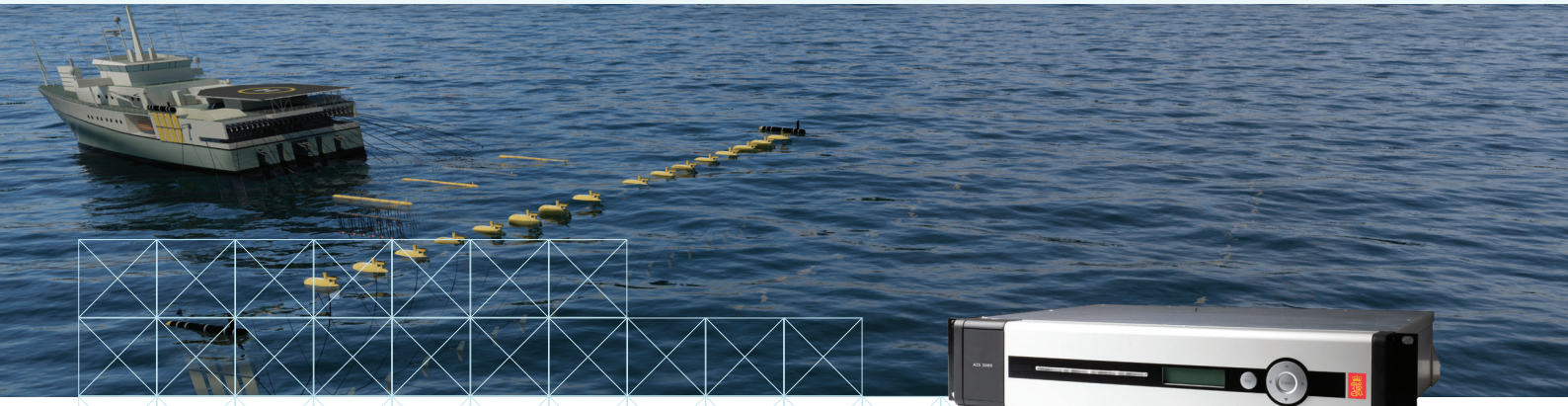
AIS 300S

KONGSBERG



AUTOMATIC IDENTIFICATION SYSTEM - SPECIAL OPERATIONS

The AIS 300S is an AIS Unit built to support special operations. The AIS 300S utilises the AIS technology beyond standard AIS functionality and is a powerful tool for different maritime operations. It can be configured to output a set of virtual AIS objects that can describe an area of operation, dynamic and/or static. Such an area of operation can be the rectangle constituting the streamer area behind a seismic vessel or a safety area around an offshore operation. The implementation is based on relevant international standards.

The beauty of AIS
A benefit with AIS is that the equipment is mandatory for all SOLAS (Safety Of Life At Sea) vessels. Since the end of 2004 all vessels above 300GT in international voyage are fitted with AIS. AIS is a two way communication system based on VHF mainly implemented for anti-collision purposes. AIS uses two frequencies around 162 MHz. The frequencies are now dedicated for AIS, hence no special permission is needed in order to use AIS.

AIS for special operations
In some operations the activity is below the surface, such as for operations involving remotely operated underwater vehicles (ROV) or seismic streamer operations. This constitutes an operational problem and there are risks related to some main issues:

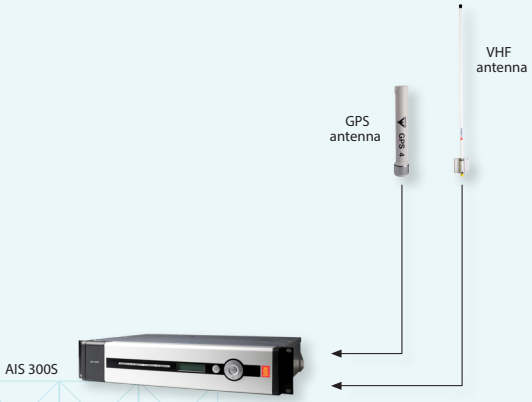
- Vessels coming in conflict with the operation and damage to vessels or equipment because of this
- Damage to underwater equipment in the operation area
- Unwanted interference with the maritime operation and financial loss because of delays and mission abort

Even if all vessels are carrying standard AIS Class A equipment, AIS capabilities can be used to better support navigation in areas where special operations are taking place. Complex operations such as coordinated lifting or towing activity are also target applications for AIS 300S. An effective way to warn vessels in the Area Of Responsibility (AOR) about actual movements below the surface or inside an invisible AOR, is by use of AIS and a virtual approach. On-board the seismic vessel, tug, or the vessel operating the ROV, there are control/status systems which keep track of the underwater equipment (ROV or streamer). Information, such as position of these submerged objects, can be transferred to the AIS system and embedded in the AIS message used for virtual AIS transmission. For a seismic operation the spread might be described by several virtual AIS objects. Vessels receiving the transmissions will get a real-time update of underwater movements and use this information in coordinated activities or to avoid the moving structure. On a presentation system, such as ECDIS, RADAR or dedicated decision support display, the virtual AIS information will appear like an icon with an attached text string. By selecting the icon, more information will be available and the virtual AIS AtoN will hence be a carrier of information. Further, AIS can also be used as data carrier for distribution of important operational data such as weather data and mooring tension values.

Vessel specific notifications
The AIS 300S is delivered with a feature for transmission of automatic notifications. Area filters can be applied to the AIS data stream. If a vessel enters the area, an addressed user configurable text message will be transmitted to the vessel. The message can e.g. contain information about the on-going operation. The intention is to reduce the amount of VHF voice communication and release more time for the operators to focus on the operation.

FEATURES

- Automatic transmission (addressed and broadcast) of warnings and notifications related to a special operation
- Virtual marking of an area of operation
- VHF Data Link commands to all AIS or specific AIS mobile units in the operation area
- Distribution of special messages and operational specific data (meteorological and hydrographic info., mooring line tension etc.)
- Built-in Windows user interface for area configuration
- Sensitivity better than -115 dBm
- Built-in storage capability of AIS raw data
- SNMP
- WEB interface for remote configuration and SW update of built-in AIS module



TECHNICAL SPECIFICATIONS

AIS 300S

INTERFACES

Communication ports	RS-422/RS-232 incl. RTCM input
Message formats	**NMEA**
LAN	100 Mbs BaseT Ethernet

RADIO MODULE

VHF transmitter	12.5 W or 1 W (remote switchable)
Sensitivity	Better than -115 dBm
Bandwidth	25 kHz
Frequencies	156.025 to 162.025 MHz Default Ch. 87B (161.975 MHz) Default Ch. 88B (162.025 MHz)
Protocol	RATDMA

WEIGTHS AND DIMENSIONS

AIS 300S Unit	5.2 kg, 89 mm x 485 mm x 345 mm
GPS antenna	0.15 kg, 230 mm x 33 mm
VHF antenna	1.0 kg, 1250 mm

POWER SPECIFICATIONS

AIS 300S Unit

Input voltage	100 to 240 V AC (50 to 60 Hz)
Power consumption	Average 30 W, peak 55 W
GPS antenna	5 V DC from AIS Unit

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range

AIS 300S Unit	-15 °C to +55 °C
GPS antenna	-50 °C to +70 °C
VHF antenna	-55 °C to +70 °C

Humidity

AIS 300S Unit	< 95 % relative, non-condensing
GPS antenna	100 %, hermetically sealed
VHF antenna	100 %, hermetically sealed

STANDARDS AND REGULATIONS

Electrical safety	EN 60950-1
Electromagnetic compatibility	EN 60945/EN 61000-6-3/6-2
AIS AtoN	IEC 62320-2 (relevant parts)
Electrical interface	IEC 61162-1/2
IALA recommendation	A-124
Radio	ITU-R M. 1371-5
MTBF (hours)	>100.000 (designed to meet)

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Specifications subject to change without any further notice.

KONGSBERG SEATEX

Switchboard: +47 73 54 55 00
Global support 24/7: +47 33 03 24 07
E-mail sales: km.seatex.sales@km.kongsberg.com
E-mail support: km.support.seatex@kongsberg.com

kongsberg.com/maritime

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