VDL 6000

AIS Secure Class A System

The AIS Secure Class A System can operate in three different modes:

- Standard Mode

-Silent Mode

-Secure Mode

The VDL 6000 AIS Secure Class A System provides SOLAS compliance and BSH-certification at very attractive prices. The data link communication covering identity, position, destination and other required static, voyage-related and dynamic data which gives all vessels in an area increased situational awareness and improves safety at sea for the individual ship.

The AIS class A System for naval operation can be configured in “receive only” mode or both “receive and transmit” mode for positive identification and positioning of all ships in the vicinity. The secure system builds on existing AIS technology and supports a user to receive, schedule and transmit encrypted messages to other users. This can include transmission of secure text messaging and to receive encrypted range and bearing. The secure AIS can also support simulated targets for naval operations.

Features

The SOTDMA technology is used in the AIS transponder which transmits and receives information on all vessels within VHF coverage. This information includes position, identity, course over ground, heading, and rate of turn as well as navigational status and destination of the ship. The information received from, and provided to, the ships is easily plotted on any ARPA radar or electronic chart system. The screen presentation of the call signs of other ships enables a ship to make direct contact with conflicting vessels by text messaging or voice communication. Maximum awareness is accomplished.

Configuration and interfaces

Easy to install in any ship, the AIS Class A system is connected to a GPS antenna, a VHF antenna and power supply, and is complete after connecting it to the onboard sensors. To maximize the benefit of the investment, the AIS Class A system is delivered with an interface to the chart system and/or ARPA radar. Moreover, the system is designed to support long-range reporting via satellite.

The shipborne AIS Secure Class A system consists of a Transponder and Minimum Keyboard and Display (MKD) unit.

CNS Systems™

VDL 6000 AIS Secure Class A System

Technical Specifications

Power

Input voltage	21.6 – 31.2 V DC

Radio

Transmitter output power	1 and 12.5 W, 50 Ohm load
Bandwidth	25 kHz
Protocol	TDMA (AIS)
Baud rate	9600 bps (AIS) / 1200 bps (DSC)
Modulation	GMSK (AIS) / FSK (DSC)
Frequencies	156.025 MHz – 162.025 MHz
Default channels	87B (161.975 MHz), 88B (162.025 MHZ), 70 (156.525 MHz)
Number of receivers	3 (2 AIS TDMA, 1 DSC)
Receiver sensitivity, 20% MER	< - 107 dBm

GNSS Receiver

GNSS receiver	GPS L1, 16 parallel channels
DGNSS support	Yes

Environmental

IEC 60945	Protected installation

Interfaces

VHF antenna	N female, 50 Ohm
GPS antenna	TNC female, 50 Ohm
Power	D-sub 9-pole male
Sensor Interfaces 1 to 3 (RS422)	IEC 61162-1 or -2
Pilot/Auxiliary (RS422)	IEC 61162-2
External Display (RS422)	IEC 61162-2
Long-range (RS422)	IEC 61162-2
DGNSS correction input (RS232)	RTCM/SC-104
Alarm relay	Normally closed

Standards

ITU-R M.1371-4
IEC 61993-2
IEC 61162-1, 2
IMO Resolution A.694 (17)
IMO Resolution MSC.74 (69) Annex 3
ITU-R-M.825-3
ITU-R M.1084-3
IEC 61108-1
IEC 62288
RTCA/DO 178B (SW development)
IPC-A-610 (manufacturing)

Physical characteristics

Size (W x H x L mm)	146 x 86 x 276 mm
Weight	2.8 kg
Cooling	Not required

Minimum Keyboard and Display

Power requirements	24 V DC, from Connection unit
Size (W x H x L mm)	120 x 180 x 45 mm
Weight	1,2 kg

Connection unit

Power requirements	24 V DC, 3 A
Size (W x H x L)	175 x 345 x 75 mm
Weight	1,1 kg

Accessories included

Interface cables between transponder, MKD and connection unit

Compliance

BSH Statement of Conformity

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