

MFAIS

AIS Lantern Monitoring Module



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

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.

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



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.
 Remote Racon switching-on/off.
 General system reset.

Other status and alarm signals available under request.

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

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

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

MFAIS RF module

Frequency range: 156,025 to 162,025 MHz.
Transmission power: 1, 2, 5, 12.5W (adjustable).
Number of receivers: 2.
Receiver sensitivity: < -110 dBm (Type 3).
AIS 1 frequency: 161,975 MHz 25 KHz.
AIS 2 frequency: 162,025 MHz 25 KHz.
Auto-diagnosis: Emission power test and SWR measurement.

Transmission

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

GPS

Integrated receptor: 50 channels. IEC 61108-1.
Antenna: Active 35 dB, internal.
Optional Glonass.

Versions

MFAIS Type 1: Transmitter only.
MFAIS Type 3: 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.