



# USER MANUAL

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**Model: SA15 AIS FLARE**

**Maritime distress beacon**

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**Subject to technical changes and printing errors.**

**All figures are sample images.**

## 1 Legal Notice

### 1.1 Where to use your SEAANGEL SA15 AIS FLARE

This equipment will work all around the world  
but it may only be purchased and registered in the following countries:

AT	BA	BG	BE	CH*	CY	CZ	DE	DK	EE	ES
FI	FR	GB	GE	GR	HR	HU	IE	IS	IT	LI*
LT	LU	LV	MT	NL	NO	PL	PT	RO	RS	SE
SI	SK	US								

\* must not be activated within the national borders of CH and LI due to national radio license plans.

### 1.2 National requirements



This equipment may be subject to national registration and/or licensing requirements. In some countries even a fee may be levied.

**Please verify with your national radio authorities!**



The use of this equipment requires a license in the following countries:

AT, BA, ES, HR, HU, IE, LU, LV, SI - **This list may not be complete!**  
**Check with your local authorities!**

### 1.3 Standards and Norms

This product meets the following requirements:

#### Marine Equipment Directive (MED) 96/98/EC + Directive 2015/559

- IMO Resolution MSC.246(83)
- IMO Resolution MSC.256(84)
- ITU-R M.1371-5 (2014)
- IEC 60945 (2002) including IEC 60945 Corrigendum 1 (2008)
- IEC 61097-14 (2010)

#### Directive 99/5/EC (R&TTE)

- ETSI EN 303 098-1 V1.2.1 (2014-09)
- ETSI EN 303 098-2 V1.2.1 (2014-11)
- IMO Resolution A.694(17)
- EN 60950:2006 + A11:2009 + A1:2010 + A12:2011 + AC:2011 + A2:2013
- EN 60950:2005 + A1:2009 + A2:2013, IT equipment safety
- IEC 62479:2010, modified

## 2 Knowing your SEAANGEL

Your new SEAANGEL SA15 AIS FLARE is an advanced AIS search and rescue transmitter (SART/MOB). When activated, the SA15 AIS FLARE will transmit standardized messages containing its exact GPS position and a request for help to any nearby ship or plane hosting an AIS receiving unit within its transmission range. This makes it easy to find a person in distress, and thus significantly increases the chances of survival.



Figure 1: Description of individual components

- |   |                               |   |                                                     |
|---|-------------------------------|---|-----------------------------------------------------|
| 1 | Antenna                       | 5 | Belt clip                                           |
| 2 | Flash LED (white)             | 6 | ON button to activate                               |
| 3 | Protective bracket            | 7 | Ripcord                                             |
| 4 | Red LED indicating activation | 8 | TEST button & LED                                   |
| 9 |                               | 9 | Antenna Extension<br>(increases transmission range) |

### 3 Handling the SEAANGEL

#### 3.1 Activating your SEAANGEL



Figure 2: Activating the emergency alarm using the ripcord

1. Remove the protective bracket **1**.
2. Pull the ripcord to remove the magnet switch from its position **2**  
**OR** Press the ON button **3**.
3. The SEAANGEL will remain activated until explicitly deactivated.



**Make sure you do not lose the ripcord.**

You need it to deactivate the device.

Keep the ripcord magnet away from sensitive components such as compasses and cards with magnetic strips like credit cards.



**For proper working please make sure that the antenna is above the water surface!**

#### 3.2 Understanding the LEDs

For results of self-test, refer to **Table 2**, page 8.

**Table 1:** Status LEDs

Which LED	Signal	Meaning
Flash LED	□ □ □ □	Device activated
Red LED	■ ■ ■ ■	GPS position determined GPS position (yet) unknown
Yellow LED		Only active during selftest

Info: A long bar symbolizes continuous glowing, a broken bar a flashing signal.

### 3.3 Deactivating your SEAANGEL



Figure 3: Deactivating the SEAANGEL

1. Make sure the ripcord is in place.
2. Hold the *Test* button down for more than 3 seconds until both LEDs (red and yellow) light up.
3. Release the *Test* button.
4. All status LEDs will go dark.

### 3.4 Battery life

This unit uses industrial lithium cells (lithium manganese dioxide) which have a very low self-discharge. This guarantees a long life up to 96 hours (depends on FLARE version) of active emergency operation, provided the device's batteries are replaced after activation or after 7 years – whichever comes first.

You will find the battery expiration date on the back of your SEAANGEL:



Figure 4: Battery expiration date

## 4 Testing your SEAANGEL



**THE SELF-TEST CANNOT CHECK ALL COMPONENTS.  
THEREFORE NO GUARANTEE OF THE DEVICE'S  
FUNCTIONALITY CAN BE PROVIDED.**

These components will be checked: battery, GNSS receiver, VHF transmitter



**Execute the self-test every year but only once a year.**

Ideally, you should run the self-test in good weather with a clear view to the sky, so that a GPS position can definitely be determined.

### 4.1 Activating the self test



Figure 5: Activating the test operation

1. Press the *Test* button **1**.
2. The Flash LED **2** will flash once only to indicate the start of the test.
3. The yellow Status LED **3** will flash during the self-test.
4. **Keep your eyes on the LEDs.**
  - The results will only be displayed for 5 seconds after the test.
  - Refer to Table 2 to read the results.
5. The device will automatically shut down.

## 4.2 Interpreting the self-test result

**Table 2** lists the possible results which can be issued via the red and yellow Status LEDs respectively at the end of the self-test. If the test is not successful, please contact the FT-TEC Electronics GmbH service center and arrange a suitable maintenance date.



**The test result will be displayed for 5 seconds only**, immediately after the self-test.

The duration of the self-test depends primarily on the time needed to determine the current GPS position. This can vary and may take as long as 15 minutes. Pay close attention to the device when performing the self-test in order not to miss the status being issued.

**Table 2:** Status LEDs as part of the self-test

Status LEDs		Test results	Meaning
Yellow LED	RED LED		
	-		Self-test in progress. Keep watching.
		OK	Successful test GPS position was determined
		OK	Successful test No GPS position determined*
		WARNING	Battery almost empty GPS position was determined
		WARNING	Battery almost empty No GPS position determined*
Do not light up	ERROR		No battery life available or device is broken

Info: A long bar symbolizes continuous glowing for approximately 5 seconds, a broken bar a flashing signal.

\* If the self-test was performed with clear view to the sky and in absence of interfering frequencies impeding the reception of the GPS signal, please, contact the FT-TEC support team.

## 4.3 How long does a self-test take?

The device attempts to determine a GPS position for up to 15 minutes. Once the position has been determined, test messages are transmitted by VHF containing the calculated position and the text "SART TEST". A test may take between 2 and 15 minutes.

## 5 Technical specifications

Product name:	SEAANGEL
Model:	SA15-FLARE
Size (L x W x H):	62 mm x 41 mm x 29 mm
Weight:	90 g
Power supply:	3 V LiMnO <sub>2</sub> Industry cells, CR17450
Transmission antenna:	Vertically polarized
Integrated GNSS receiver:	72 channels GPS, QZSS, GLONASS and BeiDou (simultaneous reception possible) Navigation sensitivity: -167 dBm integrated antenna Position information updated once a minute
Self-test:	Required once a year
Maintenance interval:	After emergency activation or after 7 years (at the latest)
Protection class:	Standard devices: IPx7 (= 10m) Version: FLARE DIVE: Water proof up to 100m
Storage temperature:	-30 °C to +70 °C
Operation temperature:	-20 °C to +55 °C
Status LEDs:	Color: red, yellow
Flash LED:	Color: white
Casing:	Material: PC-ABS
Color:	Yellow and transparent (casing shell) Red (protective bracket)

### 5.1.1 Technical specifications of AIS device

Transmission frequency:	AIS channel 1 (161.975 MHz) AIS channel 2 (162,025 MHz) Channel frequency alternating
Transmission power:	approx. 1 W
Transmission range:	More than 5 NM
Supported AIS messages:	Message 1 (position report) Message 14 (safety related broadcast message)
Message interval:	Burst (8 messages a minute)
Minimum Transmission time:	72 hours (Version SART: 96 hours) after emergency activation, in extreme conditions
Battery life:	More than 7 years

## 6 Maintenance and Support

The SEAANGEL SA15 AIS FLARE does not feature any components which need to be maintained by the customer himself. For any maintenance work, simply send your device to:

**FT-TEC Electronics GmbH**  
Werner von Siemens Str. 5  
A-7343 Neutal  
AUSTRIA

**Phone:** +43 2618 20455-0  
**Fax:** +43 2618 20455-9010  
**E-mail:** [office@ft-tec.com](mailto:office@ft-tec.com)  
**Website:** [www.ft-tec.com](http://www.ft-tec.com)



**YOUR DEVICE MAY NOT WORK IF IT IS NOT MAINTAINED PROPERLY. IN AN EMERGENCY SITUATION, THIS COULD HAVE AN IMPACT ON YOUR HEALTH.**

To report any problems encountered with the SEAANGEL go to <http://seaangel.at/support.2889.html>, scroll to the bottom of the page and click “+contact seaangel”.

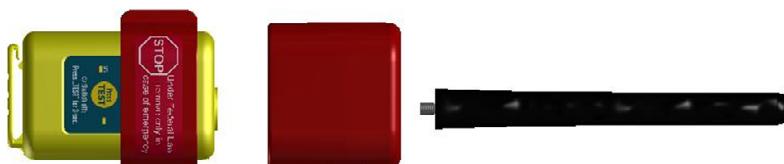
## 7 Registration

You can register your SEAANGEL at <http://register.seaangel.at> if you wish to provide essential information about you for rescue teams such as medical restrictions.

### Advantages of registered users:

- You will be reminded in time via email that your batteries are going to expire.
- You will be reminded to keep your contact data up to date once a year.
- Rescue teams will have a chance to know about you what they have to know, even when you are unconscious.

## 8 Adding the Floating Aid (SART only)



**Figure 6: Adding the floating device**

## 9 The Telescope Pole (SART only)

The telescope pole enables you to keep your SEAANGEL at least 1m above sea-level.



Figure 7: Mounting the SA15 to the prolongation pole

## 10 Example: Mounting the SEAANGEL on a Life Raft

There are so many different life raft models, some of them already offering clipping belts, fastening strips or even pockets for SART beacons. If none of that applies to your life raft you can still mount the SEAANGEL using adhesive tapes to fasten down the clip on the SEAANGEL as shown in the figure below.



Figure 8: Mounting the SEAANGEL on a life raft

Further examples of how to mount the emergency beacon on various lifesaving equipment, you can find under [http://www.seaangel.at/mounting\\_systems.2901.html](http://www.seaangel.at/mounting_systems.2901.html)

## 11 Declaration of conformity

**CE 0700 !**



IMO / SOLAS

- |    |                                                                                                                                                                                    |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GB | FT-TEC Electronics GmbH hereby declares that the SA15 complies with the essential requirements and other relevant provisions of Directive 1999/5/EC.                               |
| DE | FT-TEC Electronics GmbH erklärt, dass der SA15 die grundlegenden und andere relevante Bestimmungen der Direktive 1999/5/EG erfüllt.                                                |
| NL | Hierbij verklaart FT-TEC Electronics GmbH dat de SA15 is in overeenstemming met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.                     |
| FR | Par la présente FT-TEC Electronics GmbH déclare que l'appareil SA15 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.      |
| ES | FT-TEC Electronics GmbH declara que el SA15 cumple con los requisitos esenciales y cualquier otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.                 |
| IT | FT-TEC Electronics GmbH dichiara che questo SA15 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE                      |
| PT | FT-TEC Electronics GmbH declara que este SA15 está conforme com os requisitos essenciais e outras disposicoes de Directiva 1999/5/CE.                                              |
| SE | Härmed intygar FT-TEC Electronics GmbH att denna SA15 star i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG. |
| DK | Undertegnede FT-TEC Electronics GmbH erklaerer herved, at udstyr SA15 overholder de vaesentlige krav og ovrigre relevante krav i direktiv 1999/5/EF.                               |
| SF | FT-TEC Electronics GmbH vakuuttaa täten etta SA15 typpinen laite on direktiivin 1999/5/EY olelisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.             |