

MAK-AIS-360

Incorporates its own solar power supply

MAK-AIS-360 is a solar kit that houses an AIS AtoN device and its own solar power supply, thus completing a compact and self-powered unit.

Automatic information on the GPS position

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's nautical chart or through an AIS Base Station.

Ideal for places without power system available

The MAK-AIS-360 compact Kit is readily installed in any nav aids 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.



MAK-AIS-360-M-T1



MAK-AIS-360-L-T3

FEATURES

- 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-AIS-360-M-T1: Type 1, transmitter only.
 - MAK-AIS-360-L-T3: 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 (Only Type 3).
- Position alarm generator by chain breaking (only buoys).
- Remote Monitoring Centre Software via AIS available.

MAK-AIS-360

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.

MAK-AIS MODULE SPECIFICATIONS

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

TRANSMISSION

Possible messages:	21, 6, 8, 12, 14.
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:	MAK-AIS-360-M-T1: 4 units of 5.3 W each. MAK-AIS-360-L-T3: 4 units of 9.1 W each.
Battery:	MAK-AIS-360-M-T1: 16.9 Ah / 12 V Led Crystal®, maintenance-free. MAK-AIS-360-L-T3: 33.8 Ah / 12 V Led Crystal®, maintenance-free.

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. 2010.
IEC 61108-1.	

! Specifications subject to change without previous notice.

MESSAGE 6 CONTENT (EXTERNAL LANTERN CONNECTION AS AN OPTION)

MMSI number.
AIS Battery voltage (V).
Day-Night mode lantern status.
Lantern failure.
Out of position.
AIS Low Battery voltage.

MECHANICS AND ENVIRONMENTAL SPECIFICATIONS

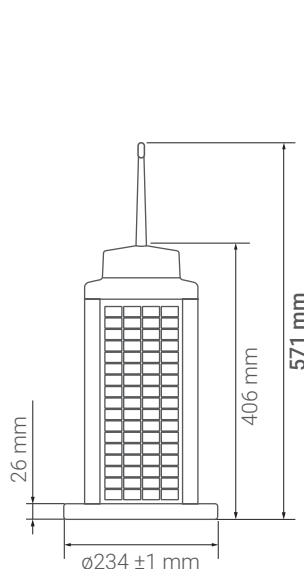
Base:	Polycarbonate
Vibration resistance:	MIL-STD-202G, method 204D (5G).
Shock resistance:	MIL-STD-202G, method 213B.
Watertightness:	IP 68.
Fixings:	3 - 4 bolts in a 200 mm diameter.
Humidity resistance:	100%. Pressure-compensation valve to avoid condensation.
Temperature range:	From -25° to 55°C.
Chasis:	Anodised Marine Aluminium.

OPTIONS (*)

GLONASS.
External antenna as an option.
Adapter Plate.

(*) Other parameters available.

MAK-AIS-360-M-T1



MAK-AIS-360-L-T3

