

# GSM based boat alarm system

SBA-1

## Introduction

The SBA-1 is a early-warning system for boats. The device sends an GSM alarm-message (SMS) to a mobile phone if the mooring rope of a boat accidentally releases itself from the buoy. This enables the owner of the boat to replace the rope before the boat drifts away from it's position at the landing stage.

The unit has an integrated battery with up to 6 years of autonomy and therefore does not discharge the main battery of the boat. Also the installation is quite easy since no electrical wiring is needed. The SBA-1 electronic is covered by a robust aluminium housing and complies to the IP-65 standard.

The unit controls the condition of the mooring rope. The alarm is triggered when the tension applied from the mooring rope exceeds a certain level.

## Operation:

The SBA-1 is mounted on the boat and with an auxiliary mooring rope tied to the buoy. The unit is equipped with a rotary switch that will be activated when the tension on the mooring rope exceeds a certain level. This "alarm level" is controlled by a spring which is placed in the auxiliary mooring rope in parallel to the SBA-1 unit. To adapt the unit to the specific needs of a boat different spring versions are available (depending on the weight of the boat).

When the tension on the auxiliary mooring rope reaches a critical level (when the main mooring rope is torn apart) an SMS will be sent to the mobile phone of the boat owner. The auxiliary mooring rope temporary keeps the connection between the boat and the buoy upright even when the main mooring rope is broken.

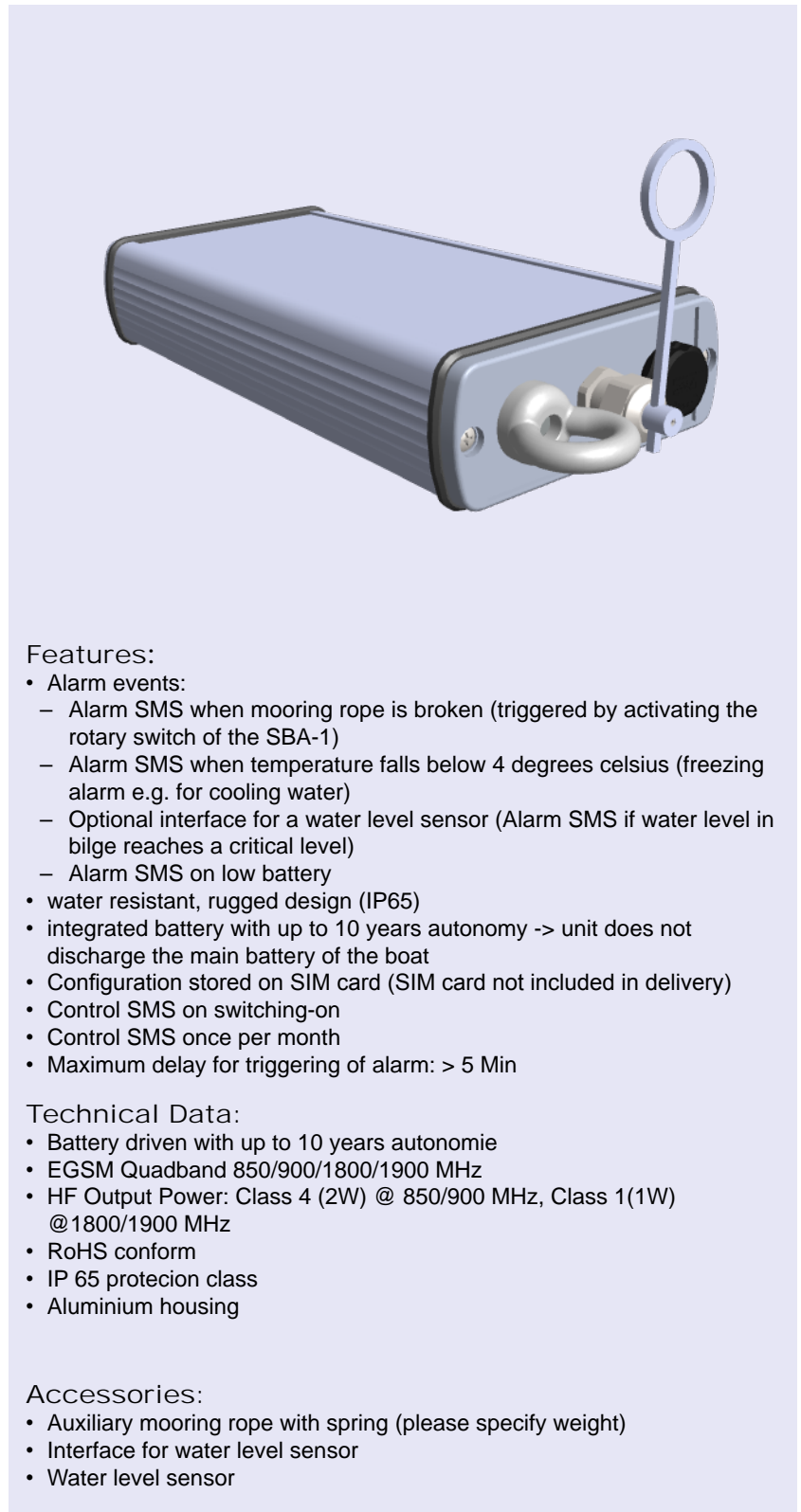
The advantage of this system is that the life of the main mooring rope can be effectively utilized without danger to the ship. When the main line is torn the ship can still hang for a short time at the auxiliary mooring rope until the main mooring rope is replaced.

It is important that the unit is mounted in that way that the main mooring rope and the auxiliary mooring ropes are prevented from getting tangled by each other (see picture).

The SBA-1 sends a check SMS every month to ensure that the supervision is still active.

## Installation

After insertion of a SIM card the phone number to which the SMS messages should be sent needs to be programmed:



## Features:

- Alarm events:
  - Alarm SMS when mooring rope is broken (triggered by activating the rotary switch of the SBA-1)
  - Alarm SMS when temperature falls below 4 degrees celsius (freezing alarm e.g. for cooling water)
  - Optional interface for a water level sensor (Alarm SMS if water level in bilge reaches a critical level)
  - Alarm SMS on low battery
- water resistant, rugged design (IP65)
- integrated battery with up to 10 years autonomy -> unit does not discharge the main battery of the boat
- Configuration stored on SIM card (SIM card not included in delivery)
- Control SMS on switching-on
- Control SMS once per month
- Maximum delay for triggering of alarm: > 5 Min

## Technical Data:

- Battery driven with up to 10 years autonomie
- EGSM Quadband 850/900/1800/1900 MHz
- HF Output Power: Class 4 (2W) @ 850/900 MHz, Class 1(1W) @1800/1900 MHz
- RoHS conform
- IP 65 protection class
- Aluminium housing

## Accessories:

- Auxiliary mooring rope with spring (please specify weight)
- Interface for water level sensor
- Water level sensor

# SMS Bojen Alarm SBA-1

## Installation:

The SIM card from your network operator (SIM card is not included in the delivery; prepaid SIM cards will work) must have a phonebook entry with the name "CENTRAL" and the corresponding number to which the buoy sends SMS alert messages. This can be configured with a normal mobile phone before the SIM card is inserted into the SBA-1:



Thereafter, the battery cable (with black connector) is plugged into the matching (black) jack. Thus the device is first started and sends an SMS to the programmed number. This is a first test of the configuration.

As a next step, the green plug is inserted and the lid together screwed. Care should be taken that no cables are trapped:



After this the SBA-1 unit is ready to be connected to the ship's mooring lines and be placed on the deck in position.

The unit can be tested after mounting by reversing the rotary switch for at least 5 minutes. After this time a SMS will be sent.

