

## MFAIS

### Perfect integration

MFAIS circuits are AIS AtoN devices integrated inside our LED lanterns.

### Automatic information on the GPS position

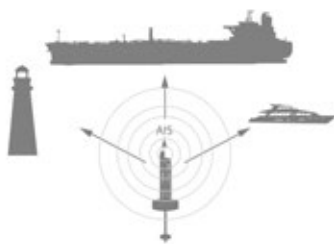
The AIS AtoN transponder provides automatic information on the GPS position of the marine aid to navigation (AtoN); thus making easy the location and identification of buoys, beacons and lighthouses on a vessel or an AIS Base Station chart.

### Minimum energy consumption

Thanks to its minimum energy consumption, those circuits can be integrated with our self-powered lanterns.

Its modular construction allows its installation subsequently to the purchase of a MSM lantern.

MFAIS complies with IMO, IEC, ITU and IALA Standards.



## FEATURES

- Broadcasting of aids-to-navigation (AtoN) identification data on Message 21, as well as basic data and operating status.
- Ideal for remote monitoring and control of MSM lanterns, providing alarms and status on Message 6.
- Manufactured according to IEC AIS Aids to Navigation, IEC 62320-2, IEC 60945, IEC 61108-1, IEC 61162-1/2, ITU-R M.1371-4, IALA A-126 Standards.
- Minimum energy consumption (<0.06 Ah/day, Type 1).
- Two versions are available:
  - MFAIS-1: Type 1, transmitter only.
  - MFAIS-3: Type 3, transmitter-receiver.
- Capability of generating virtual and synthetic nav aids (AtoN), and also repeater function.
- Configuration via software under Windows environment and commands via VDL radio.
- Position alarm generator by chain breaking (only buoys).
- Remote Monitoring Centre Software via AIS available.

# MFAIS

## MESSAGE 21 CONTENT

MMSI number / Name of AtoN.  
WGS84 position.  
GPS time and date.  
Type of AtoN.  
AtoN indicator: Real, Synthetic, Virtual.  
Out of position alarm.  
Racon failure alarm.  
Lantern failure alarm.  
Day-Night mode lantern status.

## POWER SUPPLY

<b>Power input:</b>	10 to 32V c.c.
<b>Typical consumption (*):</b>	MFAIS-1: 0.06 Ah/day. MFAIS-3: 0.5 Ah/day.

(\*) Emission every 3 min, at 12.5W.

## MFAIS RF MODULE

<b>Frequency range:</b>	156,025 to 162,025 MHz.
<b>Transmission power:</b>	1, 2, 5, 12.5W (adjustable).
<b>Number of receivers:</b>	2.
<b>Receiver sensitivity:</b>	< -107 dBm (Type 3).
<b>AIS 1 frequency:</b>	161,975 MHz 25 KHz.
<b>AIS 2 frequency:</b>	162,05 MHz 25 KHz.
<b>Auto-diagnosis:</b>	Emission power test and SWR measurement.

## TRANSMISSION

<b>Possible messages:</b>	21, 6, 12,14, 25, 26.
<b>Standard transmission:</b>	Every 3 min, adjustable.
<b>Control:</b>	Type 1: FATDMA. Type 3: FATDMA, RATDMA.

## GPS

<b>Integrated receptor:</b>	50 channels. IEC 61108-1.
<b>Antenna:</b>	Active 35 dB, in the beacon.
<b>Option:</b>	Glonass.

## VERSIONS

<b>MFAIS Type 1:</b>	Transmitter only.
<b>MFAIS Type 3:</b>	Transmitter and receiver.

## STANDARDS

IEC AIS Aids to Navigation.	IALA A-126. Edition 1.4.
IEC 62320-2. Edition 1.	IEC 61162-1/2. Edition 2.0.
IEC 60945. Edition 4.	ITU-R M.1371-4.
IEC 61108-1.	



## LANTERN STATUS SIGNALS (MESSAGE 6)

MMSI number / Name of AtoN.  
Battery voltage (V).  
Lantern current (A).  
Solar current (A).  
Day-Night mode lantern status.

## ALARM SIGNALS (MESSAGE 6)

Lantern failure alarm.  
Racon failure alarm.  
Out of position alarm.  
Low battery voltage.  
Flasher failure.  
LED diodes failure.  
Wrong flashing rhythm.  
Excess consumption of the lantern.

## COMMAND FROM CONTROL CENTRE TO BEACON (Type 3) (MESSAGE 6)

Remote beacon switching-on.  
Remote beacon switching-off.  
General system reset.  
Other status and alarm signals available under request.

**!** Specifications subject to change without previous notice.