

AIS Solutions

Automatic Identification System

Sealite's AIS solutions are available in Type 1 or Type 3 and operate on the international VHF Maritime Mobile Band, enabling Port Authorities and other users to remotely monitor the real-time status of their AtoN installations.

The Type 1 or Type 3 AIS solutions can be configured to a range of Sealite products, including ocean buoys, solar marine lanterns, and stand-alone models.

Mariners in the broadcasting region are provided with crucial Message 21 information (as defined by the International Telecommunications Union (ITU)) such as AtoN operational status and positioning – revolutionising the VTS system by expanding AtoN information availability to users.

In addition, the AIS enabled AtoN broadcasts AIS Message 6 received by the designated base station, allowing the operator to monitor the AtoN for solar and battery voltage, flash code setting and light status. Meteorological and hydrological data and a host of other parameters can be fitted.



Low Power Consumption

Sealite's AIS solutions have an incredibly low power consumption of less than 0.5 Ah/day making them suitable for a large range of solar installations. The compact AIS AtoN Transponder is available installed within Sealite's range of self-contained lantern assemblies - providing installation flexibility and operational reliability for a range of environmental conditions and demanding duty cycles.

Synthetic & Virtual AIS AtoNs

Sealite's AIS AtoNs are able to support real, synthetic and virtual transmissions. Versions of the self-contained AIS Transponder are available without the lantern integration to enable the benefits of AIS if a visual navaid is not required.

Type 1 & Type 3 AIS AtoNs

AIS AtoNs use either the FATDMA (Fixed Access Time Division Multiple Access) or RATDMA (Random Access Time Division Multiple Access).

Type 1 AIS AtoN uses the FATDMA access scheme and can only transmit AIS signals. This means the AtoN requires a nearby base station to reserve the slots (message spaces) used by the AIS enabled AtoN.

Type 3 AIS AtoN has the capability to transmit as well as receive and uses the RATDMA access scheme. This allows the AtoN to autonomously allocate slots for its own transmission by listening to AIS frequencies and determining which slots are available for use.

The Type 3 AIS AtoN is able to be installed at any location because, unlike Type 1 AIS, it does not require slots to be reserved and can therefore be used in areas with or without a base station. Sealite's Type 3 AIS is able to 'chain' several units together to extend the transmission range.

The Type 3 AIS AtoN can also support remote control functions including lantern flash character, ON/OFF activation and intensity setting.



Sealite's AIS AtoNs can be delivered pre-programmed or can be provided with software enabling the user to program the unit

The Sealite Advantage

- Complete AIS solutions display accurate positioning & operational information about the AtoN
- Type 1 & Type 3 models available
- Low power consumption, making the units ideal for solar & AtoN installations
- Accurate & real-time information
- Supports synthetic & virtual transmissions
- Supports chaining to extend transmission range (Type 3 only)
- Supports remote configuration control (Type 3 only)
- Supports messages 21, 6, 7, 8, 12, 13, 14 & 25 (dependent on hardware & software configuration)
- Supports meteorological & hydrological (message 8)
- Fully compliant with IALA, IEC & ITU standards
- BSH, CE, FCC & USCG approved
- Capable to repeat SART, 6, 8 messages (Type 3 only)
- Available option with many of the Sealite lantern range

Integrated Internal AIS

The SL-155 lanterns (5 & 10 degree models) are available with a class-leading integrated, low-powered Type 1 or Type 3 AIS.

When fitted, the AIS is encapsulated within the body of the SL-155 to maintain the weatherproof integrity and come standard with GPS.

All 3 models can also be ordered with an external Type 1 or Type 3 AIS transponder if required, along with various solar power options.



Programming

Sealite is able to deliver pre-programmed AIS AtoNs or can provide a software application to enable the user to program the unit via an RS232 interface.

AIS AtoN Applications

The use of AIS as an AtoN can provide benefits and services to both vessels and port authorities. Some of the descriptions below are taken from IALA Guideline No. 1062.

Services to AIS equipped vessels

- Provide identification of the AtoN in all weather conditions
- Complement existing signals from AtoN (e.g. Racon)
- Transmit accurate positions of floating AtoN
- Indicate if a floating AtoN is off position
- Mark or delineate tracks, routes, areas and limits (for example, areas to be avoided and TSS)
- Traffic Separation Schemes (TSS)
- Mark offshore structures (for example, wind turbines, wave and tidal energy devices, oil and gas platforms)
- Provide weather, tidal and sea state data
- Provide additional AtoN capability through use of virtual AIS AtoN where installation of physical AtoN is technically or economically difficult
- Indicate AtoN status
- Provide an accurate position for fixed AtoN which acts as reference targets for verifying radar

Benefits to AtoN Authority or Port Authorities

- Monitor the status of an AtoN
- Track AtoNs that are off position
- Assist in the identification of ships involved in collisions with AtoN through provision of exact AtoN position data
- Gather real-time (or near real-time) information on the 'state of health' of an AtoN
- Remotely control changes in AtoN parameters (if so equipped)
- Provide statistics on reliability of AtoN



Ocean buoys



Self-contained lanterns



Stand alone lanterns

We believe technology improves navigation™

