

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.



VHF DSC

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



AIS

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



406 MHz

Transmits distress signal on the 406 MHz global satellite rescue system



RLS

Return Link Technology 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



GLOBAL & LOCAL ALERTING

The sMRT SHIELD+ seamlessly integrates both global and local alerting systems, utilizing 406 MHz technology for global search and rescue, as well as VHF DSC and AIS for alerting and precise locating, enabling real-time pinpointing of a person's location.

LOCALISED SUPPORT

When activated, the sMRT SHIELD+'s DSC distress signal will send within 10 seconds of activation to alert of an MOB situation, notifying all vessels in the area. While using AIS to pinpoint the MOB location in real time. To help prevent false activations, the distress signal is delayed, to allow for the user to cancel the transmission.

GLOBAL NETWORK

The sMRT SHIELD+ also features powerful 406 MHz technology, utilising the dedicated Search and Rescue (SAR) frequency monitored by 72 satellites in the global COSPAS-SARSAT network. This network was recently upgraded through the MEOSAR program to enhance the speed and accuracy of detection from SAR ground stations. This combination of local and global technology ensures a comprehensive global alerting and locating solution.

MOBILE APP COMPATIBLE

The sMRT SHIELD+ is compatible with the sMRT Beacon Management Mobile Application, allowing it to connect with any smart phone. Using Near Field Communications (NFC) technology, users can quickly tap their device to add it to their mobile phone, simplifying device management. Through the app, users will be able to perform a variety of functions, all aimed at ensuring that their device is ready for use.

These features include;

- ✓ Performing signal and fault checks
- ✓ Viewing test history logs
- ✓ Checking the current battery status
- ✓ Sending travel itineraries to others
- ✓ Registering products, and much more

The sMRT beacon management app is compatible with selected sMRT devices.

USER CONFIDENCE

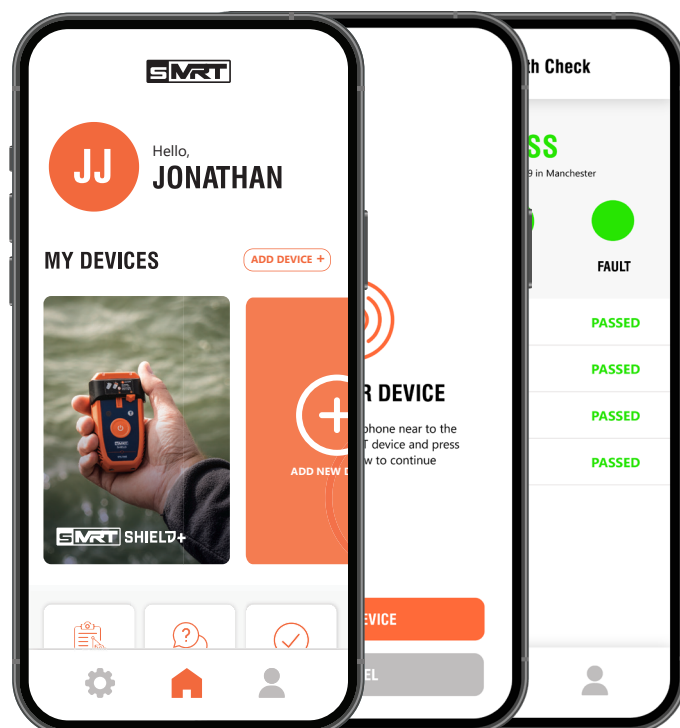
The sMRT SHIELD+ provides both audio and visual indicators upon activation and acknowledgment of the DSC signal. When your DSC distress call is received, a confirmation signal is sent to the device, deactivating the DSC alarm for all other vessels while continuing to broadcast the multi-GNSS location signal via AIS. Additionally, our dual GNSS receivers include the European Galileo system and its exclusive Return Link Service (RLS) technology, which sends a reassurance signal to the PLB to confirm receipt of the 406 distress signal.

FUTURE PROOF

The sMRT SHIELD+ is designed to meet the Class M 2024 ECC wide AMRD (autonomous maritime radio devices) regulation ECC Decision (22)02, which will restrict AIS only MOB devices use of core AIS Channels. By including an internal DSC receiver, the sMRT SHIELD+ is allowed to continue to use AIS channels 1 & 2 and offers the reassurance of signals back to the device on confirmation of DSC acknowledgement.

READY TO GO

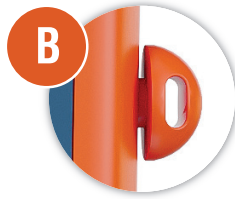
Designed for simplicity, the sMRT SHIELD+ is ready for use straight out the box. Its straightforward two-step or life jacket activation makes it exceptionally user-friendly.



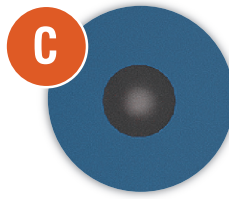
PRODUCT FEATURES



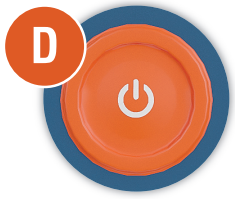
RETURN LINK SERVICE
Indicator lights showing the signal has been received



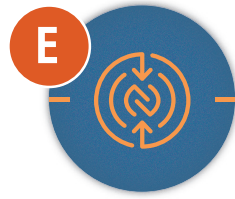
ACTIVATION TAB
When integrated within the life jacket, it will activate on inflation



STROBE LIGHT
High powered strobe light to aid visual identification



POWER BUTTON
Manual activation button to activate the device.



NFC COMPATIBILITY
NFC area to connect device with the sMRT APP



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 easy 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.

WHAT IS A Class-M MAN OVERBOARD DEVICE?

To protect AIS from overloads caused by irrelevant off-ship devices, a new regulation, ECC/DEC/(22)02, has been approved and is scheduled to be implemented from December 2024. Under this regulation, in countries that adopt the Class-M standard, AMRDs (autonomous maritime radio devices, such as AIS MOBs), will no longer be permitted to use AIS channels 1 and 2. Instead, they will be required to switch to channel 2006, which is not designated as an emergency channel.

Where ECC/DEC/(22)02 is adopted, non-compliant MOBs will be illegal to use/license.



INTRODUCING sMRT

sMRT products are proudly manufactured in the UK, benefiting from 45 years of expertise in the development of electronic distress signals. The sMRT brand is a part of the Wescom Group, a specialist in survival solutions.



GENERAL

Battery type	9.0V 1650mAh Lithium Manganese Dioxide (LiMnO ₂)
Battery life	Min of 24 hours at -20°C
Battery shelf life	5 years at +20°C
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
Dimensions	111mm H x 60mm W x 38mm D
Weight	250g
Environmental	IEC Standard 60945, IP68 resistance
Strobe light	20 candela, 170 degree dispersion
Mounting options	Designed to integrate with a SOLAS approved life jacket
Self ID	ITU-R M.585 Compliant factory programmed freeform Maritime Identity with 972 prefix
Compass safe distance	0.5m (1.5ft)
Alerting radius	Up to 5NM (depending on height of antenna)*, global via 406 MHz

APPROVALS

European	CE approved**
US	EN 303 098 V1.2.1 & draft EN 303 132, FCC 2ABF7SMRTV100, RTCM STANDARD 11901.1, COSPAS-SARSAT, T.001/T.007 class2, RTCM SC110 STD**

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	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, 406 MHz and 121.5 MHz

CONTROLS AND OPERATION

Automatic activation	On PFD inflation
Manual activation	3 stage activation

GPS RECEIVER

GNSS receiver type	66 Channel
TTFF (time to first fix)	30 seconds (typical) with nominal GPS signal levels -130dBm
Subsequent GPS fixes	Minimum of 6 per minute

AIS ALERTS

AIS	Within 30s of GPS position acquisition
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*Expected range derived from sea trials. Actual alerting range dependent on sea state, atmospheric conditions and height/altitude of receiving antenna.

**Approval is pending

PLEASE NOTE THAT THE sMRT SHIELD+ IS NOT SUITABLE FOR LAND BASED APPLICATIONS