

AIS 300



KONGSBERG



Automatic Identification System Class A Mobile Station

The AIS 300 is the 4th generation AIS class A mobile station from Kongsberg and it is designed to be fully integrated in a ship's bridge environment. An improved receiver sensitivity of -115 dBm gives an increased range compared to AIS units with the standard sensitivity of -107 dBm. The AIS 300 is tested and approved in accordance with international regulations and have the Wheelmark certification. In addition, the AIS 300 is tested and approved in accordance with the inland AIS regulations.

Integration

The AIS 300 is designed to be fully integrated with other navigation systems and can be delivered without an external display (MKD - Minimum Keyboard and Display), provided that the ECDIS is listed in MED-B for AIS 300. Functionalities are handled from the ECDIS in an integrated bridge system. The AIS 300 is type approved with ECDIS from different manufacturers and brands, in order to avoid installing a redundant display/keyboard. One important principle of e-navigation is to reduce the number of displays on the bridge. The navigator needs to have important information easily available in order to reduce response time for decisions. Better integration will lead to a better bridge environment as well as a simpler installation. If the AIS Unit is not to be fully integrated, an external display is needed in order to operate the system.

enabling the security function, the yacht and the connected assets will still be able to see AIS objects outside the network, provided that the standard AIS frequencies are used.

Easy to install and maintain

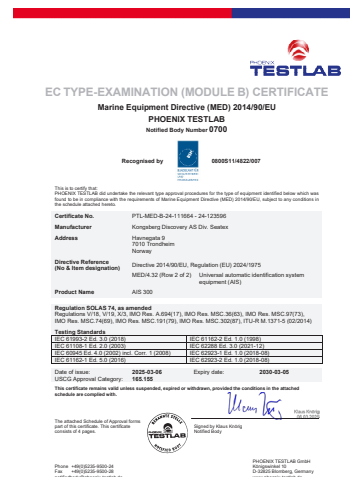
The AIS 300 is by default delivered with a bracket containing a solution for strain relief in both ends. The unit has a built-in WEB based user interface (UI) providing an interface for configuration and status monitoring. Software updates are supported via the WEB UI. The update will be accomplished without interfering with the existing configuration. The latest software will continuously be available for download from a server hosted by Kongsberg.

ECDIS/ECS, radar and sensor interface

Interface to ECDIS/ECS and radar is provided via the Presentation Interface (PI) available on network or serial interface (RS-422). It is implicit that the system supports the AIS interface. When interfacing the AIS to radar and chart systems, AIS target information such as position, heading course and speed become easily available to the mariner.

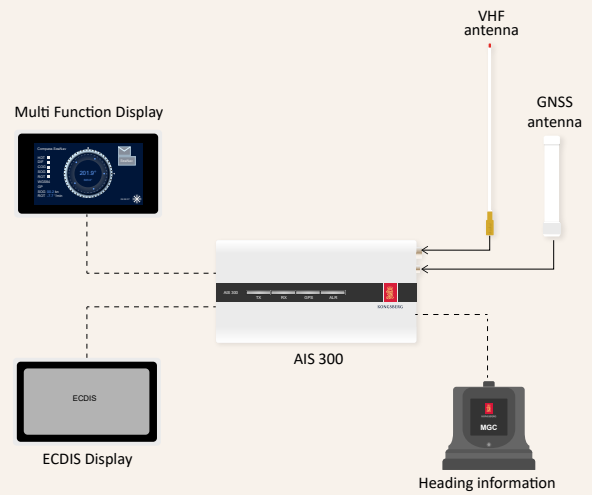
Asset tracking system

Kongsberg has introduced a scalable and optimized yacht Asset Tracking System (ATS) based upon AIS. Typical assets are tenders, jet-skis, RHIB and helicopter. The ATS has both a safety and security aspect, as it is used both preventive (detection of upcoming danger) and reactive (know the position of the assets). The possibility of running an encryption algorithm on top of the standardized AIS allows for a security layer for privacy. When



FEATURES

- Reception of all types of internationally approved AIS messages, including, but not restricted to, class A mobile, class B mobile, AtoN and AIS base station
- Three separate AIS channels
- Static data, dynamic data, voyage related data
- Safety related messaging
- Easy integration via network or serial interfaces
- Transmission of message 27 on SAT AIS frequencies
- Special tracking functionality and well valve status monitoring adapted to aquaculture live-fish carriers for documentation and reporting during transport operations in accordance with Norwegian regulations¹
- Optional Asset Tracking System (ATS) functionality enabling a mothership to keep track of her assets using AIS



1 "Forskrift om transport av akvakulturdyr", §9a

Technical specifications

AIS 300

Performance

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

Data inputs

Gyro compass	NMEA
GPS main source	NMEA
DGNSS corrections	RTCM - SC104 v2.1
Blue sign switch	Closed/open

Interfaces

VHF antenna	N-connector 50 Ω
GNSS antenna	TNC-connector 50 Ω
Communication ports	7 x RS-422 (isolated)
Baud rate	4800 to 115200 Baud
Message formats	NMEA
LAN	1 x Ethernet, 10/100 Mbit/s (autosense)
Alarm relay, blue sign switch	Open/closed
Asset Tracking System (ATS)	Option, enabled on request

Radio module

VHF transmitter	12.5 W/1 W
Receiver sensitivity	Better than -115 dBm
Protocol	SOTDMA/RATDMA/ITDMA/DSC
Modulation	GMSK/FSK
Bandwidth	25 kHz
Frequencies	156.025 to 162.025 MHz band Default CH87B (161.975 MHz) Default CH88B (162.025 MHz) CH70 (156.525 MHz) SAT 1 (156.775 MHz) SAT 2 (156.825 MHz)

Weights and dimensions

AIS Unit	1.3 kg, 260 × 133 × 54 mm
GPS antenna	0.15 kg, 230 mm x 33 mm
VHF antenna	1 kg, 1250 mm

Power specifications

AIS Unit - Input voltage	+24 VDC (op. range 12 - 32 VDC)
AIS Unit - Power consumption	9 W average, 39 W peak
GPS antenna	5 VDC from AIS Unit

Environmental specifications

Operating temperature range

AIS Unit	-15 - +55 °C
GPS antenna	-50 - +70 °C
VHF antenna	-55 - +70 °C

Humidity

AIS Unit	< 95 % relative, non-condensing
GPS antenna	100 %, hermetically sealed
VHF antenna	100 %, hermetically sealed

Product standards

Electrical safety	EN IEC 61010-1:2010
Electromagnetic compatibility	EN IEC 60945:2002
Environmental	EN IEC 60945:2002
Radio	IEC 61993-2:2018/ITU-R M. 1371-5
IWW	Inland AIS test standard (CCNR), ed. 2.0 10/2012
Electrical interface	IEC 61162-1:2016/IEC 61162-2:1998
Navigation information	IEC 62288:2014
Bridge alert management	IEC 62923-1:2018/IEC 62923-2:2018

Data interfaces

Mandatory inputs

GPS & heading data

Options input/output

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

Specifications subject to change without any further notice.