AIS SOLAR KIT

MAK

The MAK is a solar kit that houses an AIS AtoN device and its own solar power supply, thus completing a compact and self-powered unit.

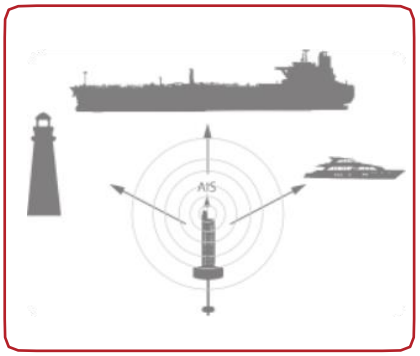
The AIS AtoN device provides automatic information on the GPS position of the marine aid to navigation (AtoN); thus making easy the location and identification of buoys, beacons and lighthouses on a vessel or an AIS Base Station chart.

The MAK compact Kit is readily installed in any navaids station. Just fixing will be required and will be ready to go. It is ideal for those places without power system available where an AIS is required.

Our range of AIS AtoN complies with IMO, IEC, ITU and IALA Standards.

FEATURES

- √ The MAK Kit can house any type of the following AIS AtoN devices: MFAIS, MTA and MTU AIS.
- √ The AIS device transmits aids to navigation identification (AtoN) identification data on Message 21, such as basic operating status information.
- √ 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:
  MAK-1: Type 1, transmitter only.
  MAK-3: Type 3, transmitter-receiver.
- √ Capability of generating virtual and synthetic navaids (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.



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Specifications subject to change without previous notice.

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.

AIS 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, 8, 12, 14, 25, 26.
Standard transmission:	Every 3 min, adjustable.
Control:	Type 1: FATDMA. Type 3: FATDMA, RATDMA.

Internal GPS

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

Battery and solar modules

Solar modules:	4 units of 7,5W each.
Battery:	32 Ah, gelled, maintenance-free.
Autonomy without solar charge:	Up to 50 days.

Options

- Weather station.
- Tide sensor (on-shore).
- Glonass.
- Other parameters available.

Remote control signals (message 6)

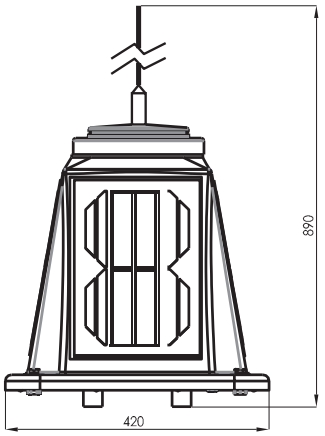
Described in detail in the relevant fact sheet (MFAIS, MTA, MTU AIS).

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.	

Materials and environment

Base:	Reinforced polyamide and rotomoulded polyethylene.
Vibration resistance:	MIL-STD-202G, Method 204D (5G).
Shock resistance:	MIL-STD-202G, Method 213B.
Watertightness degree:	IP 67.
Fixings:	Internal of 4 bolts in a 200mm diameter / External of 4 bolts in a 465mm diameter.
Humidity resistance:	100%. Pressure-compensation valve to avoid condensation.
Temperature range:	From -20º to 70ºC.
Inside hardware:	Stainless steel.



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