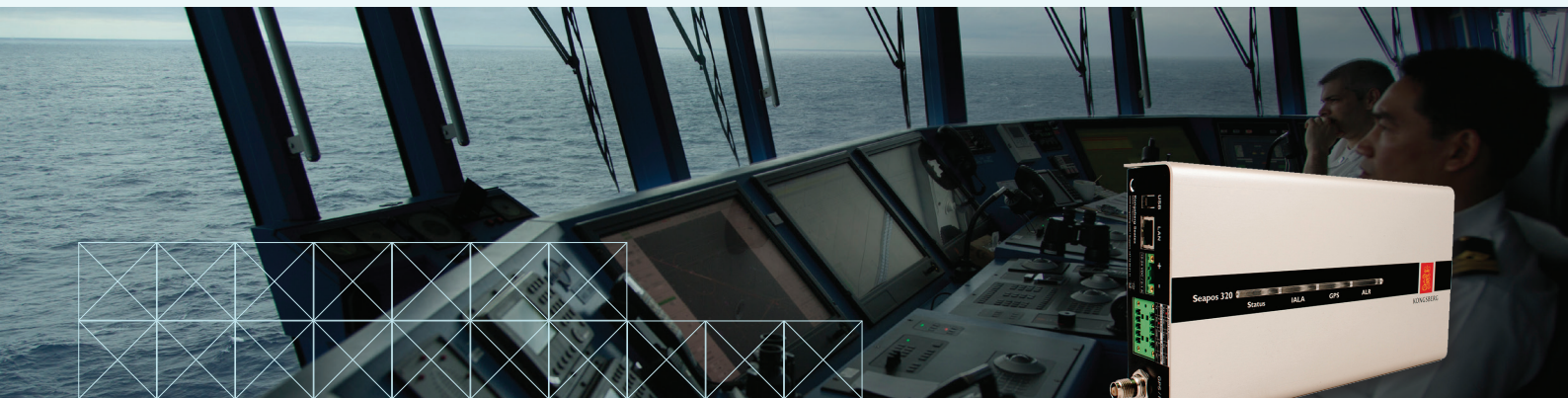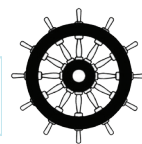# SEAPOS 300 SERIES

KONGSBERG

GNSS NAVIGATION SENSORS

0575

The SeaPos 300 series navigation sensors features type approved instruments for use on-board SOLAS vessels. All sensors are designed for integration with other navigation equipment, and will as default be configured and operated from an ECDIS without the need for separate external displays. The sensors are tested and approved in accordance with international regulations, and have the Wheelmark certification.

SeaPos models
The SeaPos 300 series features
- an IALA beacon receiver (SeaPos 300)
- a GPS receiver (SeaPos 310)
- a DGPS receiver (SeaPos 320)

Integration
The SeaPos 300 series of navigation sensors is designed to be fully integrated with other navigation systems. This means that these models are per default delivered without external display for configuration and operation. All operation and functionality are handled from typically the ECDIS in an integrated bridge system. The SeaPos 300 sensors are hence 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.

Interface
The interface to other navigation systems is provided via network or serial interface (RS-422), in accordance with international standards.

Easy to install and maintain
The SeaPos 300 series is by default delivered with a bracket containing a solution for strain relief in both ends. The unit is easily configured via a built-in WEB user interface (UI). Software updates are supported via the WEB UI but also the USB interface will automatically detect new software when a USB storage device is inserted. The update will be accomplished without interfering with the existing configuration. The latest software will continuously be available for download from an FTP server hosted by Kongsberg.

Wheel mark
When used for type approved applications the MFD must be used. The SeaPos is delivered with a 7" MFD (MFD 307 panel computer) that is connected to the SeaPos via LAN. The MFD 307 is made for flush mount, but a variation of brackets can optionally be delivered.

FEATURES

SeaPos 300 - IALA beacon receiver
The SeaPos 300 is an IALA beacon receiver designed to receive RTCM corrections from an IALA beacon infrastructure. Recommended antenna: IALA - Seatex nr. G060-13.
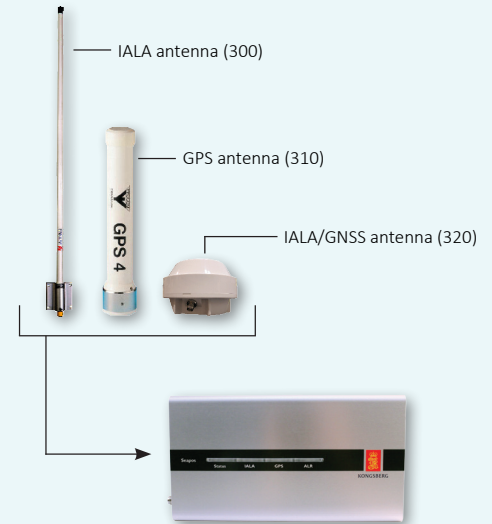
SeaPos 310 - GPS receiver
The SeaPos 310 is an all-in-view 50-channel GPS L1 receiver. Recommended antenna: GPS 4 - Seatex nr. A101-01.

SeaPos 320 - DGPS receiver
The SeaPos 320 is a differential GPS receiver, utilising RTCM corrections distributed by IALA beacons for augmented position accuracy and integrity. Recommended antenna: IALA/GNSS - Seatex nr. G060-88.

Separate display can be delivered upon request.

IALA antenna (300)
GPS antenna (310)
IALA/GNSS antenna (320)

TECHNICAL SPECIFICATIONS

SEAPOS 300 SERIES

PERFORMANCE
50-channel GPS receiver (all in view)

Pos. accuracy (GPS[1])	2.5 m CEP
Pos. accuracy (DGPS[1])	2.0 m CEP (SBAS, IALA)
Output rate	2 Hz
Acquisition, cold-start	45 seconds

INTERFACES

Communication ports	1 x RS-422 (isolated), 1 x RS-232 (service, unisolated), 1 USB 2.0 interface
Baud rate	4800 to 115200 Baud
Message formats	NMEA 0183
Message type	GGA, GSA, GSV, GST, RMC, ROT, VTG, ALC, ALF/ALR, BLM, BLS, BLT, NTP
LAN	Ethernet, 10/100 Mbit/s (autosense),configurable data output on UDP Unicast/Broadcast/Multicast and TCP (server)

WEIGHTS AND DIMENSIONS

SeaPos Unit	0.85 kg, 260 x 133 x 54 mm
IALA antenna	1.0 kg, 1000 mm
GPS 4 antenna	0.15 kg, 230 mm x 33 mm
IALA/GNSS antenna	0.75 kg, 104 x 145 mm

POWER SPECIFICATIONS

SeaPos Unit	12 to 32 V DC, 4 W continuous
IALA antenna	9 to 15 V DC
GPS 4 antenna	5 V DC
IALA/GNSS antenna	5 to 12 V DC

ENVIRONMENTAL SPECIFICATIONS
Operating temperature range

SeaPos Unit	-15 °C to +55 °C
IALA antenna	-55 °C to +71 °C
GPS 4 antenna	-50 °C to +70 °C
IALA/GNSS antenna	-30 °C to +70 °C

Humidity

SeaPos Unit	< 95 % relative, non-condensing
IALA antenna	100 %, hermetically sealed
GPS 4 antenna	100 %, hermetically sealed
IALA/GNSS antenna	95 % non-condensing

STANDARDS AND REGULATIONS

Product safety	IEC 61010-1/EN 61010-1
Environmental	IEC 60945/EN 60945
Interfaces	IEC 61162 series/ EN 61162 series
GPS receiver	IEC 61108-1/EN 61108-1
DGPS receiver	IEC 61108-4
MTBF	Designed for 45.000 hours

OPTIONS INPUT/OUTPUT
- Rate of turn (Input)
- ECDIS/ECS/Conning display
- Radar
- Gyro
- Communication

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[1] Dependent upon ionospheric activity, multipath and SVs in view and geometry.

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