

Vega AIS

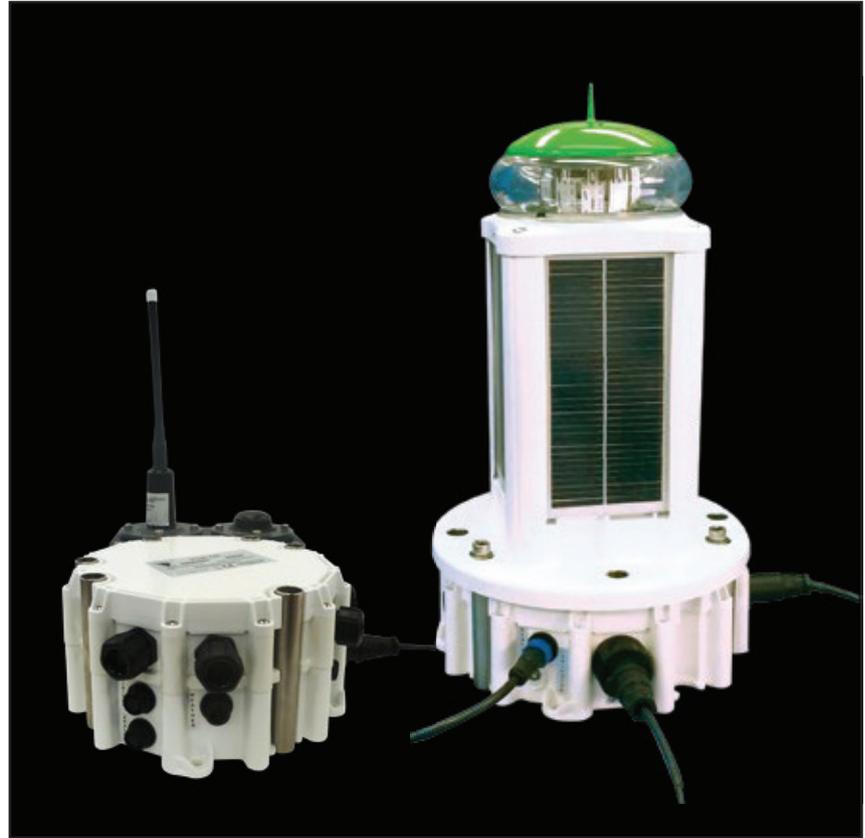
Type 1 & 3

The Vega AIS comes in two types of AIS units, specifically designed for aids to navigation industry

Vega AIS units enhance a lantern's capability by allowing the lantern to broadcast its position and status to either oncoming vessels or land based AIS receivers.

They are more efficient, more flexible and easier to set up than comparable systems, making it the ideal AIS system for your needs.

- **Vega AIS units can be used directly with lanterns equipped with a Vega data port**
- **Other beacons equipped with a DC power cable are compatible with Vega AIS with the addition of the optional current sensor unit.**



Functionality and Features Vega AIS

About the Vega AIS

AIS systems are specifically designed for marine lantern and configurable to meet the varied needs of clients.

Vega AIS units enable a lantern to broadcast its position and status to vessel or land-based AIS receivers.

The units can also broadcast up to 3 additional virtual lanterns, providing information to identify hazard positions where it is not possible to place a physical lantern. This allows hazards to be seen on AIS displays even when there is no physical marker.

The Vega AIS unit can also be used to monitor the performance of a lantern. For enhanced monitoring, the AIS unit can be combined with the VegaWeb monitoring and control platform.

There are two types of AIS unit. Vega AIS Type 1 offers lower power consumption consuming as little as 0.2Ah/day at 12V. This efficiency allows it to be powered by more compact solar/battery options.

Vega AIS Type 3 offers additional benefits such as collision detection reporting, proximity control and it can be used in remote locations without the need of a base station.

The optional high gain stubby antenna provides dual benefits of great protection from waves on exposed buoys and excellent RF gain.

Features

	Type 1	Type 3
Receives	×	✓
Transmit	✓	✓
FATDMA	✓	✓
RATDMA	×	✓
SART relaying	×	✓
Messages 6, 8, 21	✓	✓
Meteo and Hydro output	Optional	Optional
Collision detection	×	✓
Proximity control	×	✓
GPS sync	✓	✓

Standards

Vega Type 1 & 3: CE 0168, Australian & NZ registration, Type 1 FCC Authorisation 2AEYIVAIS1.

AIS Conformance: IEC 61162-1, IEC 62320-2 ITU-R.M.1371.4, IALA Recommendation A-126. Conformity statement issued by BSH R&TTE. CE0168.

Intrusion: IP68 to EN60529.

Immersion: MIL-STD-20G Method 104A Cond B.

Vibration: EN662320-2 referencing EN60945.7

RF Tx: Output Power: 33-41dBm; Ramp <500us. Tx shutdown channel protection 300ms.

RF Tx Spurious Emissions: EN62320-2: -36dBm to 1GHz, -30dBm to 4GHz.

RF Rx Spurious Emissions: EN62320-2: -57dBm to 1GHz, -47dBm to 4GHz.

Radiated & Conducted Emissions: EN60945.

Electrostatic Discharge: EN61000-4-2: 2002 6kV contact, 8kV air.

Fast Transient Immunity: EN61000-4-4: Level 3 as per EN60945: 1kV common mode.

Radiated Immunity: EN61000-4-3: 2002 Class 1 Level 3 as per EN60945: 10V/m 80MHz to 2GHz.

Conducted Immunity: EN61000-4-6 as per EN60945: 3Vrms sweep at Level 2 and 10Vrms spot test.

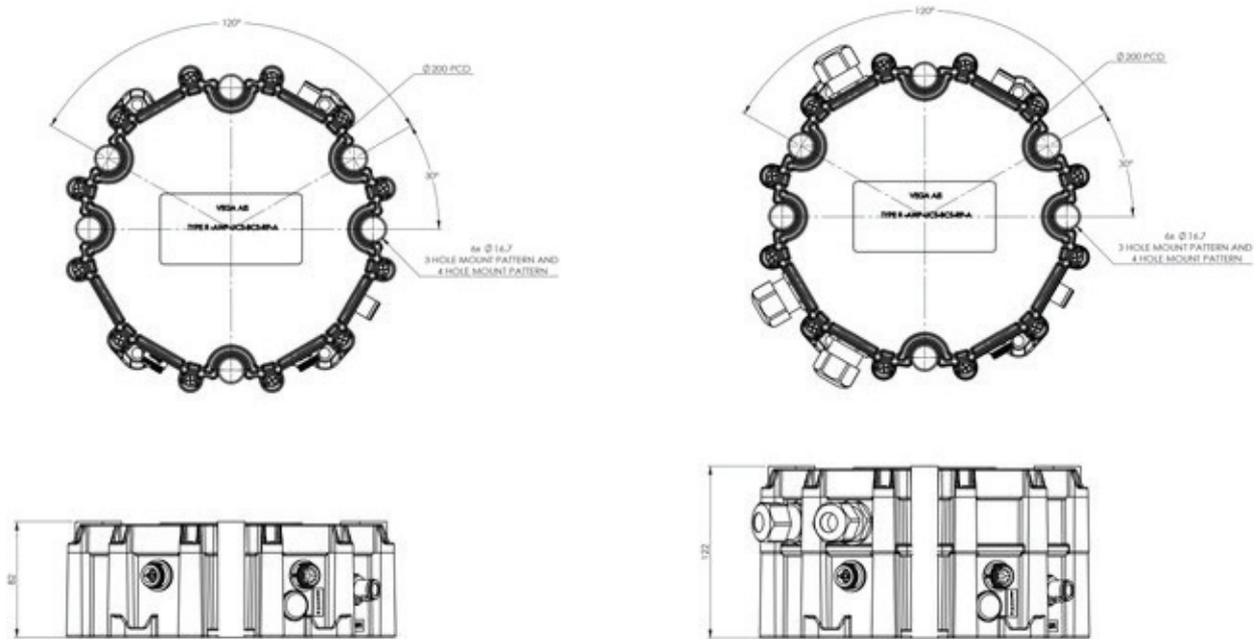
Surge Immunity: EN61000-4-5: 1995 Class 3 Level 2 0.5kV lead to lead.

Broadcast message

Message 21 is the most important AIS message for navigational aids. It is an internationally standardised message and includes basic yet critical information about a navigational aid or beacon. The message contains information such as the name, health status, GPS position, and on/off status of the beacon. Messages 6 and 8 can be configured to transmit monitoring information.

Combined with a land-based receiver, these messages allow more advanced monitoring of the beacon than can be done with Message 21. Message 8 can also be used to transmit meteorological information when a weather station is fitted to the navigational aid.

Technical Specification Vega AIS



Radio specification

TDMA Control	Type 1: FATDMA Type 3: RATMA & FATMA
Transmission period	Configurable
VHF Power	2 or 12.5W (user-selectable)
Frequencies	161.975MHz & 162.025MHz (other frequencies user-selectable)

Connectivity

Data port	RS-232 Smart beacon port with Standard Model; additional RS-232/422/485 optional
Accelerometer	3 axis, adjustable to 16G
Antenna connectors	IP68 sealed

Enclosure

Material	ASA
Mounting	3 or 4 holes, 200mm PCD or rail mounting. Anti compression sleeves in mounting holes (designed for easy mounting under beacon)

Environmental

Degree of Protection	IP68 to EN60529
Temperature	-30°C to 60°C
UV Protection	ASA
Vibration	Vertical: 7m/s ² - 2Hz to 13.2Hz Horizontal: 7m/s ² - 13.2Hz to 100Hz @ 0.5 octave/min

Electrical performance

Indicators	Status (red/green)
Voltage	10 - 36VDC Automatic source selection
Over voltage protection	40V on all connections
Current	Sleep mode 1mA Operating mode 50mA Transmitting 0.5 A (12.5W) GPS 25mA @ 13.5V & 15mA @ 24V

Power consumption example

Power consumption examples (12V) with 3min transmit interval Msg 21

	Type 1	Type 3		
TDMA Mode	FATDMA	FATDMA	RATDMA	RATDMA
Power mode	Standard	Standard	Low	Normal
Energy requirement	0.2Ah/day	0.33Ah/day	1.35Ah/day	3.4Ah/day

Order Overview Vega AIS

Option matrix

VAIS-GPSANT	GPS antenna
VAIS-VHFANT	VHF antenna

Product code

Code	Note
VAIS-#-V-O	
#	Type (1 or 3)
V	S = Standard - E = Extended I/O
O	SEN = Current sensor Blank = Sensor not required