

# SMRT SHIELD+

The sMRT SHIELD+ is an advanced Personal Locator Beacon (PLB) that seamlessly integrates 406 MHz, AIS, and VHF DSC technologies into a compact and rugged unit. It features visual notifications through a DSC receiver and Return Link Technology (RLS) technology ensuring users are promptly informed when their distress signal is received.

By combining the global Search and Rescue Network via 406 MHz with the local alerting and tracking capabilities of VHF DSC and AIS, the sMRT SHIELD+ is a comprehensive global alerting and locating solution.



**406 MHz**  
Transmits distress signal on the 406 MHz global satellite rescue system



**AIS**  
The live location of the man overboard is regularly updated and displayed via AIS



**VHF DSC**  
All nearby vessels are automatically alerted of the man overboard situation via DSC



**RLS**  
Return Link Service notifies the user that the distress signal has been received



**Dual GNSS**  
Combines both GPS & Galileo GNSS receivers for accelerated detection



**Class-M**  
Compliant to European regulation ECC/DEC/(22)02 relevant to the usage of MOB devices



**Mobile App**  
Mobile phone compatibility via NFC (Near Field Communication) and sMRT App



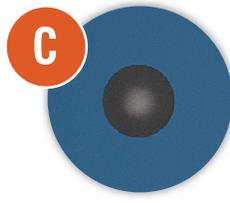
## PRODUCT FEATURES



**RETURN LINK SERVICE (RLS)**  
Indicator lights showing the signal has been received



**NFC COMPATIBILITY**  
NFC area to connect device with the sMRT APP



**STROBE LIGHT**  
High powered strobe light to aid visual identification



**TEST BUTTON**  
Activate a full device test & verify GPS acquisition is functioning



**POWER BUTTON**  
Manual activation button to activate the device.

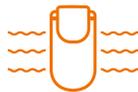


**GNSS ZONE**  
Equipped with Dual GNSS for accurate location



### Audible Alarm

Highlight activation to both aid location and raise awareness of false activation



### Belt Pouch

Neoprene belt pouch provides drop protection and flotation capability to help protect the device



### 5 Year Battery Life

Ample power for both frequencies with the confidence of UK manufacturer's warranty



### Test Functionality

Manual and app based device safety, providing a health check on power and functionality



### Visual Indicators

Built in DSC receiver allows for visual notification that DSC distress signal has been acknowledged



### Environmentally Conscious

Packaged in 100% recyclable materials & batteries must be changed at an approved service centre to insure recycling



### Clipping System

Rugged clipping system allows simple attachment options for life jackets



### Dual GNSS Receivers

Dual GPS and Galileo GNSS receivers for accelerated location detection



### Water Proof

The device is designed to withstand submersion up to 10 meters, ensuring its protection against water damage

## PRODUCT OVERVIEW

Designed to the highest standards, the sMRT SHIELD+ is one of the world's most advanced PLBs. Combining leading maritime distress signalling technology, including 406 MHz, AIS, and VHF DSC, into a single, compact, and robust device it provides a comprehensive and reliable distress alerting and locating solution.

The sMRT SHIELD+ harnesses the power of advanced MEOSAR technology, enabling it to effectively operate on the specialised 406 MHz frequency. This capability allows it to quickly and accurately transmit a person's distress location via the global COSPAS-SARSAT search and rescue satellite network.

In addition to its global search network capabilities, the sMRT SHIELD+ leverages local alerting and locating technologies, including VHF DSC and AIS. When activated, the sMRT SHIELD+ will promptly alert all nearby vessels of the MOB situation via DSC. The user's real-time location will also be displayed on chart plotters and updated every 60 seconds via AIS.

With both Return Link Service (RLS) and DSC acknowledgment technology, users will receive visual confirmation through designated lights, indicating the transmission and acknowledgment of their distress signal.

## GENERAL

BATTERY TYPE	12V Lithium Battery
BATTERY LIFE	Minimum of 24 hours at -20°C
BATTERY SHELF LIFE AT +20°C	5 years
OPERATING TEMPERATURE	-20° to +55°C (-4° to +131°F) as per IEC 60945
STORAGE TEMPERATURE	-30° to +70°C (-22° to +158°F) as per IEC 60945
ENVIRONMENTAL	IEC 60945, IP68 resistance
DIMENSIONS	111mm H x 60mm W x 38mm D
WEIGHT	185g
STROBE LIGHT	30 candela, 170 degree dispersion, flash at 12 /minute
SELF ID	ITU-R M.585 compliant factory programmed freeform Maritime Identity with 972 prefix
COMPASS SAFE DISTANCE	0.5m (1.5ft)
MOUNTING OPTIONS	Designed to integrate with a SOLAS approved life jacket
ALERTING RADIUS	Up to 5NM (depending on height of antenna)*, global via 406 MHz

## AIS/VHF TRANSMITTER PACKAGES

ANTENNA TYPE	Vertically polarised
AIS TX POWER OUTPUT	Nominal 1W EIRP
121.5 MHZ POWER OUTPUT	25-100mW PEP
VHF TRANSMISSION FREQUENCIES	VHF DSC Channel 70: 156.525 MHz, 121.5 MHz, 406.040 MHz ±1 KHz AIS Channel 1: 161.975 MHz, AIS Channel 2: 162.025 MHz
406 MHZ POWER OUTPUT	5W typical
SIGNALLING TYPE	AIS, VHF DSC, 406 MHz and 121.5 MHz

## GNSS RECEIVER

GNSS RECEIVER TYPE	GPS plus Galileo
TTF (TIME TO FIRST FIX)	15 seconds (typical) with nominal GPS signal levels -130dBm
SUBSEQUENT GPS FIXES	Minimum of 6 per minute

## VHF DSC AND AIS ALERTS

AIS	Within 30 seconds of GNSS position acquisition
INITIAL OPEN LOOP DSC ALERT	Within 30 seconds after activation
SUBSEQUENT OPEN LOOP DSC ALERTS	Every 5 minutes for the first 30 minutes, every 10 minutes thereafter until VHF DSC acknowledgement or the battery expires.
FIRST DSC GPS DATA ALERT SENT	Immediately after GNSS position acquired

## CONTROLS AND OPERATION

MANUAL ACTIVATION	2 step activation
-------------------	-------------------

## APPROVALS

SATELLITE APPROVALS	COSPAS-SARSAT, T.007 2024**
EUROPEAN APPROVALS	ETSI EN 302 152-1 V1.1.1, EN 303 132 V2.1.1, EN 60945:2002, EN 62368-1:2020 EN 301 843-8 (draft), EN 62209-1, EN 62209-2 EN 303 413 V1.2.1, EN 300 330 V2.1.1
US APPROVALS	RTCM STANDARD 11010.4, IEC 63269:2022, FCC CFR 47 Part 15B:2019, 47CFR 2.1093, FCC 47 CFR Part 2:2020**
CANADIAN APPROVALS	ICES-003 Issue 7:2020, RSS-102, RSS-287 Issue 2:2014 & RSS-GEN Issue 5:2018 Amd 2:2021**

\*Expected range derived from sea trials. Actual alerting range dependent on sea state, atmospheric conditions and height/altitude of receiving antenna.

\*\*Approval pending