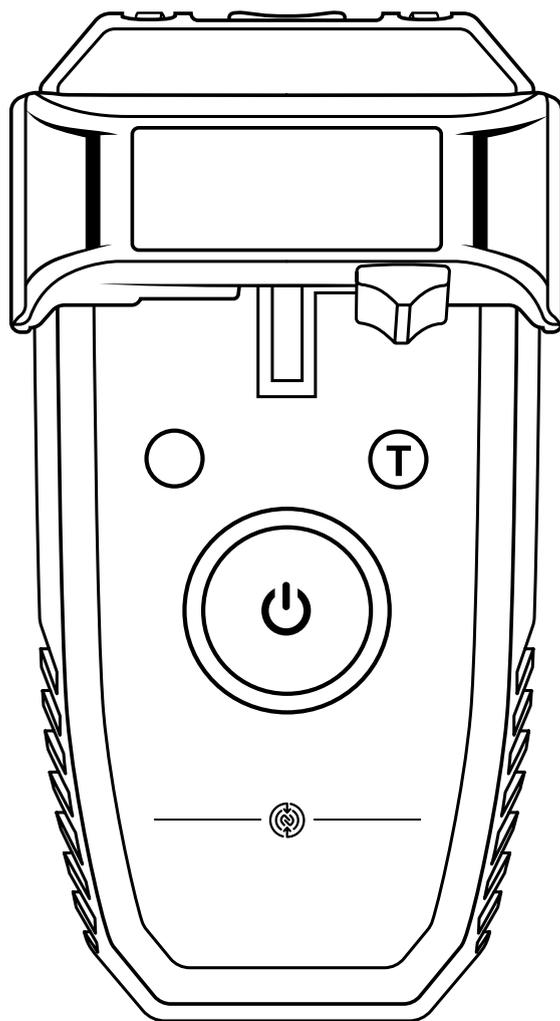


SMRT SHIELD+

TECHNICAL DATA SHEET



IDENTIFICATION

PRODUCT NAME	sMRT Shield+
MANUFACTURERS NAME	Marine Rescue Technologies Ltd
ADDRESS	Wescom Group, Unit J1, Anlaby Trade Park, Springfield Way, Anlaby, Hull, HU10 6RJ, United Kingdom
TELEPHONE NUMBER	+44 (0)1482 679300
FAX NUMBER	+44 (0)1482 679145
EMAIL ADDRESS	smrt@wescom-group.com
DATE OF ISSUE	October 2024
ISSUE NUMBER	2
DESCRIPTION	The sMRT SHIELD+ is a 406 MHz Personal Locator Beacon (PLB) equipped with AIS and DSC. Once activated, it sends distress signals via the global 406 MHz Search and Rescue satellite system, while simultaneously broadcasting its location through DSC and providing real-time updates via AIS.



BATTERY SHIPPING INFORMATION: UN3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT IN COMPLIANCE WITH IATA PI: 970 SECTION II.

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
DIMENSIONS	111mm (H), 60mm (W), 38mm - excluding antenna (D)
WEIGHT	185g
ENVIRONMENTAL	IEC 60945, IP68 resistance
STROBE LIGHT	20 candela, 170 degree dispersion
ENVIRONMENTAL RESISTANCE	IP68
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
AIS/VHF TRANSMITTER PACKAGES	
ANTENNA TYPE	Vertically polarised
AIS Tx POWER OUTPUT	Nominal 1W EIRP
121.5MHz 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
406MHz POWER OUTPUT	5W Typical
SIGNALLING TYPE	AIS, VHF DSC, 406 MHz and 121.5 MHz
CONTROLS AND OPERATION	
MANUAL ACTIVATION	2 step activation
GNSS RECEIVER	
GNSS RECEIVER TYPE	GPS plus Galileo
TTFF (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 GPS 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
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

