



R40

AIS Base Station

- Third Generation of AIS Base Stations from Saab TransponderTech using the latest technology to achieve the highest performance and reliability
- Unprecedented reliability through joint development and shared technology with Airborne products from Saab TransponderTech
- Supports fully redundant configurations in stand-alone installations as well as in Network Systems
- Selected by the majority of Maritime administrations and Port Operators through out the world

R40 Base Station main features:

- Broadcast of Base Station report message
- Autonomous channel management capability for different geographical areas. Enables change of transmission frequencies and bandwidth of vessels' AIS transponders. The change of frequencies can also be controlled by an external application
- Point to point or broadcast text message (SMS) functionality
- Binary message functionality for special applications
- Possibility to increase the reporting rate of remote AIS transponders (assigned mode). Assignment of vessel, aids to navigation or airborne transponders into assigned transmission schedules
- FATDMA (Fixed Access Time Division Multiple Access) communication functionality that makes the AIS Base Station transmit at specified intervals for secondary synchronization

- Broadcast of targets obtained by radars or other AIS Base Stations. This enables AIS transponder equipped vessels to monitor targets that are outside their own coverage
- Easy configuration and status check by Windows-based configuration software
- Possibility for hot standby functionality
- Possibility for remote configuration and monitoring
- Possibility to set up the Base Station to act as a repeater when extended AIS coverage is required
- Reservation of timeslots for adjacent AIS Base Stations
- Selectable transmit and receive modes

Optional functionality

- Support for separated receive and transmit antenna locations
- Broadcast of differential GPS corrections on the VHF data link
- Monitoring and communication through Ethernet TCP/IP

The R40 AIS Base Station is a standard 19" rack module intended for land installations, either as a stand-alone unit or in a network.

The R40 system is designed for high availability and reliability due to the low power consumption, giving low internal heat radiation. This guarantees the performance and ensures long, trouble-free operation.

The R40 consists internally of a VHF transceiver, a GPS receiver and a controller unit. As an option, the R40 AIS Base Station also includes a DGPS Reference Station. With a reference station the R40 has the possibility to broadcast differential corrections.

The transceiver unit contains two independent VHF receivers and one transmitter that alternate its transmissions between the two operating TDMA channels.

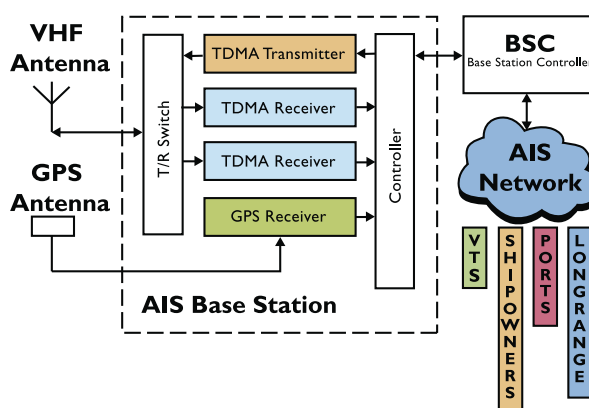
The internal GPS receiver mainly provides accurate time synchronization.

The messages sent on the VDLs contain information such as Base Station ID, position,

UTC time for synchronization and information about DGNSS correction type and source. The R40 can also decode received data packets and output them for presentation on external systems or networks (BSC option).

The R40 AIS Base Station will receive all data from AIS equipped vessels travelling within the coverage of the Base Station site. This will enable the relevant authority or other user to monitor and follow information about ship movements along a littoral state's coastline.

Imagine the improvement in control, surveillance and safety.



Physical

Size W×H×D: 485×133×415 (mm)
Rack Standard: 19", 3H
Weight: 9 kg (19.4 lbs)

Power

Input (main): 100-240V AC, 50-60 Hz
Back-up: 24VDC
Power Consumption: 35W (80W peak)

GPS Receiver

Receiver: 12 channels
Frequency: L1 (1575 MHz)
Update Rate: 1 Hz
Receiver used for time signal purposes

Electrical interfaces

4 RS232 Data Ports (9-pin DSUB male)
Digital IO for alarm handling
Ethernet (RJ-45)
GPS 1 pps input
GPS 50 Ω antenna connectors (TNC female)
VHF 50 Ω antenna connectors (N female)

VHF Transceiver

Frequency: 156-162.5 MHz
Channel Bandwidth: Selectable 25/12.5 kHz
Output power: 2/12.5W (±20%)
Bit Rate: 9600 bps
Modulation: GMSK/FM
Interval between position reports 1-60 sec
One transmitter
Two receivers

Applicable standards

IALA recommendation on AIS shore stations (A-124)
ITU-R recommendation for AIS (ITU-R M. 1371-1)
ETSI Land Mobile Service standard (ETS 300 113)
R&TTE-Directive 1999/5/EC
IEC on electrical safety (IEC 60 950)
IC (Industry Canada) on maritime radio (RSS-182)
FCC Part 15 regulations



ISO 9001



TickIT

Membership Organizations:



Specifications subject to change without notice

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