



easy2-MOB

A22800

MOB: AIS + DSC

Quick Instruction

English – V1.1.1

easy2-MOB

Made in Germany by Weatherdock AG

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Index of Abbreviations

AIS	Automatic Identification System
COG	Course over Ground
DSC	Digital Selectiv Call
ECDIS	Electronical Chart Display
GMDSS	Global Maritime Distress and Safety System
GNSS	Global Navigation Satellite System
LED	Light-emitting diode
MMSI	Mobile Maritime Service Identification
MOB	Man over Board
SAR	Search and Rescue
nm	nautical mile (1m = 1852 m)
SOLAS	Safety of Life at Sea (International Convention for the Safety of Life at Sea)
SOG	Speed over Ground
VHF	very high frequency
Unit ID	Individual device code

1 Safety Instructions

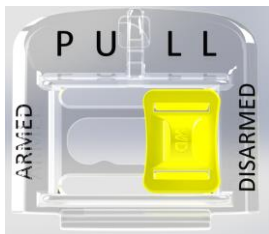
Read all safety warnings and instructions. Keep all safety notices and instructions for future use!

- Please keep the device out of the reach of children!
- Due to the internal, strong transmitter, medical devices such as e.g. B. Cardiac pacemakers can be impaired in their function!
- False triggering of an AIS/DSC emergency call is not a minor offense and can result in follow-up costs!
- Only have maintenance carried out by authorized service providers/dealers!
- Unauthorized opening of the device will void the warranty. Unauthorized and violent opening can destroy the device.
- Caution: There is a risk of explosion if the batteries are replaced with an unsuitable type of battery. Dispose of used batteries according to the instructions.
- If the device is used below 0°C or above 55°C, the capacity of the batteries will decrease. Keep the device away from heat or hot environments. The batteries inside the easy2-MOB could overheat, possibly even explode or burn and cause damage to the device and the environment!

3 Controls

3.1 Alarm flap

The transparent alarm flap (9) in the upper area of the device serves to avoid false alarms and at the same time secures the antenna flap (3).



3.2 Magnet slider

New regulations stipulate that automatic activation can be switched off for an AIS-DSC-MOB device. This is done by the magnetic slide (10) integrated in the alarm flap.



- **"Disarmed"** means that the automatic release is switched off, and a test is not possible either

- **"Armed"** means that the automatic release is activated, a test is also possible

3.3 Button "ON"

 The device can be activated manually with the "ON" button (8) (see also Chapter 4.2.2). Pressing this button triggers an AIS distress signal, which is received by all ships and coast radio stations in the area equipped with an AIS receiver.



A DSC alarm is sent parallel to the AIS signal.
(see also Chapter 4.2.3)

3.4 Button "TEST"

 The device can be activated manually for a function test with the "TEST" button (12). By pressing this button, an AIS test distress signal is triggered once, which is received by all ships and coast radio stations in the area equipped with an AIS receiver. The additional text message "MOB TEST" informs each recipient of this test signal that it is a function test, i.e. not an emergency.



In addition to the AIS telegrams, a DSC telegram is sent to the programmed MMSI numbers. (See Chapter 5 for more information on programming the MMSI numbers).

The red LEDs flash for the period of the test transmissions. (For more information on the TEST function, see Chapter 4.1)

3.5 Antenna

When rolled up, the antenna (5) is located in the upper part of the transmitter. It is secured with a water-soluble tablet (4), the antenna- and alarm flap. After the antenna flap (3) has been triggered by contact with water or the alarm flap (9) has been removed by hand, the antenna unrolls itself upwards. The device activates automatically when it comes into contact with water, without you having to intervene (the magnetic slider (10) must be set to "armed").



4 Operation

The AIS MOB easy2-MOB can float without additional aids. In heavy seas, the easy2-MOB may need a long time to determine a GPS/GNSS position while swimming.

For best AIS transmission performance and GPS/GNSS reception accuracy, hold the beacon in your hand as high out of the water as possible.



LED display	Operating condition
<u>FLASH LED (13/14) + Emergency lights LEDs (15) flashes regularly</u>	Device sends
<u>Status-LED (14) lights up permanently</u>	Position is determined
<u>Status-LED (14) flashes regularly</u>	Position reception is flawless. A position is continuously determined

Table 1: Flashing/Lighting Pattern Operating Status

4.1 TEST function (MOB TEST)

Test the easy2-MOB for transmission function at regular intervals. The easy2-MOB has a so-called 'shelf life' of 7 years. This means that with a maximum of 30 test cycles, the battery still has sufficient capacity in the 7th year (in accordance with the standard).

More frequent testing reduces the battery capacity. (see also table "Technical Data", Chapter 7).

The antenna mechanism does not have to be triggered for the function test!

Carrying out the test function:

- Before you start the test, you must set the magnetic slide (10) to the "Armed" position and a "Mothership" MMSI should already be programmed (see Chapter 5).
- Have the DSC radio and AIS chartplotter ready for operation.
- Leave the antenna rolled up in the device.
- Place the device in an upright position for GPS reception. Don't lay it horizontally on a table!



- Press the "TEST" button (12) for 1 second until the yellow LED (14) lights up. Make sure you have a clear view of the sky for good GPS/GNSS reception conditions.
-

Process	LED state
Device is attempting to obtain a GPS fix/GNSS fix	Yellow status LED (14) lights up continuously
Device checks whether one or more MMSI numbers are programmed (duration: 10 seconds)	White program LED (13) lights up continuously (10 seconds) if at least 1 MMSI is programmed
GPS fix/GNSS fix available	Yellow status LED (14) flashes slowly (2 every second).
Device sends 8 x AIS test transmission (duration: approx. 14 seconds)	

Device sends 1 x DSC test transmission to the first "Mothership" MMSI in the list. (See Chapter 5, Programming)	
"DSC Acknowledgment" is received (After confirming the message on the radio.)	Status LED (14) changes from yellow to green

Table 2: Test mode flashing/lighting pattern

Test results

At the end of the test phase, the test result can be read from the flashing pattern of the LEDs.

Process	LED state
Everything is OK	Status LED (14) glows solid green at the end of the test
Only GPS fix/GNSS fix is OK	Status LED (14) turns solid yellow at the end of the test
Only DSC-Acknowledge is OK	Status LED (14) quickly flashes green (5Hz)
Nothing is OK	Status LED (14) quickly flashes yellow (5Hz)

Device switches off automatically after the test phase	All LEDs (13,14,15) flash briefly together
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Table 3: Flashing/Lighting Pattern Test Result

The current battery status of the easy2-MOB can also be queried via Bluetooth using the app.

However, please limit the number of Bluetooth connections to what is absolutely necessary (e.g. monthly, i.e. a total of approx. 60 times) in order to conserve the battery capacity of the device in emergencies.

4.2 ALARM

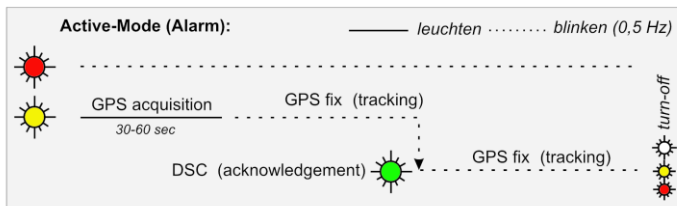
4.2.1 Automatic activation

The AIS MOB easy2-MOB is intended for use in an automatic life jacket (see Chapter 6). The vest opens and inflates when it comes into contact with water if you fall into the water. This puts the transmitter in the water and releases the antenna. When the antenna is unwound, 2 contacts are exposed, via which the transmitter activates itself automatically when it comes into contact with water.

IMPORTANT: For automatic triggering in the event of contact with water, the automatic system must first be activated before the transmitter is inserted into the life jacket. This is done by moving the magnetic slider (10) from "**disarmed**" to "**armed**".

Process	LED state
The device was automatically activated by the water contact	Red LEDs flash
GPS fix/GNSS fix is obtained	Status LED (14) lights up yellow for 30 to 60 seconds after activation (it may take up to 5 minutes).
Stable GPS fix/GNSS fix is available	Status LED (14) changes to flashing mode (yellow)
Waiting for DSC acknowledgment from a DSC radio or coast station	Status LED (14) continues to flash yellow
"DSC Acknowledgment" is received - everything is OK	Status LED (14) changes from yellow to green

Table 4: Flashing/lighting patterns for alarm triggering



4.2.2 Manual activation

When starting up manually, the alarm flap (4) is torn away from the device using the yellow lanyard (9). This allows the rolled up and stretched antenna (5) to unfold. The "ON" button (8) is now free and can be pressed to trigger the emergency signal.

**The device when triggered manually always
keep away from face!**

IMPORTANT: If the magnetic slider (10) is set to "disarmed", the transmitter will not be automatically activated when it comes into contact with water. The transmitter can then only be activated manually.

4.2.3 Functionality

AIS

When the easy2-MOB is triggered, the transmission of AIS emergency telegrams always starts by default as soon as a position fix is available.

These include:

- Current GPS/GNSS position
- Current course and speed over ground
- Text message "MOB ACTIVE"
- Unique identification number of the sender (Unit ID, similar to MMSI)
- Navigation status 14 (activated distress beacon)

According to the current standard, the position report of the easy2-MOB should appear as a circle symbol with an "X" on the electronic display/map (a system update may be necessary via the manufacturer of the display device):



On all older displays it always appears at least as a ship symbol:



The information displayed is the 9-digit "Unit ID" (MMSI) of the easy2-MOB, beginning with "972....." and a safety message (SRM) "MOB ACTIVE", as well as a acoustic and optical alarm triggered.

DSC closed loop

When the device is triggered, the emergency messages are sent out parallel via DSC to all MMSI numbers programmed into the device (closed loop).

The first DSC transmission immediately after triggering contains the unit ID of the transmitter, but no GPS/GNSS position data.

As soon as the easy2-MOB has received a position fix and the coordinates have been determined, another DSC emergency call is made parallel to the AIS transmission. But this time with the current GPS/GNSS position data.

This transmission takes place at an interval of 5 minutes. The built-in DSC receiver is activated for confirmations from the programmed "closed loop" MMSI numbers for the duration of the "closed loop" (approx. 11-15 min).

DSC open loop

Please also note that a DSC emergency call ("All-Ships Call") can trigger a rescue operation, which may incur costs. Therefore, handle the device carefully to avoid such false alarms. However, if a "DSC open loop" is accidentally transmitted, switch off the device immediately. Then the easy2-MOB sends a "Self-Cancel" telegram to all ships that the emergency situation no longer exists!

The device switches to the DSC open loop automatically if there is no confirmation within the DSC closed loop after a period of 11-15 minutes.

The easy2-MOB now sends an "all ships call" at intervals of 5 minutes for a period of 30 minutes. That can be received with other DSC radios which where e.g. used by commercial ships. In this way, the emergency call can be forwarded to a coastal control center.

After 30 minutes without a confirmation being received, the transmission interval increases to 10 minutes each time. This interval is maintained until the end of the emergency situation.

As soon as the easy2-MOB in the DSC open loop receives confirmation that it has received the emergency signal, the DSC functionality is switched off.

The parallel transmission of the AIS emergency telegrams continues independently (until the battery is exhausted or the device is deactivated).

Distress light

When the rescue transmitter is triggered (manually or automatically), the red LEDs of the electronic emergency light also start flashing, alternating with the status LED (14).

The distress light flashes every 2 seconds.



4.3 Deactivation (switching off the device)

Deactivate ON mode:

Press the "ON" button (8) for at least 3 seconds until all LEDs (13, 14, 15) flash together briefly.

Deactivate TEST mode:

Press the "TEST" button (7) for at least 3 seconds until all LEDs (13, 14, 15) flash together briefly.

5 Programming of MMSI numbers for DSC distress call using app

Up to 8 different ship MMSI numbers can be programmed via Bluetooth connection between a smartphone/tablet and the easy2-MOB. The app required for this is available for download free of charge for Apple and Android devices (from iOS11 / Android6).



Download the apps at:

<https://www.easyais.com/en/downloads/apps/>

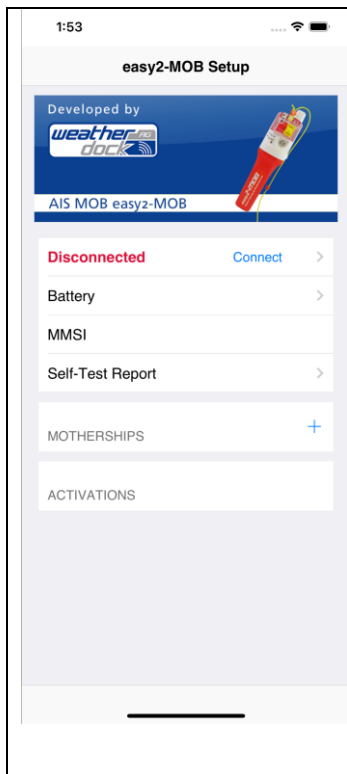
After you have downloaded and installed the appropriate app for you, please follow the instructions below step by step:



Attention: Please make sure that the yellow slider is on ARMED position. Otherwise all buttons are deactivated.

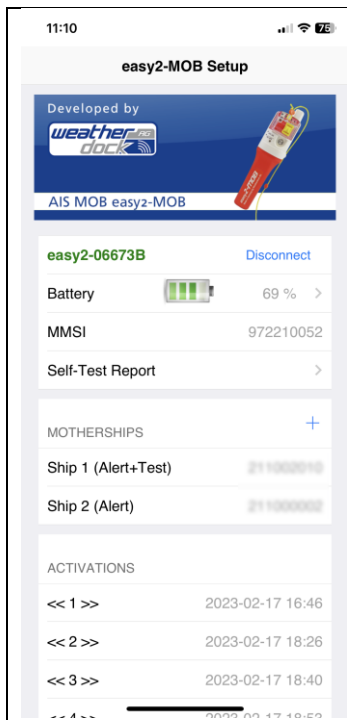
Press the "TEST" button for more than 3 seconds until the white LED lights up.

→ Bluetooth is ready



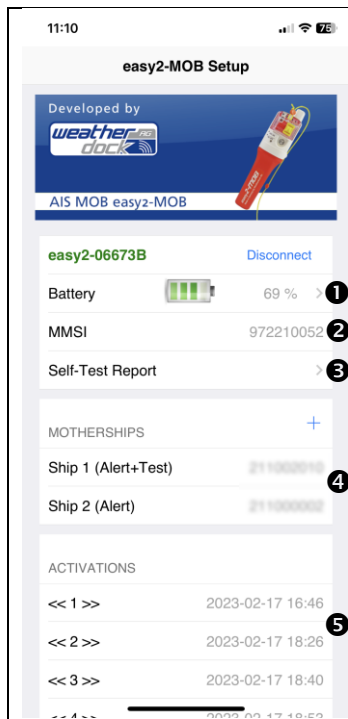
Open the easy2-MOB app and you will get to this start screen.

If you have switched your easy2-MOB to Bluetooth mode, please press Connect to establish a connection between the smartphone and the AIS rescue beacon.



The connection is established.

After a successful connection, you will see additional information about the device on the start screen.



1. You receive information about the battery status of the device
2. You will see the MMSI number of the device
3. You see the result of the self-test
4. You will see radio DSC numbers already programmed (no number entered upon delivery)
5. You will see an overview of the device activations that have already taken place (no number entered upon delivery)

6 Insertion in life jacket

The easy2-MOB is intended for use in an automatic life jacket. The AIS rescue beacon is inserted into the folded side of the swim bladder without the release mechanism of the automatic life jacket. To do this, the zipper/Velcro fastener at the lower end of the vest is first opened. The lanyard (9) of the AIS MOB is attached to a suitable place - e.g. eyelet or loop inside the vest - attached. Then the device is placed upside down in the vest between the folded swimming body, the lanyard is threaded and the zipper/Velcro fastener is closed again. With this placement, the rescue beacon is free to slide in water while the lifejacket inflates.



For active use of the vest, the magnet slider must be set to the "armed" position. If the vest is not used, it is advisable to set the magnetic slider back to "disarmed".

**Please also note our video instructions and the
Notes on our website (www.easyais.com)**

7 Technical Data

Description	Value
Dimensions	420 * 50 * 30 mm
Weight	120 gramms
Waterproofness	Up to 10 meters
Battery	LiMnO ₂ -cells
Battery operating time	AIS + DSC acknowledgement after first transmission: 60h+ (typical sequence, room temperature) AIS + DSC without acknowledgement: 40h+ (worst case, room temperature)
Battery lifetime	7 years with a total of 30 test cycles (can be viewed in the app)
Frequencies	AIS: 161,975 MHz and 162,025 MHz DSC: 156,525 MHz
Radiated transmit power	AIS: ≥ 1 W DSC: $\geq 0,5$ W
GPS/GNSS receiver	72-channel receiver with integrated antenna according to IEC 61108-1
VHF antenna	Fold out Rolled up inactive in the device
Display	9 LEDs (1 x GPS status, 2 x FLASH, 6 x emergency light)
Controls	2 buttons ("TEST" and "ON")

Msg.1:**AIS position report is sent**

- 6-8 times per minute
- Unit ID: 9-digit identification number
- Speed Over Ground (SOG)
- Course Over Ground (COG)
- GPS position

Supported AIS messages in transmission mode

Msg.14:**AIS safety message is sent**

- 2 times every 4 minutes
- Unit-ID
- Text: "MOB ACTIVE" in ALARM mode
- Text: "MOB TEST" in TEST-mode

Sent Information in DSC mode

- Unit ID: 9-digit identification number
- GPS Position (Lat./Long.)
- In TEST mode:
TEST CALL
- In ALARM mode:
DISTRESS RELAY

Operating temperatur**-10°C up to +55°C**

Storage temperature**-30°C up to +70°C**

Identification

**MMSI/Unit-ID: 972XXXXXX
as MOB ACTIVE/TEST**

Table 5: Technical data

8 Declaration of Conformity

Weatherdock AG hereby declares that the radio system type easy2-MOB complies with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

<https://www.easyais.com/en/declaration-of-conformity/easy2-mob/>



For more information, please refer to the full AIS MOB A22800 easy2-MOB instruction manual:

<https://www.easyais.com/en/downloads/manual-hardware/>

You can find helpful videos on our YouTube channel:

<https://www.youtube.com/@EasyaisDe/playlists>

9 Restrictions

There are no known restrictions for the usage of the easy2-MOB2-MOB in EU countries.

10 Notizen

Revisions

A22800, Stand 1.0, MK – 02/2023

A22800, Stand 1.1, MK – 07/2023

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