XPR® 100

KONGSBERG

Long-range relative positioning system

The XPR 100 is a microwave-based solution developed for DP (Dynamic Positioning) applications in need of long-range relative positioning. Witn no moving parts and with its compact and lightweight design, the XPR installation is simple and quick.

Long-range operation

Operating in the 9.2 - 9.3 GHz band, the XPR 100 operates in all weather conditons, and has an unmatched performance in range and bearing accuracy. Each lightweight sensor unit has an opening angle of 100 degrees.

Multiple sensor units

The XPR 100 can be deployed as an omni directional system utilising several sensor units. This provides an extended operational area of up to 280 degrees, as well as avoidance of blind angles, depending on the construction and operation.

The application software makes configuration and monitoring of the XPR 100 operation easy and effective. Interfaces to remote systems such as Dynamic Positioning (DP) can either be serial lines or Ethernet based. The XPR 100 is designed to fill the need specified by IMO for DP Class 2 vessels.

Automatic target selection

Targets are stored in the system, and continous monitoring in all directions (area of operation) mitigates false target lock, and secures a very fast target aquisition.

Built-in system test and verification

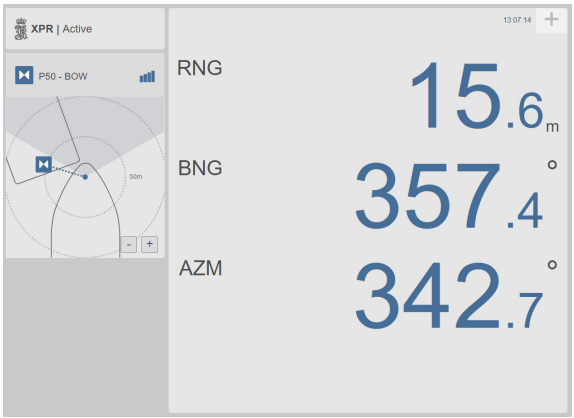
Prior to an operation, the XPR 100 performs a check and verification of the system to secure a safe and efficient operation.

Easily operated user interface

The XPR 100 features a highly intuitive graphical user interfce enabling 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 proven night display.

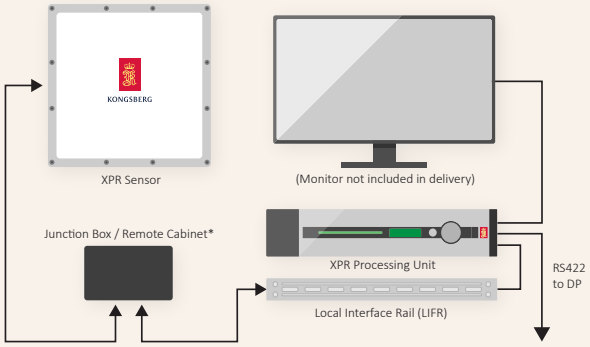
Complementary solution

KONGSBERG offers a range of different positioning solutions for use in DP operations. The XPR 100 is complementary to other solutions technology-wise, and incorporates decades of experience and application understanding.



FEATURES

- No moving parts
- No regular maintenance
- Compact and light-weight sensor unit
- Easy and quick installation
- Support for multi-sensor site for extended operational area (100° - 280° coverage)
- Automatic built-in system test prior to operation
- Automatic target selection
- Compatible with Artemis MK4, MK5 and MK6
- Use of existing Artemis cable infrastructure possible
- Operates in all weather conditions



*Dependent on type of installation

Technical specifications

XPR® 100

Performance

Operating range	10 m - 5 km
Range accuracy	1 m standard deviation
Range resolution	0.1 m
Range update rate	4 Hz
Bearing accuracy	0.02° standard deviation
Bearing update rate	4 Hz
Horizontal opening angle	± 50°
Vertical opening angle	25°
Operating frequency band	9.2 - 9.3 GHz
EIRP	48 dBm

Interfaces

XPR Sensor Unit

Ethernet/LAN	1

XPR Processing Unit

Serial ports	6 x RS-422/RS-232 (isolated)
Ethernet/LAN	4, RJ45
USB	3, 1 in front and 2 in rear

Data outputs

Message formats	Proprietary NMEA 0183
Message types	PSXXPR, RSXRAD, Artemis BCD, Artemis ADB

Weights and dimensions

XPR Sensor Unit	9.9 kg, 391 × 391 × 50 mm
XPR Processing Unit	5.4 kg, 88 × 485 × 412 mm

Power specifications

XPR Sensor Unit	24 VDC, max. 70 W
XPR ProcessingUnit	100 - 240 V AC, 50/60 Hz, max. 60 W

Environmental specifications

XPR Sensor Unit

Operating temperature range	-25 °C - 55 °C
Storage temperature range	-40 °C - 70 °C
Operating humidity	100 %
Storage humidity	60 %, max.
Enclosure protection	IP66

XPR Processing Unit

Operating temperature range	-15 °C - 55 °C
Storage temperature range:	
Short term	-20 °C - 70 °C
Long term	5 °C - 35 °C
Operating humidity	95% non-condensing, max.
Storage humidity	< 55 %
Enclosure protection	Front IP42, rear IP21

Mechanical

Vibration, all units	IEC 60945, IACS E10

Electromagnetic compatibility

Compliance to EMC, immunity/emission	IEC 60945, IACS E10

Regulatory

Compliance to Radio Equipment Directive (RED)	2014/53/EU

This implies compliance with applicable EMC and LVD standards.

Type approval

DNV-GL certificate no.	TAA000020DX

Specifications subject to change without any further notice.

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