

1 Introduction

1.1 AIS SART Brief

AIS SART is the latest SART (**S**earch **A**nd **R**escue **T**ransponder/Transmitter), designed for survivor location during search and rescue operations. From 1st of January 2010, AIS SART has been adopted into the GMDSS (Global Maritime Distress Safety System, Figure 1-1) regulations as an alternative to the traditional SART equipment, RADAR SART.

AIS SART provides more identification, such as position rather than RADAR SART during search and rescue operation period. The transmitting frequency has been set as 161.975MHz & 162.025MHz in marine VHF channel. AIS SART combines two antennas, GPS and VHF, which allows transmitting its latitude and longitude, message 1 and message 14 to AIS station.

The model name of AIS SART is PLOMO-500 and AS-500 is another trade name. PLOMO-500 and AS-500 use same PCBs and housing.

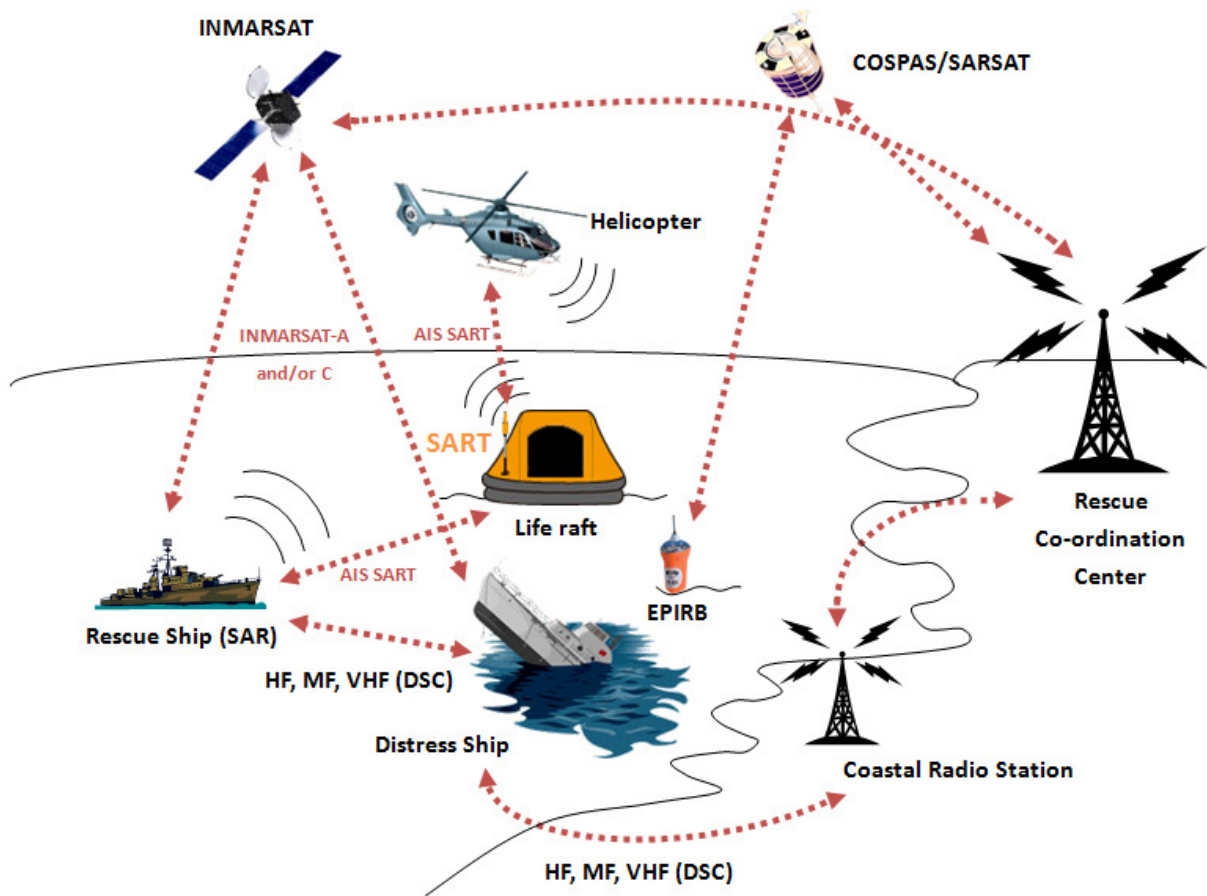


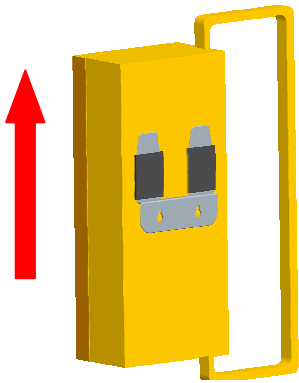
Figure 1-1 SART in Global Maritime Distress Safety System (GMDSS)

1.2 Operation

1.2.1 Deployment Process

Step 1:

Lift Carry Bag out of bracket on the wall.



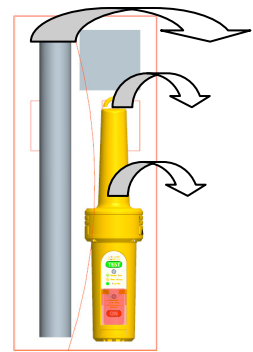
Step 2:

Bring Carry Bag and jump into a Life Boat.



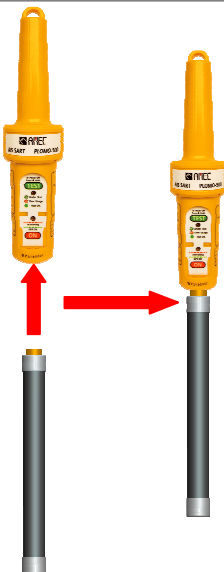
Step 3:

Open Carry Bag and take AIS SART, Extension Pole and buoyant lanyard out



Step 4:

Connect and rotate extension pole into PLOMO-500.



Step 5:

Remove the bottom cover and extend pole up to 1 Meter



Figure 1-2-1 Deployment process

1.2.2 Activating Process

The PLOMO-500 unit can be activated by following steps:

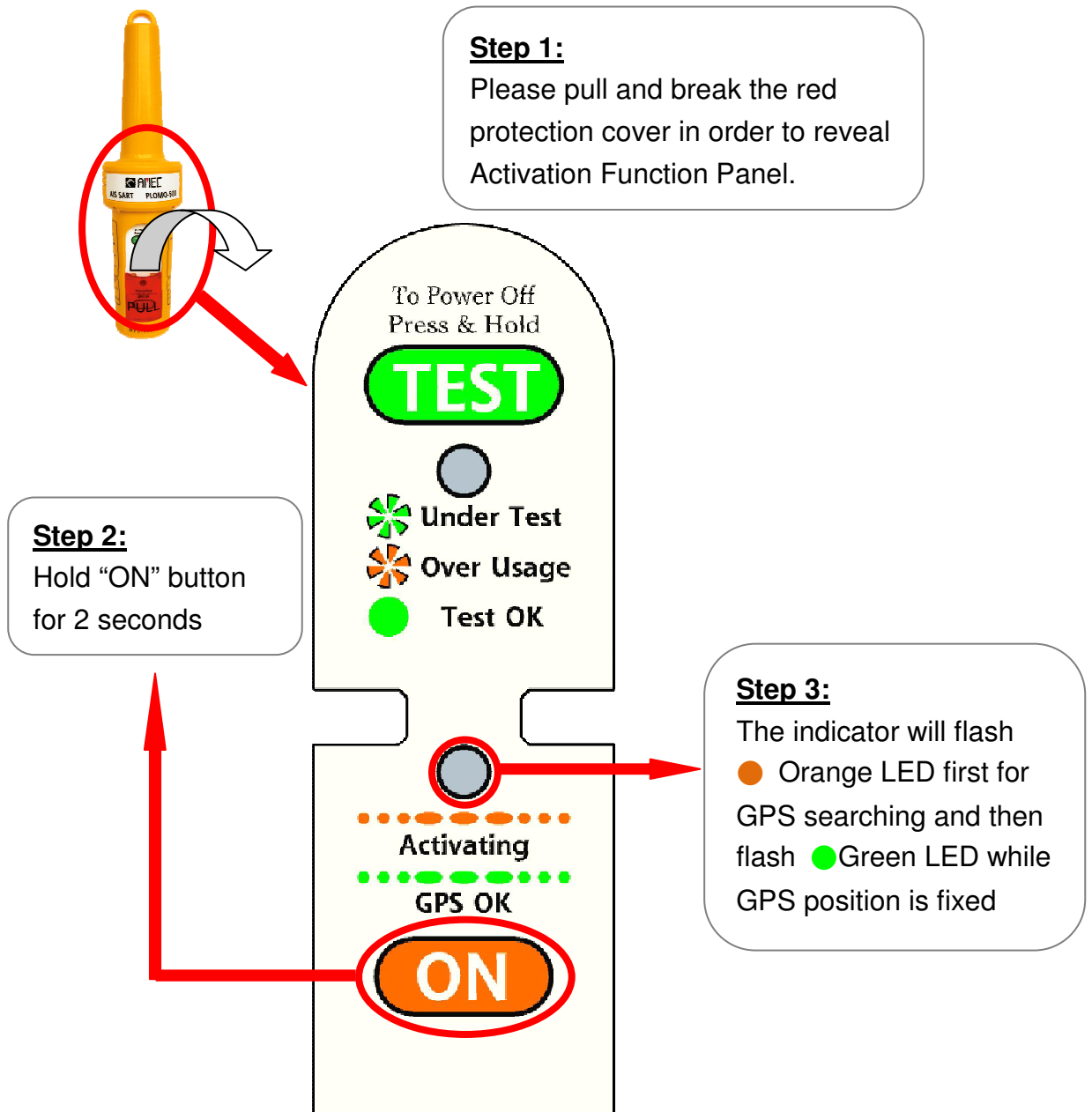


Figure 1-2-2 Activating process

NOTE1: The GPS receiver in PLOMO-500 will be activated (cold start) while pressing the ON button.

NOTE2: The LED flashing is compiled by Mores-code "SOS" every 30 seconds. PLOMO-500 will transmit SRM with the latest GPS fixed position every 1 minute. The Green or Orange LED of indicator depends on whether GPS position is fixed.

NOTE3: The protection cover cannot be re-installed once pulled out and broken.

1.2.3 Mounting Process

Installation Method 1

Step 1:

Release buoyant lanyard and tight at hook of PLOMO-500.



Step 2:

Fix and position PLOMO-500 at the top of Life Boat.

Installation Method 2

Step 1:

Connect and rotate extension pole to PLOMO-500 and extend pole up to 1 meter.



Step 2:

Find the doorway entrance and locate the pole in vertical position at Life Boat.

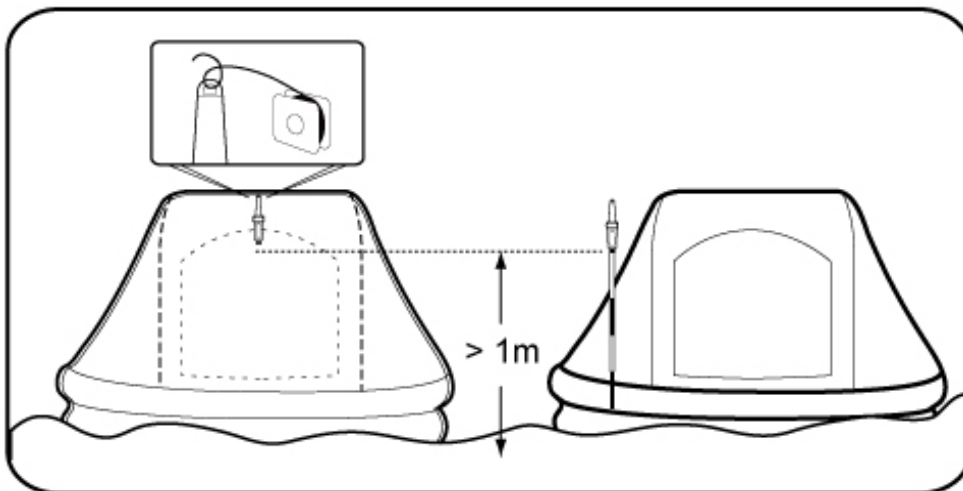


Figure 1-2-3 Mounting process

NOTE: In both installation methods, the PLOMO-500 unit should be kept at least 1 meter above sea level. Generally, method 2 is more effective for transmitting AIS signals.

1.2.4 De-activating Process

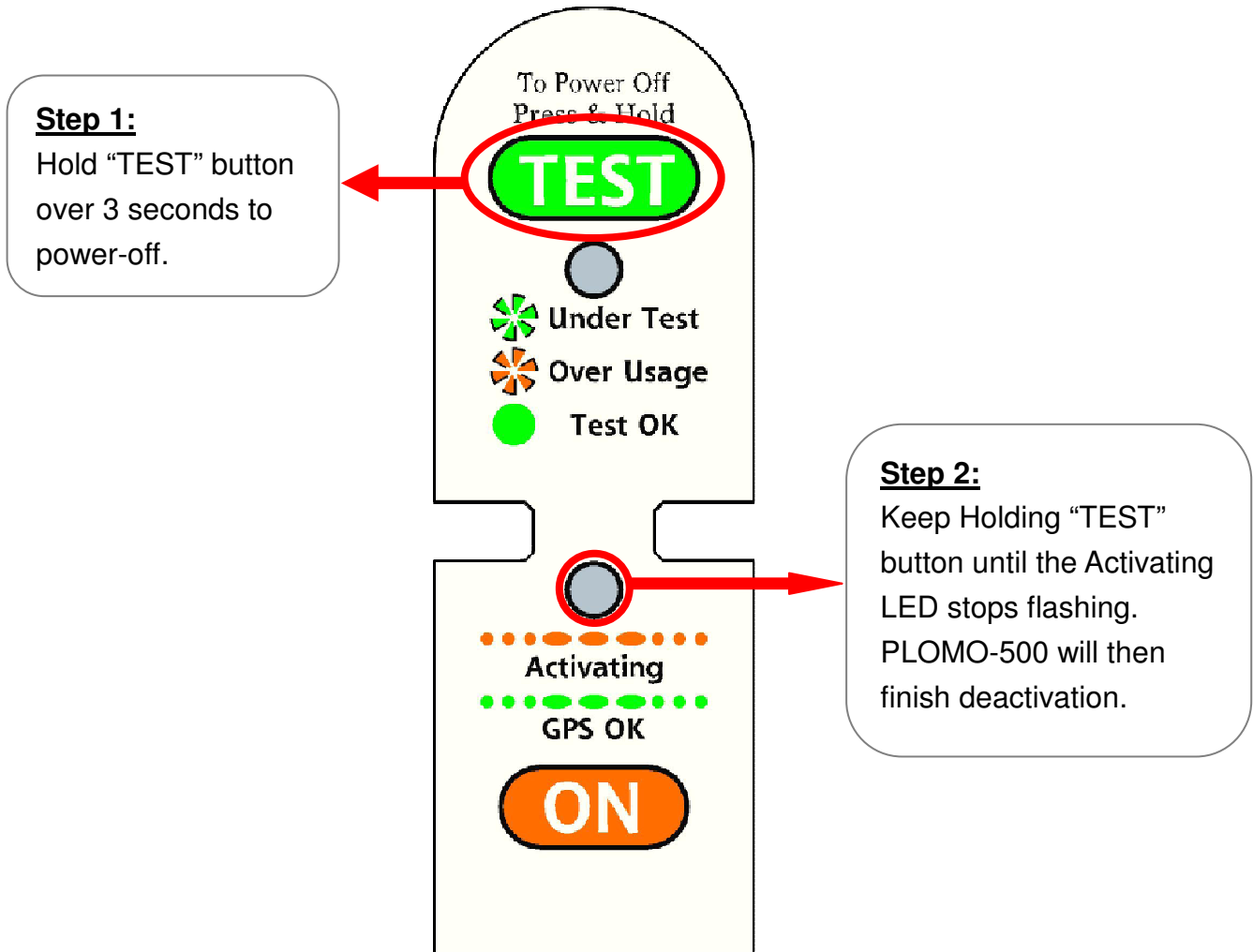


Figure 1-2-4 De-active process

NOTE: After de-activating, all indicators will be off-lighting status.

If the LED is still flashing, try to press "TEST" button longer than 3 seconds to de-activate the unit again.

1.2.5 Self-Test

1.2.5.1 Before Testing:

PLOMO-500 must be carried in an open area with a clear view of the sky.

1.2.5.2 Start Testing

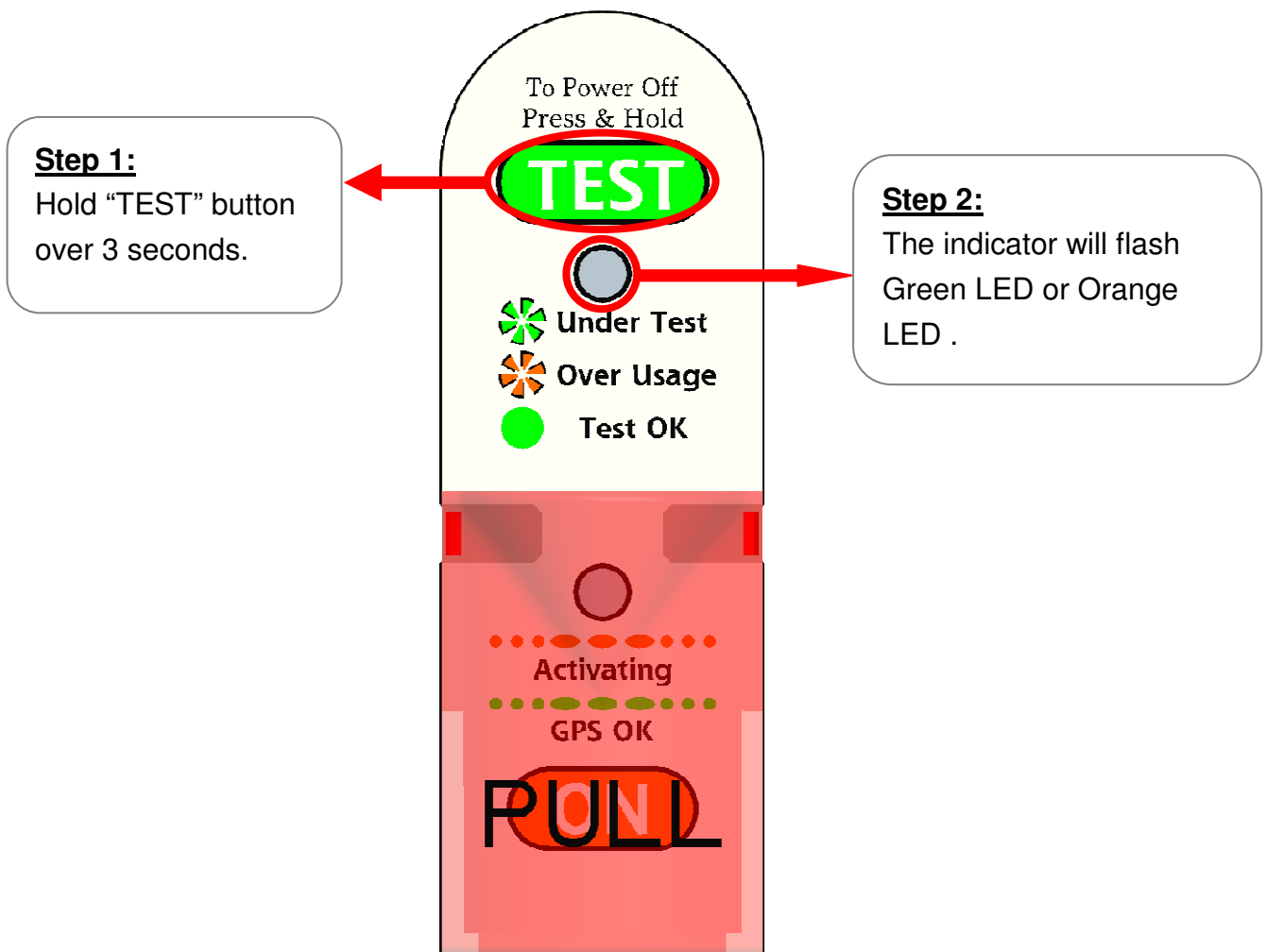


Figure 1-2-5 Start testing

NOTE 1: Normally the green flashing will happen in 2 mins right after the GPS position is fixed. If it happens at the 5th minute, the SART message will be transmitted automatically, and GPS position might not be fixed. Please move PLOMO-500 to other place which has a clear view of the sky.

NOTE 2: Orange flashing means the PLOMO-500 has been activated or tested over 100 times.

1.3 Description of TEST LED

Green color flashes: PLOMO-500 is under testing without over usage warning

Orange color flashes: PLOMO-500 is in under testing with over usage warning

One long Green color flash: PLOMO-500 complete transmission and light-off after long green color flash automatically.

NOTE 1: “Over usage” is caused by the following three situations: battery is out of expiry date, unit has been tested over 100 times, and unit has been activated before.

NOTE 2: If the green or orange color is flashing over 3 minutes, GPS position may not be fixed. It is highly recommended to move PLOMO-500 to other place which has a clear view of the sky.

1.4 GPS Area

Please do not hold or cover GPS Area while active or test. It will cause the GPS 3D position fixed fault.



Figure 1-4 GPS Area