AIS 300BF

KONGSBERG

AUTOMATIC IDENTIFICATION SYSTEM - BLUE FORCE MOBILE STATION

Blue Force (BF) is a common term for own units or friendly forces. The AIS 300BF is an enhanced version of the type approved AIS 300 class A mobile station, which also offers secure communication in addition to standard AIS functionality. In secure mode the AIS 300BF will still be able to detect all AIS mobile stations in its coverage area but it will not reveal its own position to any other than friendly forces.

The AIS 300BF is the 3rd generation secure AIS mobile stations from Kongsberg and is designed for integration with other navigation equipment such as ECDIS and radar. An improved receiver sensitivity of -115 dBm gives an increased range compared to units with the standard sensitivity of -107 dBm.

Operational modes
The AIS 300BF has three different modes:

1. Standard AIS class A mode
2. Receive only mode
3. Secure mode (encrypted)

In mode 1, the AIS unit will act as a standard AIS class A mobile station. In mode 2, the unit will only listen without any transmissions. In mode 3, it will encrypt transmitted AIS data, making the navigation data available for other Blue Force units only. In order to separate military AIS traffic from standard AIS traffic on the standard channel A and B frequencies, the military traffic can be accomplished on a configurable 3rd channel.

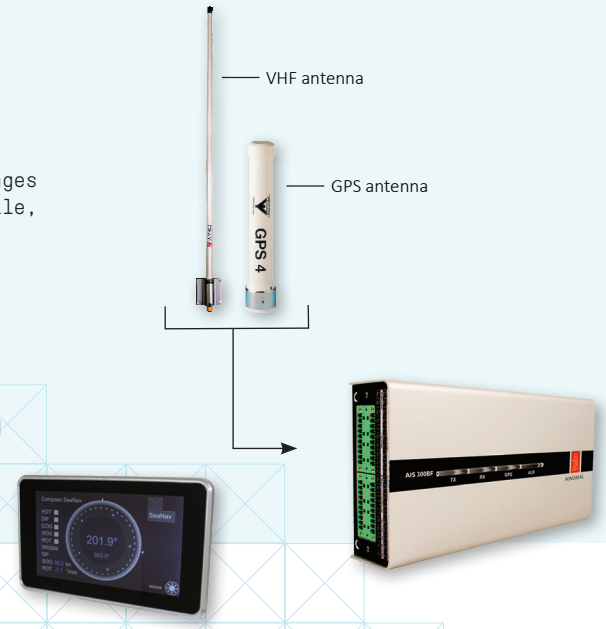
GPS position interface
With an AIS BF unit, the operator can select whether the external or internal GPS position shall be used. In a standard AIS unit, the external position will always be used unless it fails. In such situations, the internal GPS will be used.

Easy to install and maintain
The AIS 300BF is by default delivered with a bracket containing a solution for strain relief in both ends. Easy configuration via a built-in WEB user interface (UI). Software upgrade is supported via the WEB UI and USB interface. The AIS 300BF will sense if new software is available when a USB stick is inserted. The upgrade will automatically be fulfilled without interfering with the existing configuration. The latest software will continuously be available for download from a FTP server hosted by Kongsberg.

ECDIS, radar and sensor interface
The AIS 300BF is built for integration with ECDIS/ radar. Interface to ECDIS 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 AIS to radar and chart systems, AIS target information such as position, heading course and speed becomes available to the mariner and increases reliability of received navigation data from other vessels. Decryption and encryption are both accomplished internally. Output is AIS raw data, making integration with ECDIS/radar easier.

FEATURES

- Three different modes
- Enhanced sensitivity
- Receception 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
- 7" multifunction touch display for configuration, operation and monitoring
- Mode switch (option) for effective swiching between modes



TECHNICAL SPECIFICATIONS

AIS 300BF

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
DGPS corrections	RTCM - SC104 v2.1
Blue sign switch	Closed/open

INTERFACES

Communication ports	7 x RS-422 (isolated) 2 x RS-232 (service, unisolated)
Baud rate	4800 to 115200 Baud
Message formats	NMEA
Message type	AIS message
LAN	Ethernet, 10/100 Mbit/s (au tosense)
Alarm relay, blue sign switch	Open/closed

RADIO MODULE

VHF transmitter	12.5 W/1 W
Protocol	SOTDMA/DSC
Modulation	GMSK/FSK
Bandwith	25 kHz
Frequencies	156.025 to 162.025 MHz band Default CH87B (161.975 MHz) Default CH88B (162.025 MHz) CH70 (156.525 MHz)/GMSK SAT 1 (156.775 MHz) SAT 2 (156.825 MHz)

GPS MODULE (internal receiver)

50-channel GPS receiver	(all in view)
Position accuracy (GPS)	15 m RMS
Position accuracy (DGPS)	5 m RMS
Output rate	1 Hz

WEIGHTS AND DIMENSIONS

AIS Unit	1.3 kg, 260 x 133 x 54 mm
GPS antenna	0.15 kg, 230 x 33 mm
VHF antenna	1.0 kg, 1250 mm

POWER SPECIFICATIONS

AIS Unit input voltage	+24 V DC (op. range 12 to 32 V DC)
AIS Unit power consumption	9 W average, 39 W peak
GPS antenna	5 V DC from AIS Unit

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range

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

Humidity

AIS Unit	0 to 95 % RH
GPS antenna	100 % hermetically sealed
VHF antenna	100 % hermetically sealed

STANDARDS AND REGULATIONS

Product safety low voltage	IEC 60945/EN 60945
Electromagnetic compatibility, immunity/ radiation	IEC 60945/EN 60945
Vibration	IEC 60945/EN 60945
AIS	IEC 61993-2, ed. 2/ ITU-R M. 1371-5
IWW	Inland AIS test std, ed. 1.0
NATO	STANAG 4668 STANAG 4669 ed.1
MTBF (hours)	40.000

OPTIONS INPUT/OUTPUT

- GPS, heading, rate of turn (Input)
- ECDIS/ECS/RADAR
- Standard PI
- Long range communication system
- Blue sign plate

ENCRYPTION

- Blowfish
- AES

Specifications subject to change without any further notice.

January 2020

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@km.kongsberg.com

kongsberg.com/maritime

KONGSBERG