

DPS 232



KONGSBERG



May 2014

ALL-IN-ONE DP REFERENCE SYSTEM

DPS 232 is a new generation GNSS based position reference system which takes positioning to the next level for secure and robust solutions using GPS and GLONASS. DPS 232 features technology that is one step ahead.

Trustworthiness of satellite navigation

DPS 232 exploits available combinations of GNSS signals for operations in challenging environments. The addition of GLONASS significantly increases satellite availability, improves integrity monitoring and enables better precision under different signal tracking conditions. DPS 232 increases the reliability of system outputs and minimises the effects of outlier measurements. Alarms and warnings are activated if critical tolerances are exceeded and if position quality degrades. The system is tailor-made for DP operations and will enhance DP performance and provide 24/7 reliable operation year after year.

Networked architecture

The DPS NAV Engine® runs all critical computations independent from the DPS HMI to ensure continuous and reliable operation. DPS NAV Engine® runs in a safe mode protected from unintended user operations. Several DPS HMIs can be connected to the same DPS NAV Engine® in a networked architecture.

Multiple information layers

Multiple layers of information give the DP operator unmatched opportunities for a customized visual presentation. Electronic chart, seabed maps, well head positions, static targets and AIS target information are some of the functions that are easily enabled by selecting or combining the different information layers.

Ease-of-use HMI

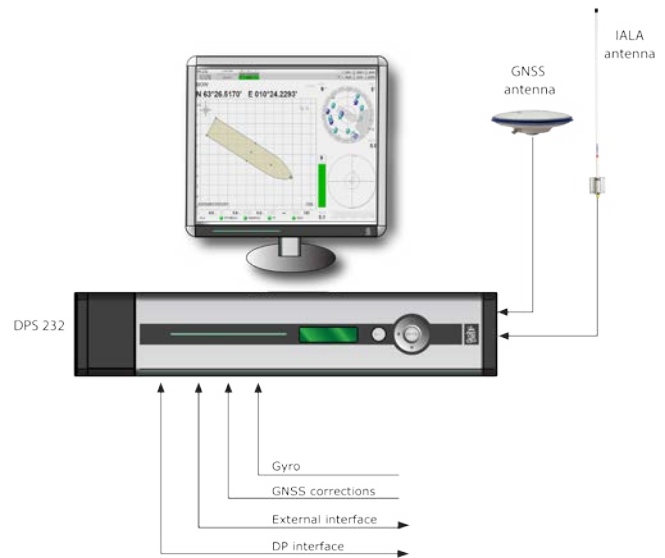
The DP has an intuitive and easy-to-use graphical user interface developed in close co-operation with experienced DP operators. This HMI enables the operators to assess the quality of their positioning quickly and effectively during operation. For better visibility under different light conditions the operator can easily select between a set of colour palettes, including a well tested night display.

Multiple differential signals

DPS NAV Engine® comprises an all-in-one signal processing core with advanced algorithms and true parallel processing of all available signals including SBAS (e.g. WAAS, EGNOS, MSAS, GAGAN). DGPS/DGLONASS corrections from different sources are combined by the unique MULTIREF capability. There is no practical limitation to the number of reference stations handled by the DPS NAV Engine®. DPS 232 provides full decimetre accuracy with high precision services.

FEATURES DPS 232

- Combined GPS L1/L2, GLONASS L1/L2 and SBAS receiver
- Dual frequency ionospheric compensation
- On-line monitoring and display of QC data
- Easy-to-use HMI tailored to safety critical DP operations
- Interface to heading sensors
- Lever arm compensation
- Automatic data recording with replay functionality
- Skyplot with satellite prediction and shadow sectors
- Target monitoring
- Speed view
- Electronic bearing line (EBL)
- Electronic chart/seabed maps
- AIS Interface
- Audible and visual alarms
- UKOOA compliant



TECHNICAL SPECIFICATIONS

PERFORMANCE

High precision accuracy	10 cm, 95 % CEP
DGPS/DGLONASS accuracy	< 1 m, 95 % CEP
SBAS accuracy	< 1 m, 95 % CEP
Velocity accuracy	< 0.05 m/s, 95 % CEP
Output rate	1 Hz

All accuracy specifications are based on real-life tests conducted in the North Sea under various conditions. Operation in other locations under different conditions may produce different results.

INTERFACES

Serial ports	8 isolated ports, 6 configurable between RS-232 and RS-422
Ethernet/LAN	4
USB	3

DATA OUTPUTS

Message formats	NMEA 0183 v. 3.0, Proprietary
Message types	ABBDP, DPGGA, DTM, GBS, GGA, GLL, GNS, GRS, GSA, GST, GSV, RMC, VBW, VTG, ZDA

DATA INPUTS

DGPS/DGLONASS corrections	RTCM-SC104 ver. 2.2, 2.3, 3.0, 3.1, Seastar XP, Seastar G2
Gyro compass	NMEA 0183 HEHDT, HEHRC and Robertson LR22 BCD format

WEIGHT AND DIMENSIONS

DPS 232 unit	5.4 kg, 89 x 485 x 357 mm
GNSS antenna	0.5 kg, 69 mm x 185 mm
IALA beacon antenna	0.9 kg, 1100 mm

POWER

DPS 232 unit	100 - 240 V AC, 50/60 Hz, max 60 W
GNSS antenna	5 V DC from processing unit
IALA beacon antenna	10.2 V DC from processing unit

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range

DPS 232 unit	-15 to +55 °C (*)
GNSS antenna	-40 to +85 °C
IALA beacon antenna	-55 to +55 °C

(*) Recommended +5 to +40 °C

Humidity

DPS 232 unit	Max. 95 % non-condensing
GNSS antenna	Hermetically sealed
IALA beacon antenna	Hermetically sealed

Mechanical

Vibration	IEC 60945/EN 60945
-----------	--------------------

Electromagnetic compatibility

Compliance to EMC, immunity/emission	IEC 60945/EN 60945
--------------------------------------	--------------------

PRODUCT SAFETY

Compliance to LVD, standard used	IEC 60950-1/EN 60950-1
----------------------------------	------------------------

Specifications subject to change without any further notice.