R60 AtoN Station

Marking of Navigational Aids and Isolated Dangers

The R60 Aids-to-Navigation (AtoN) Station is designed for marking of offshore maritime installations, such as wind energy farms, navigational aids and hazards.

The R60 AtoN receives AIS data from all AIS units within the VHF coverage area and transmits information of Navigational Aids and Isolated Dangers within the same area.

The R60 AtoN is a valuable tool in increasing the situation awareness and the efficiency of operations and safety.

Future proof

The R60 AtoN Station is built on Saab's latest generation of electronics and radio design, representing the pinnacle of innovation in the field of AIS and VDES technology. It fully supports AIS AtoN operations and is also prepared for future VDES AtoN functionality.

With its new state-of-the-art Software Defined Radio, it supports AIS, ASM and VDE messages on 64 parallel channels simultaneously.

Sensitivity

The R60 AtoN Station provides an outstanding AIS sensitivity of -118 dBm, which significantly exceeds the requirements in international standards and regulations and thereby provides an incredible receiving coverage area.

Remote configuration and operation

The R60 AtoN Station is equipped with three Ethernet/LAN interface to connect to other equipment or data networks, or allow for remote power control of the AtoN station. The R60 AtoN Station has a built in WEB-server for more advanced configuration, monitoring and remote updates.

The R60 AtoN Station also has a built in NTP-server option, to support local time synchronization for LAN connected equipment. Furthermore, it supports extensive possibilities for VDL analysis via FSR/VSI-message information, giving details such as Received Signal Strength, Time of Arrival and Signal to Noise Ratio.

To allow for simple monitoring and configuration, an integrated colour display with touch interface is available on the front.

Functions

- Electronic AIS marking of offshore maritime installations, such as wind energy farms, navigational aids and isolated hazards
- All vessels equipped with AIS will receive information indicating the marked area and the location of the offshore installations or hazards
- Integration with meteorological sensors for local distribution of weather data
- Local vessel AIS monitoring in order to track own work boats within the location, as well as vessels entering/ leaving the area of operation
- Remote monitoring of vessel activity within the area, if a network connection to the AtoN Station is available

Features

- Best-in-Class sensitivity (better than -118 dBm) and resilience to interference
- Reception of all applicable AIS messages
- Type 3 Aids-to-Navigation (AtoN) functionality (IEC 62320-2)
- Supports reporting of up to 30 virtual or synthetic AtoNs with AIS message 21 each with individual reporting rate
- FATDMA and RATDMA access schemes
- Prepared for new advanced communication modes, as defined by ITU-R M.2092-1 for VDES
- Multiple Ethernet and serial ports, supporting redundancy connections
- Dedicated Ethernet service port
- Built-in advanced WEB-server
- Supports SNMP status monitoring
- Support for VDL Signal Information (VSI) message
- Support for Frame Summary of AIS Reception (FSR)
- Internal memory for storage of data.
- Hot-Standby support for redundancy

Options

- Separate RX and TX connectors
- VDES Communication (ASM, VDE-Terrestrial)

Technical specifications

DIMENSIONS/WEIGHT

Type	19" Rack-mount. Unit height: 2U
Height	89 millimetres (3.51")
Width	483 millimetres (19.02")
Depth	357 millimetres (14.06")
Weight	6 kilograms (13 Lbs)

DATA INTERFACES

RS-232/422 V11. Connector	Bit-rate up to 115 200 bps 9-pin D-sub (male)
TCP/IP Network Connector	3 x Ethernet (TCP, UDP, UDP Multicast). RJ45
Simultaneous network connections	≤ 10
Digital Input/Output Port	Via 9-pin D-sub
1 PPS and IRIG-B 003	Via 9-pin D-sub

RADIO MODULE

VHF Transmitter	1 W – 12.5 W
Channel Bandwidth	25kHz
Receiver Sensitivity	Better than -118 dBm (AIS)
Number of Rx processes	Up to 64 parallel
Frequencies	155 – 163 MHz

STANDARDS

AIS Functionality	IEC 62320-2
	ITU-R M.1371-5
	IALA R0126
Electrical Safety	IEC/UL/EN 62368-1
EMC	FCC/RED 2014/53/EU
Radio	IEC 62320-1/2, RED 2014/53/EU

ENVIRONMENTAL

Temperature	-20°C to +55°C
Humidity	0-95%
MTBF	>100 000 hours

DISPLAY

Colour display	4.3" WQVGA with touch interface

COOLING

Fanless design	No forced cooling required (-20°C to +55°C)

POWER INPUT

DC Input voltage	12-24 VDC (nominal)
DC Connector	AMP CPC Type III+
AC Input Voltage	100-240 VAC @ 50/60 Hz
AC connector	IEC 320 connector

RECOMMENDED FUSE SIZE

DC Input	20 Amp. (T20A 50VDC)
AC Input	3 Amp. (T3A 250 VDC)
Physical size	5x20 millimetres

VHF ANTENNA

	50 Ohm (Type N)

GNSS ANTENNA

	50 Ohm (TNC)
Antenna Pre-Amp feed	5 VDC, ≤40 mA