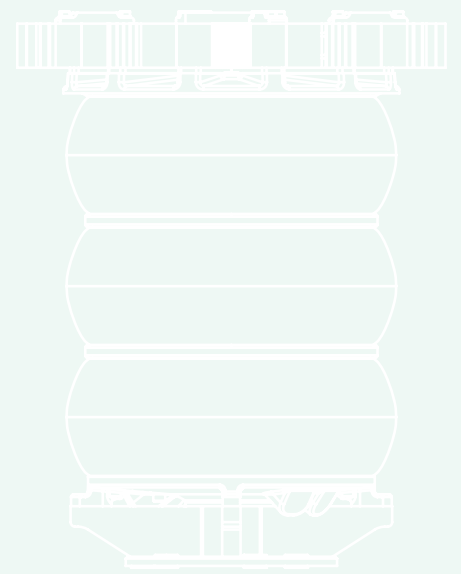


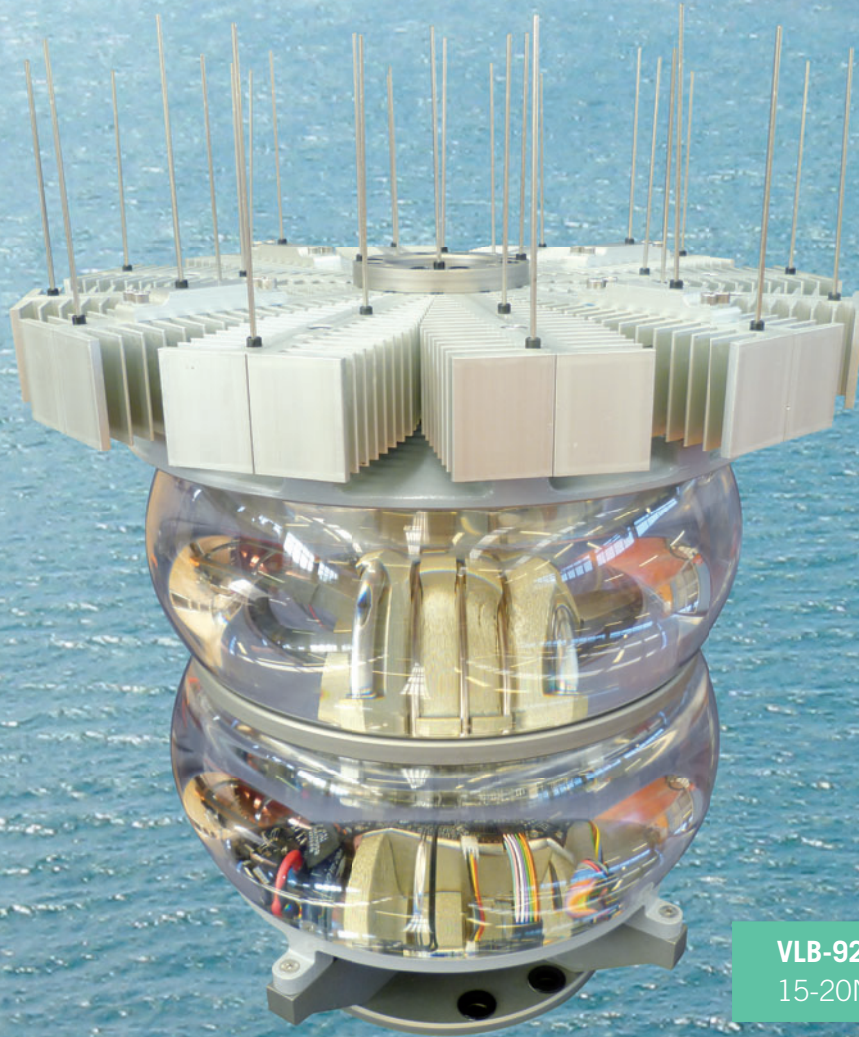


Vega *guides the way*



VLB-92 OMNI-MEGA LONG RANGE LED BEACON

AVAILABLE FROM 15 TO 20NM RANGE AT 0.74T



VLB-92 Omni-Mega
15-20NM range LED beacon



ISO 9001

BUREAU VERITAS
Certification



VLB-92 OMNI-MEGA LONG RANGE LED BEACON

The VLB-92 Omni-Mega Long Range Beacon forms part of the Vega LED marine beacons family and is intended for applications requiring very high intensity and range. Depending on the configuration, the Omni-Mega beacon can handle range from 15NM to 20NM at a transmissivity of 0.74T or 23NM to 30NM at a transmissivity of 0.85T.

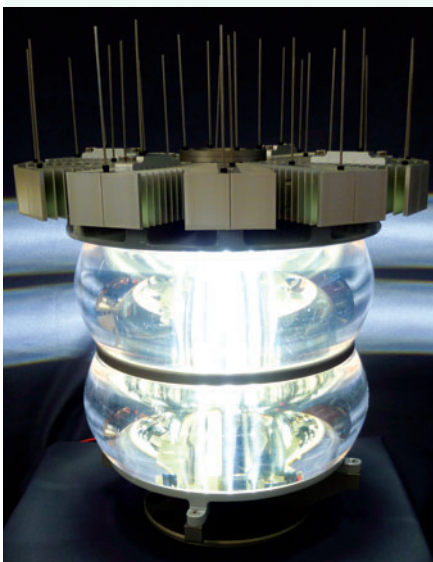
The VLB-92 Omni-Mega provides outstanding heat sink performance to handle the heat dissipation from the high power LED light sources used in the Omni-Mega beacon. The building block of the VLB-92 Omni-Mega is a three-lens unit, complete with heat sinks. Up to three of these units can be used to obtain the required range and flash character of the application.

The VLB-92 Omni-Mega incorporates a very high power LED light source and high efficiency optics in order to achieve the level of candela output required for these long range marine beacons. Each lens layer of the Omni-Mega beacon incorporates 12 LED sources. The vertical divergence at 50% of peak intensity is 3 degrees.

The VLB-92 Omni-Mega Beacons are tested in the Vega zero range light tunnel prior to shipment to ensure the light output meets the required specifications.

Standard colours are white, red, and green. For other colours please refer to Vega. All colours meet IALA chromaticity requirements.

The VLB-92 Omni-Mega contains all the programmable features that are normally found in Vega marine beacons.



PERFORMANCE AT A GLANCE

- Range of between 15 and 20NM at a transmissivity of 0.74T
- Range of between 23NM and 30NM at a transmissivity of 0.85T
- Vertical divergence of 3° to the 50% intensity level

INSTALLING THE VLB-92 OMNI-MEGA LONG RANGE BEACON

The Omni-Mega Long Range Beacon has a 3 or 4-hole mounting base with the holes located on a 200mm PCD. With the narrow divergence of 3 degrees it is essential that the beacon is mounted on a horizontal surface.

OPERATION OF THE VLB-92 OMNI-MEGA LONG RANGE BEACON

The VLB-92 Omni-Mega is programmed as a single unit regardless of how many units are used in a particular application.

The operation of each unit is monitored and options are provided on how the beacon should behave should any problem be detected. The normal fault condition will shut down all units, however, a “Best Effort” option will allow the unaffected units to continue to work on a fault condition. Operation with “Best Effort” would see the beacon still operating with a lower output intensity.

Additional Features

- RS232 or RS485 Data Port
- IRDA Data Port
- GPS Synchronization using the VSU-29 GPS Sync Unit
- Beacon Alarm output
- Force ON & Force OFF control inputs
- Beacon LEDs On output
- Output for AIS message 21 connections

EASY PROGRAMMING

There are two methods of programming the VLB-92 Omni-Mega Long Range LED Beacon:

- 1) Using the Vega IR programmer (Remote-02). This allows the beacon to be programmed one feature at a time. The VLB-92 Omni-Mega confirms the settings by flashing the programming code back to the user.
- 2) Using a computer and the IRDA interface (Prog-03). This allows all the VLB-92 Omni-Mega settings to be displayed on a computer screen and downloaded or retrieved in a single action.
 - Automatic Schmidt-Clausen intensity correction for short flashes
 - Multiple effective intensity settings
 - Multiple Day/night transition level settings
 - Programmable flash characters
 - One programmable custom character
 - Hard wire synchronisation
 - Synchronisation control including master/slave options and sync delay
 - Programmable sleep and test modes
 - Programmable low voltage cut out
 - Program control of the RS-232 and IRDA data port.
 - Program control how VLB-92 Omni-Mega responds to a unit failure
 - Optional security code
 - Read supply voltage
 - Serial number, LED type etc, are stored in the beacon
- 3) The VLB-92 Omni-Mega supports the standard features found on Vega marine LED beacons.

MONITORING

Monitoring of the VLB-92 Omni-Mega can be provided in a number of ways:

- 1) Using the Vega Mini VegaWeb internet monitoring unit.
- 2) Utilising the RS-232 or IRDA data port
- 3) Using the hard wire connections.
- 4) Using hard wire outputs for connections to AIS units for message 21 and message 6.

INFORMATION REQUIRED FOR A VLB-92 OMNI-MEGA

- 1) Range
- 2) Colour
- 3) Flash character, including flash period and duty cycle

SPECIFICATIONS

Optical

Light Source	High-Intensity Light-Emitting Diodes Operating temperature controlled to protect LEDs
Colours Available	Red, Green, White IALA Recommendation E-200-1 part1
Intensity	See Appendix B IALA Recommendation E-122(2001) & E-200-3 Part 3 (2008)
Effective Intensity Settings	Multiple levels for both day and night operation
Peak Intensity	Automatic Schmidt Clausen correction up to beacon max intensity
Flash Characters	246 standard characters plus one custom character; 20 factory set custom characters if required
Vertical Divergence	$\pm 1.5^\circ$, measured at 50%, $\pm 3.0^\circ$, measured at approximately 10% of peak intensity
Chromaticity Co-ordinates	Red $0.68 < x < 0.71$, $0.29 < y < 0.32$ White $0.28 < x < 0.37$, $0.28 < y < 0.39$ Green $0.015 < x < 0.26$, $0.72 < y < 0.75$

Synchronisation

Wire Synchronisation	Negative transition signal at start of flash character 12 or 24VDC operation Max sink-current 1.6mA @24V positive supply
GPS Synchronisation	With Vega VSU-29 GPS sync unit
Synchronising delay	Synch pulse delay settable from 0 to 9.9 seconds

Electrical

Voltage	20 to 36 VDC, nominal 24.0 VDC
Low Voltage Cut Out	Programmable low voltage cut off threshold

Current between Flashes	50 mA per unit
Current by Day	50 mA per unit
Day/Night Transition	3 Photo sensors equally spaced inside lens. Nine program settings for the day/night transition. Accuracy of sensor ± 20 lux
Inputs	Beacon (Override) "On"/ Beacon (Override) "Off"; Operates on ≥ 6 VDC input; Max sink-current 1.6mA @24V positive supply
Outputs	<u>ON/AIS ON outputs:</u> AC/DC Solid state relay contact pair. Voltage 0 to 36 VDC, either polarity. Current 125mA max. Leakage current 1 micro Amp. Typical Voltage drop across closed contacts: 1.3VDC@50mA. <u>Fail/OK/AIS Fail/OK outputs:</u> AC/DC relay contact SPDT contacts with common. Voltage 0 to 36 VDC, either polarity. Current 2A max @ 30VDC. Leakage current 1 micro Amp. Typical Voltage drop across contacts during alarm: < 2 mV@2A.
Optional Data Port	RS232, 2-wire, half-duplex serial interface, HW handshaking and SW flow control not supported. RS485 2-wire differential, bidirectional half-duplex serial interface, custom protocol.

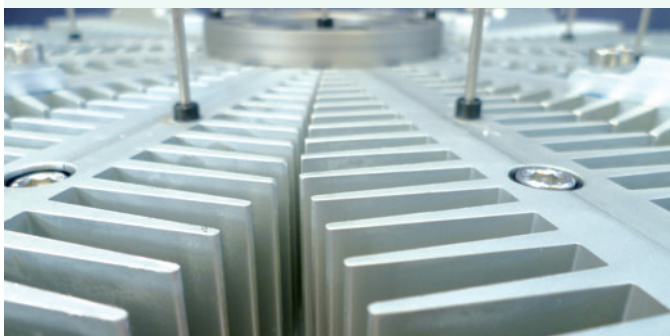
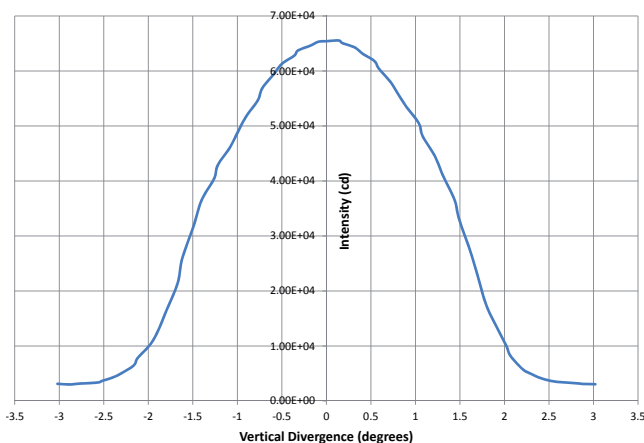
Materials for Beacon

Lens	Machined Cast acrylic
Body and Heatsink	Anodised marine grade aluminium
Base	2 part painted cast marine grade aluminium
Bird Spikes	28 spikes, 316 Stainless steel.
Sealing	O rings

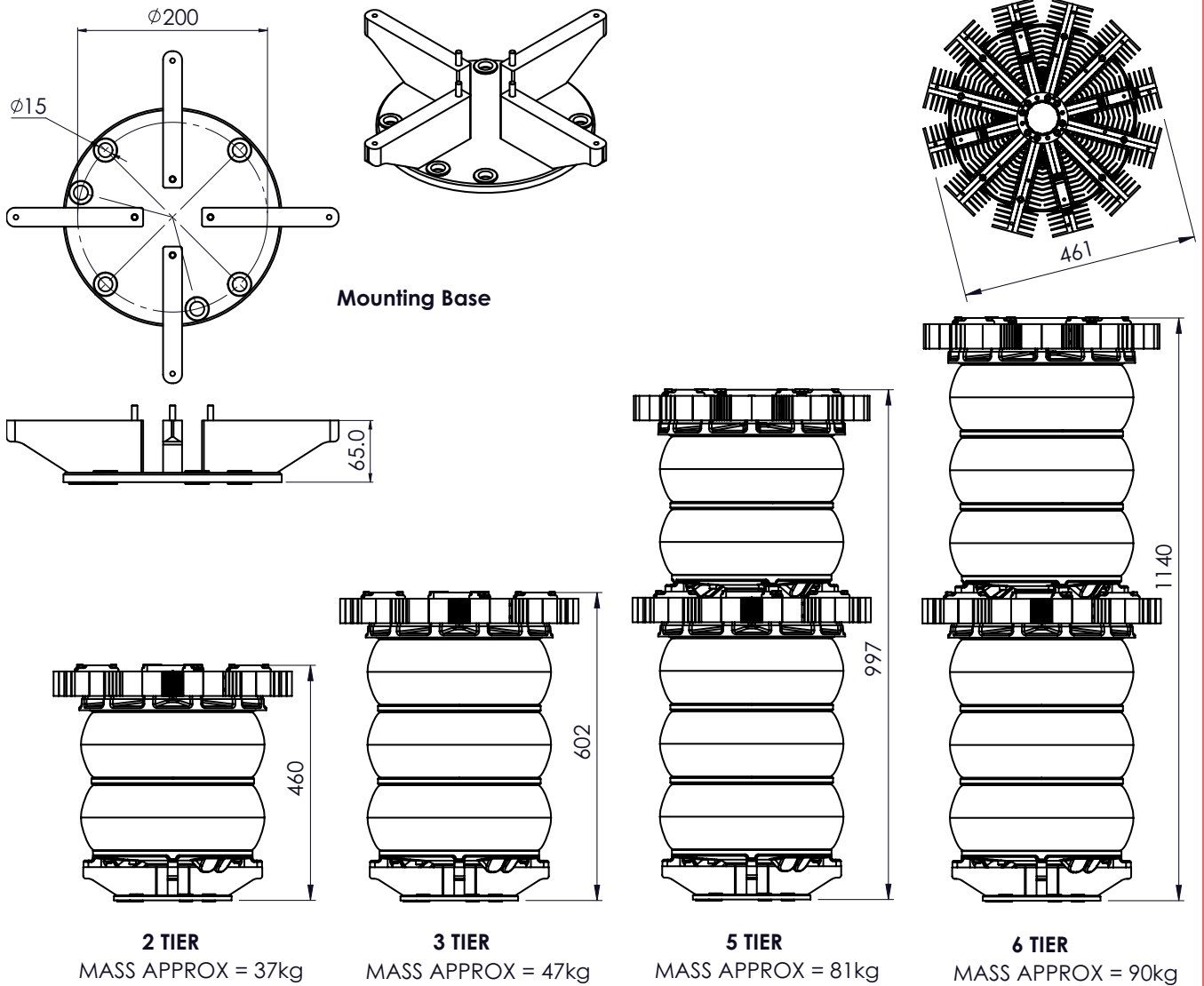
Environment

Temperature	-30°C to +60°C
Intrusion Protection	IP67
Design Icing Load	20 kg/square metre on external surface
Design Wind Speed	90 knots (170kph)
Ultra-Violet Radiation	All external materials are UV resistant
Shock	MIL-STD-202G, Method 213B, Cond H. 10g shock vertical and 35g horizontal
Vibration	MIL-STD-202G, Method 204D Cond B, peak value of 2g in all directions
Electromagnetic Interference	EN55015:2006; 2007:Amd1; 2009:Amd2 radiated emissions. EN61000-4-2:2008 Electrostatic Discharge Immunity, Level 4. EN61000-4-3: 2006 +A1: 2007, +A2 2010 Radiated Immunity, Class 1. EN6100-4.5:2005 Class 3 Surge Immunity, 0.5kV lead-to-lead.
Eye Safety	The LED product is exempt from IEC60825-1 classification
Programming	Vega Remote02 Infra-red programmer By Computer using Prog-03 kit
Design Life	15 years
Warranty	1 year. See Vega warranty terms.

VLB-92 Omni-Mega Vertical Profile



DIMENSIONS & WEIGHTS



NOTES: BIRD SPIKES ADD 120mm TO TOP OF BEACON

PARTS FOR ORDERING

DESCRIPTION

VLB-92 Omni-Mega Long Range LED Beacon

- Colour
- Range
- Flash Character

Sync signal inverter module

TVIR Programmer

Computer Programmer

Note: U is the number of units required; T is the total number of lenses. Price will depend on the number of subunits, units used and number of LEDs.

CODE

VLB-92-UT

167-295

Remote-02

Prog-03



DISTRIBUTOR

Released on 22 July 2011

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