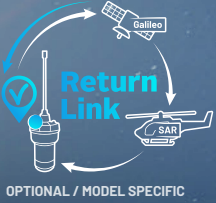




Accelerated Location Detection with GPS & Galileo receivers and AIS localiser + Infra-Red optical signal



SafeAIS
Localised AIS tracking



kannad marine
SEAS OF SOLUTIONS BRAND

SAFEPRO+ EPIRB RANGE

The New SAFEPRO+ range of Satellite EPIRBs include an AIS locating signal and an Infra-Red (Night-Vision) optical signal, to aid detection of survivors in low light conditions.

Return Link Service (RLS) capability is optional via the SAFEPRO+ RLS EPIRB model. This model allows two-way communication, specifically, receipt of a re-assurance signal confirming professional rescue services have received the distress signal and the user's location is known.

This device has not been authorized as required by the rules of the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.



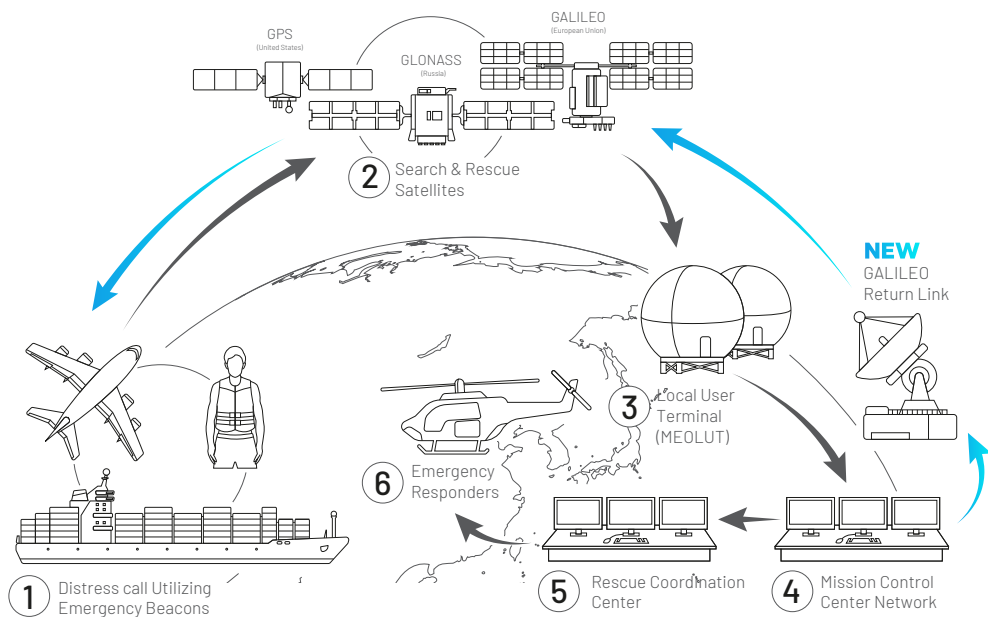
SAFEPRO+ EPIRB Range

Our unparalleled marine heritage, history of innovation and commitment to quality mean the next generation of SAFEPRO+ EPIRBs include previous innovations as standard. They are MEOSAR Compatible® for enhanced detection and location performance, combine the global 406 MHz professional search and rescue alert, with the localised locating and tracking power of AIS, they have a ruggedized base and an easy service battery. The false activation protection of the manual bracket and multiple self-tests all contribute to total user confidence. Customers know they can trust Kannad Marine when their lives are at risk.

The new range of Kannad Marine SAFEPRO+ EPIRBs benefit from an AIS locating signal, visible to AIS receiver equipped vessels in the vicinity, and an Infrared (Night-Vision) optical signal to aid detection of survivors in low light conditions. Infrared is detectable at greater range and in poorer conditions than standard EPIRB lights, therefore further accelerating recovery times.

Return Link Service capability

Return Link Service (RLS) capability is optional, via the SAFEPRO+ RLS EPIRB model. The Return Link Service allows a two-way communication for the first time. SAFEPRO+ RLS EPIRBs receive a re-assurance signal, in the form of a blue light, indicating the distress signal has been received and that the user's location is known by the professional rescue services.

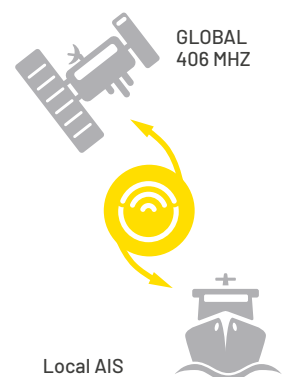


This light, typically activated 10 minutes after beacon activation, provides a lifesaving re-assurance signal, allowing those in distress, to know that search and rescue professionals are aware of their situation, and they are not alone.

The world's most powerful Satellite EPIRBs

Driving accelerated rescue times via:

- Further enhancing our earlier World's first convergence of 406 and AIS, combining the global alerting of **406 MHz** with the localised locating and tracking power of **AIS**.
- Faster alert detection on the 406 MHz frequency through our **MEOSAR** compatibility.
- **QUADROTECH®** EPIRB, with four search and rescue frequencies, the SAFEPRO+ range 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**.
- **Infrared** is detectable at greater range and in poorer conditions, therefore further accelerating recovery times.



SAFEPRO+ Auto-Housing

A fully protective, spring loaded enclosure, the float free auto-housing automatically deploys and activates the EPIRB when it is submerged between 1 - 4m. The SAFEPRO+ auto-housing incorporates fixing points which ensure previous Kannad Marine auto-housing units can be retrofitted with minimum impact, when upgrading your vessels EPIRB.

SAFEPRO+ EPIRBs are available as either a category 1 or category 2 EPIRBs:

Category 1 EPIRB models

Supplied inside a float free 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 SafeTransfer bracket to prevent accidental activation, once manually removed from the bracket the EPIRB is activated manually or via water contact.



SAFEPRO+ EPIRB Range Features

Feature	Description	SAFEPRO+ AIS	SAFEPRO+ RLS
406 frequency	International rescue frequency	•	•
AIS capability	AIS for localized rescue	•	•
Return Link Service	Beacon receives a re-assurance signal, a blue light, indicating rescue services have received the distress signal and the user's location is known.		•
VHF homer	121.5MHz swept tone	•	•
GNSS receiver	GPS(L1) + GALILEO(E1), 92 channel, ceramic patch antenna	•	•
Optimised for MEOSAR	Enhanced detection capability for accelerated rescue	•	•
SafeTransfer	Manual bracket option, allowing transport without activating water switch	•	•
Auto-housing option	Automatic deployment when submerged 1-4 m	•	•
Activation method	Manual or water activation	•	•
SafeCarry	Concealed hands-free easy carry strap	•	•
SafeBase	Impact protection	•	•
SafeLight	3 high intensity LED strobe lights	•	•
Night vision	3 high intensity LED infra red night vision lights	•	•
SafeSwitch	Reusable ON power button cover, to prevent accidental activation	•	•
Battery storage life	10 years from date of manufacture. (Lithium Iron Disulphide)(see Note 3)	•	•
SafeChange	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 Seas of Solutions' heritage	Developed with Kannad Marine'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 GNSS lock, reducing the battery life.

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

NOTE 3 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.

Technical Specifications

406 MHZ TRANSMITTER

Frequency	406.040 MHz
Power output	5 W nominal
Modulation	BPSK (16KOG1D)

121.5 MHZ TRANSMITTER

Frequency	121.5 MHz
Power output	70 mW nominal
Modulation	AM Swept tone (3K20A3X)

AIS TRANSMITTER

Frequencies	161.975 MHz (AIS1); 162.025 MHz (AIS2)
Power output	1 W EIRP
Modulation	GMSK/FM (16KOGXW)

GNSS RECEIVER

Constellations	GPS, Galileo
Frequencies	1575.42 MHz (GPS, Galileo)
Sensitivity	-167 dBm minimum
Satellites tracked	92 channels

RLS. RETURN LINK SIGNAL (See NOTE 1)

Service Provider	Galileo
Indicator	BLUE LED

OPTICAL HOMER

Day and night vision strobe	3 points of high intensity LEDs
Light output	0.75 cd / 2.5 mW/sr minimum
Flash rate	23 flashes per minute

BATTERY

Type	Lithium iron disulphide
Operating life	48 hours minimum
Shelf life	10 years from date of manufacture (see Note 2)

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	425 X 105 X 105 mm (incl. antenna)
Length of antenna	225 mm

DIMENSIONS (MANUAL BRACKET)

Weight	110 g
Height/Width/Depth	135 x 125 x 125 mm

DIMENSIONS (FLOAT FREE ENCLOSURE)

Weight	1075 g
Height/Width/Depth	415 x 135 x 135 mm

STANDARDS

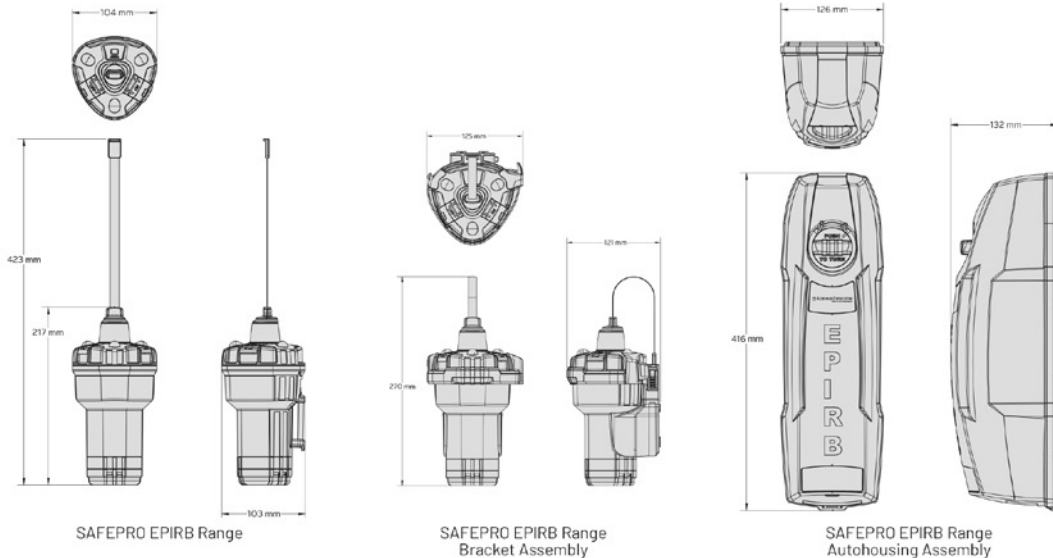
COSPAS-SARSAT	C/S T.001; C/S T.007 - Pending
Europe/UK	MED / UKCM - Pending
USA	USCG & FCC - Pending
International standards	IEC 61097-2 ED4 IEC 60945 incl. Corrigendum1 (Portable) IEC 61108-1 (GNSS variant) RTCM 11000.5 ITU-R M.1371-5 Industry Canada RSS-287 AS/NZS 4280.1
IMO regulations	MSC.471(101); A.662(16); A.694(17); A.814(19)

PART NUMBERS

SAFEPRO+ AIS EPIRB - Manual	23-002-011A
SAFEPRO+ AIS EPIRB - Auto	23-002-511A
SAFEPRO+ RLS EPIRB - Manual	23-002-010A
SAFEPRO+ RLS EPIRB - Auto	23-002-510A

NOTE 1: RLS is available on the SAFEPRO+ RLS model only.

NOTE 2: As a responsible manufacturer, Kannad Marine recommends a 5-year health check at the nearest Kannad Marine 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 SAFEPRO+ 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.