AIS 200

KONGSBERG

Automatic Identification System

Kongsberg Seatex provides, via its AIS 200 mobile station, a technical solution that enables the identification of other vessels and navaids fitted with the VHF based AIS technology. This can be either on a stand-alone display or on the ship's electronic chart and radar. The ability to view and identify all vessels and their courses and speed, is a major contribution towards safer navigation for the maritime community. The AIS 200 is tested according to relevant Inland Waterways (IWW) navigation standards and is approved for use on IWW.

GPS Position Interface

The vessel´s primary GPS receiver needs to be interfaced with the AIS and is used as the main positioning source. However, the AIS 200 also incorporates an "all-in-view" GPS receiver which will be used as backup for the primary GPS receiver, and as timing source for the SOTDMA (Self Organized Time Division Multiple Access) protocol.

Heading Interface

Vessel heading as derived from the gyro compass needs to be interfaced to the AIS. This may require a gyro converter if the heading output from the gyro compass is a stepper or synchro signal and not a serial line signal which uses the NMEA data protocol for data exchange.

Easy installation

The remotely installed AIS mobile station with separate display provides a simple installation solution, saving time and money.

AIS Minimum Keyboard Display

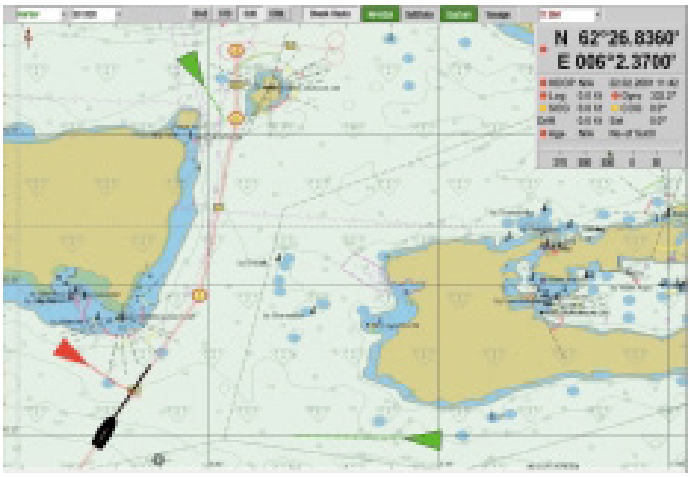
The AIS 200 MKD with a 4 line display is delivered as standard.

VHF data communication

Dedicated VHF frequencies are used for AIS data communication and the range is dependent on the height of the VHF antenna. In order to avoid interference with the ship's VHF voice communication, the AIS VHF antenna shall be installed in accordance with IMO requirements. As the SOTDMA protocol, which utilizes time-slots for transmission and reception of data is being used, an almost unlimited number of users may operate on the system at the same time without causing interference problems.

Chart, Radar and other Interfaces

AIS can be interfaced to electronic charts or radar provided that the AIS interface is supported. When interfacing AIS to radar and chart systems, AIS target information as position, heading course and speed are available to the mariner and increase reliability of received navigation data from other vessels. The AIS 200 can as well be interfaced to the vessels Gyro or THD.

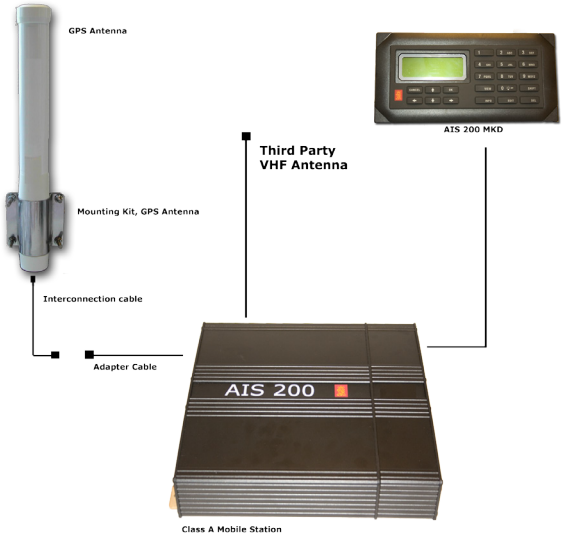


Vessels posing the potential risk of a collision are shown in red. Vessels passing safely are shown in green.

Features

AIS 200 features

- Ship name/Call sign/MMSI/IMO number
- Date and time in UTC time of composition of message
- Position WGS84; Latitude/Longitude degrees & minutes
- Course over ground (COG) in degrees
- Speed over ground (SOG) in knots and 1/10 knots
- Destination/ETA
- Actual maximum draught in 1/10 of meters
- Ship/Cargo (Static and voyage realated data)
- Length/Beam
- Number of persons on board
- AIS Messaging
- Graphical display of AIS targets with optional MKD



Technical specifications

Data inputs

Gyro compass:	NMEA
GPS main source:	NMEA
DGPS corrections:	RTCM - SC104 v2.1
Blue sign switch:	closed/open

Power

Input voltage:	24 (18-36) V DC
Power consumption:	20 W (continous)
	50 W (peak)

Displays

MKD (mandatory)
ECDIS, ECS

Physical and environmental

AIS 200 MKD

Operating temperature:	-15 to +55°C
Storage temperature:	-20 to +70°C
Humidity - operating:	0-95% RH

AIS 200 Transponder

Operating temperature:	-15 to +55°C
Storage temperature:	-15 to +60°C
Humidity - operating:	0-95% RH

GPS antenna

Operating temperature:	-40 to +55°C
Storage temperature:	-40 to +70°C
Humidity - operating:	100% Hermetically sealed

Weight

AIS 200 MKD:	0.4 kg
AIS 200 Transponder:	3,4 kg
GPS antenna:	0.130 kg

Dimensions (WxDxH)

AIS 200 MKD:	217x50x109mm
AIS 200 Transponder:	338.2x80.5x338.4mm
GPS antenna:	38x313 mm

Radio module

VHF transmitter:	12,5 W/ 2W
Receiver sensitivity:	-107 dBm
Protocol:	SOTDMA
Modulation:	GMSK
Bandwidth:	12.5kHz or 25 kHz

Frequencies: 156.025 MHz - 162.025 band
Default CH87B (161.975 MHz)
Default CH88B (162.025 MHz)
CH70 (156,525 MHz)

GPS module (internal receiver)

12 Channel GPS receiver (all in view)

Position accuracy (GPS):	15 m r.m.s.
Position accuracy (DGPS):	5 m r.m.s.
Output rate:	1 Hz

Performance (typical)

Position accuracy:	5 m (DGPS optional) -95% CEP
Velocity:	0.05 m/s (DGPS optional) -95%
Output rate:	1 Hz

Interfaces

Communication ports:	7xRS-422 (isolated)
	1xRS-232 (service, unisolated)
Baud rate:	38.4 kBaud
Message formats:	NMEA
Message type:	AIS meessage
LAN:	Ethernet - 10 BaseT
Alarm relay	
Blue sign switch,	open/closed (for IWW units)

Standards

Product safety low voltage: IEC 945/EN60950
Electromagnetic compability immunity/ radiation: IEC 945/EN60945
Vibration: IEC 945/EN60945
AIS: IEC 61993-2
IWW:
- Vessel tracking and tracing standard for inland navigation, ed. 1.01
- Inland AIS test standard, ed. 1.0

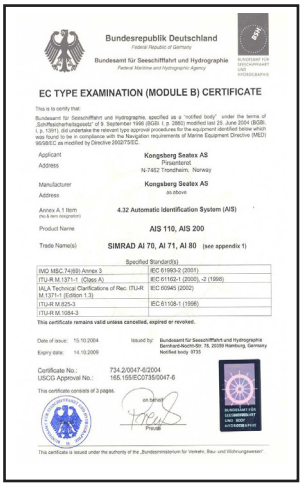
MTBF (hours): 40.000

Options Input/output

- Rate of turn (Input)
- ECDIS/ECS
- Standard PI
- Radar
- Long range communication system
- Blue sign plate

Mandatory inputs

GPS & HEADING DATA


Bundesrepublik Deutschland
Bundesamt für Seeschiffahrt und Hydrographie
EC TYPE EXAMINATION (MODULE B) CERTIFICATE
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N-7462 Trondheim, Norway
Kongsberg Seatex AS
4.32 Automatic Identification System (AIS)
AIS 110, AIS 200
SIMRAD AI 70, AI 71, AI 80 (see appendix 1)

Specifications subject to change without any further notice

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