



# Communication & Safety at Sea



# Introducing Ocean Signal

**Ocean Signal® specialises in the development and manufacture of advanced communication and safety products for the marine market.**

With one of the most experienced research and development teams in marine communications, the Ocean Signal engineering team have individually been responsible for the development of many market-leading products and now within Ocean Signal, bring a fresh and groundbreaking approach to communication and safety at sea.

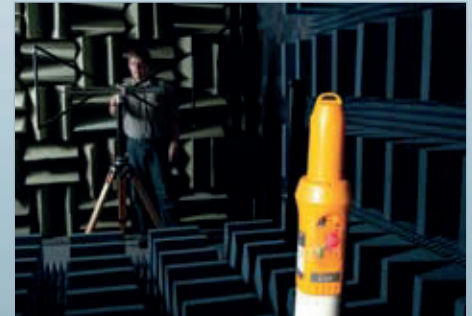
Ocean Signal has one of the finest marine communication R&D facilities in Europe. Each new product is the result of meticulous research and extreme testing procedures to ensure outstanding performance. This process ensures fully

focused product functionality while providing total confidence in their effectiveness.

Offering exceptional value, the Ocean Signal range of products give commercial, fishing and recreational users the confidence that their equipment will work to, and beyond their expectations, in the harshest of conditions, when it is needed most.



Well equipped testing facilities



RF Anechoic testing chamber

## The SafeSea® range of products from Ocean Signal provide all essential handheld communication devices required in an emergency situation.

All products comply with international requirements of the IMO (International Maritime Organisation) which lay down essential requirements for products operating in the GMDSS (Global Maritime Distress Safety System).

The SafeSea E100 & E100G are EPIRBs (Emergency Position Indicating Radio Beacons) which, when activated, transmit a distress signal and position directly to the emergency services via satellites. The accuracy of this information is enhanced by a built in GPS within the model E100G.

The SafeSea S100 is a SART (Search And Rescue Transponder), which assists in the location of survival craft by providing a series of indicating marks on all ships operating X-band radar in the vicinity.

The SafeSea V100 is a handheld VHF designed to rigorous standards. The V100 can be relied upon to provide local communication with rescuers in an emergency situation. The unit is supplied with a special battery, which is only to be activated in an emergency. At other times an optional rechargeable battery can be used for general day-to-day communication.



## Ocean Signal has developed the SafeSea E100 and E100G to meet the needs of all commercial, fishing and leisure vessels.

The SafeSea EPIRBs operate in the 406MHz satellite band. This is constantly monitored by Cospas-Sarsat, the international search and rescue satellite operator, who ensuring a rapid response when a signal is received, no matter where it is in the world.

The products have been designed for maximum efficiency resulting in superb operating life from the battery, keeping rescue services updated with your location for longer.

All models are fitted with a 121.5MHz homing beacon used by rescue services for close-in location of vessels in distress. In addition all models are fitted with a high brightness LED strobe light for additional impact, especially at night.

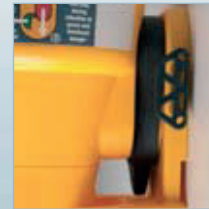
All models can be fitted within an Automatic Release Housing (commonly referred to as 'float free').



- Choice of models with and without GPS
  - SafeSea E100G is identical to the SafeSea E100 and in addition has a state of art built-in 50 channel GPS receiver providing fast and accurate position acquisition (typically within 30 seconds)
  - SafeSea E100 fulfils all mandatory requirements of an EPIRB. A high precision internal oscillator allows the satellite to calculate position using Doppler shift
- Superb battery life even at low temperatures, typically providing an operating time in excess of 96 hours
- Easy release mounting bracket provided as standard
- Optional manual and automatic release housings available
- Intuitive operating controls (protected from inadvertent activation)
- User replaceable battery
  - Battery is non-hazardous for shipping purposes

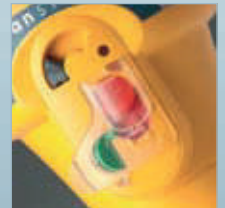
1

Strobe Light



2

Mounting bracket



3

Operating controls

Two optional housings for the SafeSea EPIRB are available. Both are manufactured in a durable and highly UV stable plastic and provide excellent protection of the unit until it is required.

The EPIRB can be easily removed from either housing.

- MRH100 manual release housing
- ARH100 automatic release housing, containing a hydrostatic release mechanism which automatically deploys the EPIRB if the vessel is sinking

*Note: IMO regulations require an automatic release housing to be provided for mandatory fitted EPIRB's.*

**Specifications:**

Frequency  
406.037MHz

Temperature range (class 2)  
-20°C to +55°C

Standards (Meets or exceeds requirements of the following)

IMO A.662(16), A.694(17); A.810(19), A.814(19); MSC.56(66); MSC.120(74)

C/S T.001, T.007; IEC61097-2, IEC60945; RTCM SC110

See Web Site for further details of specification



ARH100 Automatic release housing



EPIRB Mounted with hydrostatic release

## The Ocean Signal SafeSea S100 is an X-band radar transponder which complies with IMO SOLAS regulations.

- Superb battery operating life, even at low temperatures
  - Provides 12 hours operating use even after 96 hours in standby
  - User replaceable battery
- Battery is non-hazardous for shipping purposes
  - Compact size – ideal for packing within a life raft canister
- Supplied with telescopic pole and easy to release mounting bracket
- Intuitive operating controls – identical to operation of the SafeSea EPIRB – reducing stress in times of emergency

The SafeSea S100 SART assists in rescue and recovery providing an enhanced target in response to radars operating in the vicinity. When switched on the S100 remains in standby mode until automatically activated by a ship's X-band radar. It then transmits a series of pulses which are displayed on the radar as a line of dots proving range and bearing to the emergency.

### Specifications

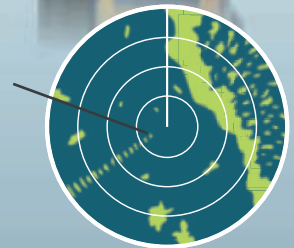
**Temperature range** -20°C to +55°C

**Standards** (Meets or exceeds requirements of the following)

IMO A.694(17), MSC.247(83); IEC61907-1, IEC60945  
See Web Site for further details of specification



Location of SART



Typical radar display showing a line of dots emitted from SART

# safe SEA V100 VHF Handheld Radio

The Ocean Signal SafeSea V100 handheld VHF is designed to provide voice communication when it is needed most – in an emergency.

It meets or exceeds requirements of rigorous specifications intended to ensure reliability in arduous conditions.

Ease of use is provided by large keys with simple ergonomic layout supported by a large high contrast LCD to confirm operation.

The V100 is provided with a lithium primary battery which is protected from inadvertent use by a unique protection tab. The battery is non-hazardous for shipping purposes. Battery life is maximised by utilisation of high efficiency circuitry, especially in transmit.

For general everyday use the V100 can be fitted with an optional lithium polymer rechargeable battery which can be replenished using a rapid charger (this can be desk or bulkhead mounted).

The SafeSea V100 is available both with and without an extremely rugged accessory socket. The socket provides connection to accessories if required (e.g. helmets, headsets, extension microphones etc).





- Complies with IMO requirements for survival craft radio
- Superb battery life: provides over 16 hours typical operation even at low temperatures (10% Tx, 10% Rx & 80% squelched)
- User replaceable battery
- Battery is non-hazardous for shipping purposes
- Fully waterproof, even with 40°C thermal shock
- Fitted with 21 simplex channels as standard (according to IMO SOLAS regulations)
- Antenna connection via 50ohm waterproof socket
- 4 scanning modes are provided – dual watch, triple watch, scan all and memory scan

**Specifications:**

**Transmit power**  
2.5W

**Receiver Sensitivity** (for 20dB SINAD)  
-117dBm

**Temperature range**  
-20°C to + 55°C

**Standards** (Meets or exceeds requirements of the following)

IMO A.694(17); MSC.14(77)

IEC61097-12, IEC60945

See Web Site for further details of specification



Emergency Battery



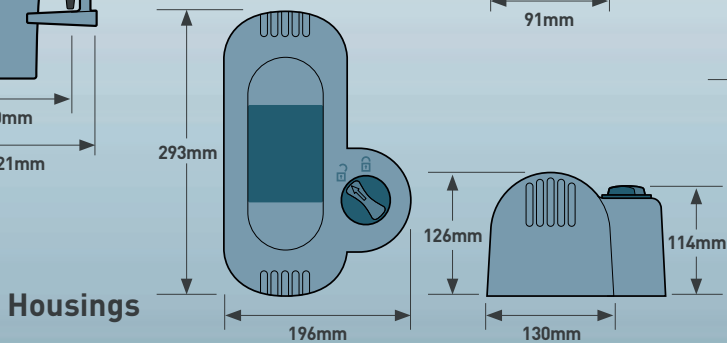
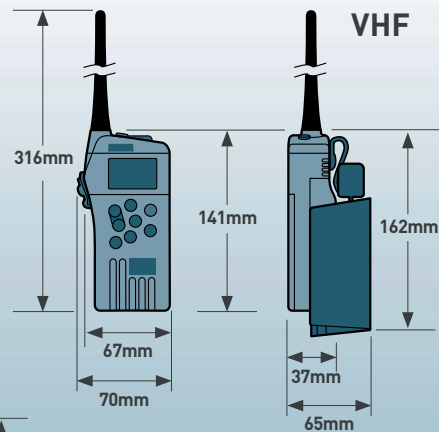
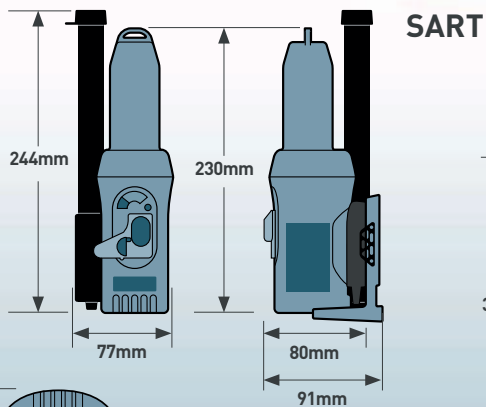
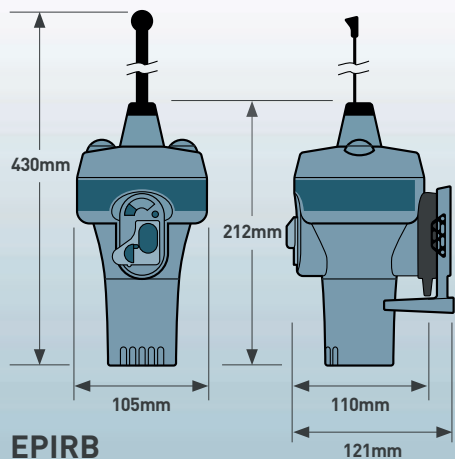
Accessory Socket



Charger



# Product Outlines



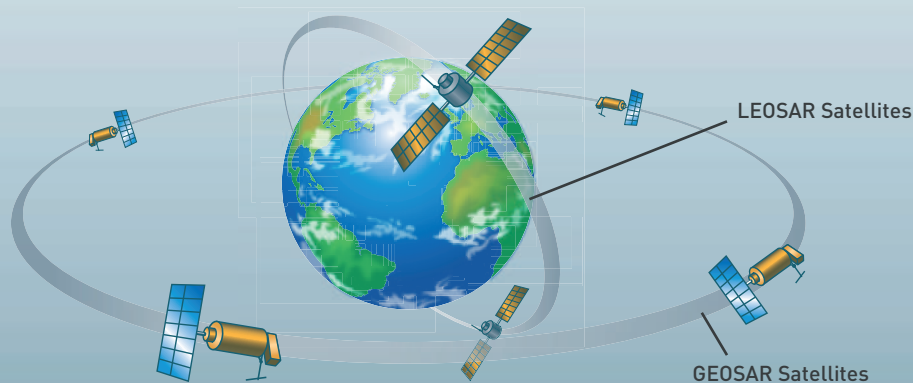
# GMDSS

GMDSS is an internationally operated system for Safety of Life at Sea (SOLAS). Developed by the International Maritime Organisation, the GMDSS was originally conceived for commercial shipping, but the systems used are equally applicable to all maritime users. The underlying principle is that ships should have at least two means of transmission of a distress alert to both shore infrastructure and to other ships. Additional equipment is carried to provide location and communication aids for use during the search and rescue phase. The SafeSea range of products from Ocean Signal provides a total solution for this class of equipment.

## EPIRB – how it works

Ocean Signal EPIRBs operate in the 406MHz satellite band monitored by Cospas-Sarsat, ensuring a signal can be located wherever it is activated around the globe.

On activation, the EPIRB commences transmission of a distress alert, which is picked up by two groups of satellites. The geostationary (GEOSAR) satellites will typically receive the alert first, but these satellites do not have the ability to generate location information and do not cover the Polar Regions.



The second group of low earth orbiting (LEOSAR) satellites give complete global coverage, including the Polar Regions. As each satellite passes over an active EPIRB, it can calculate the approximate location (typically within 5Nm) of the beacon, using Doppler processing of the signal.

The satellites pass the received alerts to Cospas-Sarsat headquarters, where it is then passed to the relevant National Rescue Coordination Centre.

**EPIRB without GPS:** The SafeSea E100 EPIRB will have initiated a rescue attempt almost immediately after activation, but because of the nature of the satellite location process your position may not be known for some time afterwards as it depends on the orbit of the LEOSAR satellites which can take up to an hour to come into view.

**EPIRB with GPS:** The SafeSea E100G EPIRB will transmit its known location as soon as a position fix has been obtained by the built-in GPS. These transmissions will be picked up by both types of satellite. This provides two significant advantages.

- Immediate location of the vessel in distress
- Excellent positional accuracy of the distress



# Survival Solutions



## Introducing the rescueME® range



Ocean Signal's rescueME range of safety products provides both recreational and commercial mariners with simple to use, compact and affordable life-saving solutions.

rescueME is derived from Ocean Signal's extensive experience in developing world class products for the professional GMDSS and SOLAS deep sea sector (the SafeSea range).

With one of the most experienced research and development teams in marine communications, Ocean Signal has built a reputation for bringing an innovative and ground-breaking approach to its products, ensuring exceptional performance and reliability.

rescueME safety products offer life-saving communication solutions regardless of your activity or location. Whether sailing on inshore waters or conquering the high seas, trekking alone or as part of an expedition, or working in remote regions, you will find a product for you. rescueME offers you peace of mind and rapid deployment of appropriate assistance should you find yourself in a life threatening situation.

# Personal rescue communications



Being at the forefront of technology enables Ocean Signal engineers to design products that are both small in size and provide long operational life. Products are not only competitively priced, but the overall cost of ownership is kept low by ensuring exceptional time between battery change or product replacement.

Making sure you choose the right product to meet your activity and location is essential. In the back of this brochure is a product selection guide which will assist you in making the most appropriate choice of product.



safe  
SEA

## rescueME EPIRB1 the world's most compact Emergency Position Indicating Radio Beacon.\*



30% (typ) smaller



10 year battery life



5 year warranty†



66 channel GPS  
– Fast accurate positioning



Retractable antenna



Manual release bracket



Auto activation  
Not available in Australia and New Zealand



Class 3 approved  
Australia and New Zealand

\*Compared to other products approved to recognised standards (Jan 2015).

†Subject to warranty statement.

In an emergency rescueME EPIRB1 provides 3 methods of communicating your location, ensuring maximum chance of survival.

406 MHz

406MHz

Link via satellite to Emergency Services

121.5 MHz

121.5MHz

Homing Beacon to aid location by Search & Rescue



High intensity strobes



# Your worldwide link to emergency services

The **rescueME EPIRB1** provides peace of mind with an impressive 10 year battery life. The world's most compact EPIRB can always be on hand, as its small size allows it to be easily retained within its manual release bracket or placed in an emergency grab-bag or life raft.

A simple protective tab over the operating keys prevents inadvertent activation yet allows for easy single handed activation when required.

The **rescueME EPIRB1** also features two high brightness strobes to maximise visibility in low light conditions. The retractable antenna provides maximum protection and a reduced outline for stowage. When required the antenna is easily deployed with a gentle pull.

An EPIRB is the essential safety product for your boat. You should never consider leaving port without one! The **rescueME EPIRB1** is supplied with an integrated 66 channel GPS as standard, providing accurate positional information to the emergency services to assist rapid rescue.

When activated, the **rescueME EPIRB1** transmits your position and your unique ID to a Rescue Coordination Centre via satellite link. This information is then forwarded to the relevant local Search and Rescue services (see diagram).



Single handed activation



Protective tab

\*When operating offshore or long distance voyages, the Ocean Signal EPIRB E100G offers an exceptional 96 hour operational life with the option of an automatic release housing (mandatory for vessels approved under SOLAS regulations).

For more information visit [www.oceansignal.com](http://www.oceansignal.com)



EPIRB1

E100G





## rescueME PLB1 the world's smallest Personal Locator Beacon.\*

Actual  
size



30% (typ) smaller



7 year battery life



7 year warranty†



66 channel GPS  
– Fast accurate positioning



No subscription



Waterproof to 15m



Easily deployed antenna



Flotation pouch included\*\*

In an emergency rescueME  
PLB1 provides 3 methods of  
communicating your  
location, ensuring maximum  
chance of survival.



406MHz  
Link via satellite to Emergency Services



121.5MHz  
Homing Beacon to aid location by Search & Rescue



High intensity strobe



\*Compared to other products approved to recognised standards and available (Jan 2015).

\*\*The pouch will ensure that the PLB1 will not sink and can be retrieved from the water.

The PLB1 is not designed and intended for operation while immersed in water. During operation the beacon must always be kept above the water.

†Subject to warranty statement.

# Your worldwide link to emergency services

The ultra-compact **rescueME PLB1** can be easily fitted into your life-jacket or onto a belt, taking up minimal space and ensuring it is readily accessible.

Antenna deployment could not be easier, with a gentle pull the aerial is released.

**rescueME PLB1** can be operated with a single hand in even the most challenging situations. A simple spring loaded flap covers the activation button preventing inadvertent use.

The integrated ultra-bright strobe light ensures maximum visibility.

Whatever your adventure, whether at sea or on land, the **rescueME PLB1** provides the reassurance that emergency services can be alerted by the press of a button.

**rescueME PLB1** works with the only officially recognised worldwide dedicated search and rescue satellite network (operated by Cospas Sarsat). As this is funded by governments there are no charges to use this service.

When activated, the **rescueME PLB1** transmits your position and your unique ID to a Rescue Coordination Centre via satellite link. The relevant rescue services are promptly notified of your emergency and regularly advised of your current location (see diagram).

To assist with search and rescue, a homing signal is transmitted on 121.5MHz. This is received by equipment fitted to both sea and airborne rescue craft.



One handed operation



Moulded lens enhances light output



Unique cradle mounting system



Easy deploy retractable antenna



## rescueME MOB1 the world's smallest AIS Man Over Board personal locator device.\*



**AIS**  
(Automatic Identification System)



**Integrated DSC transmitter\*\***  
(digital selective calling)



**30% (typ) smaller**



**Automatic activation**



**Simple lifejacket integration**



**7 year battery life**



**24+ hours operational life**



**5 year warranty†**



**66 channel GPS**  
- Fast accurate positioning

In an emergency rescueME MOB1 provides 2 methods of rapidly communicating your location back to the vessel, plus providing visual indication.



**AIS** Provides accurate positional information on the vessel's chart plotter plus the distance and bearing of the person(s) in the water



**DSC**  
Activates the alarm on a DSC enabled VHF radio



**High intensity strobe**

\*Compared to other products approved to recognised standards and available (Jan 2015).

\*\*DSC functionality is subject to regulations of country.

†Subject to warranty statement.



# Your local link to rapid rescue

**rescueME MOB1** is intended to be installed within the life-jacket and will activate automatically on inflation, sending the first alert within 15 seconds.

The integrated strobe light ensures maximum visibility in low light conditions.

**rescueME MOB1** is compatible with even the most compact inflatable life-jackets.

The best chance of rapid rescue if you fall overboard comes from your own vessel. Your crew needs to be immediately aware of the incident and keep track of your position whilst recovery is carried out. Even in the most moderate of seas it is alarming how quickly a visual sighting of a man overboard can be lost.

Once activated your MOB1 will transmit an alert to all AIS receivers and AIS enabled plotters in the vicinity. The integrated GPS ensures precise location is sent to your vessel and any others that may be assisting (see diagram).

An additional feature of the MOB1 is its ability to activate the DSC alarm on your vessels VHF, alerting your crew to the situation.

**Compatibility:** Most modern AIS plotters and DSC VHF comply with the standards required to receive the MOB transmissions. It is recommended that you check compatibility with the equipment manufacturer, particularly if you are using older equipment.



Pull down to arm



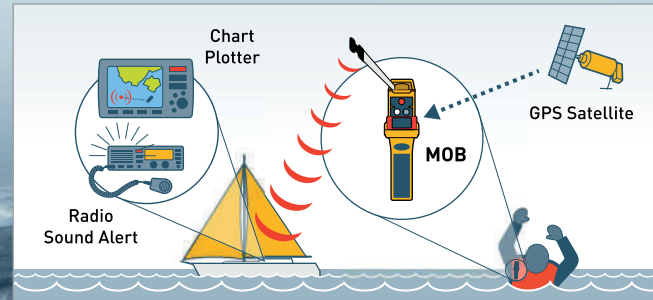
Activation tape



Life-jacket mount



Integrated strobe light



## rescueME EDF1 the world's most compact Electronic Distress Flare.\*



Advanced LED technology  
safe operation



Compact, lightweight, rugged



Superb 360 degree visibility  
(Azimuth)



40% (typ) smaller



Excellent visibility  
for SAR aircraft and helicopters



Constant brightness  
maintained throughout the life of the battery



4 modes of operation  
plus SOS signalling



User replaceable battery



Visibility range up to 7 miles



Up to 6 hours operation



Waterproof to 10 meters



Battery test function



\*Compared to other hand held electronic flares for marine use (January 2015).

# Your visual aid to rescue

The **rescueME EDF1** electronic distress flare offers users a safe and long-lasting solution to visual signalling in an emergency.

The unique lens design combined with the use of advanced LEDs and highly efficient circuit technology ensures a constant level of light output throughout the life of the user replaceable battery.

The light output is a beam of over 30° throughout the full 360° azimuth, providing in excess of 6 times more light coverage than other electronic flares\*. Light is also distributed throughout the hemisphere above the unit to ensure visibility from the air.

Unlike single use pyrotechnic flares the **rescueME EDF1** can be used repeatedly in any of its four modes, ensuring continued visibility is maintained over a longer period. The unit is both safe to store and operate while also eliminating any worries associated with disposal.

The compact size and rugged design means the **rescueME EDF1** is the perfect safety product for a grab bag, life raft or hiker's backpack.



Pull down protective cover to access operation keys



One handed operation



360 degree visibility

## 4 modes of operation

mode 1:  
Economy



mode 2:  
High



mode 3:  
Ultra



mode 4:  
Forward beam



SOS

## rescueME PLB1 and EDF1, designed for mariners, aviators and those on land.

These compact, lightweight, and rugged designs make **rescueME** safety devices an essential companion for anyone who enjoys the outdoor life and who takes their personal safety and the safety of others seriously.

The dedicated satellite network used when a PLB is activated covers the entire globe, from the Arctic to the Antarctic. No matter where you are on the planet, you are always able to alert the rescue services. Visual signalling is further enhanced by using the **rescueME EDF1** - a dedicated visual alerting device providing expansive light output throughout 360°, to ensure anyone in your vicinity is alerted to your position.



## rescueME PLB1



30% (typ) smaller



7 year battery life



7 year warranty



66 channel GPS  
- Fast accurate positioning



No subscription



Waterproof to 15m



Easily deployed antenna

## rescueME EDF1



Advanced LED technology  
safe operation



Compact, lightweight, rugged



Superb 360 degree visibility  
(Azimuth)



40% (typ) smaller



Excellent visibility  
for SAR aircraft and helicopters



Constant brightness  
maintained throughout the life of the battery



4 modes of operation  
plus SOS signalling



User replaceable battery



Visibility range up to 7 miles



Up to 6 hours operation



Waterproof to 10 meters



Battery test function

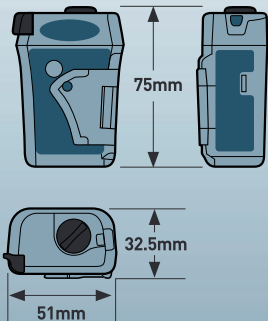




## PLB1 specifications

Satellite transmission	406.040MHz, 5Watts
Homing transmission	121.5MHz, 50mW nominal
Operation life	>24hrs at -20°C (-4°F)
Operating temperature range	-20°C to +55°C (-4°F to +131°F)
Weight	116g (4.1oz)
Standards	Cospas Sarsat T.001/T.007, ETSI EN302 152, RTCM SC11010, NSS-PLB11, IC RSS287

## PLB1 dimensions

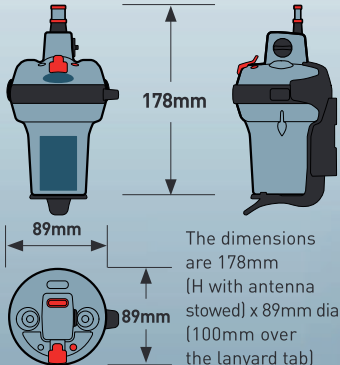


## EPIRB1 specifications

Satellite transmission	406.040MHz, 12Watts*
Homing transmission	121.5MHz, 50mW nominal
Operation life	>48hrs at -20°C (-4°F)
Operating temperature range	-20°C to +55°C (-4°F to +131°F)
Weight	422g (14.9oz)
Standards:	Cospas Sarsat T.001/T.007 IEC 61097-2 RTCM SC11000, IC RSS287

\*Max EIRP

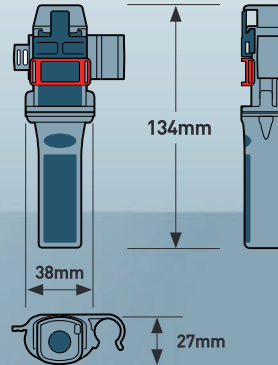
## EPIRB1 dimensions



## MOB1 specifications

AIS transmission transmit power (EIRP)	1Watt	
Frequency	161.975/162.025MHz	
DSC transmission transmit power (EIRP)	0.5Watt	
Frequency	156.525MHz	
Messages*	Individual distress relay distress alert (by single call made on press of the activation button)	
Environmental Operating temperature range	-20°C to +55°C	*DSC messages sent depend upon national regulations
Storage temperature range	-30°C to +70°C	
Waterproof	10m depth	
Weight	92 g (3.2oz)	
Standards	RTCM SC11901, EN303 098-1	

## MOB1 dimensions

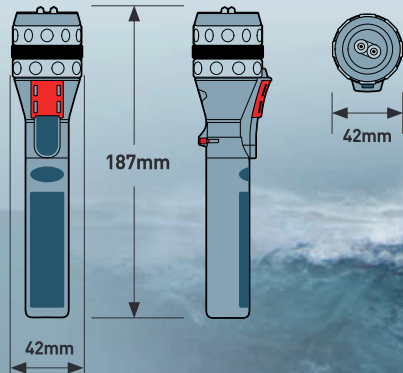


# Product selection guide

## EDF1 specifications

Battery Type	Lithium primary
Chemistry	Manganese dioxide (LiMnO <sub>2</sub> )
Operating life	>6hours
Environmental	
Operating temperature range	-20°C to +55°C
Storage temperature range	-30°C to +70°C
Waterproof	10metres at +20°C
Weight	155g (5.5oz)

## EDF1 dimensions



Product	Battery life hr's Typ +/-	Crewed			Short Handed			Land	Air
		Inshore	Coastal	Offshore	Inshore	Coastal	Offshore		
<b>Distance</b>		0-3 miles	3-20 miles	>20 miles	0-3 miles	3-20 miles	>20 miles		
<b>rescueME EPIRB1</b>	48	✓	✓		✓	✓			
<b>rescueME PLB1</b>	24			✓			✓	✓	✓
<b>rescueME MOB1</b>	24	✓	✓	✓	✓	✓	✓		
<b>rescueME EDF1</b>	6	✓	✓	✓	✓	✓	✓	✓	✓
<b>SafeSea E100G</b>	96			✓			✓		
<b>SafeSea SART</b>	12-96			✓			✓		
<b>SafeSea VHF</b>	16	✓	✓	✓	✓	✓	✓		

Rapid rescue diminishes the chance of fatality due to hypothermia. Always buy the best safety equipment available to you.