

CREWSAFE V200

# LOCATE AND RESCUE FOLLOWING SUBMARINE ESCAPE OR ABANDONMENT



Actual size

Designed specifically for submariners, the Crewsafe V200 transmits GPS coordinates via AIS, VHF DSC and VHF voice message to pinpoint the location ( $\pm 10\text{m}$ ) of casualties following escape or abandonment.



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The Crewsafe V200 is a compact, easy to use distress beacon that enables every crew member wearing one who reaches the surface to be located and tracked by rescue forces.

This innovative device does not interfere with the submarine escape process and successfully overcomes the challenges of size, functionality and performance required to meet submarine escape and rescue needs of naval forces worldwide.

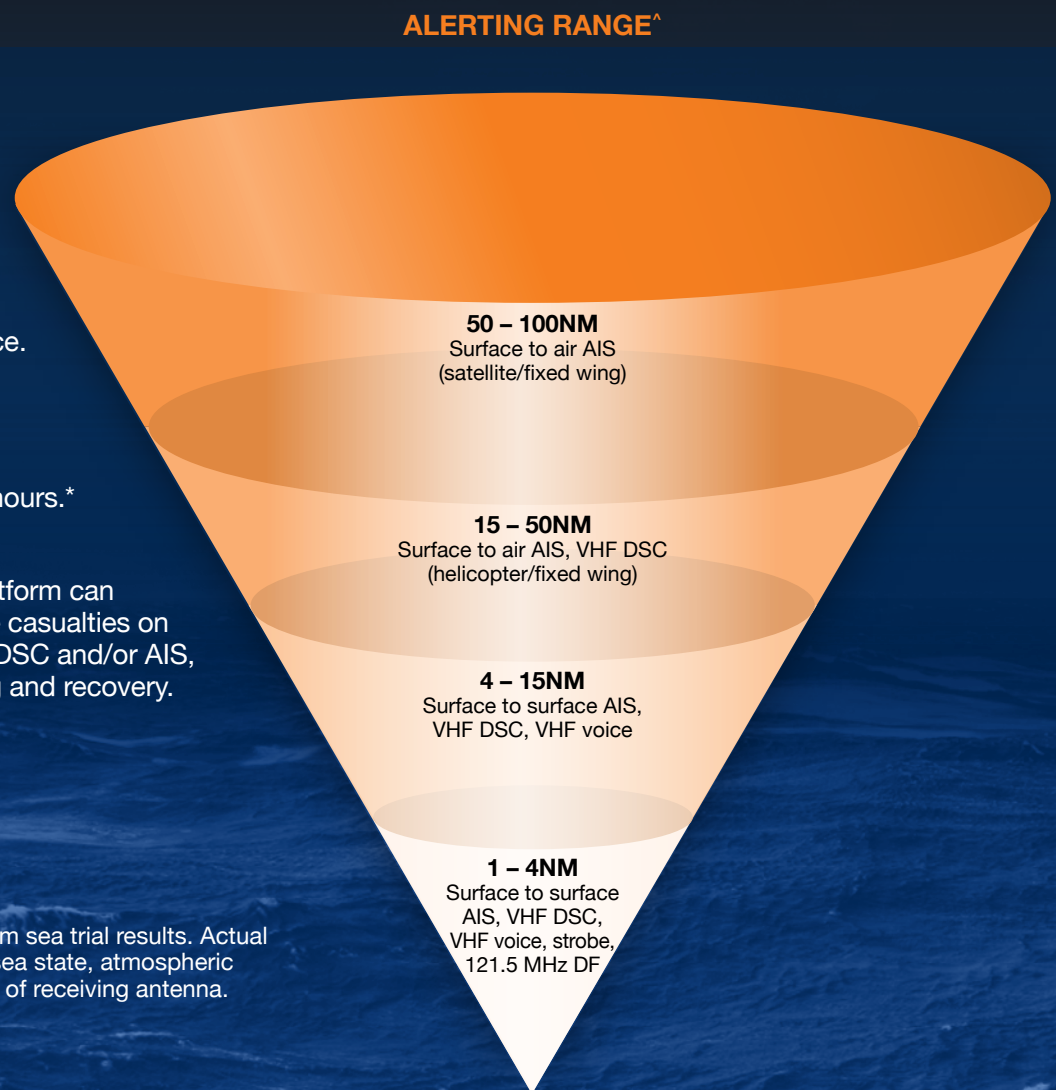
## HOW IT WORKS

Following an at-sea abandonment or escape, the Crewsafe V200 Maritime Survivor Locating Device (MSLD) transmits the GPS coordinates of casualties on the surface over a wide area to facilitate successful location and recovery by rescue forces.

The device uses the marine VHF radio band to transmit distress alerts and updated GPS positioning coordinates directly from the casualty to all VHF DSC and voice-capable radios, as well as to space-based AIS satellites. It also transmits continuous direction finding tones on 121.5 MHz and features a high visibility strobe.

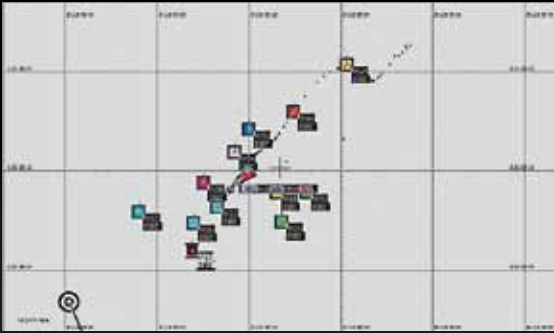
- 1 On reaching the surface, Crewsafe V200 activates, acquires GPS and transmits distress and position data.
- 2 Approaching rescue forces detect individual transmission data from all casualties on the surface.
- 3 Crewsafe V200 repeats transmissions at regular intervals for minimum 48 hours.\*
- 4 Any suitably equipped platform can automatically plot multiple casualties on a chart plotter using VHF DSC and/or AIS, enabling location, tracking and recovery.

^ Expected range, derived from sea trial results. Actual alerting range dependent on sea state, atmospheric conditions and height/altitude of receiving antenna.



### The Crewsafe V200:

- Is worn with escape suit or abandonment suit
- Transmits unique device identity and GPS data via AIS, VHF DSC and VHF voice message
- Provides alert to any unit, surface or airborne, fitted with standard marine-based VHF DSC and/or AIS receivers
- Updates position data regularly to allow tracking of casualties



Multiple casualties can be tracked using VHF DSC and/or AIS

### MULTI SYSTEM ALERT

- Location accuracy:  $\pm 10\text{m}$
- Regular GPS updates via VHF DSC & voice message
- AIS position report every minute
- Continuous 121.5 MHz direction finding tone
- Strobe

### LONG LIFE

- Minimum 48 hours emergency operation\*
- Power saving mode
- Serviceable battery
- 5 year service life

### SUBMARINE SPECIFIC

- Fully tested with SEIE
- Depth rated to 300m
- Size: 137 x 77 x 44mm
- Weight: 455g

\* When properly maintained and under normal operating conditions, i.e. temperatures above  $-2.3^{\circ}\text{C}/28^{\circ}\text{F}$ .



## FEATURES

- 50 channel parallel GPS receiver
- VHF DSC and voice transmitter
- AIS-Search and Rescue Transmitter (SART)
- 121.5 MHz direction finding transmitter
- Programmable transmission frequencies
- LED operational status display
- Strobe light
- Signalling mirror
- Safety tab
- 3-position arming switch
- Neck strap and adjustable lanyard
- Power saving mode
- Test function
- Serviceable battery



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# SPECIFICATIONS

<b>General</b>	
Battery Type	3 x 3 Volt LiMnO <sub>2</sub> (Non HAZMAT) CR123
Operating Time	Nominal 48 hours emergency operation at -10°C (14°F) and longer in warmer conditions
Battery Service Life at +20°C	5 years
Operating Temperature	-20° to +55°C (-4° to +131°F)
Stowage Temperature	-30° to +70°C (-22° to +158°F)
Dimensions	137 x 77 x 44mm
Weight	455g
Case	Impact resistant and depth rated to 300 metres for 1 hour
Durability	Tested as per IEC 60945
Environmental Resistance	IP68
Mounting Options	Overhead harness and adjustable lanyard
Compass Safe Distance	0.3 m (for minimal deflection)
Accelerometer	Ultra-low power, 3-axis accelerometer with high resolution (13-bit) measurement at up to ±16 g
Power Saving Mode	Suspends 121.5 MHz transmissions and strobe until required
<b>GPS Receiver</b>	
Channels	50 channel parallel
TTF (Time to First Fix)	29 seconds ( all satellites at -130dBm)
Antenna	Integrated solid state quadrafilar helix
GPS Sensitivity	Cold start acquisition at -147dBm; Tracking and navigation to -160dBm
Horizontal Position Accuracy	2.5m (under good signal conditions)
GPS Antenna Directivity	> -5dBi
<b>Transmission Power Output</b>	
VHF DSC	1 watt (100mW during testing)
VHF Voice	100 milliwatt
AIS	1 watt
121.5 MHz	2.5 milliwatt
<b>VHF Transmitter Package</b>	
Carrier Frequency	Tuning from 156MHz to 162.025MHz
Carrier Frequency Error	± 1.5 kHz
Maximum Power Output	1 watt ± 1.5dB
<b>Emergency Signalling</b>	
Alerting Radius	Up to 15NM surface to surface, up to 100NM surface to air (satellite/fixed wing) <sup>1</sup>
<b>VHF DSC</b>	
Initial Alert	Two minutes after full activation
Second Alert (GPS Positioning Data)	Once GPS lock is acquired
Subsequent Alerts	Every 5 minutes for 30 minutes; every 10 minutes thereafter until the beacon is turned off or the batteries expire
<b>VHF Voice</b>	
Initial VHF Alert	Two minutes after full activation
Subsequent Alerts	Every 5 minutes for 30 minutes; every 10 minutes thereafter until the beacon is turned off or the batteries expire
<b>AIS</b>	
Timing	One burst of 8 transmissions every minute.
<b>121.5 MHz</b>	
Activation	Two minutes after full activation
<b>Strobe</b>	
Activation	5 minutes after full activation
Indications	1 candela over the upper hemisphere, 60 flashes per minute.
<b>Compliances</b>	
FCC	FCC Part 80:2011#
NAVSEA	SS800-AG-MAN-010/P-9290
VHF DSC	ITU-R M. 493-11 and ITU-R M. 451-9
AIS-SART	IEC 61097-14
Radio-telephone voice transmitter	IEC 60945
Strobe	USCG SOLAS Life Raft Light Requirement

<sup>1</sup> Expected range, derived from sea trial results. Actual alerting range dependent on sea state, atmospheric conditions and height/altitude of receiving antenna.

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