

# XPR® 100 EX LP



KONGSBERG



## LOW-POWER EX CERTIFIED RELATIVE POSITIONING SYSTEM

XPR is a microwave-based solution developed for DP applications in need of long-range relative positioning. With no moving parts and with its compact and lightweight design, installation is quick and easy.

### Long-range operation

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

### Multiple sensor units

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

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

### Automatic target selection

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

### Built-in system test and verification

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

### Ease-of-use HMI

The XPR features a highly intuitive HMI 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

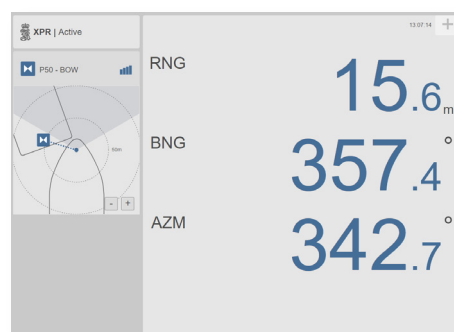
KONGSBERG offers a range of different positioning solutions for use in DP operations. The XPR is complementary to other solutions technology-wise and incorporates decades of experience and application understanding.

### IECEX and ATEX certification

XPR Ex LP is suited for installation in hazardous locations where there may be an explosive mixture of flammable gases belonging to gas group II B and/or II A. XPR Ex LP can be installed in an Ex zone 2.

IECEX marking is: Ex ec IIB T4 Gc.

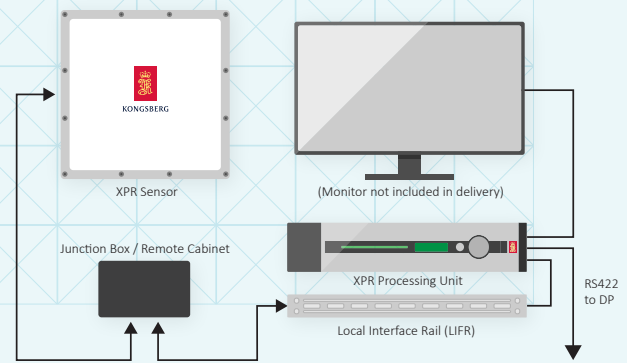
ATEX marking is:  $\text{Ex}$  II 3G Ex ec IIB T4 Gc.



HMI.

## FEATURES

- No moving parts
- No regular maintenance
- Compact and light weight sensor units
- 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, MK6
- Use of existing cable infrastructure possible
- Operates in all weather conditions



## TECHNICAL SPECIFICATIONS

### XPR® 100 EX LP

#### PERFORMANCE

Operating range	10 m - 1 km <sup>1</sup>
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

#### INTERFACES

XPR Sensor Unit	1
Ethernet/LAN	
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, PSXRAD, Artemis BCD, Artemis ADB

#### WEIGHTS AND DIMENSIONS

XPR Sensor Unit	9.9 kg, 391 x 391 x 50 mm
XPR Processing Unit	5.4 kg, 88 x 485 x 412 mm
XPR Junction Box	2.88 kg, 220 x 120 x 91 mm

#### POWER SPECIFICATIONS

XPR Sensor Unit	24 V DC, max. 45 W
XPR Processing Unit	100 to 240 V AC, 50/60 Hz max. 60 W

#### ENVIRONMENTAL SPECIFICATIONS

##### XPR Sensor Unit

Operating temperature range	-25 °C to +55 °C
Storage temperature range	-40 °C to +70 °C
Operating humidity	100 %
Storage humidity	Max. 60 %
Enclosure protection	IP66

##### XPR Processing Unit

Operating temperature range	-15 °C to +55 °C
Short term storage temp. range	-20 °C to +70 °C
Long term storage temp. range	+5 °C to +35 °C
Operating humidity	Max. 95 % non-condensing
Storage humidity	Less than 55 %
Enclosure protection	Front IP42, rear IP21

##### XPR Junction Box

Operating temperature range	-25 °C to +55 °C
Storage humidity	Less than 55 %
Enclosure protection	IP66

#### Mechanical

Vibration, all units	IEC 60945, IACS E10
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#### Electromagnetic compatibility

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

Compliance to Radio Equipment Directive (RED)	2014/53/EU
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This implies compliance with applicable EMC and LVD standards.

#### Type Approval

DNV-GL certificate no.	TAA000020DX
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#### EX certificates

IECEX	IECEX DEK 21.0042X
ATEX	DEKRA 20ATEX0020 X

<sup>1</sup>Operating range 1-2 km depending on configuration.

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Specifications subject to change without any further notice.

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