (cd)
4 NM	37
5 NM	77
5.5 NM	106



## ENVIRONMENTAL

<b>Operating Temperature</b>	-40°C to +50°C
<b>Cooling</b>	Convection
<b>Pressure Equalisation</b>	Membrane in solar body
<b>Salt</b>	IP68, continuous exposure saltwater and spray
<b>Wind</b>	140kt
<b>Ice Loading</b>	22kg/m <sup>2</sup>
<b>Shock/Vibration</b>	75g shock in all directions; 5g vibration in all directions

## ELECTRICAL PERFORMANCE

<b>Reverse Polarity</b>	Protected
<b>Battery</b>	Lead Crystal® battery 12Ah 12V or 24Ah 12V (2x 12Ah)
<b>Solar Panels</b>	4 x 2W Mono Crystalline panels (standard solar)

## MATERIALS

<b>Lens</b>	Moulded acrylic (PMMA)
<b>Bird Spike</b>	Plastic and stainless steel
<b>Body</b>	UV stabilised nylon
<b>Base</b>	Nylon 6/6 with 30% glass fill
<b>Solar Panels</b>	Mono Crystalline silicon
<b>Top Cap</b>	UV stabilised ASA
<b>Mounting</b>	3 and 4-hole on 200mm PCD available on the same base

## STANDARDS

**Marine Navigation Lights:** USCG Approval CFR 33 Part 66 and Part 67 for artificial island and structures

**Electromagnetic Compatibility (EMC) / Electromagnetic Interference (EMI):**

EN55015:2006 +A1:2007, +A2:2009 radiated and conducted emissions;

EN61000-4-2:2008. Electrostatic Discharge, Immunity Level 4 (10KV air 6KV contact);

EN61000-4-3:2006 +A1:2007, +A2:2010 Radiation Immunity Class 1 (10V/m);

EN61000-4-5:2005 Class 3 Surge Immunity, 0.5kV lead to lead

FCC 47 CFR Section 15 Class A

**Optical Test:** IALA Recommendation E-122 (2001) and E-200-3 Part 3 (2008)

**Colour:** IALA Recommendation E-200-1 Part 1

**Daylight:** IALA Recommendation 1038

**Power Supply:** IEC60945 Section 7 normal and peak voltage, and reverse polarity protection

**Ingress:** IP68 to EN60529

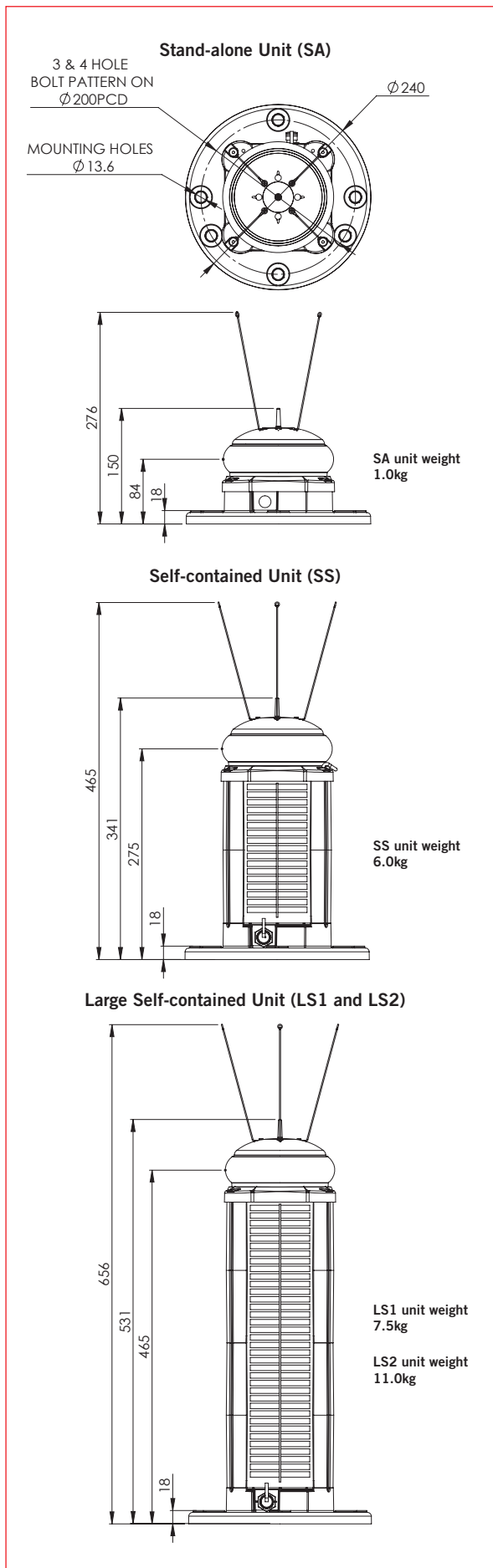
**Shock:** MIL-STD-202G method 213B Cond H

**Vibration:** MIL-STD-202G method 204D Cond B, 5G in all directions

**Immersion:** MIL-STD-202G method 104A Cond B withstands immersion to 1m depth

# DIMENSIONS AND WEIGHTS

# ORDER INFORMATION



## DESCRIPTION

VLB-5X LED Marine Beacon

## PRODUCT CODE FORMAT

VLB-5X-C07-YY

### Where C (Colour)

- = G (Green Light)
- = R (Red Light)
- = W (White Light)
- = Y (Yellow Light)
- = B (Blue Light)

### Where YY (Version)

- = SA (Stand-alone)
- = SS-12 (Standard 9Ah Battery Solar Capacity)
- = LS1-12 (Large 1 12Ah Battery Solar Capacity)
- = LS2-12 (Large 2 12Ah Battery Solar Capacity)

## OPTIONAL EXTRAS

External Charging Plug and Sync Wire (SS and ES) **CP/SW**  
 Battery **EBAT-VGA-SL12-12U**  
 GPS sync **GS**  
 Data Port, Alarm/Monitor, and Sync Wire Option **DP/AL/SW**

VLB-67/VLB-5 beacons can be updated to the new battery technology, with the use of two upgrade kits:

- **VLB-5X LCB Battery Kit** (includes battery, O-rings, plug adaptor cable and battery retainers) – one required for each upgrade
- **VLB-67/5 LCB Software Upgrade Kit** (includes USB, cable) -only one required for multiple upgrades.

Available from:



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Email: sales@vega.co.nz www.vega-navigation.com

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