



PRODUCT GUIDE



McMurdo Marine Solutions



FastFind 220™ Personal Locator Beacon

A lifesaving distress beacon with buoyancy pouch included, designed for marine enthusiasts and adventurers. The FastFind 220 Personal Locator Beacon is the world's first Galileo PLB offering accelerated location detection with GPS and Galileo GNSS receivers.

Accelerated
Location Detection
with GPS & Galileo
receivers



FastFind 220

The FastFind 220 Personal Locator Beacon (PLB) uses advanced technology packed into a simple, lightweight, palm sized unit. Using the dedicated 406 MHz frequency, FastFind 220 transmits your unique ID and precise location to the global network of search and rescue satellites.

The FastFind 220's electronics were upgraded in 2018, offering accelerated location detection with the dual GNSS capabilities – GPS & Galileo receivers.

Within minutes rescuers are alerted to your situation, and receive regular position updates. Finally, emergency services can home in on your beacon's 121.5 MHz transmission to find you.

Explore the world with peace of mind. If you find yourself in a remote area without any other form of communication, activating your FastFind 220 will summon emergency assistance.

FastFind 220 could save your life!

FastFind gives you:

- Mini size, MIGHTY emergency signal
- Simple design, easy to use
- Self test both the battery and GNSS
- Worldwide network of suppliers and service dealers
- Peace of mind to take your next step into adventure!

FastFind 220 has worldwide coverage and ensures you are rescued by professionals

Features

- Floats with buoyancy pouch
- GPS & Galileo GNSS Receivers
- No subscription
- 6 year battery life
- Waterproof to 10m
- SOS morse LED flash light
- Safe-stow antenna

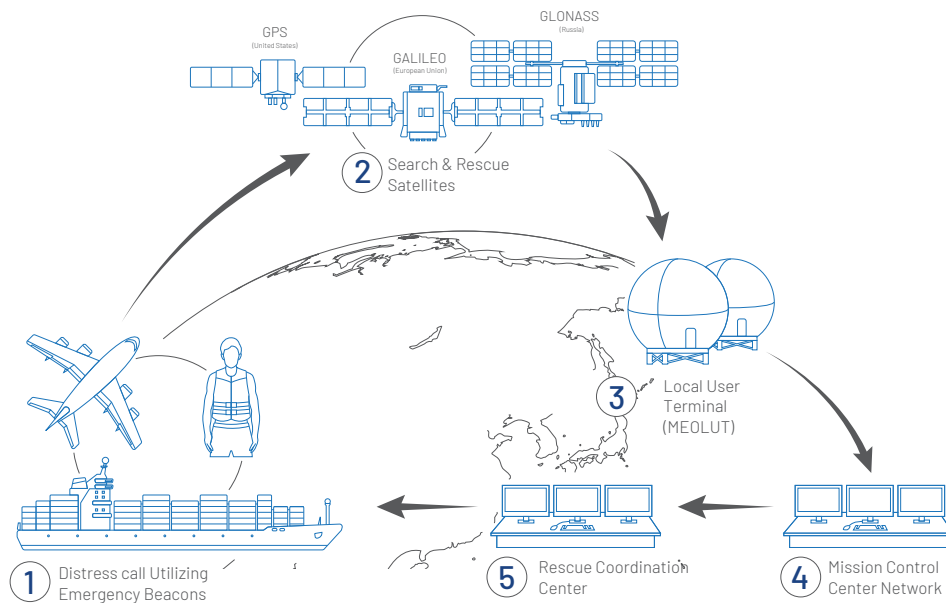
Once activated, FastFind 220 transmits two signals simultaneously

406 MHz Professional global emergency service

121.5 MHz Homing signal to speed up local recovery



How the end-to-end satellite-based SAR Ecosystem works



1. A beacon distress signal is sent from aircraft, marine vessel or individual
2. Beacon positioning/location data is relayed by satellite communications to satellite ground stations or Local User Terminals(LUTs)
3. The Local User Terminal computes the location before sending alerts to the appropriate Mission Control Centers(MCC)
4. The Mission Control Center collects, stores and sorts the data received from LUTs and other MCCs and distributes alerts to associated Rescue Coordination Centers(RCC)
5. The Rescue Coordination Center notifies and coordinates emergency response/rescue teams

Understanding the impact of MEOSAR

The MEOSAR program greatly improves accuracy, timeliness and reliability of the dedicated, free to use, 406MHz based Cospas Sarsat search and rescue system. Cospas Sarsat have rolled out new ground and space infrastructure, known as MEOSAR, with the aim to determine distress beacon location within 5km, 95% of the time, within 10 minutes.

- 72 MEOSAR satellites positioned at Medium Earth Orbit altitude
- Near instantaneous beacon signal detection using bent pipe technology – average 46 minutes faster compared to original LEOSAR satellites
- Reduced response times with multiple signal bursts to improve speed and accuracy of location calculation
- Close to 100% reliability due to multiple global antenna systems and MEOLUT networking
- In addition to MEOSAR technology, the program benefits from the addition of new GNSS capabilities on Galileo satellites, greatly improving global coverage and speed of location detection on GNSS receivers in beacons.
- As a result of the MEOSAR program, the latest generation of distress beacons will also have the ability to add a two-way signal, generated by the Galileo Return Link Service (RLS), that provides a re-assurance confirmation acknowledging signal receipt.

FastFind 220 PLB Specifications

Standards	Cospas-Sarsat T.001/T.007 class2, RTCM 11010.2, ETSI EN 302152-1,, AS/NZS 4280.2, NSS-PLB11
Sealing depth	Immersion to 10m (30ft) for 5 mins
Operating temperature	-20 to +55°C (-4 to +131°F)
Storage temperature	-30 to +70°C (-22 to +158°F)
Altitude	12,192m (40,000ft)
Buoyancy	Category 2, will not float (keep in buoyancy pouch provided)
Battery type	Lithium Manganese
Transmit duration	> 24 hours @ -20°C (-4°F)
Battery life (storage)	6 years from date of manufacture
Battery replacement	Service centre
Battery Use	Logged by microprocessor
Frequency	406.031 MHz (alert) / 121.5 MHz (homer)
Power	5W (alert) / 50MW (homer) nominal
Unique ID Number	Factory or dealer programmed
GNSS Receiver	GPS(L1)+GALILEO(E1), 72 channel, ceramic patch antenna
Size (D x W x L)	34 x 47 x 106mm (1.34 x 1.85 x 4.17in)
Weight	152g (5.36oz)
Indicator Light	High brightness LED signal light
SOS flash light	Morse code SOS flash pattern, 30 operations
Activation	Manual, three stage
Self-test	Tests transmitters, battery and light
Warranty	1 year (+ 4 years with online registration)
Part Number	91-001-220A-C FastFind 220 (with GPS)

This PLB will not float unless held in the buoyancy pouch provided. A PLB is not an ELT or an EPIRB and does not meet the regulatory requirements for an ELT or an EPIRB.



FastFind Return Link Personal Locator Beacon

Utilising unique functionality generated by Galileo Return Link Service (RLS), the FastFind Return Link PLB receives a signal confirming the users 406 MHz distress alert has been received and location coordinates have been detected.



Return Link's blue light confirms distress signal has been detected and independently located.

The FastFind Return Link Personal Locator Beacon (PLB) confirms the signal has been received by SAR authorities with a blue flashing light. This life saving re-assurance signal allows those in distress; on land or sea; to know that search and rescue professionals are aware of their situation and they are not alone.

FastFind Return Link PLB offers the accelerated location detection with combined Galileo and GPS GNSS receivers and Seas of Solutions' tried and tested 406 MHz technology, which has been at the core of search and rescue innovation since 1981.

The FastFind Return Link PLB is Seas of Solutions' most advanced search and rescue beacon to date. Using MEOSAR utilising advanced technology and the dedicated 406 MHz frequency, FastFind Return Link transmits your unique ID and GNSS position via the global network of Cospas-Sarsat search and rescue satellites.

Carrying this palm sized, lightweight yet rugged unit you can explore the world with peace of mind. Knowing that if you find yourself in distress, activating your FastFind Return Link will summon emergency assistance and confirm when Cospas-Sarsat have received your call for help.



Features

- RLS: the first of a new range of SAR beacons that receive a reassurance signal confirming distress alert and location have been received by the search and rescue authorities
- Multi Constellation GNSS: Building on Seas of Solutions leadership in innovative location detection technology, FastFind Return Link incorporates both Galileo and GPS GNSS services
- Versatile clip attachment system: Belt, webbing strap and PFD compatible options supported.
- Floats: with provided buoyancy pouch
- Free to use: No subscription
- Power Assurance: 5-year battery life
- Waterproof: to 10m
- Lights: Bright flashing attention signal, Morse code SOS flash pattern & RLS Reassurance blue flashing LED
- Practical: Safe-Stow antenna, anti-tamper cover protected activation switch.

What Happens Once Activated:

FastFind Return Link transmits and receives multiple signals simultaneously.

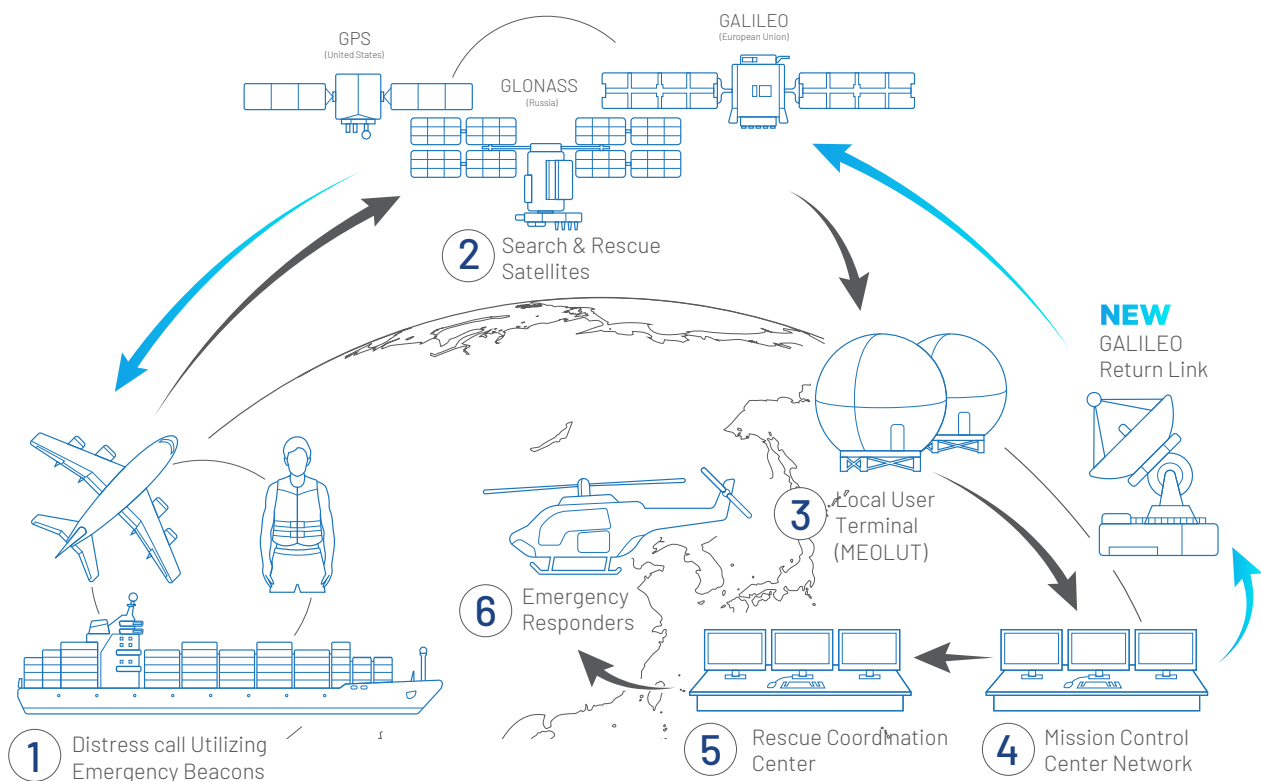
- Transmits distress alert on 406 MHz via Cospas Sarsat to global professional emergency service
- Receives GNSS coordinates from Galileo and GPS satellites and transmits on 406 MHz signal to regularly update location.
- Once location detection is confirmed the PLB receives Galileo RLS signal and activates blue light (typically 10 mins.)
- Transmits 121.5 MHz Homing signal to accelerate local recovery

FastFind Return Link

- Global leader in MEOSAR & 406 MHz technology
- Life Saving Innovation – RLS & 72 channel multi-constellation GNSS receivers
- Direct alert to rescue professionals, not call centres
- Small, rugged, easy to use
- Multiple self-tests of both battery and GNSS
- Perfect for solo adventurers with RLS Reassurance Signal
- Subscription free, with global coverage
- Worldwide support network of suppliers and service dealers

How the Return Link Service (RLS) Works

As part of the MEOSAR program to modernise Cospas Sarsat's search and rescue infrastructure, the new European component, the Galileo GNSS satellites, offer new capabilities. Initially providing a new and super accurate GNSS service for positioning in devices with Galileo enabled receivers, as of March 2021 the Galileo's Return Link Service (RLS) was declared globally operational, meaning beacons with RLS capabilities would be able to receive a re-assurance signal back to the beacon in the form of a blue light. This light, typically activated 10 minutes after activation, indicates the distress signal has been received and that the user's location is known by the professional rescue services. RLS allows distress beacons a two-way communication for the first time.



FastFind ReturnLink PLB Specifications

Standards	COSPAS-SARSAT T.001/T.007 class2, ETSI EN 302152-1
Sealing depth	Immersion to 10 m (30 ft) for 5 minutes
Operating temperature	-20 to +55 °C (-4 to + 131 °F)
Storage temperature	-30 to +70 °C (-22 to +158 °F)
Altitude	12,192 m (40,000 ft)
Buoyancy	Category 2, will not float (optional buoyancy pouch provided)
Battery type	Lithium Manganese
Transmit duration	> 24 hours @ -20 °C (-4 °F)
Battery life (storage)	5 years from date of manufacture
Battery replacement	Service centre
Battery Use	Logged by microprocessor
Transmitter Frequency	406.031 MHz (alert) / 121.5 MHz (homer)
Transmitter Power	5 W (alert) / 50 mW (homer) nominal
Unique ID Number	Factory or dealer programmed
GNSS Receiver	GPS(L1)+GALILEO(E1), 72 channel, ceramic patch antenna
Size (D x W x L)	36 x 50 x 112 mm (1.42 x 1.97 x 4.41 in)
Weight	164 g (5.8 oz)
Indicator Light	High brightness LED signal light
RLS Light	Blue LED
SOS flash light	Morse code SOS flash pattern, 30 operations
Activation	Manual, three stage
Self-test	Tests transmitters, battery and light
Standard Compass Safe Distance	1 m (3 ft)
Warranty	1 year (+ 4 years with online registration)
Part Number	1002384 (FastFind Return Link PLB with Galileo/GPS GNSS and RLS)

This PLB will not float unless held in the buoyancy pouch provided. A PLB is not an ELT or an EPIRB and does not meet the regulatory requirements for an ELT or an EPIRB.

For up-to-date information about which country administrations allow RLS enabled beacons, please visit Cospas Sarsat: cospas-sarsat.int/en/beacon-ownership/rls-enabled-beacon-purchase

Accelerated
Location Detection
with GPS & Galileo
receivers



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SmartFind G8

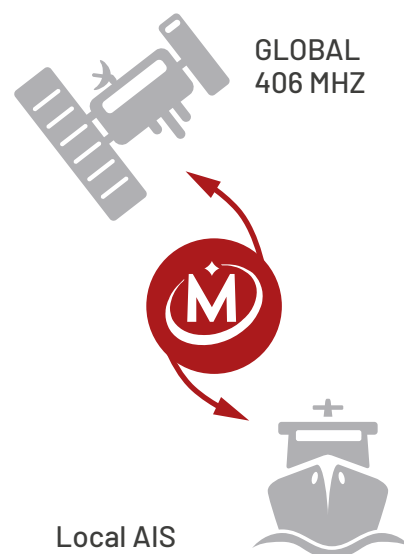
EPIRB Range

MEOSAR Compatible® for enhanced detection and location performance, the G8 range includes an industry first; a four-frequency EPIRB, combining the global alerting of 406 MHz with the localised locating and tracking power of AIS.

SmartFind G8 EPIRB Range

The world's most powerful EPIRBs, driving accelerated rescue times via:

- Faster alert detection on the 406 MHz frequency through our MEOSAR compatibility
- The world's first QUADROTECH® EPIRB, with four search and rescue frequencies, the SmartFind G8 AIS supports the Alert, Locate, Tracking and Recovery elements of search and rescue
- Greater location accuracy by receiving GNSS coordinates from a wider range of satellite constellations including Galileo
- World's first convergence of 406 and AIS, combining the global alerting of 406 MHz with the localised locating and tracking power of AIS



McMurdo SmartFind EPIRBs include innovation as standard with ruggedized base, easy service battery, MEOSAR compatibility and compliance with the new United States Coast Guard emergency hands free transport mandate. The additional false activation protection and multiple self-tests also offer total user confidence. Coupled with an unparalleled marine heritage, commitment to quality and a history of innovation, customers know they can trust McMurdo when their lives are at risk.

The G8 AIS is the first EPIRB to have standard 406 MHz, 121.5 MHz & GPS capabilities AND include AIS for localised rescue. This combination is a result of new technology but also new attitudes to AIS as a search and rescue tool, plus the realisation that accelerated alert detection and location accuracy will save even more lives. This technology partnership will also help reduce demands on the Search & Rescue authorities as it should help vessel owners detect and resolve accidental activations through visibility of AIS signals.

SmartFind E8/G8 Auto-Housing

A fully protective, spring loaded enclosure, the auto-housing automatically deploys and activates the EPIRB when it is submerged between 1 - 4m. The SmartFind E8/G8 auto-housing incorporates fixing points which ensure previous McMurdo auto-housing units can be retrofitted with minimum impact, when upgrading your vessels EPIRB.

Each of the 3 models (E8, G8 and G8 AIS) detailed on the comparison table opposite are available as either a category 1 or category 2 EPIRBs:

Category 1 EPIRB models

Supplied inside an auto-housing and automatically deployed and activated when in contact with water (although they can also be manually activated).

Category 2 EPIRB models

Supplied with a unique SmartTransfer bracket to prevent accidental activation, once manually removed from the bracket the EPIRB is activated manually or via water contact.



SmartFind G8 EPIRB Range Features Comparison

Feature	Description	SmartFind E8	SmartFind G8	SmartFind G8 AIS
Optimised for MEOSAR	Enhanced detection capability for accelerated rescue	◇	◇	◇
VHF homer	121.5MHz swept tone	◇	◇	◇
406 frequency	International rescue frequency	◇	◇	◇
GNSS receiver	72 channels multi-constellation (see Note 3)		◇	◇
AIS capability	AIS for localized rescue			◇
SmartTransfer	Manual bracket allowing transport without activating water switch	◇	◇	◇
Auto-housing option	Automatic deployment when submerged 1-4 m	◇	◇	◇
Activation method	Manual or water activation	◇	◇	◇
SmartCarry	Concealed hands-free easy carry strap	◇	◇	◇
SmartBase	Impact protection	◇	◇	◇
SmartLight	3 lights, 360 degree coverage	◇	◇	◇
SmartSwitch	Reusable ON power button cover, to prevent accidental activation	◇	◇	◇
Battery storage life	10 years (Lithium Iron Disulphide)(see Note 4)	◇	◇	◇
SmartChange	Easy service battery	◇	◇	◇
Global service network	200+ service centres across 80+ countries	◇	◇	◇
Multiple self tests	120 short tests for system check and 20 Long tests which include testing of the GNSS receivers (see Note 1)	◇	◇	◇
Warranty	1 + 4 years (see Note 2)	◇	◇	◇
Part of McMurdo Ecosystem	Developed with McMurdo's unique understanding of the technical requirements to fully utilise the Cospas-Sarsat infrastructure	◇	◇	◇

NOTE 1 Recommendation – 1 test a month over a period of 10 years. Long tests twice a year over a 10 year period. Long tests to be conducted in full view of sky. Obstacles will increase time taken for GPS lock, reducing the battery life. Long Tests can also only be performed if GNSS receiver workability seems suspect.

NOTE 2 Warranty is 1 year from date of purchase, an additional 4 years upon registration with Seas Of Solutions.

NOTE 3 GPS and Galileo.

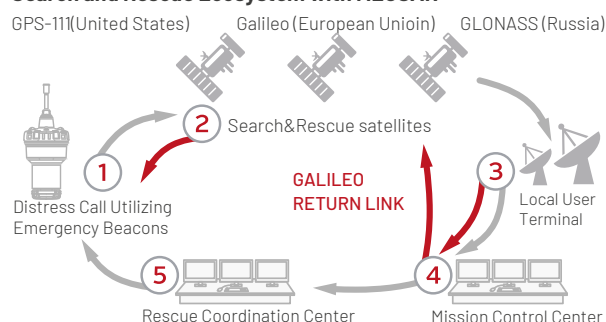
NOTE 4 As a responsible manufacturer, Seas Of Solutions recommends a 5 year health check. Shore-based maintenance mandated vessels, battery health check or replacements should be carried out in accordance with flag Administration requirements and not exceeding 5 years.

Understanding the MEOSAR Ecosystem

MEOSAR Improvements: Better Accuracy, Timeliness and Reliability. Cospas Sarsat has rolled out a new search and rescue infrastructure known as MEOSAR. The aim is: Determine beacon location within 5km, 95% of the time, within 10 minutes.

- 72 MEOSAR satellites positioned at Medium Earth Orbit altitude
- Near instantaneous beacon signal detection using bent pipe technology – average 46 minutes faster compared to LEOSAR
- Reduced response times with multiple signal bursts to improve speed and accuracy of location calculation
- Close to 100% reliability due to multiple antenna systems and MEOLUT networking
- When fully operational next generation beacons will also have a Return Link signal through Galileo satellites
- Lives have already been saved with the early operational MEOSAR through faster alerts and greater accuracy, for example in Australia where McMurdo previously completed MEOSAR ground infrastructure installation.

Search and Rescue Ecosystem with MEOSAR



406 MHZ TRANSMITTER

Frequency	406.040 MHz + 1kHz
Power output	5 W nominal
Modulation	Phase (16KOG1D)

121.5 MHZ TRANSMITTER

Frequency	121.5 MHz + 3 kHz
Power output	100 mW nominal
Modulation	Swept tone AM (3K20A3X)

AIS TRANSMITTER (SEE NOTE 1)

Frequencies	161.975 MHz (AIS1); 162.025 MHz (AIS2)
Power output	1 W nominal
Modulation	Phase (16KOGXW)

GNSS RECEIVER (SEE NOTE 2)

Constellations	GPS, Galileo
Frequencies	1575.42 MHz (GPS, Galileo);
Sensitivity	-167 dBm minimum
Satellites tracked	72 channel

STROBE LIGHT

Type	3 high intensity LEDs
Light output	0.2 cd minimum
Flash rate	23 flashes per minute

BATTERY

Type	Lithium iron disulphide
Operating life	48 hours minimum
Shelf life (in-service life)	10 years from date of manufacture typical in service (see Note 3)

ENVIRONMENT

Operating temperature	20 °C to +55 °C (-4° F to +131° F)
Storage temperature	-30 °C to +70 °C (-22° F to +158° F)
Automatic release depth	4 m maximum

DIMENSIONS (EPIRB)

Weight	710 g
Height/Width/Depth	423x104x103 mm (incl. antenna)
Length of antenna	206 mm

DIMENSIONS (MANUAL BRACKET)

Weight	110 g
Height/Width/Depth	270x125x121 mm

DIMENSIONS (FLOAT FREE ENCLOSURE)

Weight	1075 g
Height/Width/Depth	416x126x132 mm

STANDARDS APPLIED

COSPAS-SARSAT	C/S 1.001 C/S T.007
Europe	MED (wheelmark)
USA	USCG & FCC; FCC ID; KLS-Z701; 47 CFR Parts 80, 2;
International standards	Dependant on variant IEC 61097-2; IEC 60945 incl. Corrigendum1; Industry Canada RSS-287; AS/NZS 4280.1; IMO MSC/Circ. 862
IMO regulations	A.662(16); A.694(17); A.810(19); A.814(19)

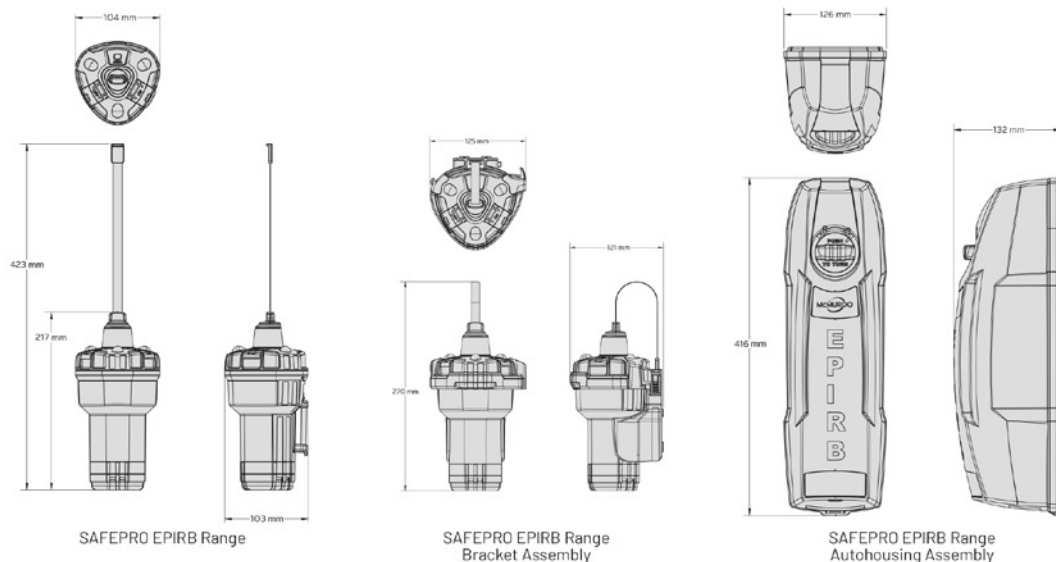
PART NUMBERS

SmartFind E8 Manual EPIRB	23-001-004A
SmartFind E8 Auto EPIRB	23-001-504A
SmartFind G8 Manual EPIRB	23-001-002A
SmartFind G8 Auto EPIRB	23-001-502A
SmartFind G8 AIS Manual EPIRB	23-001-001A
SmartFind G8 AIS Auto EPIRB	23-001-501A

NOTE 1: AIS is available on the G8-AIS model only

NOTE 2: GNSS is available on the G8 and G8-AIS models only

NOTE 3: As a responsible manufacturer, McMurdo recommends a 5-year health check at the nearest McMurdo approved service agent. Shore-based maintenance mandated vessels, battery health check or replacements should be carried out in accordance with flag Administration requirements and not exceeding 5 years.



Safe Operational EPIRB Life

Seas of Solutions Safe Operational EPIRB Life guidance is that EPIRBs should be considered for decommissioning after 12-15 years, as this reduces the risk of environmental impact on beacon performance and ensures end users have beacons with the latest technology. As a result, the SmartFind G8 EPIRB range is supplied with a ten-year battery, but battery replacement kits have a minimum five-year battery, to encourage regular professional checks of the units and reduce the likelihood of the beacons remaining on board vessels beyond the recommended operational life.



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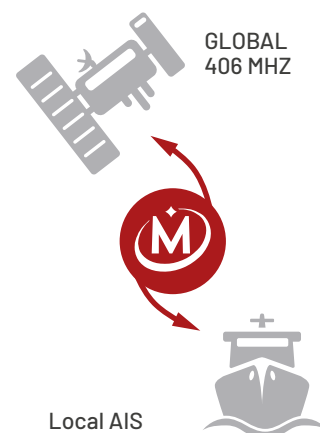
SmartFind G8 AIS EPIRB

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SmartFind G8 AIS EPIRB

The world's most powerful EPIRBs, driving accelerated rescue times via:

- Faster alert detection on the 406 MHz frequency through our MEOSAR compatibility
- The world's first QUADROTECH® EPIRB, with four search and rescue frequencies, the SmartFind G8 AIS supports the Alert, Locate, Tracking and Recovery elements of search and rescue
- Greater location detection speed and accuracy, as the multi-constellation GNSS receivers work with a wider range of satellites including Galileo and GPS.
- World's first convergence of 406 and AIS, combining the global alerting of 406 MHz with the localised locating and tracking power of AIS



McMurdo SmartFind EPIRBs include innovation as standard; with ruggedized base, easy service battery, MEOSAR compatibility, compliance with the United States emergency hands free transport and the new GNSS requirement which raises the minimum requirements for new EPIRBs being sold in the US. The additional false activation protection and multiple self-tests also offer total user confidence. Coupled with an unparalleled marine heritage, commitment to quality and a history of innovation, customers know they can trust McMurdo when their lives are at risk.

The G8 AIS is the first EPIRB to have standard 406 MHz, 121.5 MHz & GNSS capabilities AND include AIS for localised rescue. This combination is a result of new technology but also new attitudes to AIS as a search and rescue tool, plus the realisation that accelerated alert detection and location accuracy will save even more lives. This technology partnership will also help reduce demands on the Search & Rescue authorities as it should help vessel owners detect and resolve accidental activations through visibility of AIS signals.

SmartFind E8/G8 Auto-Housing

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406 frequency	International rescue frequency	◇	◇
GNSS receiver	72 channels multi-constellation (see Note 3)	◇	◇
AIS capability	AIS for localized rescue		◇
SmartTransfer	Manual bracket allowing transport without activating water switch	◇	◇
Auto-housing option	Automatic deployment when submerged 1-4 m	◇	◇
Activation method	Manual or water activation	◇	◇
SmartCarry	Concealed hands-free easy carry strap	◇	◇
SmartBase	Impact protection	◇	◇
SmartLight	3 lights, 360 degree coverage	◇	◇
SmartSwitch	Reusable ON power button cover, to prevent accidental activation	◇	◇
Battery storage life	10 years (Lithium Iron Disulphide)(see Note 4)	◇	◇
SmartChange	Easy service battery	◇	◇
Global service network	200+ service centres across 80+ countries	◇	◇
Multiple self tests	120 short tests for system check and 20 Long tests which include testing of the GNSS receivers (see Note 1)	◇	◇
Warranty	1 + 4 years (see Note 2)	◇	◇
Part of McMurdo Ecosystem	Developed with McMurdo's unique understanding of the technical requirements to fully utilise the Cospas-Sarsat infrastructure	◇	◇

NOTE 1 Recommendation – 1 test a month over a period of 10 years. Long tests twice a year over a 10 year period. Long tests to be conducted in full view of sky. Obstacles will increase time taken for GPS lock, reducing the battery life. Long Tests can also only be performed if GNSS receiver workability seems suspect.

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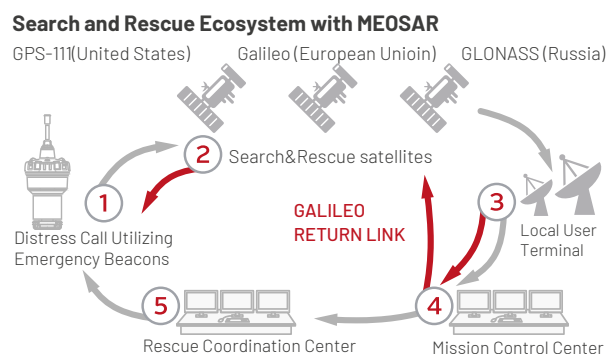
NOTE 3 GPS and Galileo.

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406 MHZ TRANSMITTER

Frequency	406.040 MHz ± 1kHz
Power output	5 W nominal
Modulation	Phase (16KOG1D)

121.5 MHZ TRANSMITTER

Frequency	121.5 MHz ± 3 kHz
Power output	100 mW nominal
Modulation	Swept tone AM (3K20A3X)

AIS TRANSMITTER (SEE NOTE 1)

Frequencies	161.975 MHz (AIS1); 162.025 MHz (AIS2)
Power output	1 W nominal
Modulation	Phase (16KOGXW)

GNSS RECEIVER (SEE NOTE 2)

Constellations	GPS, Galileo
Frequencies	1575.42 MHz (GPS, Galileo);
Sensitivity	-167 dBm minimum
Satellites tracked	72 channel

STROBE LIGHT

Type	3 high intensity LEDs
Light output	0.2 cd minimum
Flash rate	23 flashes per minute

BATTERY

Type	Lithium iron disulphide
Operating life	48 hours minimum
Shelf life (in-service life)	10 years from date of manufacture typical in service (see Note 3)

ENVIRONMENT

Operating temperature	20 °C to +55 °C (-4° F to +131° F)
Storage temperature	-30 °C to +70 °C (-22° F to +158° F)
Automatic release depth	4 m maximum

DIMENSIONS (EPIRB)

Weight	710 g
Height/Width/Depth	423x104x103 mm (incl. antenna)
Length of antenna	206 mm

DIMENSIONS (MANUAL BRACKET)

Weight	110 g
Height/Width/Depth	270x125x121 mm

DIMENSIONS (FLOAT FREE ENCLOSURE)

Weight	1075 g
Height/Width/Depth	416x126x132 mm

STANDARDS APPLIED

COSPAS-SARSAT	C/S 1.001 C/S T.007
Europe	MED (wheelmark)
USA	USCG & FCC; FCC ID; KLS-Z701; 47 CFR Parts 80, 2;
International standards	Dependant on variant IEC 61097-2; IEC 60945 incl. Corrigendum1; Industry Canada RSS-287; AS/NZS 4280.1; IMO MSC/Circ. 862
IMO regulations	A.662(16); A.694(17); A.810(19); A.814(19)

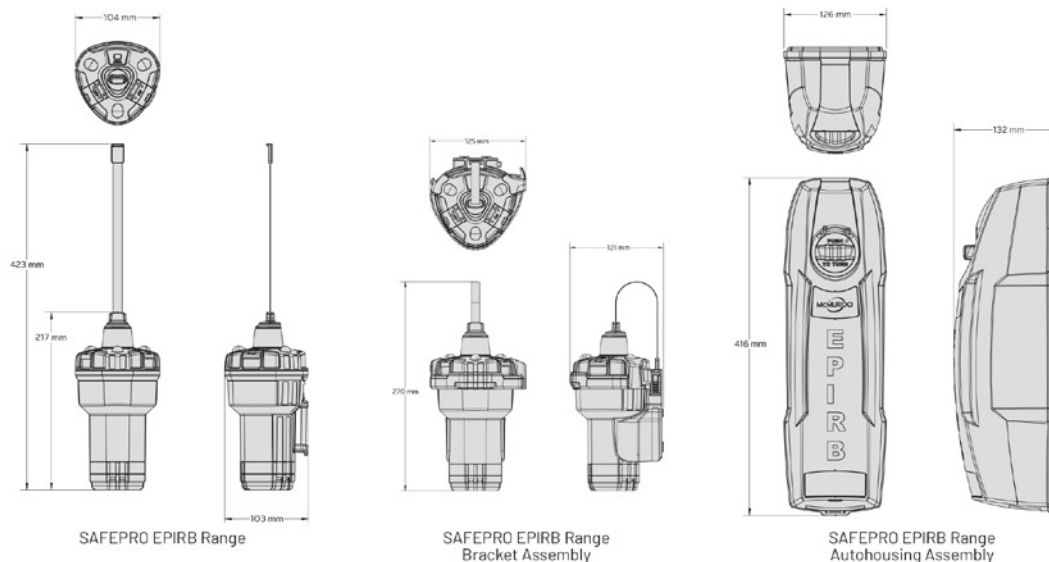
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NOTE 3: As a responsible manufacturer, McMurdo recommends a 5-year health check at the nearest McMurdo approved service agent. Shore-based maintenance mandated vessels, battery health check or replacements should be carried out in accordance with flag Administration requirements and not exceeding 5 years.



Safe Operational EPIRB Life

Seas of Solutions Safe Operational EPIRB Life guidance is that EPIRBs should be considered for decommissioning after 12-15 years, as this reduces the risk of environmental impact on beacon performance and ensures end users have beacons with the latest technology. As a result, the SmartFind G8 EPIRB range is supplied with a ten-year battery, but battery replacement kits have a minimum five-year battery, to encourage regular professional checks of the units and reduce the likelihood of the beacons remaining on board vessels beyond the recommended operational life.



FastFind CREW1 AIS Man Overboard Beacon

The FastFind CREW1 is an AIS Man Overboard Device with a range of features designed to accelerate detection and support localised rescue for vessel crew in an MOB situation.

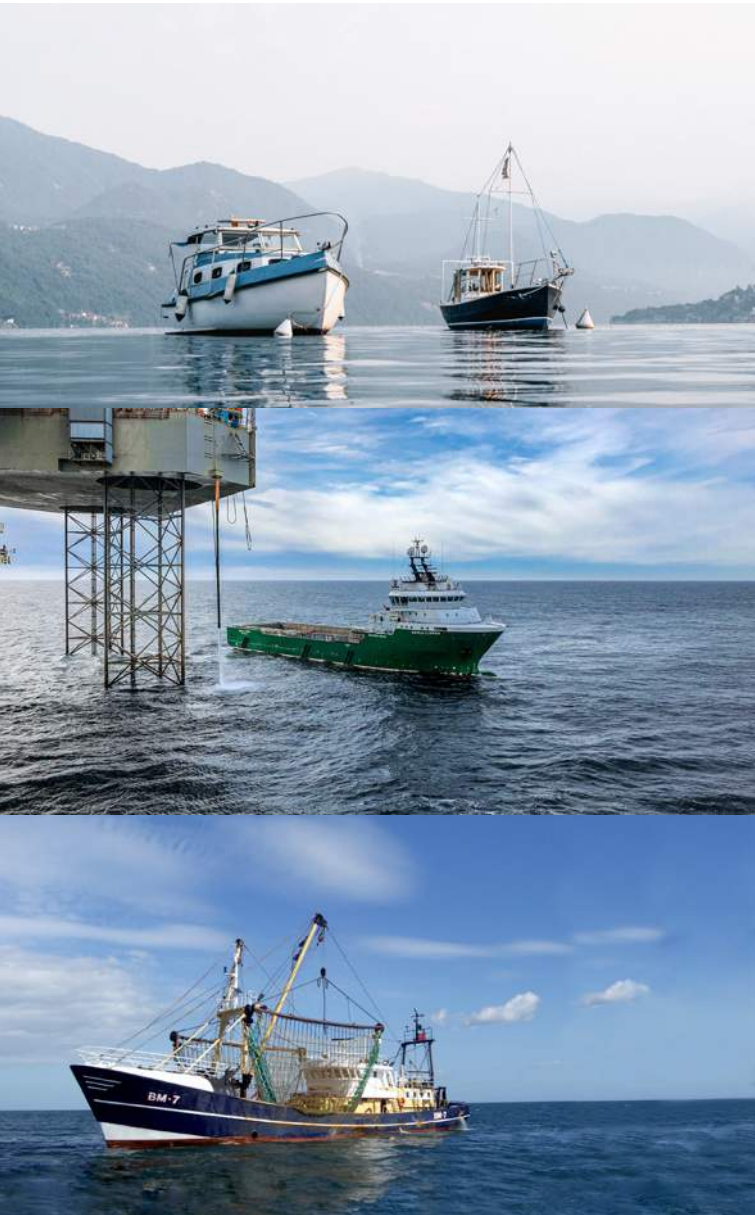


FastFind CREW1

To celebrate the 20th anniversary of the FastFind brand, a brand synonymous with life-saving Personal Locator Beacon (PLB) solutions, Seas of Solutions are delighted to announce the FastFind CREW1 AIS MOB will join the RLS enabled FastFind Return Link PLB in our portfolio of marine electronics. The new CREW1 provides the quality and innovation you would expect from a FastFind beacon and is designed to improve the survivability of those working or playing on the water.

The FastFind CREW1 AIS Man Overboard device is designed to accelerate detection and support localised rescue for vessel crew in an MOB situation.

The CREW1 offers a range of innovative features in a compact and easy to carry design. The semi-automatic beacon can be water or manually activated. It boasts an extended 36 hour battery life and high-powered SOS strobe capability. With a rugged construction and multiple attachment clippings, the FastFind CREW1 is designed with crew survivability in mind. Submersible to 50m, the Crew1 offers a versatile commercial grade AIS man over-board solution.



Features

- Compact and offers dynamic lifejacket fitting options
- Highly accurate, regularly updated GPS coordinates to accelerate location detection
- Water and manual activation options
- Compatible with AIS electronics, e.g. chart plotters
- High strength LED signals SOS message to aid low light detection
- High powered battery allows extended signal operation with 36 hrs activation time (typical for -10C)
- 5 years storage life
- IP68 Waterproof with 50m immersion depth.



How FastFind CREW1 works

- CREW1 is activated in an emergency crew recovery situation
- An alert message is transmitted to all AIS receivers and AIS enabled chart plotters within a 4 mile radius (typical)
- An AIS SART alert icon (pictured) marks the survivors location
- Precise target survivor information including GPS position become viewable when the chart plotter* cursor is positioned over the icon
- Provides exact location, distance and bearing to locate person (s) in need of assistance

Not all small-craft chart plotters with AIS show the correct icon ☒ as recommended by the IMO. At the very least, they will show the same icon as used for other craft – normally an arrow. In addition, user settings generally allow you to configure the display to show the TX ID number, which in the Crew1 always begins with 972. This way you can differentiate the CREW1 from other vessels.

All new ECDIS plotters (on ships over 300 tonnes) should display the icon ☒ correctly.

* For use with AIS enabled plotters, contact your plotter manufacturer for further info.

Installation and activation

The FastFind CREW1 is supplied, as default, with a clip to attach the device to lifejacket strap and an alternative clip which can be attached to the lifejacket's oral tube. This clip can be installed on either side of the oral tube.

Activation can be either manually or by water sensor activation. **Manual activation** involves pulling off the red antenna cap to release the antenna and then pulling the activation tab off. The device will start transmitting alert messages immediately. **Water sensor activation** requires you to pull off the red antenna cap to release the antenna, when the water sensor embedded at the bottom side of the device is immersed in water for more than 3 seconds, the device will be activated and starts transmission.

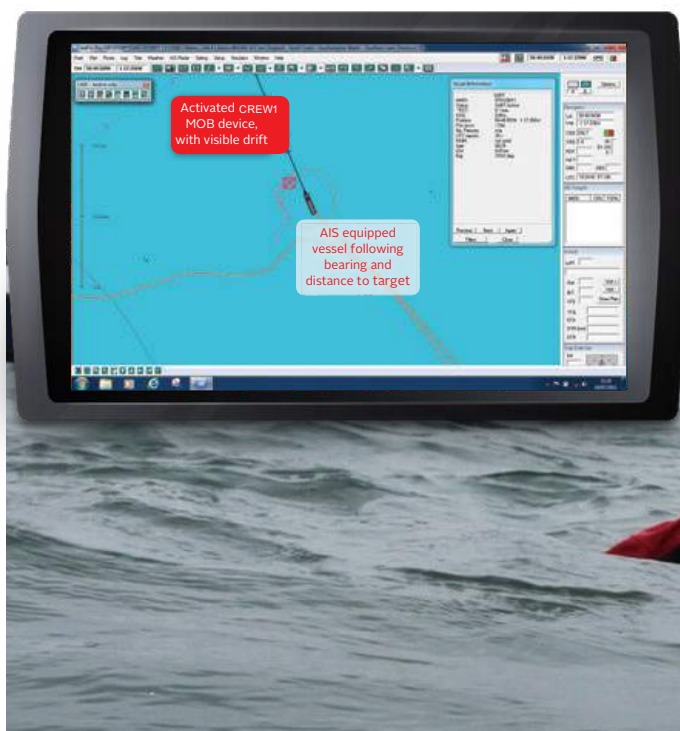


Image shown is Euronav Software

FastFind CREW1 Specifications

APPLICABLE STANDARDS

IEC 60945, IEC 61108-1, EN 50383: 2010,
EN 62368-1: 2014 + A11: 2017, EN 303098 V2.2.1,
IEC 50385: 2002, EN 62311: 2008

VHF PERFORMANCE

Frequency	AIS 1, 161.975MHz AIS 2, 162.025 MHz
Data Rate	9,600bps
Tx Power	2W (1W EIRP)
Bandwidth	25 KHz
Modulation	GMSK
Range	4nm typical with receiver antenna > 5m above sea level
AIS Message Type	Message 1 (TXID, GPS position, SOG, COG) Message 14 (MOB ACTIVE or MOB TEST)

GPS RECEIVER

Receiving Channels	72
Frequency	L1, 1575.42 MHz
Tracking Sensitivity	(-)159 dBm
Reacquisition	(-)163 dBm
Position Update	Every minute
Position Accuracy	< 2.0 m SBAS < 2.5 m Autonomous

ACTIVATION METHOD

Manual activating or automatic activating with water sensor by immersion

LED INDICATION

Battery (green/red)
GPS Positioning (green/red)

BATTERY

Type	Primary Lithium (not rechargeable)
Operating Time	36 hours at -10°C, typical
Storage (battery life)	5 years, replacement due after emergency use

ENVIRONMENTAL

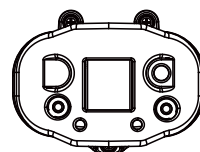
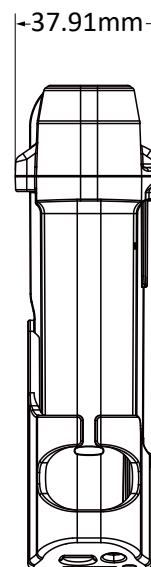
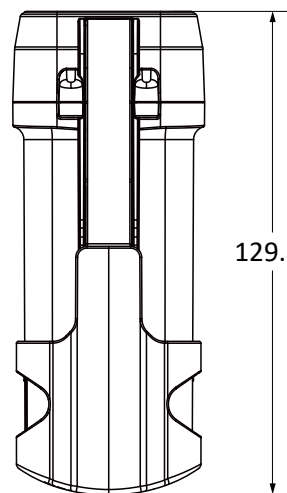
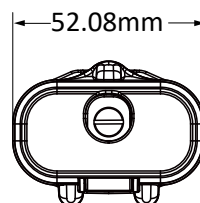
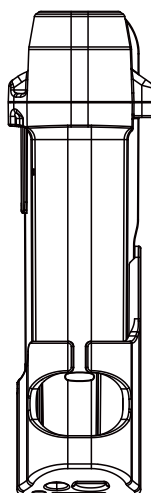
Operating Temperature	-20°C~55°C
Storage Temperature	-30°C~70°C
Waterproof	IP68
Immersion depth (optional)	50m
Compass Safe Distance	0.8m

PHYSICAL

Size	129x52x40mm (L*W*D)
Weight	160 g (main unit only)

ITEMS SUPPLIED

Main MOB unit with webbing belt clip	x 1
Clip on carrying pouch	x 1
User guide	x 1
Oral tube clip for lifejacket	x 1
Unit Self-test activation tab	x 1





SmartFind S5A AIS SART

The SmartFind S5A AIS SART is a manual deployment survival craft AIS Search and Rescue Transmitter (AIS SART), intended for use on life rafts or survival craft. It meets IMO SOLAS requirements and is a replacement for legacy radar SARTs.



SmartFind S5A AIS SART

Compact and easy to both operate and deploy, the SmartFind S5A AIS SART is packed inside a quick release carry off bag, that allows a survival crafts location to be identified by rescue authorities and nearby AIS equipped vessels.

The SmartFind S5A transmits target survivor craft information, including structured alert messages, GNSS position information and serialised identity number. Once activated the SmartFind S5A AIS SART transmits continually for a minimum of 96 hours. An inbuilt high precision GNSS receiver provides accurate position information to assist in the detection of the survival crafts' location.

Whether wall mounted in the ships bridge or packed inside a survival craft, the highly visible and buoyant carry case affords maximum protection.

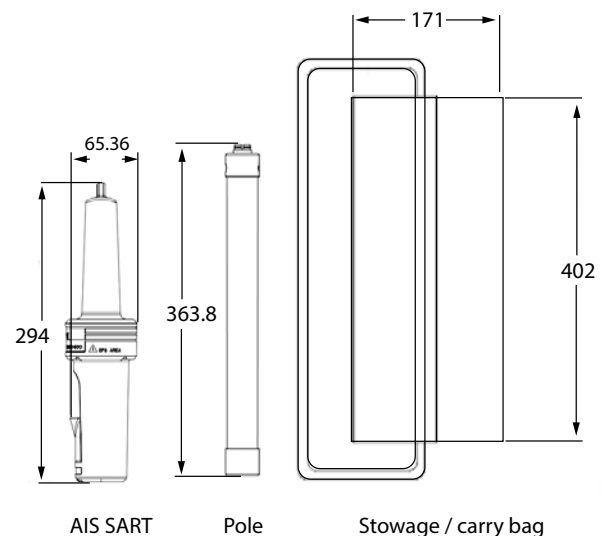
- Internationally approved
- Ship or Survival craft options
- Waterproof to 10m
- Buoyant/floats
- Rugged, compact and lightweight
- Minimum 96 hour operational battery life
- 6 year battery life
- Visual indication of operation
- Built-in test facility
- Mounting options – Internal/External
- Transmits GNSS coordinates
- Interoperability with AIS Users
- Telescopic Mounting Pole included
- Comes with protective carry off bag

Technical Specifications

Beacon Specification Standards applied

APPLICABLE STANDARDS	IEC 61097-14 Ed.1 (2010) IEC 60945 Ed. 4 (2002) incl. Corrigendum 1 (2008) IMO Resolution A.694 (17) IMO Resolution MSC.246 (83) IMO Res. MSC.302 (87)* ITU-R M.1371-5 (2014) *: This covers Bridge Alert Management and it is not applicable for AIS	
VHF TRANSMITTER	Operating Frequency Data Rate Bandwidth Power Output AIS Message Type Modulation Antenna	AIS 1, 161.975MHz AIS 2, 162.025MHz 9,600bps 25 KHz 1W EIRP Message 1, Message 14 GMSK Integrated by PCB
GNSS RECEIVER	Receiving Channels Acquisition Sensitivity Tracking Sensitivity Position Accuracy	48 channels (-)159 dBm (-)159 dBm < 2.5 m Autonomous & SBAS
BATTERY	Type Operating Life Storage Service	Primary Lithium (not rechargeable) 96 hours minimum 6 years Replaceable
CARRY & MOUNTING	Carry Bag Wall Mount	

ENVIRONMENT	Operating temperature Storage temperature Waterproof Buoyancy Exterior Finish Compass safe distance	-20°C to +55°C -30°C to +70°C Immersion to 10m Floats Highly visible Orange Standard Magnetic – 0.60m Steering Magnetic – 0.40m
PHYSICAL	Max Diameter (Main Body) Length (Main Body) Weight (Main Body) Length (Pole) Weight (Pole) Total Weight (Storage Package)	70 mm 300 mm 283g (Battery included) 1050mm (Extended) 300g 1.08kg





SmartFind M5 AIS Class A Transponder

Features AIS MOB SART alarm to aid MOB recovery.
Provides automated “ship to ship” and “ship to shore” navigation communication.



SmartFind M5 AIS Class A Transponder

SmartFind M5 Class A provides automated AIS communication from 'ship-to-ship' and 'ship-to-shore', transmitting and receiving vessel, voyage and safety related information.

Own vessel voyage, position and course information is automatically transmitted and the AIS information provided by other ships in the vicinity, shore based stations and AIS equipped aids to navigation are clearly displayed.

The complete AIS solution

The comprehensive interface capability of SmartFind M5 supports connection to a vessel's existing navigation sensors; connection of Electronic Chart Display and Information System (ECDIS), or Electronic Chart System (ECS) using NMEA, NMEA2000 or USB interfaces. SmartFind M5 is suitable for all vessels that are required by legislation to fit AIS equipment and is high seas and Inland waterways certified.

The SmartFind M5 AIS Class A Transponder gives mariners the ability to view at a glance the AIS status of vessels all around them and provides access to a host of detailed vessel navigation information.

Key Features

- Compact Design
- 3.5" colour LCD display
- Embedded coastline map
- Detailed target list and Radar overview
- Features AIS MOB SART alarm to aid MOB recovery
- GPS antenna
- Cable junction box, Pilot plug
- Mounting kit and flush mount
- PC AIS Viewer software

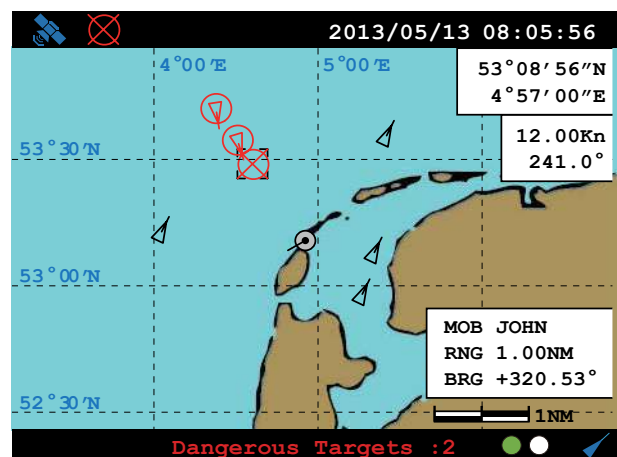
Low cost, reduced size and easy installation make the M5 ideal to meet the budgets and demands of owners and vessel operators.





Pioneering Safety features

SmartFind M5 is a flexible, user-friendly and cost-effective AIS Class A transponder, incorporating a fully comprehensive AIS MOB and AIS SART alarm to aid MOB recovery. It provides on screen indication and internal buzzer when any AIS SART/MOB TXID is received, an optional remote waterproof (MOB / alarm) sounder is also available. It also allows a "crew list" of the vessels own AIS MOB IDs and associated crew name and has a steer to rescue MOB casualty target screen. The AIS MOB alarm feature is compatible with the McMurdo S10 and S20 AIS MOB devices and other AIS SART device.



Technical Specifications

Standards:	Meets the requirements of the international standards for Class A Shipborne AIS systems. IMO Resolution A.694(17), IMO MSC.74(69) Annex 3, IMO Resolution MSC 191(79), ITU-R M.1371-5 (Class A)(2014), ITU-R M.1084-5 (2012), ITU-R M.825-3(1998), IEC 61993-2 Ed. 3 (2018), IEC 61108-1Ed. 2 (2003), IEC 60945 Ed. 4 (2002) incl. Corrigendum 1 (2008), IEC 61162-1 Ed. 5 (2016), IEC 61162-2 Ed. 1 (1998), IEC 62288 Ed. 2 (2014), IEC 62923-1/-2 BAM.
Type Approvals:	Marine Equipment Directive (MED) 96/98 EC, 2011/75/EU, 2012/32/EU, 2014/90/EU as amended by IR(EU) 2020/1170. USA FCC, Canada I.C., WSV – Inland waterways
	Visit www.seasofsolutions.com for latest information
Power consumption:	9W average, 65W peak @ 12V DC
Power supply requirements:	12/24 VDC
Default Frequencies:	AIS1 161.975 MHz, AIS2 162.025 MHz
DSC channel 70:	156.525 MHz
AIS TRANSCEIVER	
Power output:	12.5 Watt / 1.0 Watt
Frequency range:	156.025-162.025 MHz
DSC RECEIVER	
Frequency range:	VHF Channel 70 (156.525 MHz)
CONNECTION INTERFACE	
VHF antenna:	PL259, 50 Ohms
GNSS antenna:	TCN, 50 Ohms, DC Power, Mini USB, 37 pin data connector.
Interface ports:	RS-422, IEC 61162-1,2 3 x navigation sensor input ports SEN1, SEN2, SEN3 and SEN4 2 x Bi-directional input/output ports MAIN and AUX/Pilot 1 x Bi-directional input/output port LR (Long Range) 1 x DGNSS correction input 1 x NMEA 2000 Alarm relay output
Integral GNSS:	50 channel GPS receiver, SBAS, MSAS, WAAS, GAGAN and EGNOS enabled. Supports DGPS correction by AIS msg 17 or RTCM input port. Provides UTC and fallback navigation position for AIS.

Items included

- Transponder unit with colour display
- GPS antenna
- Junction box and link cable
- Pilot plug – remote socket box
- Companion PC AIS Viewer Software

CONTROLS	
Display:	3.5" 320 x 240 colour TFT LCD
Backlight:	Multi level
Viewing Mode:	Map outline, Radar view, Target List, Message views.
Controls:	6 keys, Multi-Function Knob
Menu language options include:	French, Spanish, German.

ENVIRONMENTAL	
Operating temperature:	-15 ° C to +55 ° C
Storage temperature:	-20 ° C to +70 ° C
General:	IEC 604945 protected category
Control unit:	IPX2

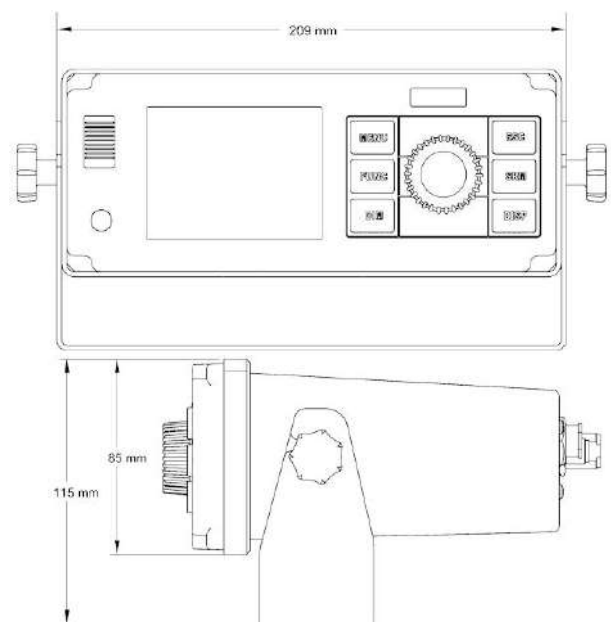
PHYSICAL	
Width x Height x Depth:	261 x 184 x 102 mm
Mounting:	Desk bracket and panel fixing kit included
Weight:	2.5 kg

BREAKOUT JUNCTION BOX	
Width x Height x Depth:	165 x 55 x 85 mm

GPS ANTENNA	
Size:	Diameter 90.8 mm x 104.7 mm high
Mounting:	1 1/4 inch thread

Cable 10m, connector (fitted):	TNC 50 Ohms
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PILOT PLUG BOX	
Width x Height x Depth:	104 x 60 x 40 mm





R5 GMDSS VHF Handheld Radio

The R5 is a fully featured GMDSS survival craft radio with user friendly design and features. It is built to meet the latest stringent IMO, GMDSS and ETSI standards.



R5 GMDSS VHF Handheld Radio

Reliable and easy to use, it is 100% waterproof and droptested to cope with the toughest marine environments.

The large tactile buttons can easily be operated with gloves without unintended activation of buttons. A ribbed design ensures a solid grip even in wet conditions.

- 23 GMDSS channels
- Easy to use, with large buttons
- Waterproof to 1/2 m for 1/2 hour
- Dimming and backlight control
- Battery indicator and battery saving function
- Quick channel select button
- Keypad lock
- Rotary volume control
- Dual-/Tri watch
- MED (Wheelmark), FCC & CCS approved
- Pack A – full featured
- Battery storage and charger base

Technical Specifications

R5 GMDSS Pack A

Approvals		MED, FCC, CCS, IC
Frequency Range	23 GMDSS channels	149.3-174MHz
Channel separation		25kHz
Dual watch, Tri-watch		•
Transmitter power	(Hi/Lo)	2/1W
Red back light	with dimming	•
Keypad lock		•
Keypad beep On/Off		•
Volume rotary control		•
Waterproof	Submersible to 1/2 metre for 1/2 hour	IP67
Temperature	Operating	-20°C to +55°C
Temperature	Storage	-30°C to +70°C
Weight	With GMDSS battery	340g
Lanyard & belt clip		•
Battery save function		•
Battery level indicator		•
GMDSS Battery	6 year lithium	•
Secondary battery	180mAh rechargeable Li-Ion	•
AC/DC charger base		•

PACK A – full featured

McMurdo R5 VHF body

- Lithium Battery – Primary
- Belt clip
- Lanyard
- Test report
- User manual
- Antenna whip
- Storage base

Single Charger kit:

- Li-ion rechargeable battery
- Single Charger base
- AC/DC converter/adaptor
- DC connector cables
- AC/DC converter instruction sheet

