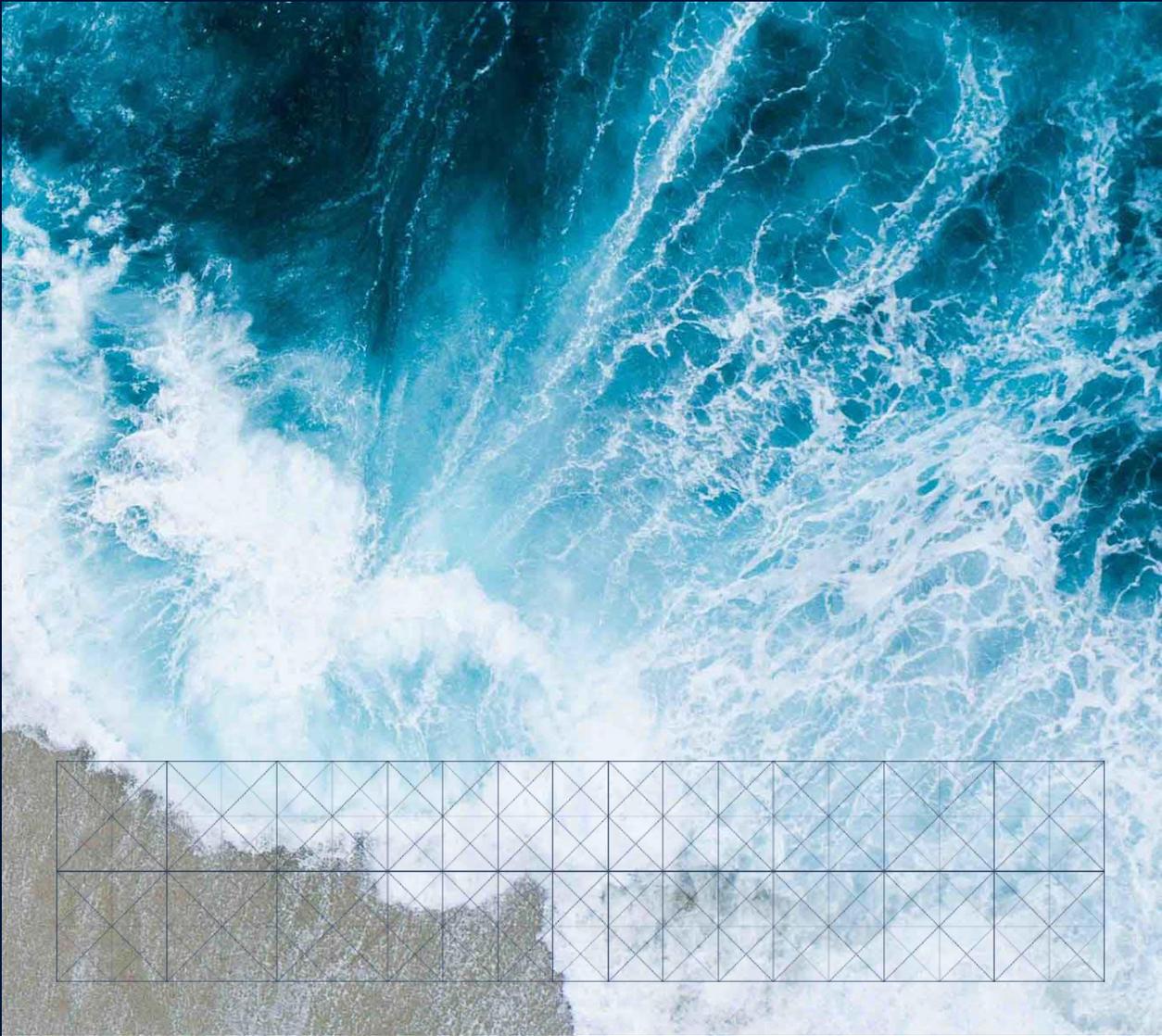




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KONGSBERG SEATEX

XPR



XPR Operator & Technical Training



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XPR

Long Range Relative Positioning System





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XPR Training

Course Content

XPR Training

XPR Operator Training

XPR Technical Training



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XPR Operator Training

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XPR Operator Training

XPR Introduction

XPR Principles

XPR Product Modules

XPR Operation



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XPR Operator Training

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XPR Product Modules

XPR Operation



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XPR

Microwave based DP Reference System

■ Features:

- No maintenance
- Small size and light weight
- Easy to install and operate
- Flexible configuration (100° to 280° coverage)
- Compatible with Artemis



Front view: XPR Panel



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XPR

Microwave based DP Reference System

■ Features:

- Easy and quick installation, using existing cabling
- Operating range from 10m to 5km
- Automatic target selection (requires Field ID from DP)
- Operates in all weather conditions
- Customer replaceable units



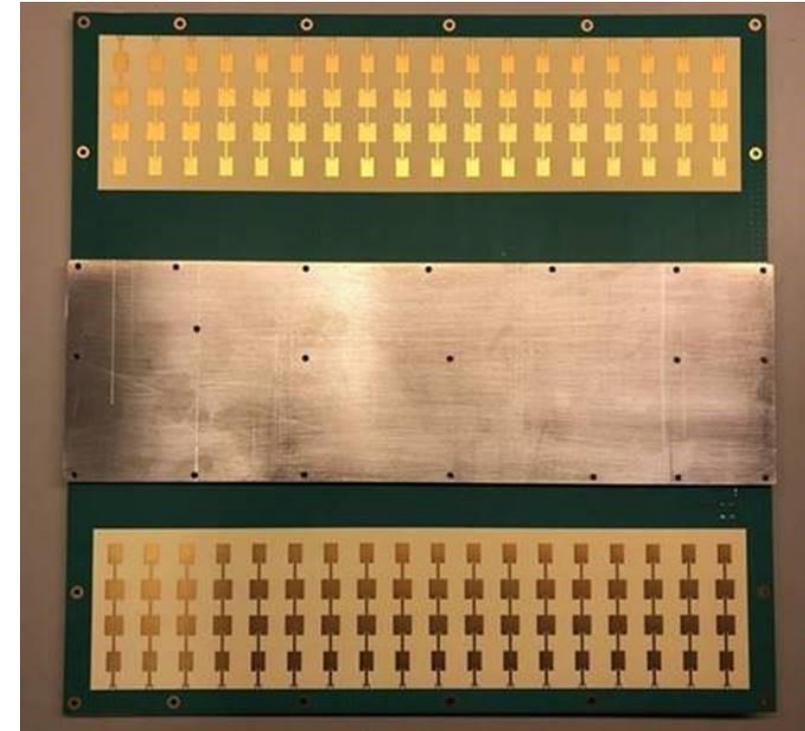


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XPR

Technical Specifications

- Solid state technology (no moving parts)
- Beam forming by antenna arrays
- Frequency range: 9.2-9.3 GHz
- Range accuracy: 1m
- Bearing accuracy: +/- 0.02°
- Operating range: 10m - 5km
- Digital beam:
 - Horizontal beamwidth 7°
 - Vertical beamwidth 25°
- Horizontal opening angle: 100° pr. panel
- Output rate: 1-4Hz



Front view: Antenna elements

XPR

Mechanical Design



Dimensions: 40 x 40 cm, Depth 5 cm, Weight 9kg



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XPR

Improved Performance with XPR-to-XPR Operations

- Faster target acquisition/lock on target (< 30s on 270° scan)
- Automatic target selection
- Improved false target lock mitigation
- Continuous monitoring in all directions (area of operation)
- Exchange of other data/information between the two vessels
- Improved range and bearing accuracy





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XPR Operator Training

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XPR Operator Training

XPR Introduction

XPR Principles

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XPR Operation



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XPR

Measuring Principle

Distance/Range:

- By comparing the signal sent from the XPR on the shuttle tanker to the FPSO with the signal returned from the FPSO the travel time is determined.
- The distance/Range is then calculated by:

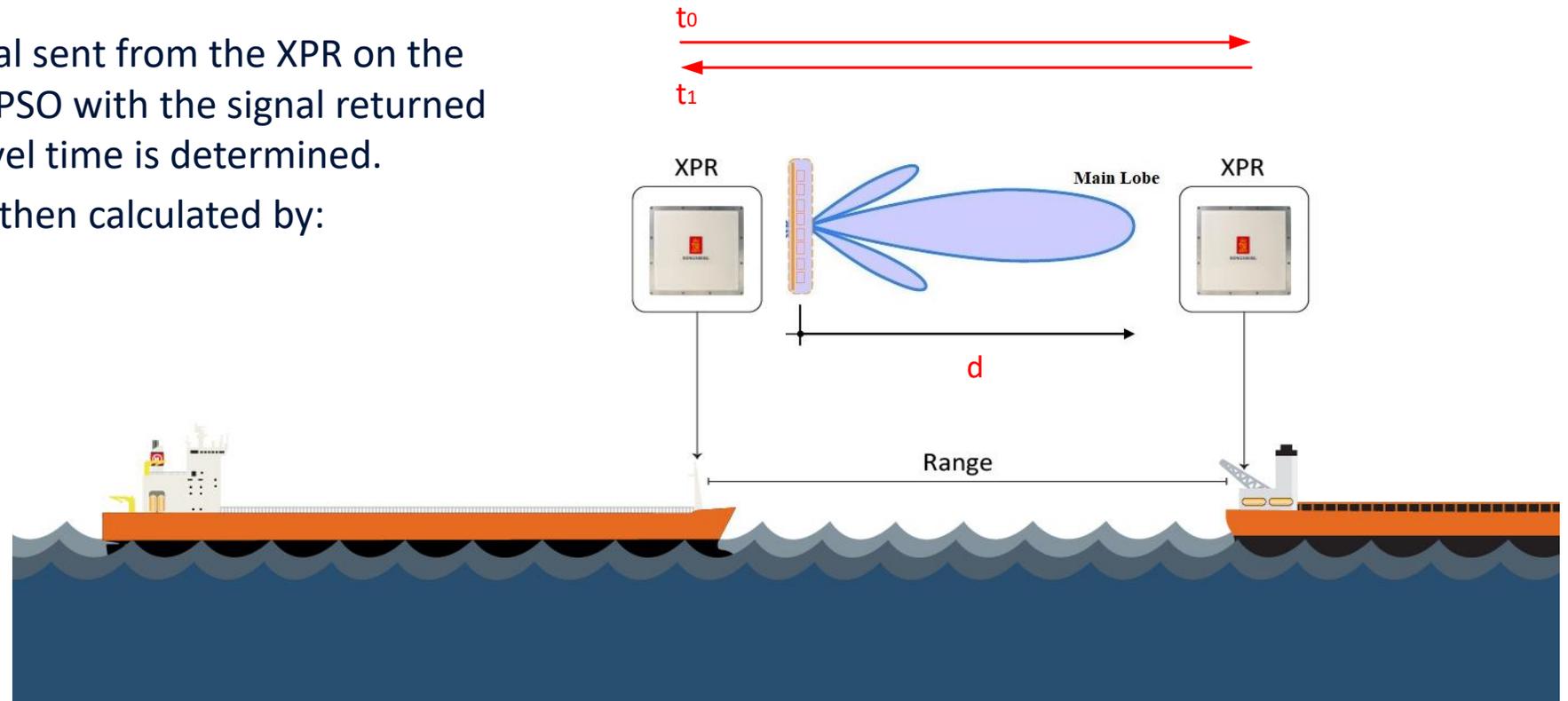
$$d = \frac{t_1 - t_0}{2} * c$$

d=distance

t₀= start time

t₁= stop time

c=speed of light



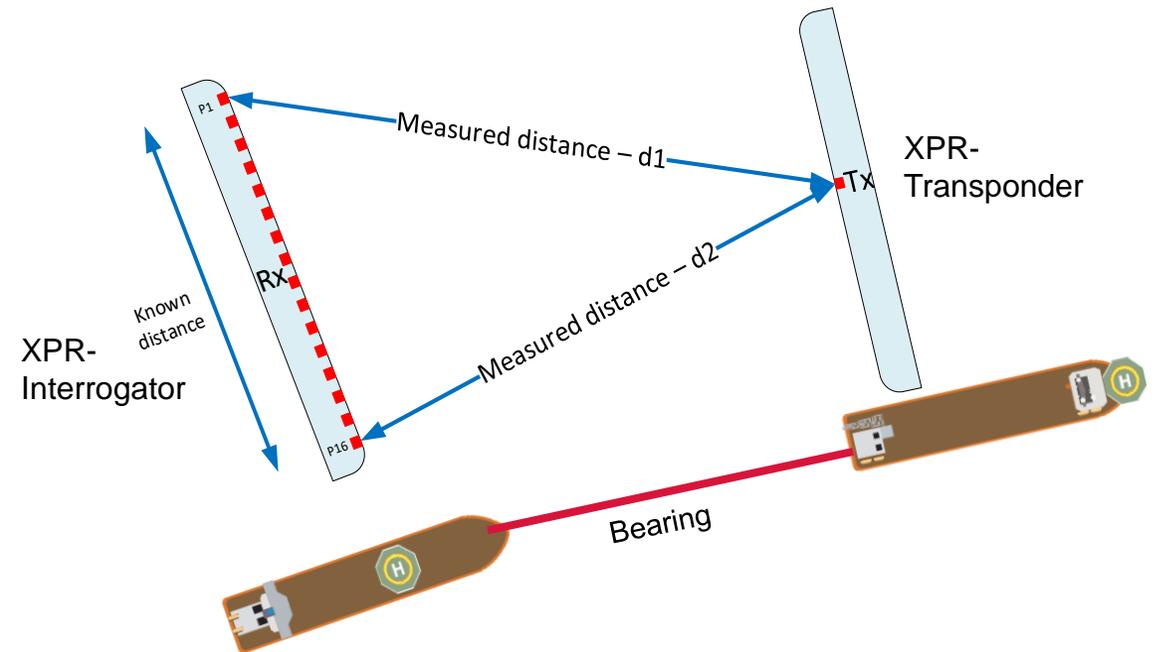


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XPR

Measuring Principle

- Bearing calculation is based on:
 - Distance measurement between antenna patch #1 in the interrogator and Tx antenna in the transponder
 - Distance measurement between antenna patch #16 in the interrogator and Tx antenna in the transponder
 - And the known distance between antenna patch #1 and #16





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XPR

Frequencies & Address Codes

- The XPR operates on frequencies between 9.2 and 9.3 GHz, same as Artemis:

| Frequency Pair | 0 | 1 | 2 | 3 |
|--------------------|------|------|------|------|
| Interrogator [MHz] | 9200 | 9300 | 9230 | 9270 |
| Transponder [MHz] | 9230 | 9270 | 9200 | 9300 |

- In addition to having the correct frequency pair, the selected address code between 0-63 also must be correct.
- The frequency pair and address code is configured in the target list.

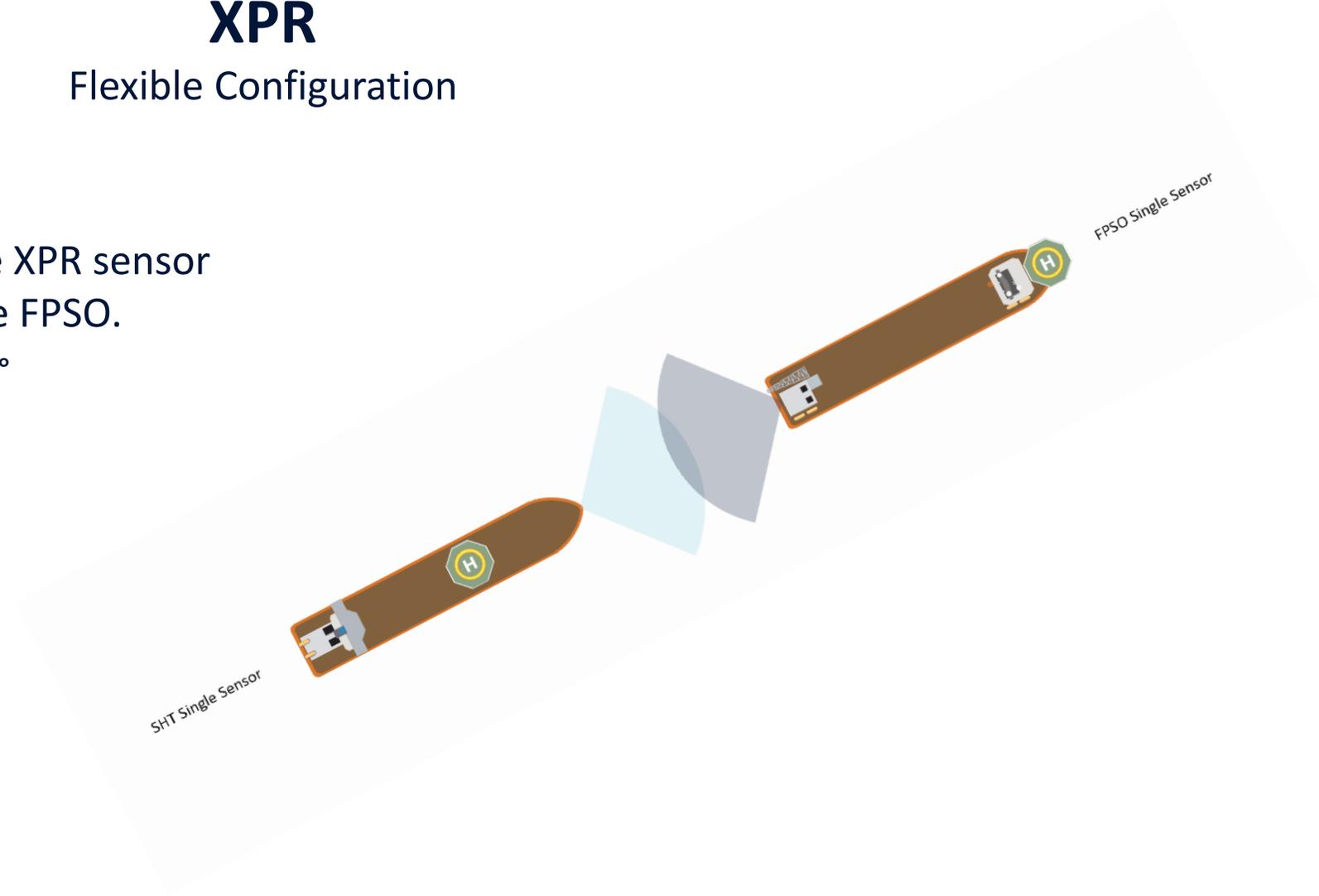


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XPR

Flexible Configuration

- The XPR is fully operational with one XPR sensor on the Shuttle tanker and one on the FPSO.
- This gives an operational sector of 100°



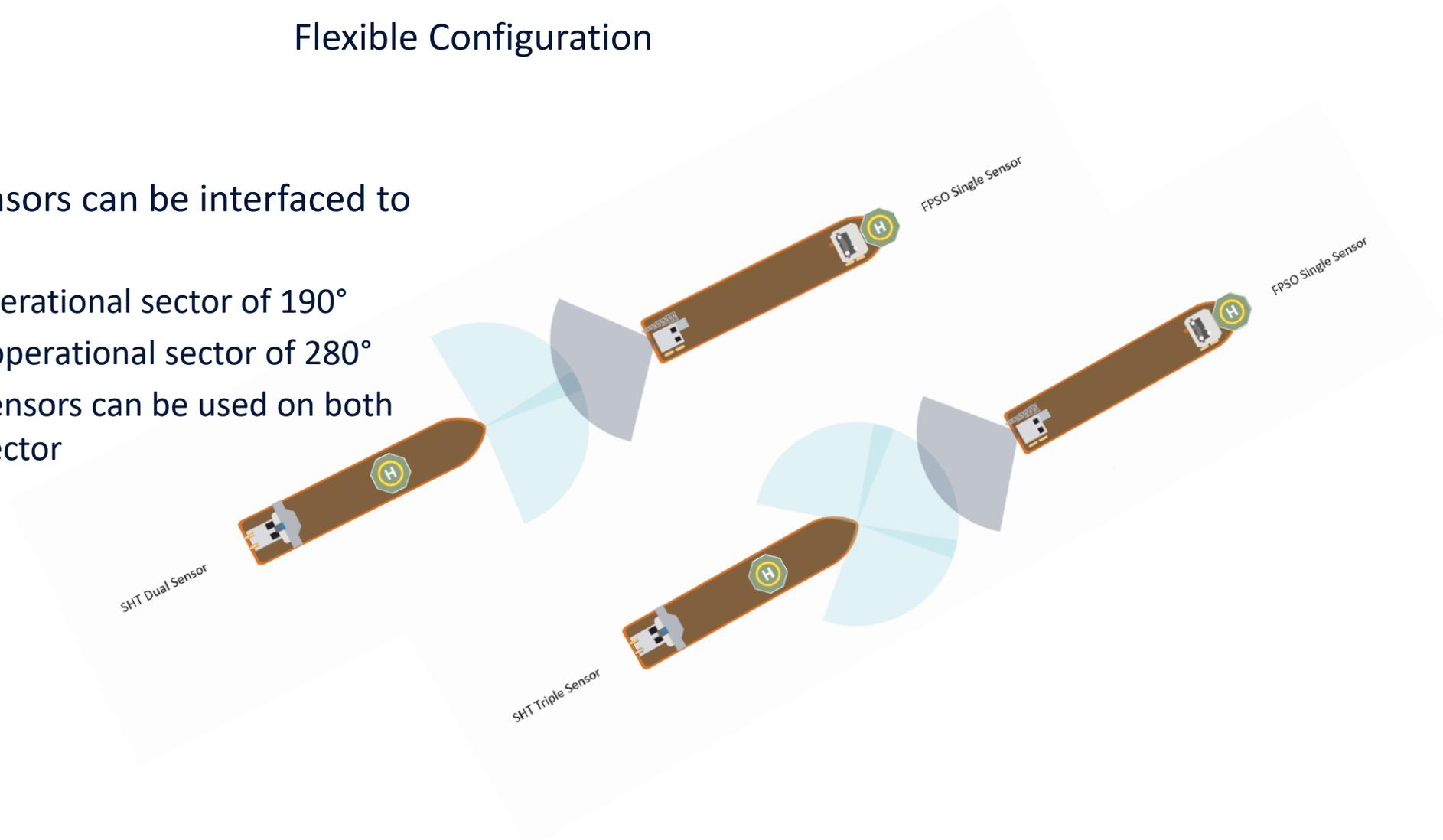


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XPR

Flexible Configuration

- Maximum of three sensors can be interfaced to one XPR system
 - Two sensors give an operational sector of 190°
 - Three sensors give an operational sector of 280°
 - Extended number of sensors can be used on both sides to increase the sector





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XPR

Factors Affecting Performance

- The XPR needs free line of sight between the interrogator on the shuttle tanker to the transponder on the FPSO.
- Any object in front of the interrogator might affect the performance of the XPR.
- Flat sea fading.

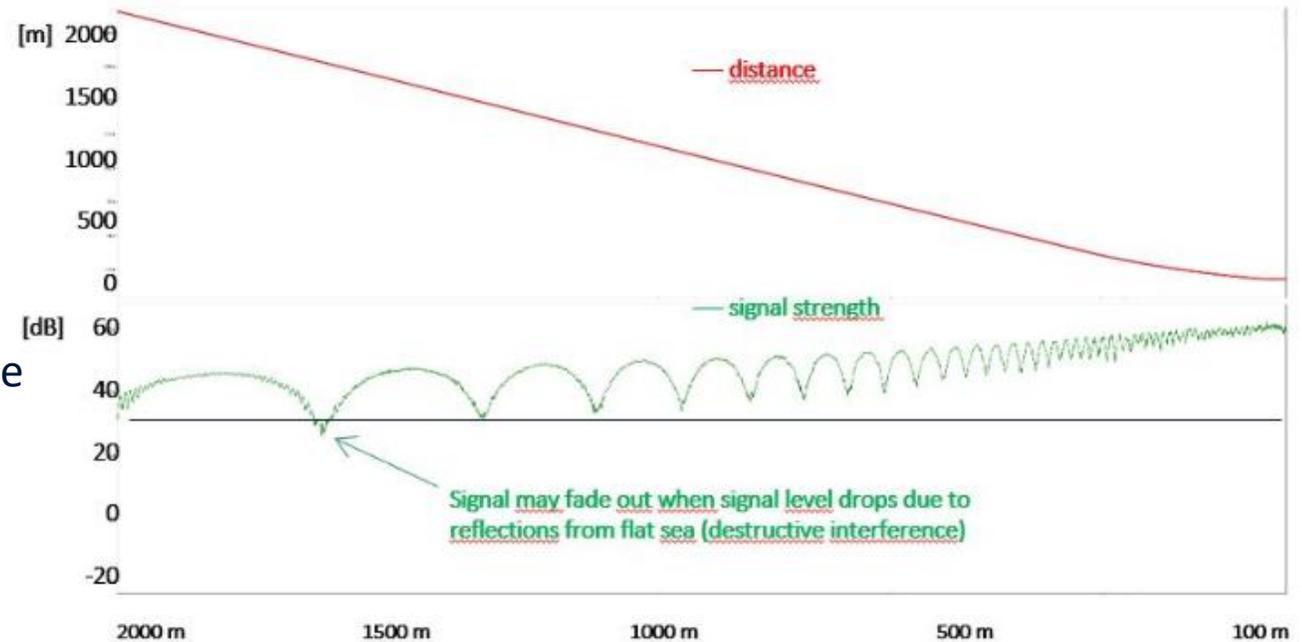


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XPR

Factors Affecting Performance

- Flat sea fading
 - Signals reflected from flat sea surface will interfere with the direct signals and signal levels can fade.
 - Lock on target may get lost with wave height less than 0.5m.
 - Sea state, antenna height and distance will influence on this effect





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XPR Operator Training

Course Content

XPR Operator Training

XPR Introduction

XPR Principles

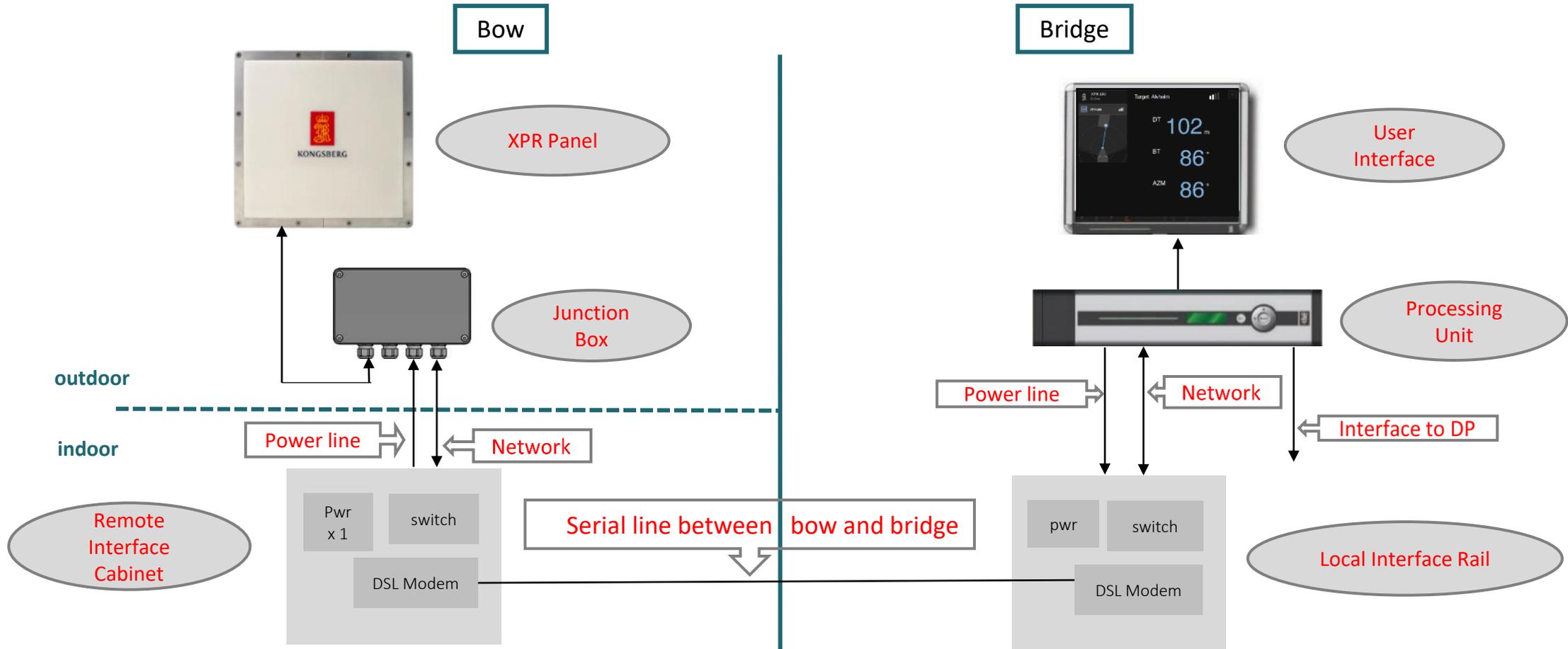
XPR Product Modules

XPR Operation



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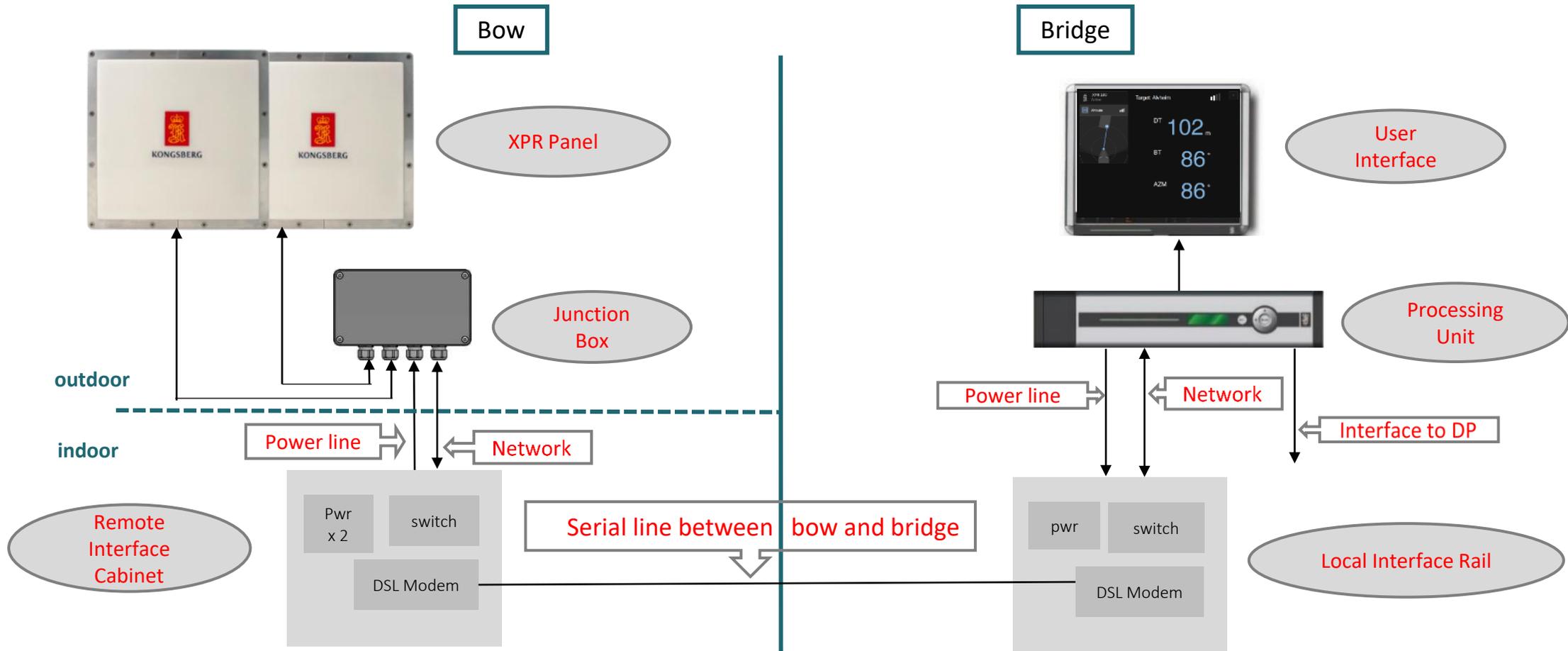
XPR Single System (SHT)





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XPR Dual System (SHT)





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XPR Operator Training

Course Content

XPR Operator Training

XPR Introduction

XPR Principles

XPR Product Modules

XPR Operation

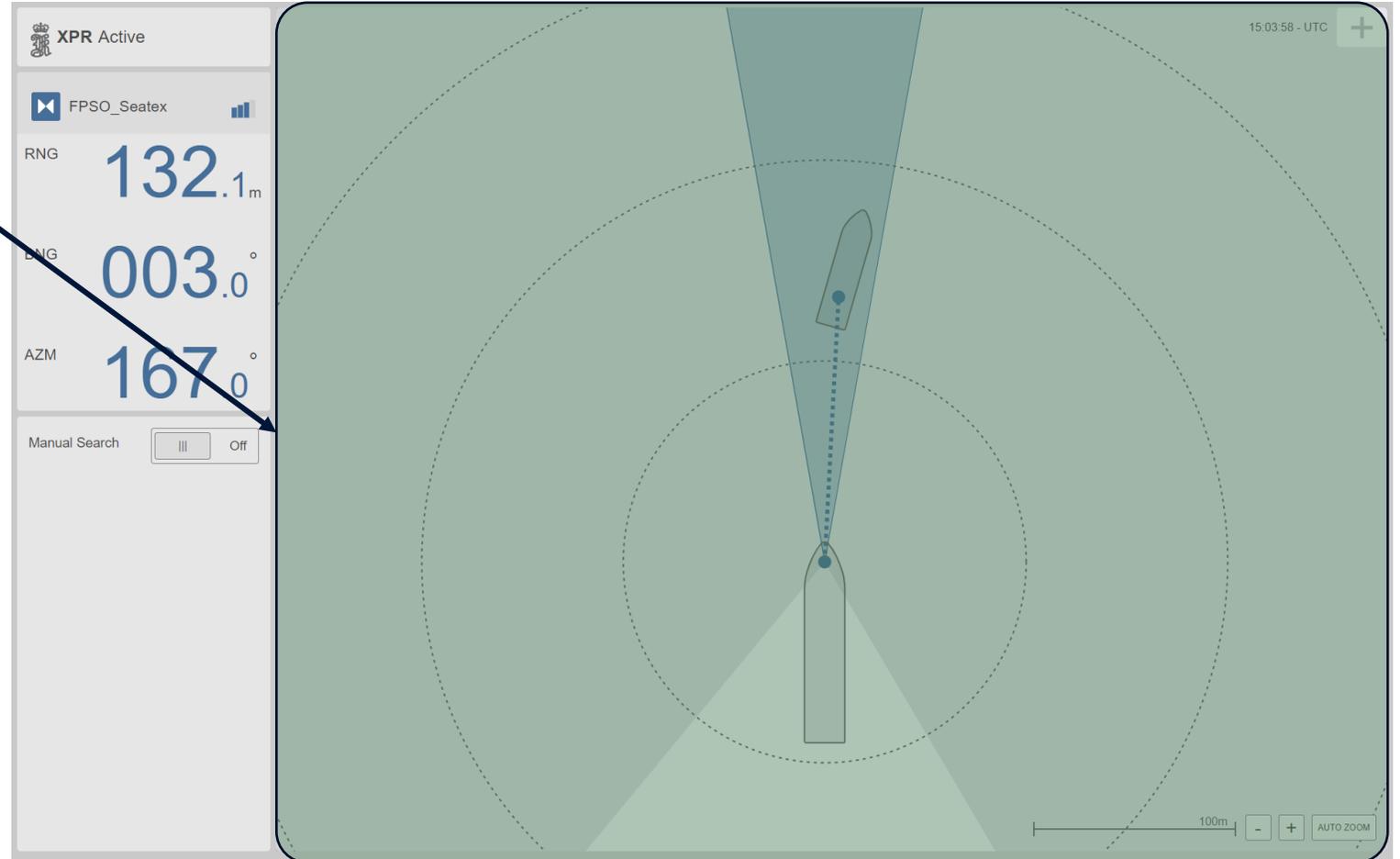


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XPR

Main View

Polar plot

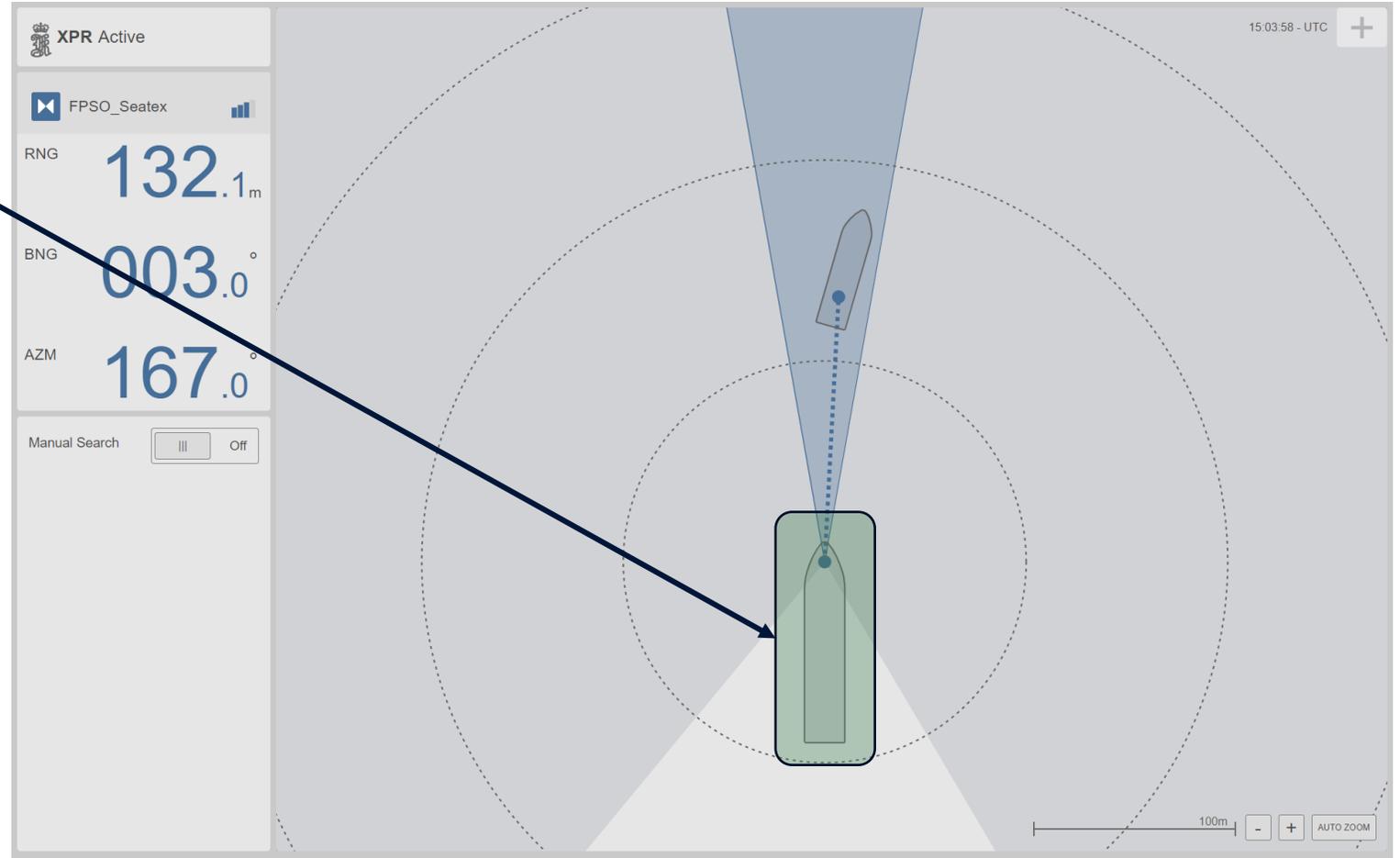




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XPR Main View

Own Vessel

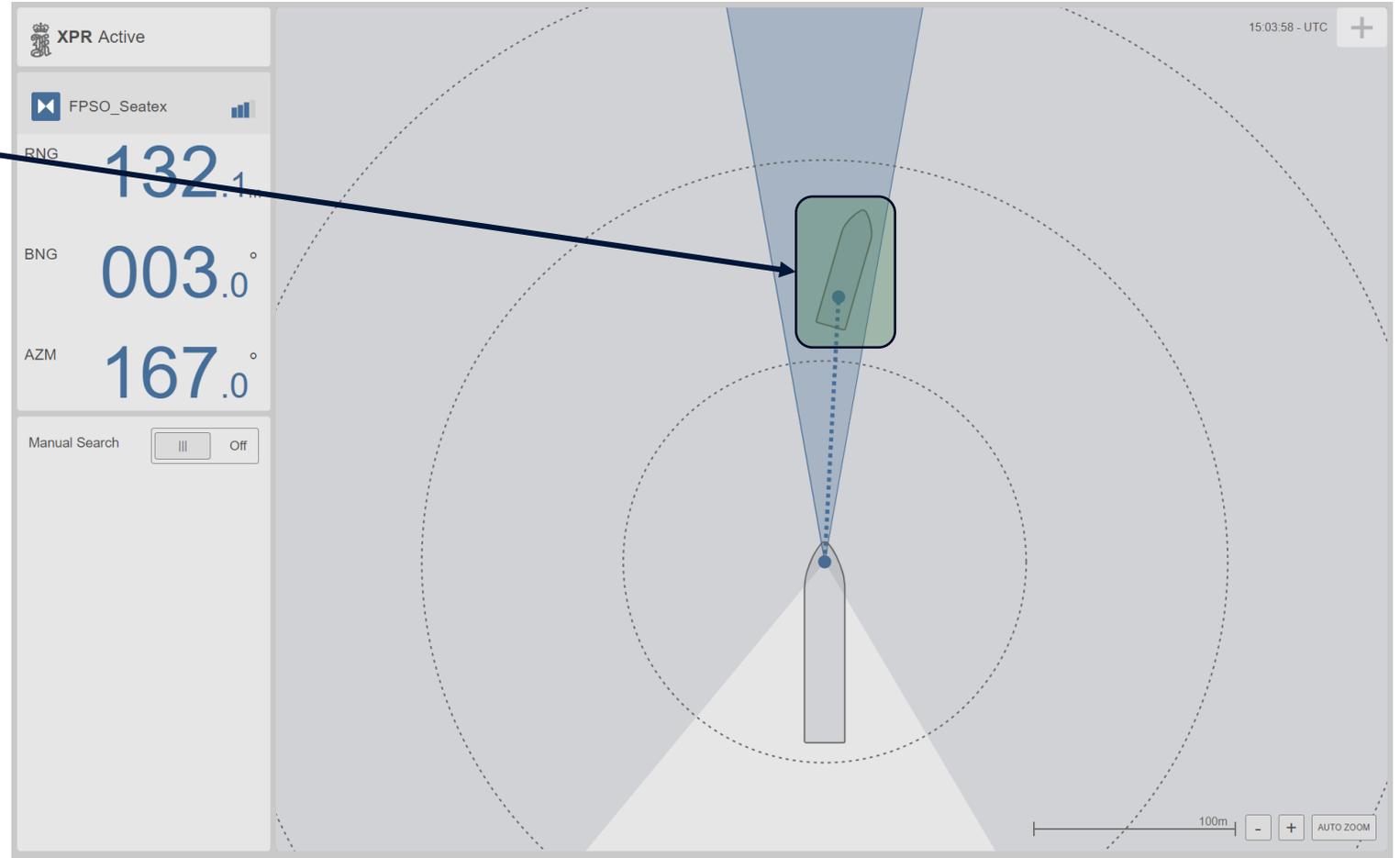




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XPR Main View

Target

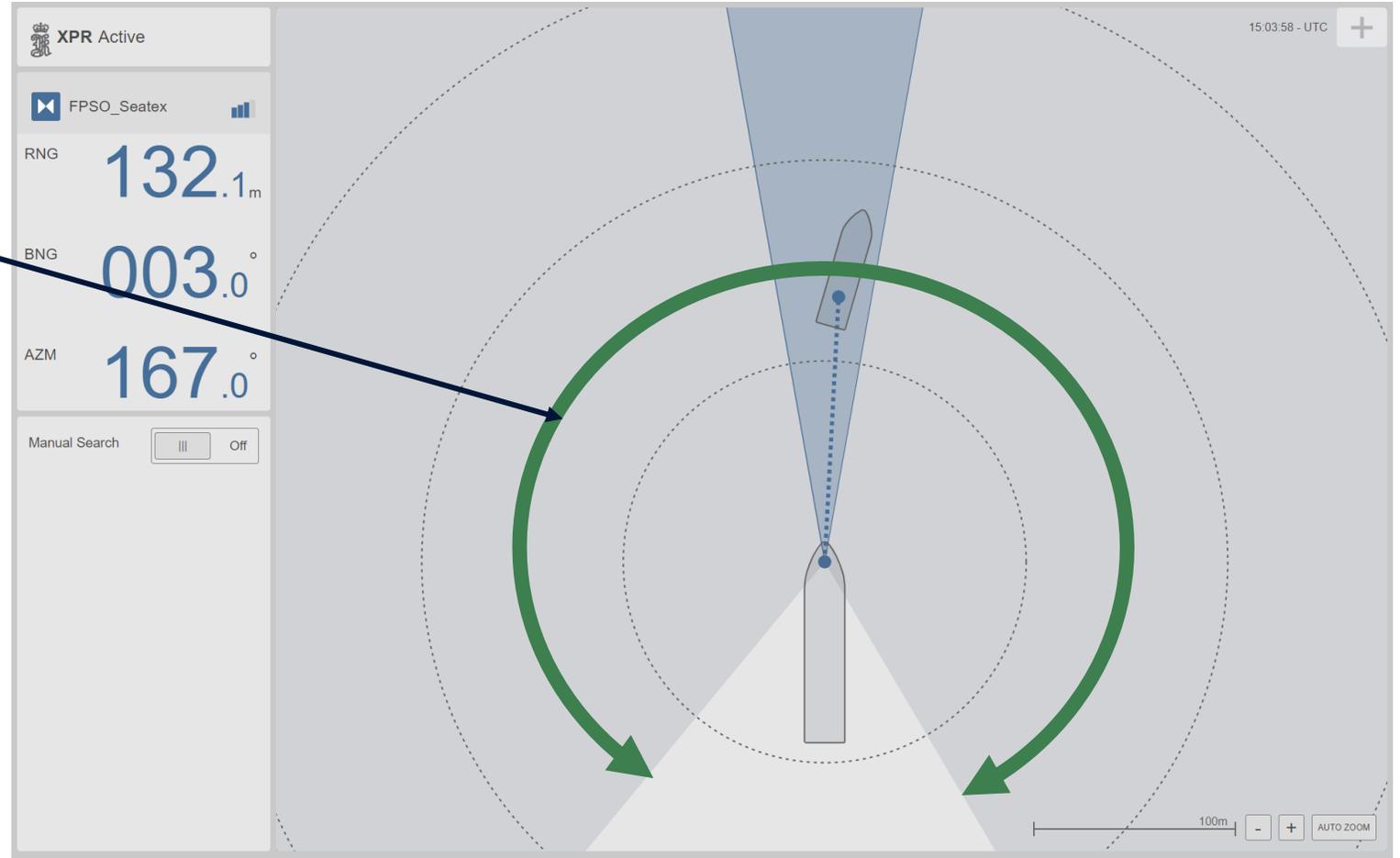




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XPR Main View

Operational Sector
- Depends on number
of XPR panels
installed





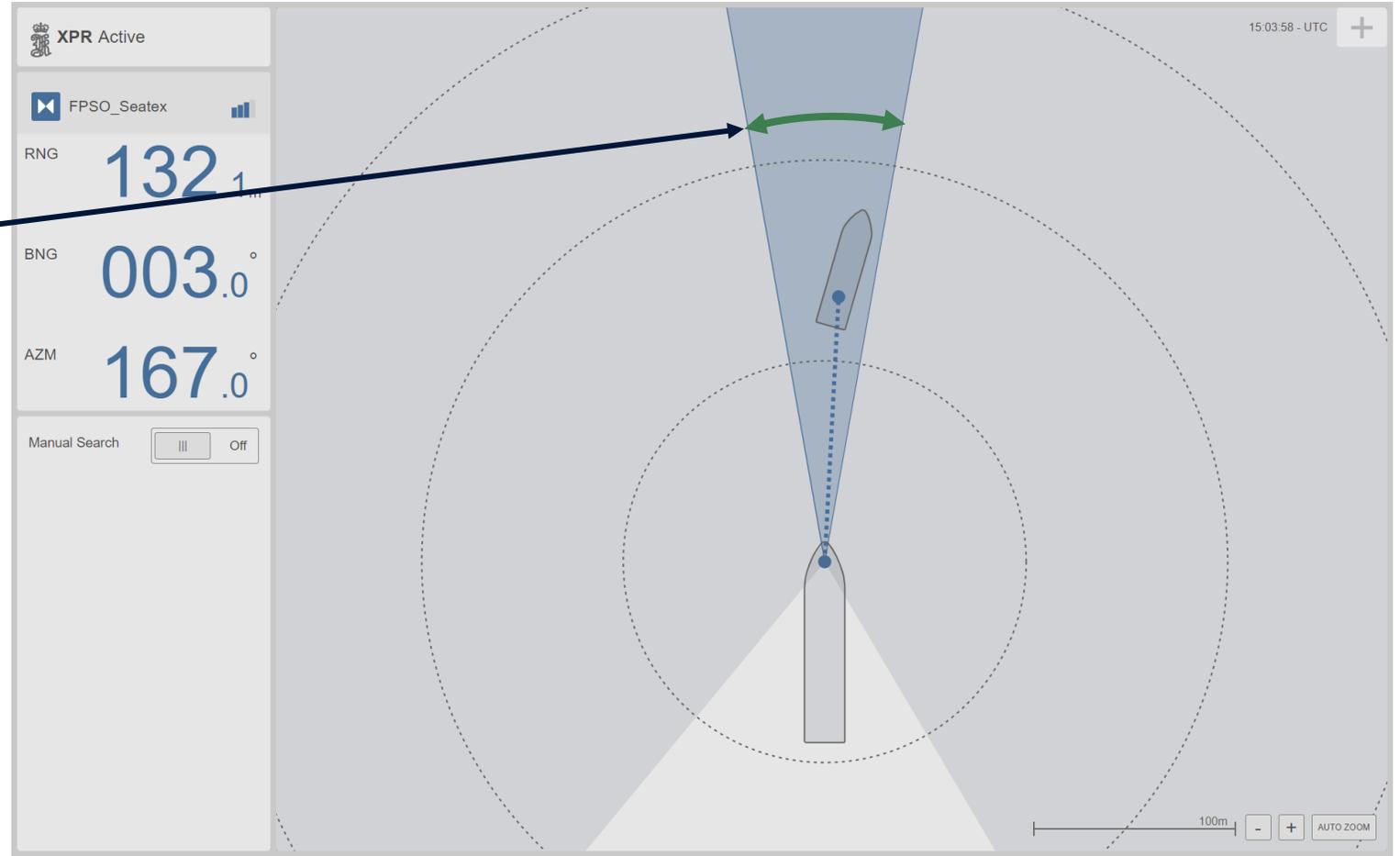
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XPR

Main View

Tracking Sector

- Sector where XPR looks for targets.
- Adjustable but typical 20°.



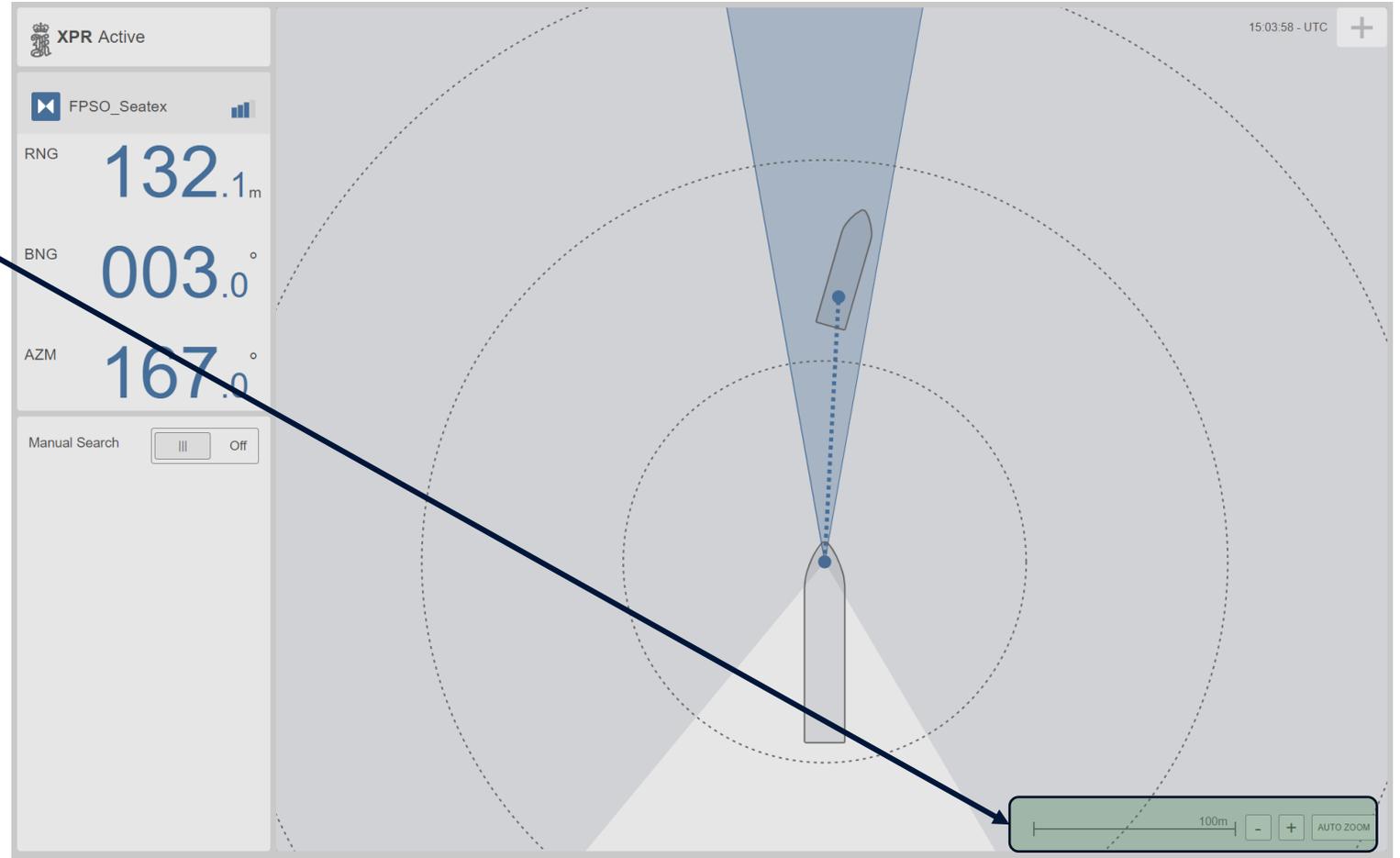


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XPR

Main View

Scale and Zoom
- Manual zoom or Automatic zoom

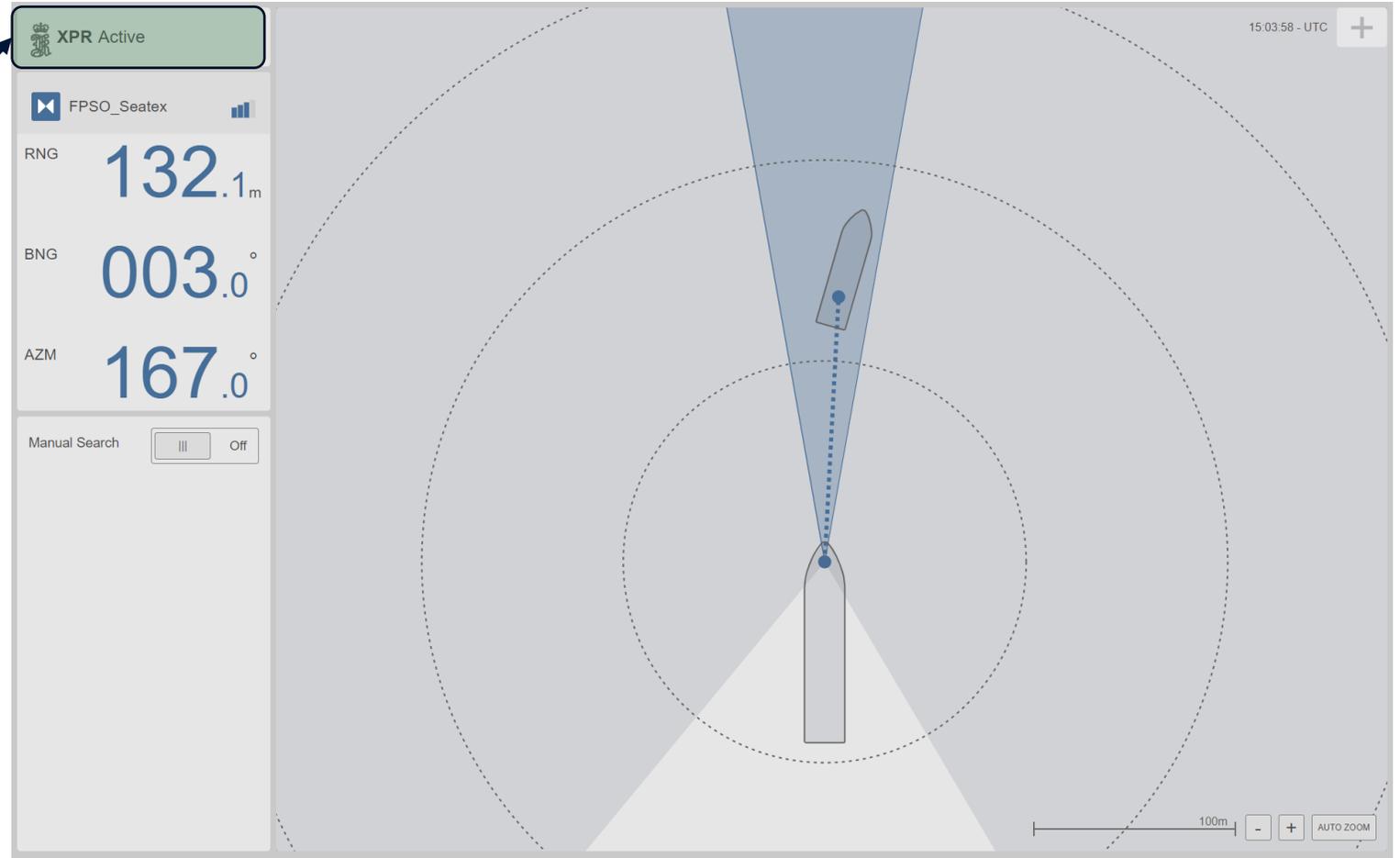




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XPR Main View

System Status
- Overall status of system.





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XPR

Main View

XPR Active 15:03:58 - UTC +

FPSO_Seatex

RNG 1 System status Mode

Active Interrogator

BNG 0 The system is operational

2019-09-19 15:03:22 - UTC

| Time | Description | Severity | # |
|---------------------|-----------------------|----------|---|
| 2020-01-14 14:58:27 | Replay mode is active | Info | 1 |

AZM 1

Manual Search

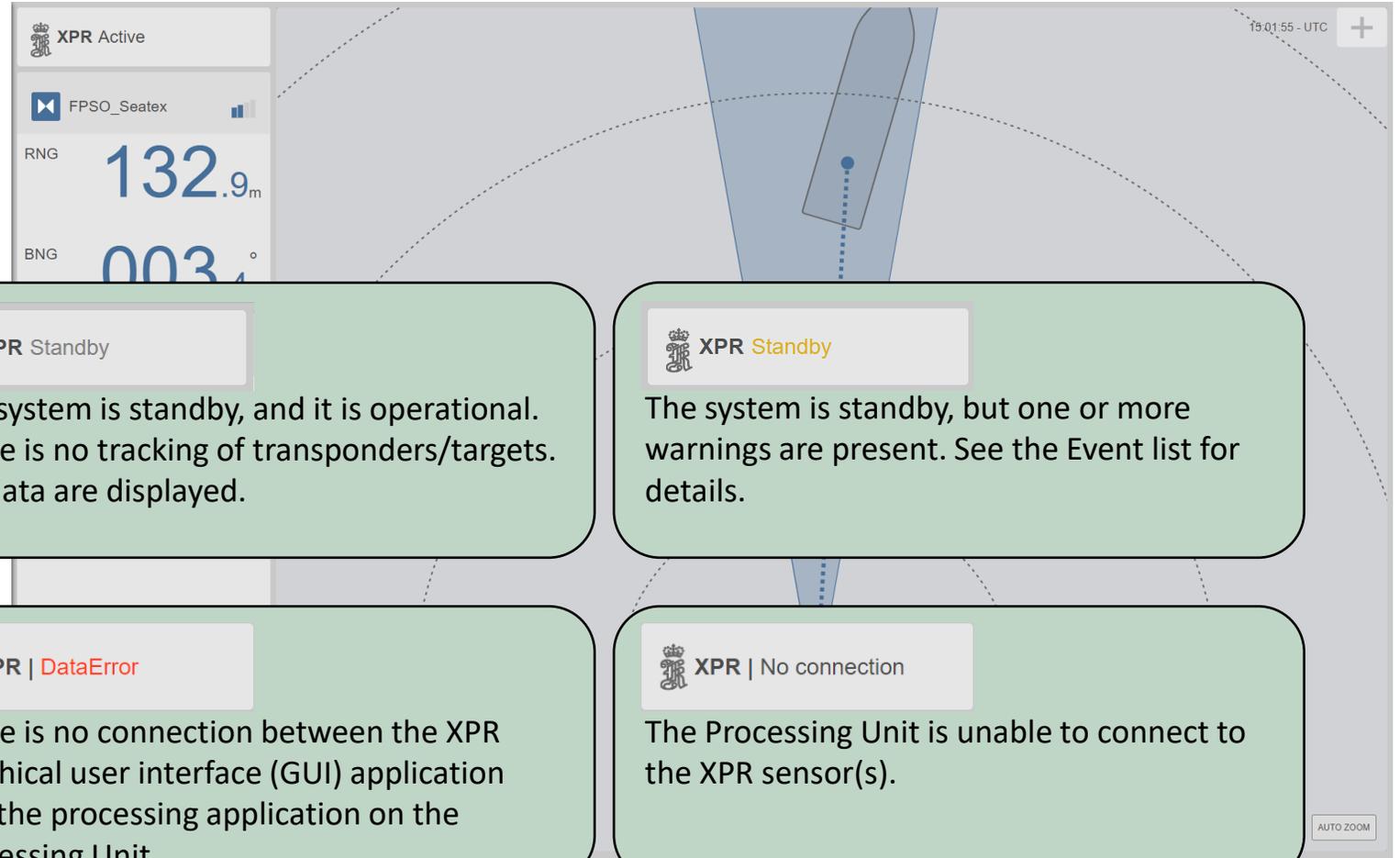
100m - + AUTO ZOOM

Click on the **X** to close the view



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XPR Main View



XPR | Active

The system is active and operational. It will search for transponders/targets which are within range. If a transponder/target is within range, the system will display data.

XPR Standby

The system is standby, and it is operational. There is no tracking of transponders/targets. No data are displayed.

XPR Standby

The system is standby, but one or more warnings are present. See the Event list for details.

XPR | Reduced

The system is active, but one or more warnings are present. See the Event list for details.

XPR | DataError

There is no connection between the XPR graphical user interface (GUI) application and the processing application on the Processing Unit.

XPR | No connection

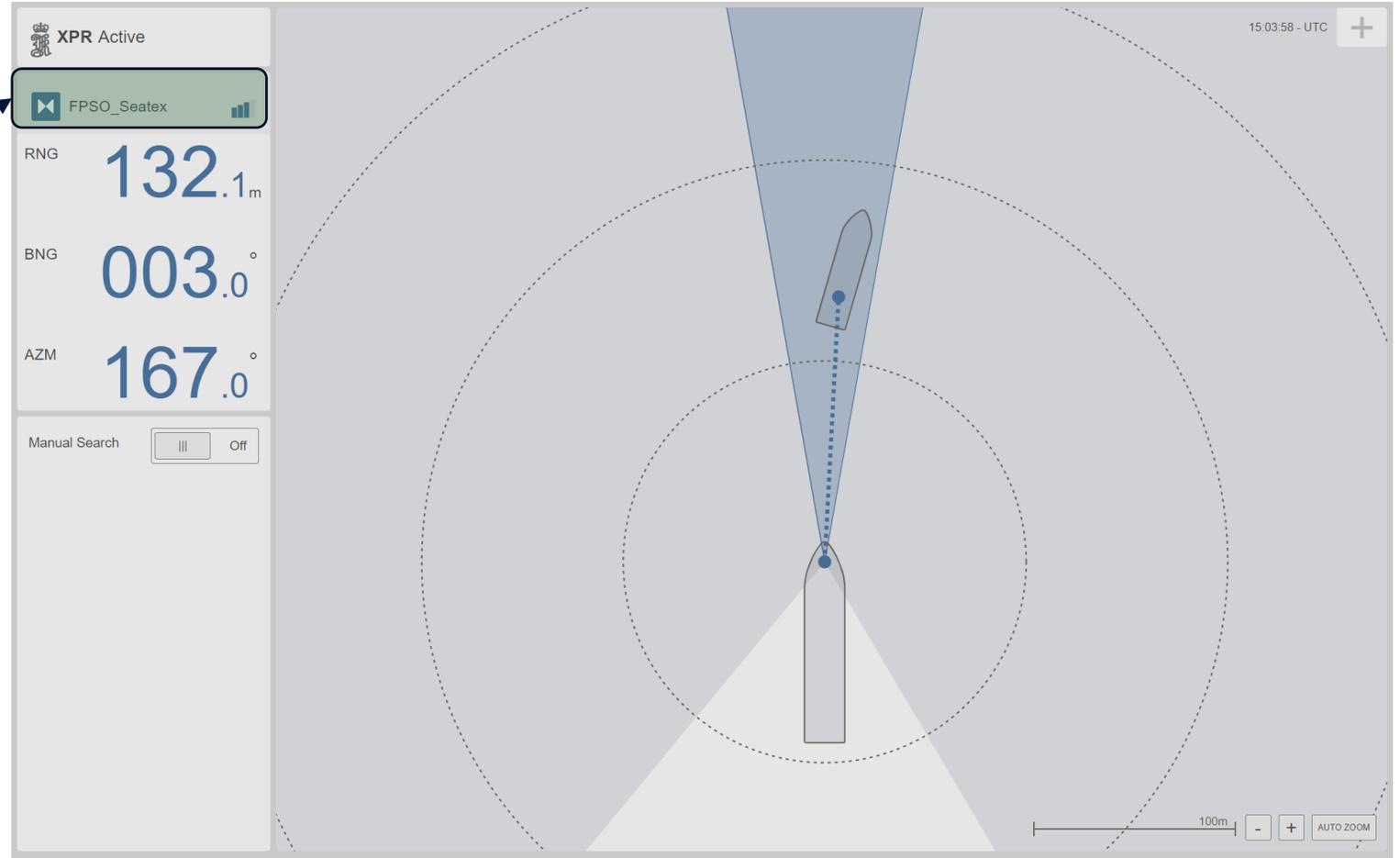
The Processing Unit is unable to connect to the XPR sensor(s).



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XPR Main View

Target Information
- Connected target and
signal strength.





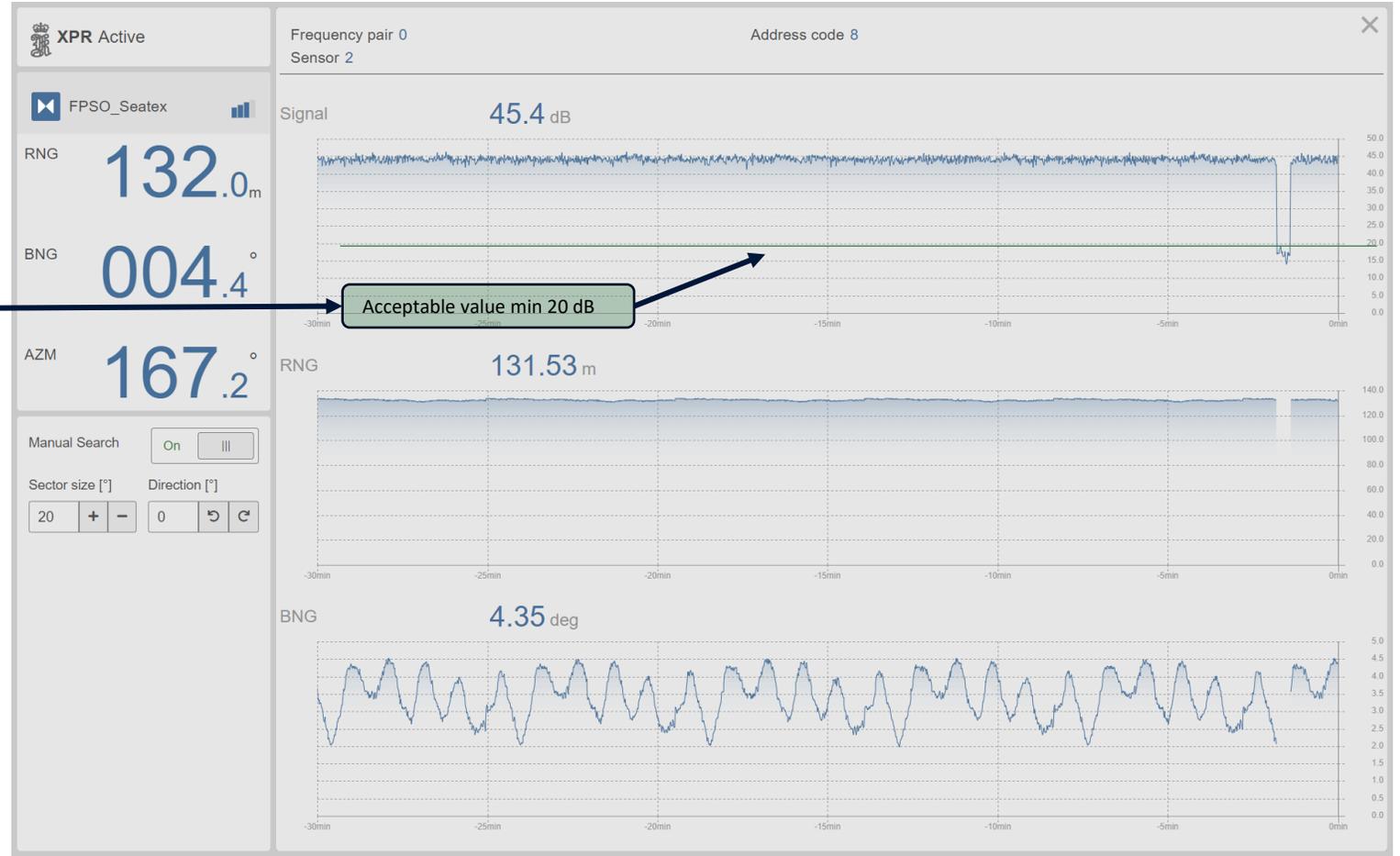
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XPR

Main View

Target Information

- Signal strength, range and bearing for past 30mins.
- Frequency pair, Address code and Sensor that are used.

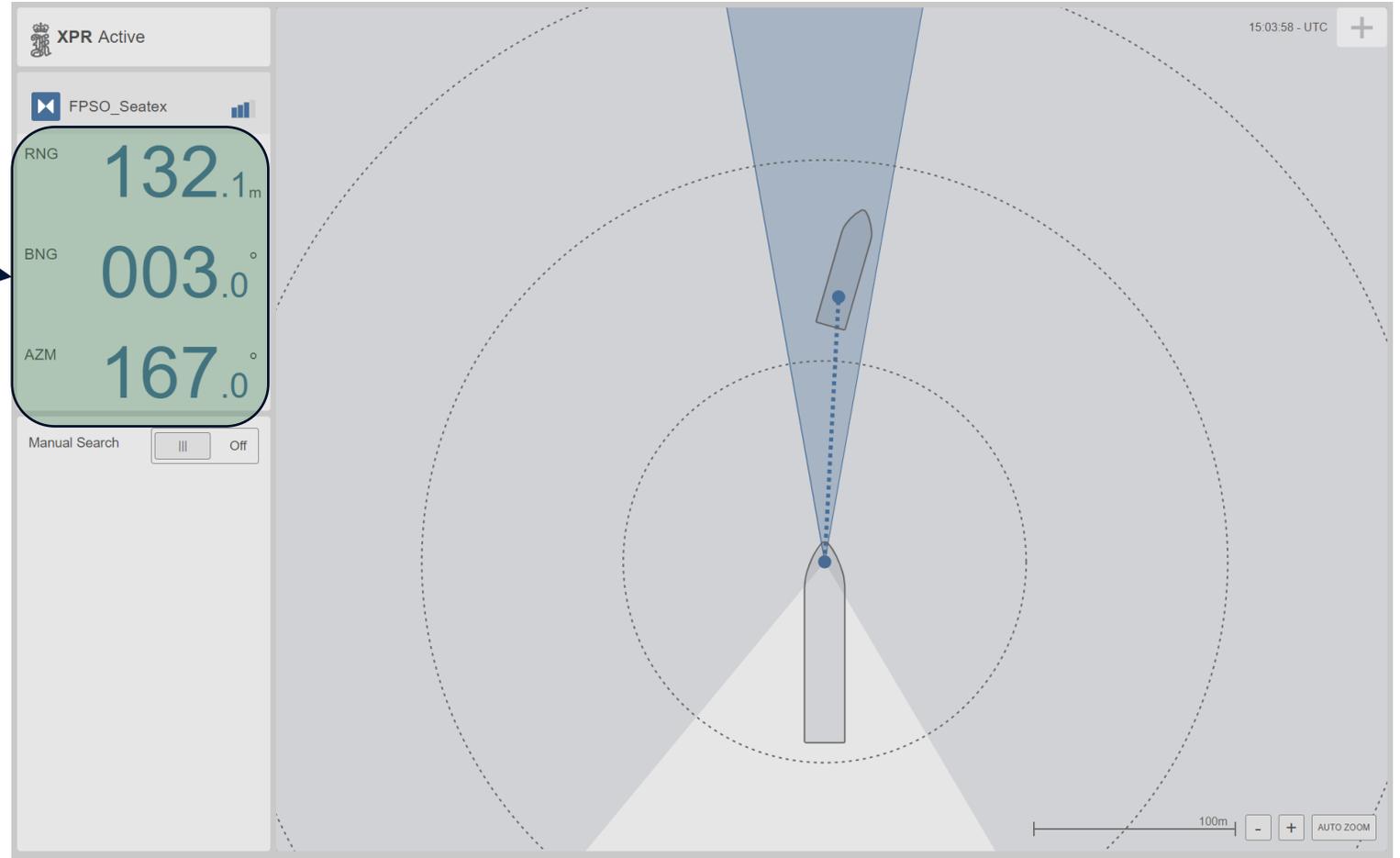




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XPR Main View

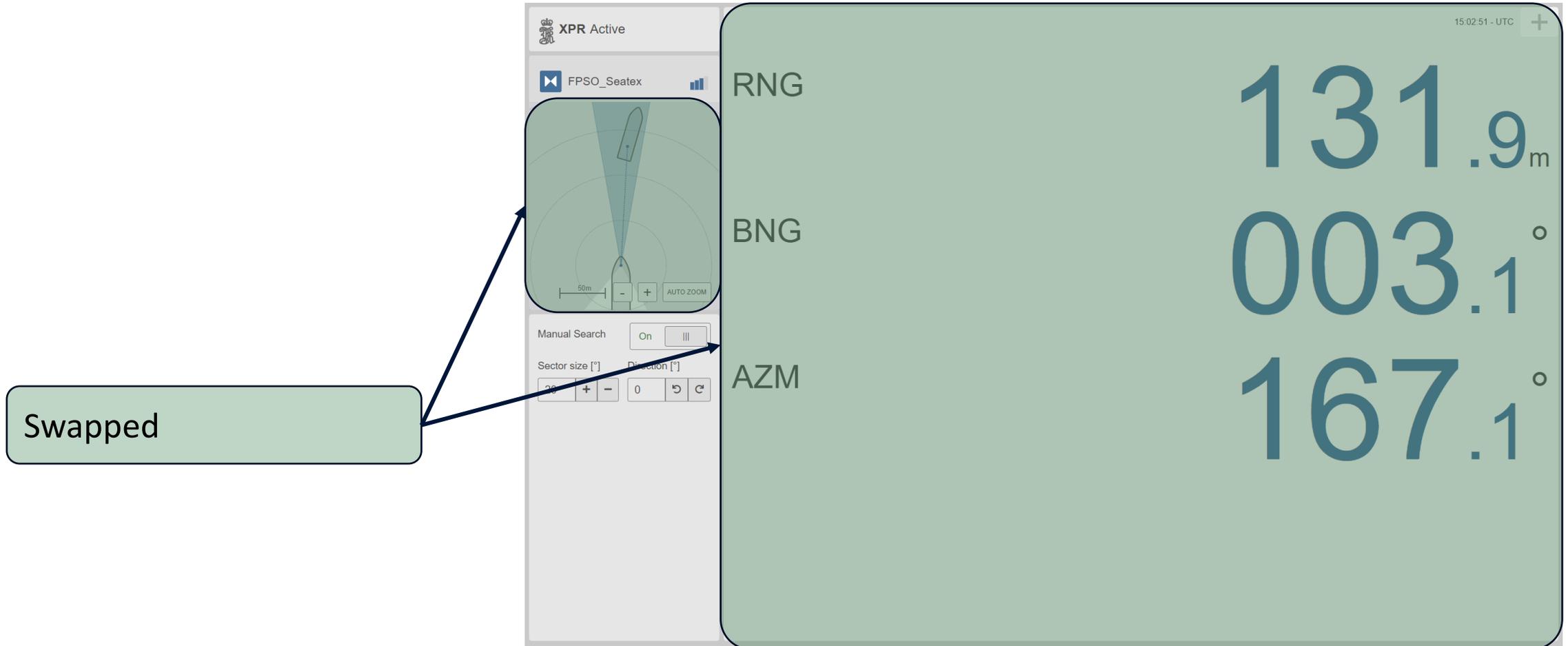
Range/Bearing View
- Clicking on this swaps the Range/Bearing view with the Polar Plot.





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XPR Main View



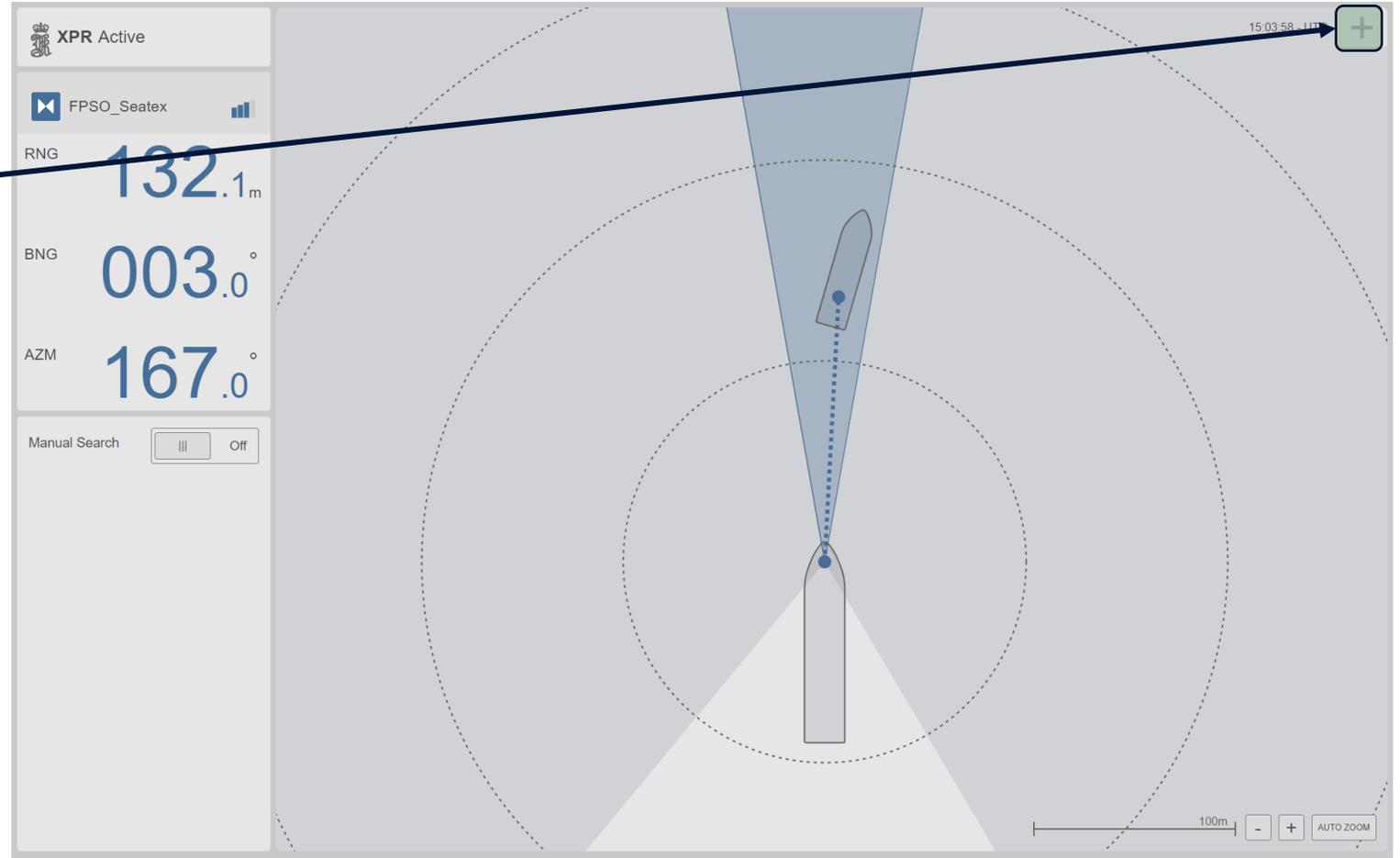


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XPR Main Menu

Main Menu

- Click on the + sign to open





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XPR Main Menu

Click on the **X** sign to close

The screenshot displays the XPR Active interface. On the left, a data panel shows the following information:

- XPR Active** (with logo)
- FPSO_Seatex** (with signal strength icon)
- RNG**: 133.2_m
- BNG**: 003.4[°]
- AZM**: 167.3[°]
- Manual Search**: On (with menu icon)
- Sector size [°]**: 20 (with + and - buttons)
- Direction [°]**: 0 (with refresh and clear buttons)

The main display area shows a radar scan with a blue target area. A top toolbar includes icons for **Active** (green dot), **Target** (crosshair), **Target selection** (vertical bars), **Manual** (moon), **Palette** (asterisks), **Settings** (gear), **Tools** (arrow), and a close button (**X**). A scale bar at the bottom right indicates 50m and includes zoom controls (-, +, AUTO ZOOM).



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XPR Main Menu



Mode

- Green = Active
- Grey = Standby

Target List

- Target selection, only works in manual mode

Target Selection

- Manual mode: operator selects target from the target list
- Automatic mode: target is selected from the DP

Palette menu

- Provides colour schemes for the display presentation: Day white-Day black-Night

Settings Menu

- Provides parameters for configuration of the XPR system

Tools Menu

- Provides a set of tools to assist in various configuration and diagnostic tasks



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XPR

Target Selection - 2 Options

Target selected manually by operator

Operator select target
from target list

New targets can be added
by operator

Target selected automatically by DP

Target is selected on DP and
DP sends target selection to
XPR

If target is missing in XPR
the target is automatically
added to the target list



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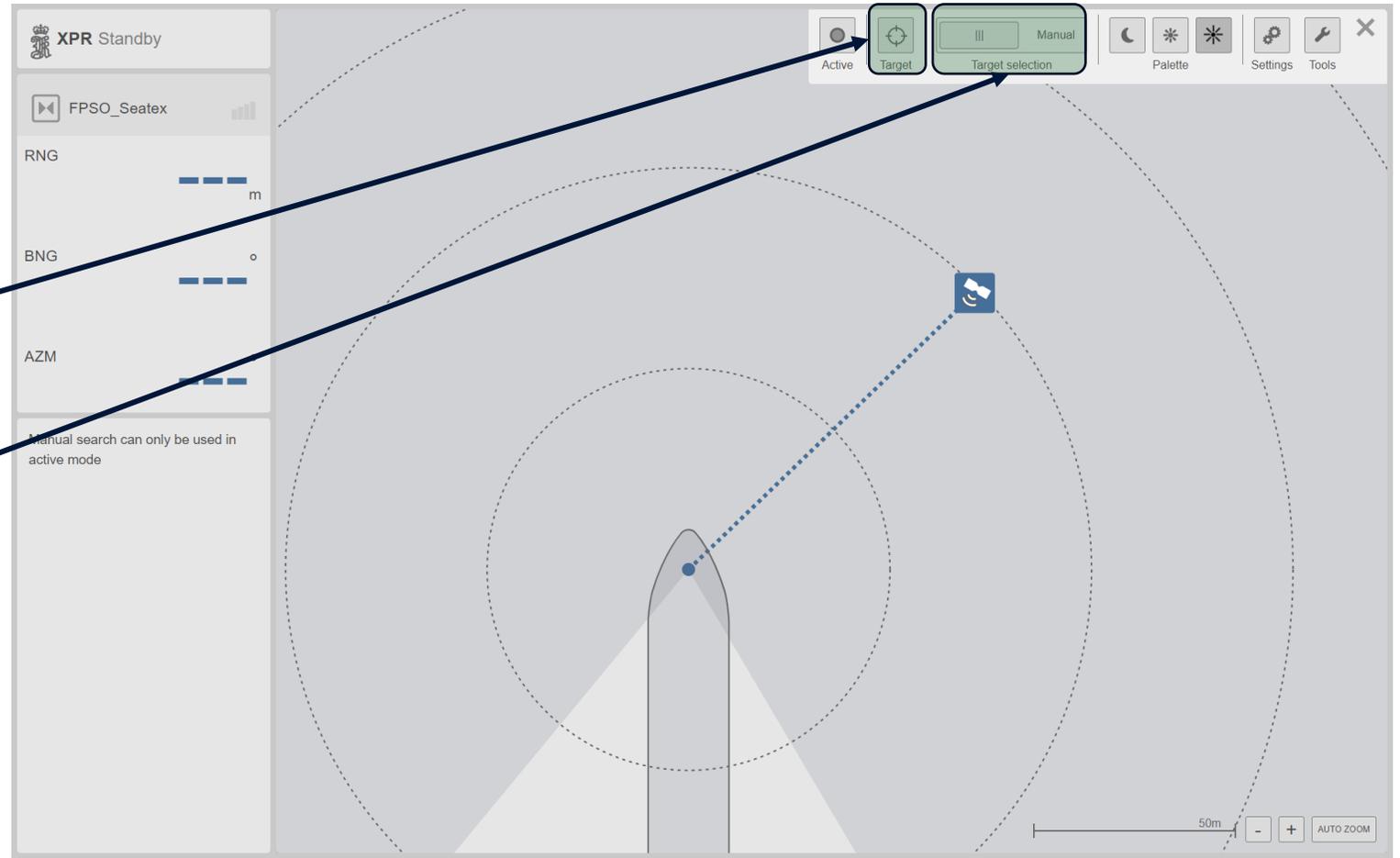
XPR

Target Selection

Manual Mode Target Selection

Manual mode must be selected

Click on Target to open target list





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XPR

Target Selection

Manual Mode Target Selection

Select wanted target

Confirm by clicking OK

Select Target

| Name | Id | Freq. pair | Address code |
|---------------------|-----|------------|--------------|
| Balder_1 | 26 | 2 | 14 |
| Balder_2 | 126 | 2 | 14 |
| C.d. Ilhabela-BOW | 220 | 0 | 22 |
| C.d. Ilhabela-STERN | 221 | 1 | 33 |
| Caraguatatuba-BOW | 240 | 1 | 51 |
| Caraguatatuba-STERN | 241 | 1 | 51 |
| FPSO_Seatex | 24 | 0 | 8 |
| Gina Krog | 244 | 3 | 0 |
| Jotun_1 | 37 | 3 | 9 |
| Jotun_2 | 137 | 3 | 9 |
| OLSA | 100 | 0 | 10 |
| OLSB | 1 | 2 | 14 |
| P-50 - Bow | 64 | 2 | 20 |
| P-50 - Stern | 65 | 2 | 25 |
| São Paulo - BOW | 210 | 3 | 22 |
| São Paulo - STERN | 211 | 3 | 33 |
| Åsgard A_1 | 30 | 2 | 11 |
| Åsgard C_1 | 5 | 0 | 10 |

Cancel OK



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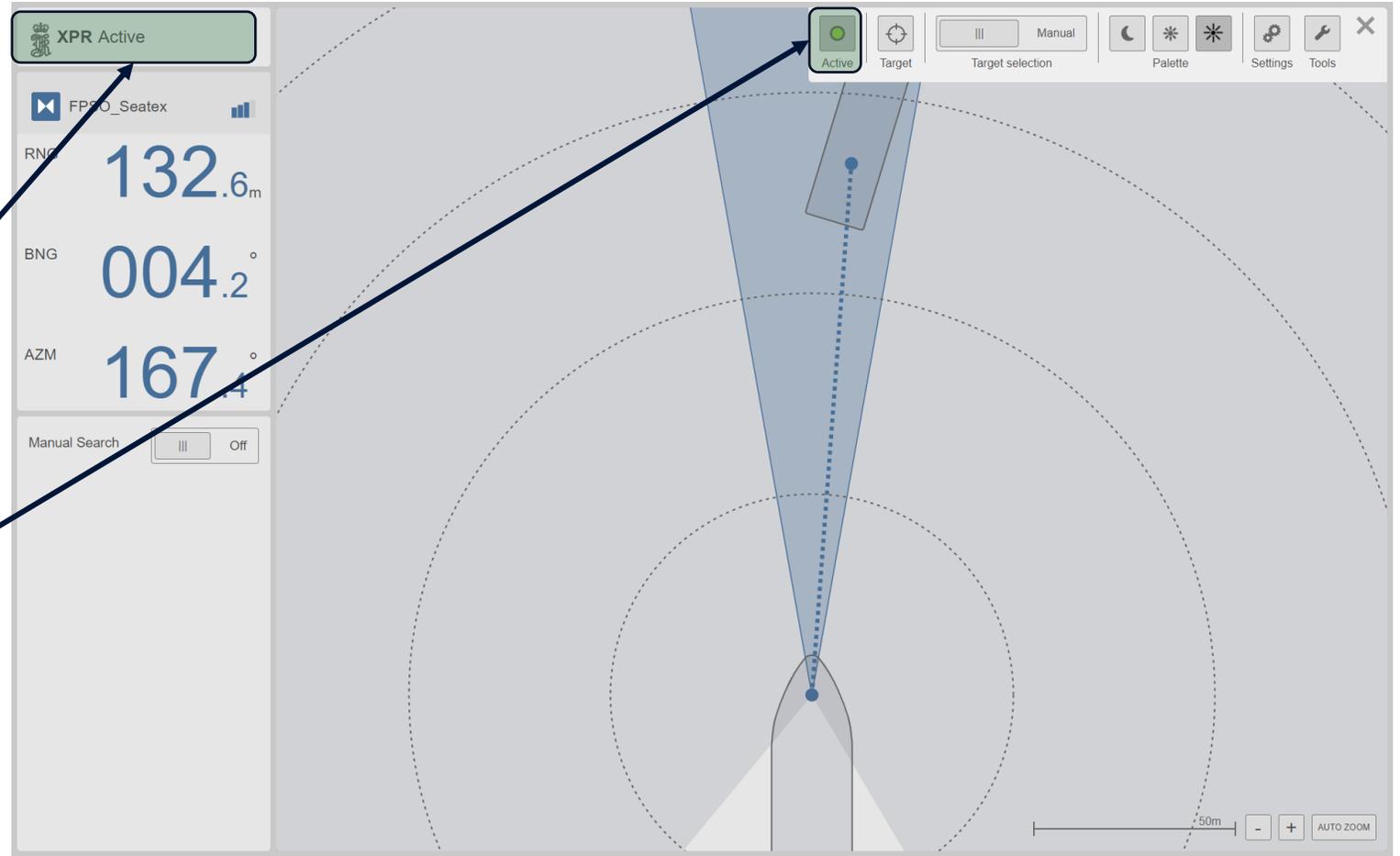
XPR

Target Selection

Manual Mode Target Selection

Selected target should now be seen in the target information view

Make sure that the XPR is set Active after target is selected





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XPR

Search Methods

The XPR system have three possible search methods that can be used when the shuttle tanker approaches the FPSO

Manual search

Automatic search

GNSS aided search



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XPR

Search Methods

Manual Search

Select manual search

Adjust search sector

Adjust beam direction

The screenshot displays the XPR Active interface. On the left, a control panel shows the following data and controls:

- XPR Active** (header)
- FPSO_Seatex** (target name)
- RNG** 130.9_m
- BNG** 004.4°
- ABM** 167.2°
- Manual Search** (On) [toggle]
- Sector size [°]** (20) [plus] [minus]
- Direction [°]** (0) [rotate] [clear]

The main display area shows a radar plot with a blue search sector and a target. The target is labeled with a blue dot and a dotted line. The plot includes concentric dashed circles representing range and a scale bar for 50m. The time 15:03:23 - UTC is shown in the top right corner, and zoom controls (-, +, AUTO ZOOM) are in the bottom right corner.



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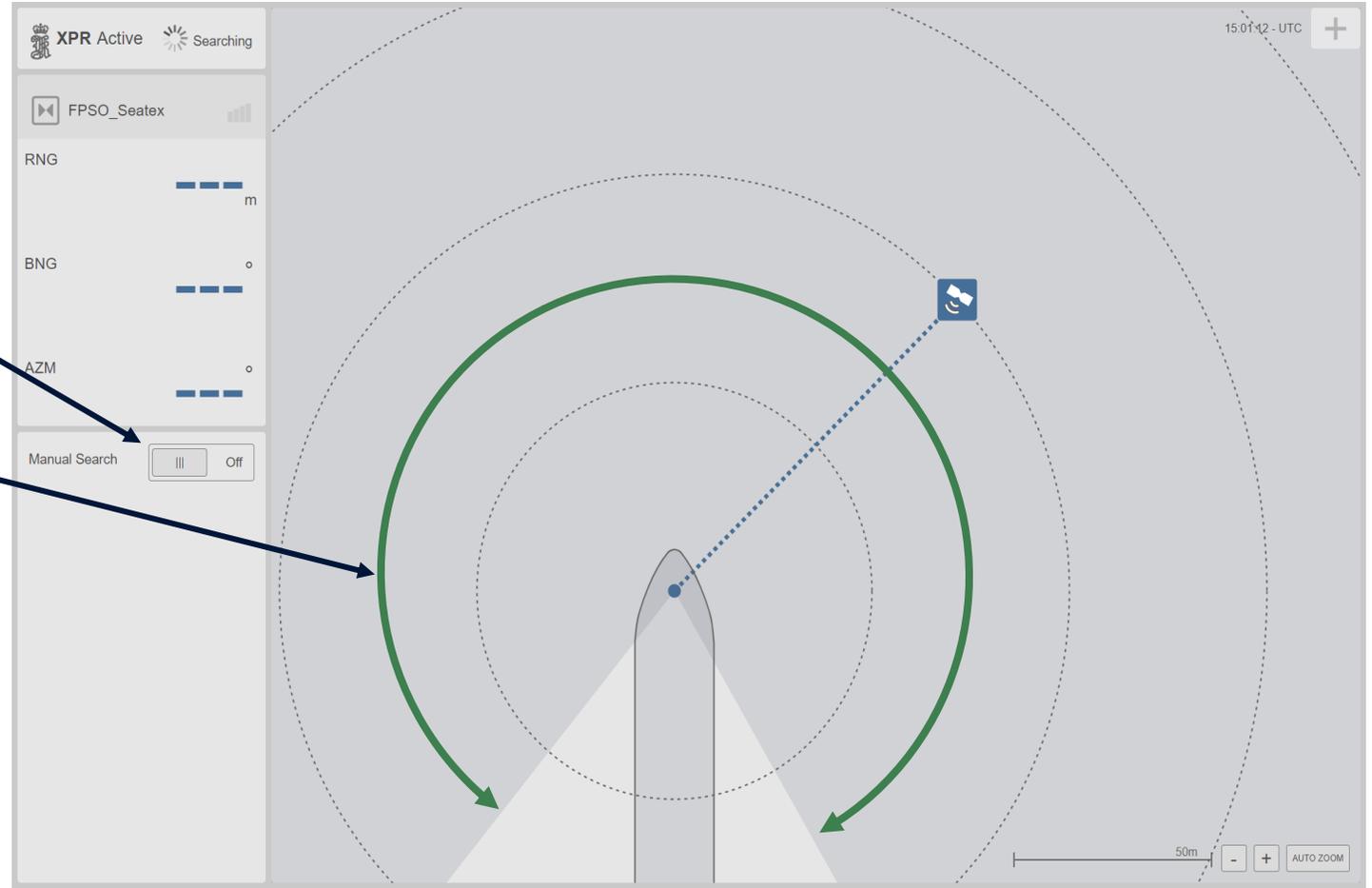
XPR

Search Methods - Automatic Search

Automatic Search

Turn manual search off

Search for targets within the operational sector





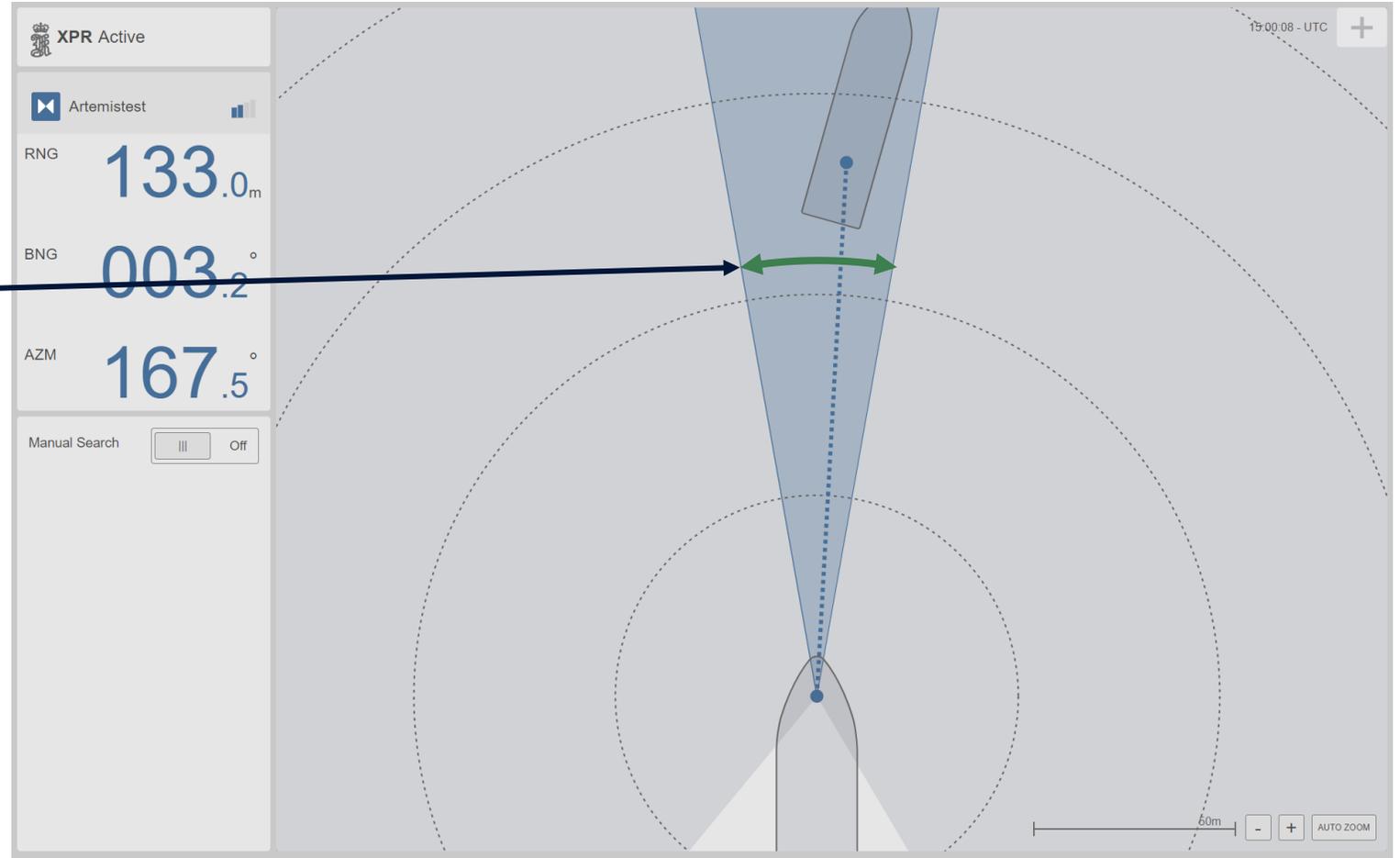
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XPR

Search Methods

Automatic Search

Search sector reduced when target is located





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XPR

Search Methods

AUTO SEARCH

Step 1

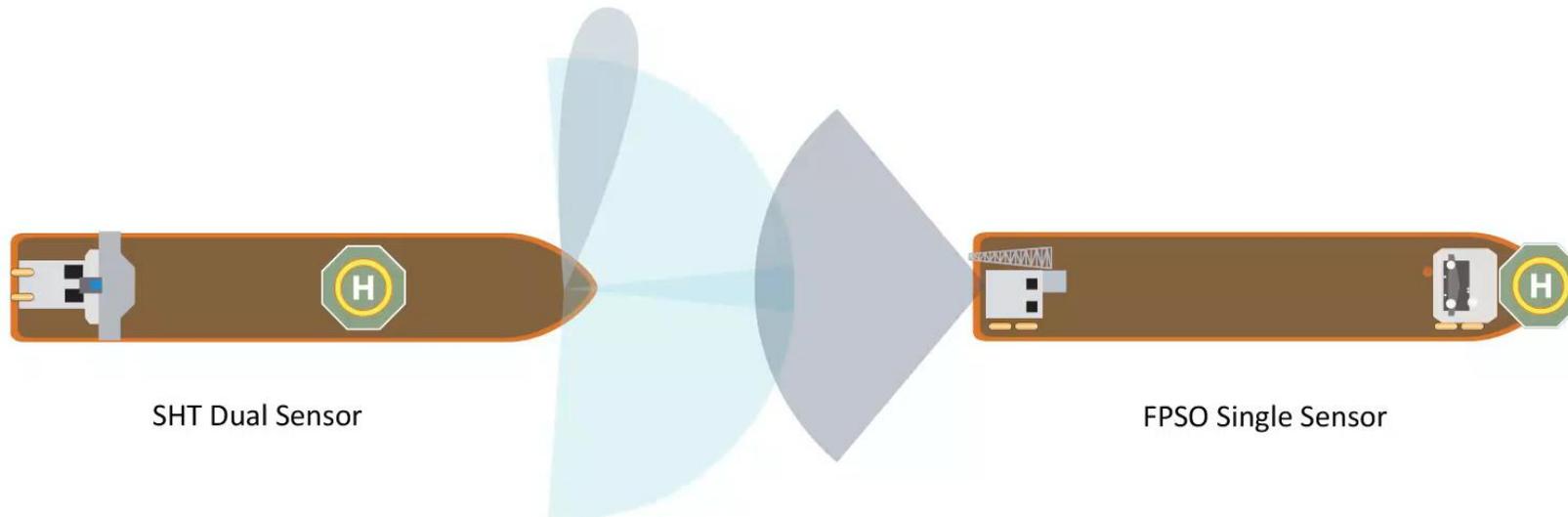
Full search in operational sector is performed

Step 2

Search sector reduced, target found

Step 3

Lock on target



SHT Dual Sensor

FPSO Single Sensor



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XPR

Search Methods

GNSS Aided Search

Requirements

GNSS position input to XPR

True heading input to XPR

Target configured with correct position in target list



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XPR Technical Training

Course Content

XPR Technical Training

XPR System Description

XPR Configuration

XPR Maintenance

XPR Service/Troubleshooting



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XPR Technical Training

Course Content

XPR Technical Training

XPR System Description

XPR Configuration

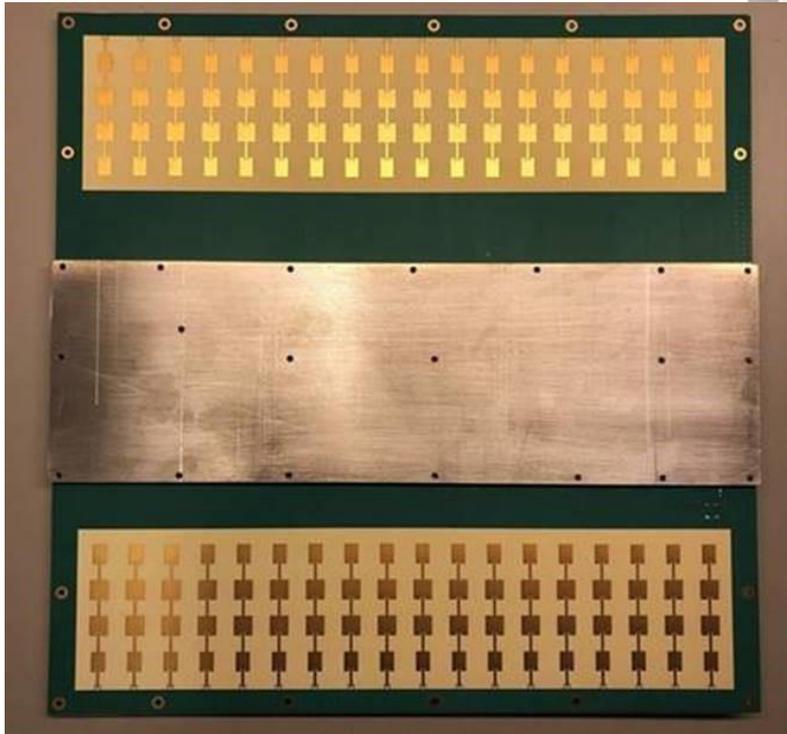
XPR Maintenance

XPR Service/Troubleshooting



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XPR Hardwares





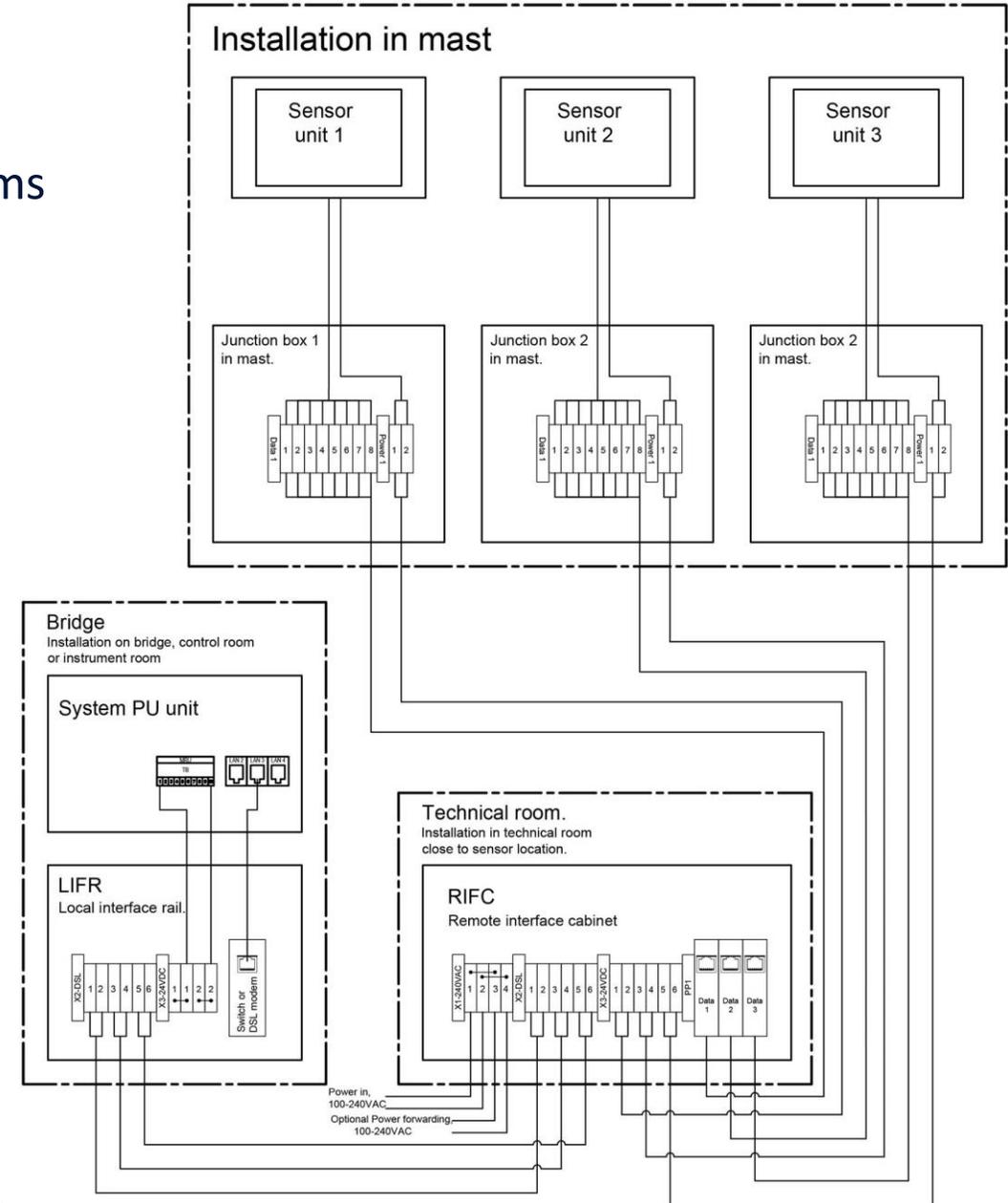
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XPR Triple Systems

Maximum three panel/sensor can be connected to one PU

Each panel/sensor has its own junction box (JB)

Cables are run from the JB to the Remote interface cabinet (RIFC) in a technical room, close to sensor location





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XPR

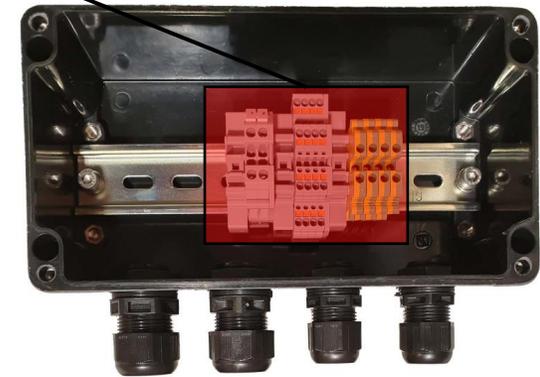
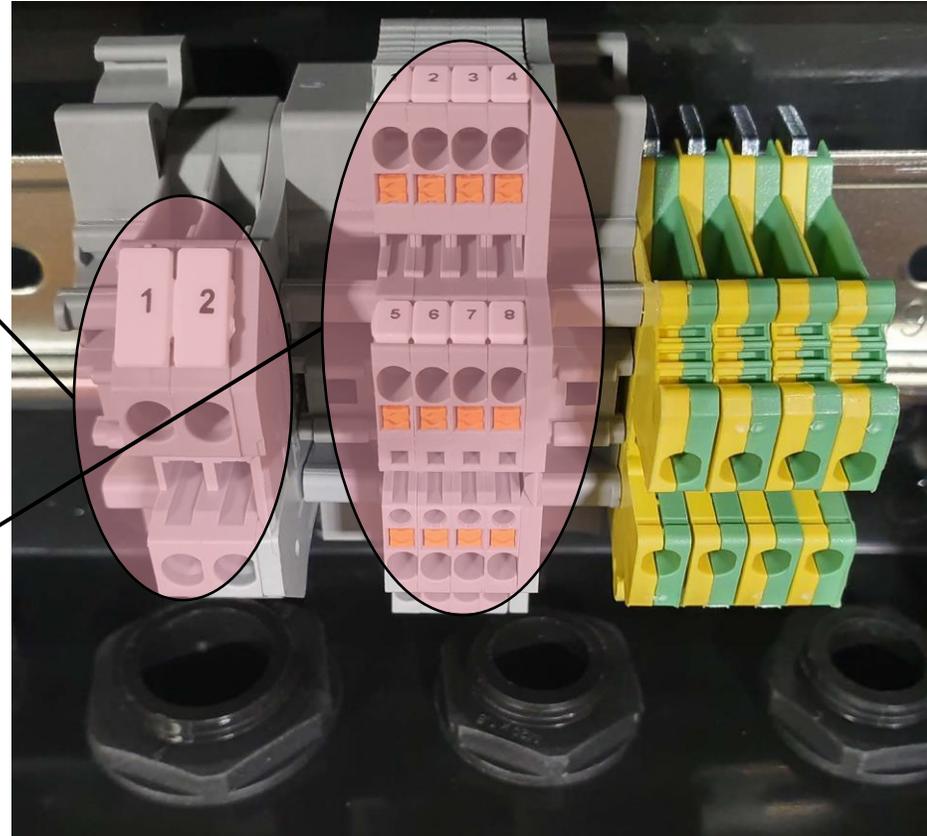
Junction Box

24 VDC to sensor:

- 1 – Blue +
- 2 – Black -

Data line to sensor:

- 1 – Orange/White
- 2 – Orange
- 3 – Green/White
- 4 – Blue
- 5 – Blue/White
- 6 – Green
- 7 – Brown/White
- 8 - Brown



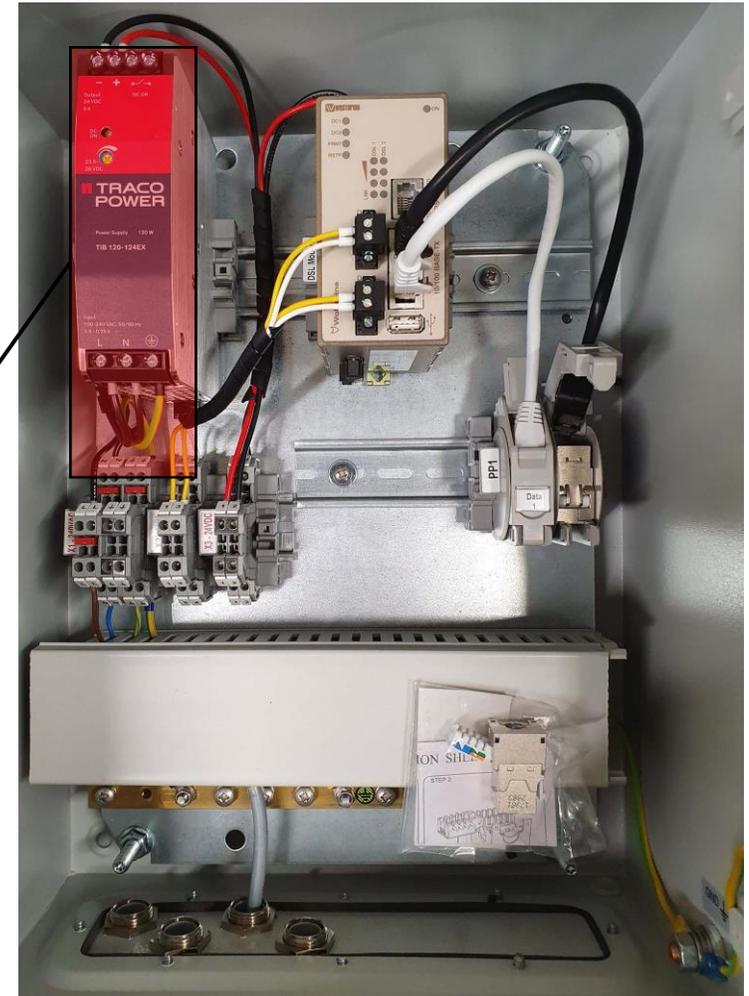


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XPR

Remote Interface Cabinet (RIFC)

One 24 VDC power supply for each sensor unit installed



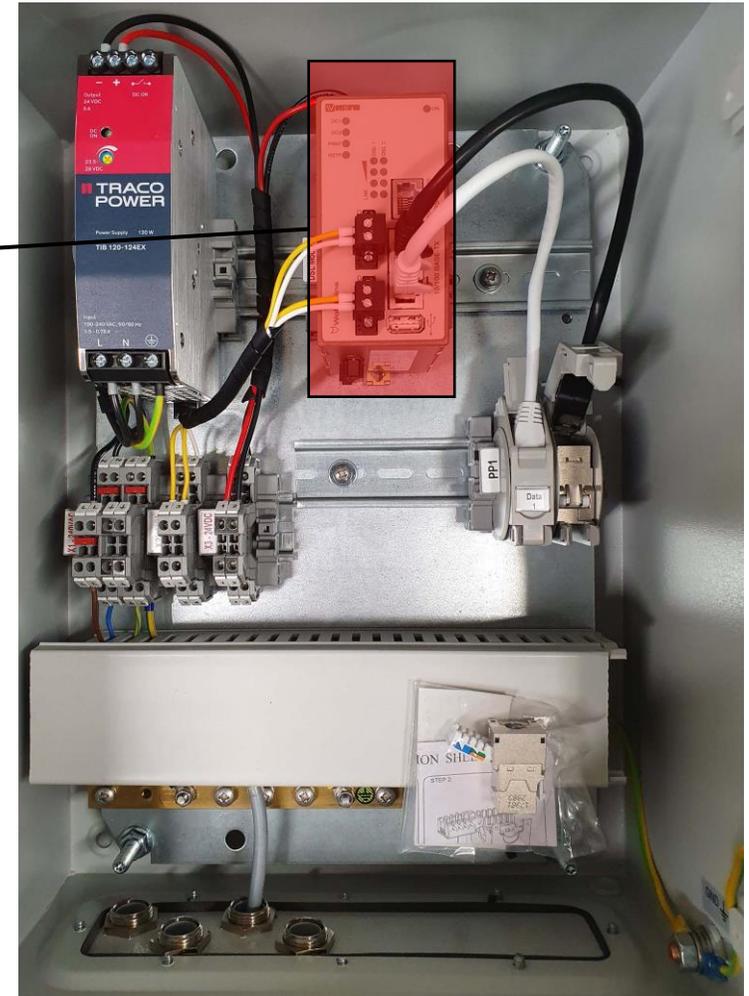


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XPR

Remote Interface Cabinet (RIFC)

DSL modem for serial line communication to another DSL modem in the Local interface rack (LIR) on the bridge

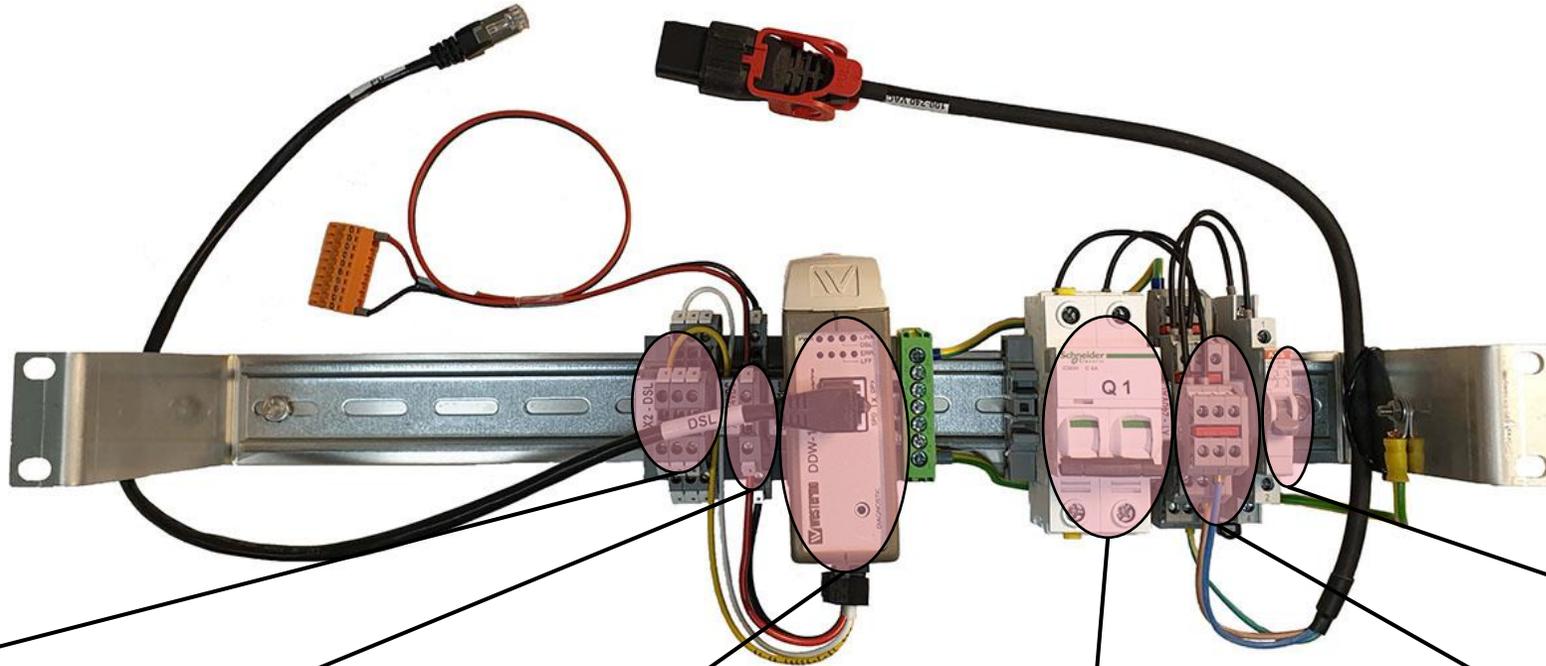




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XPR

Local Interface Rail



Connection of DSL line to Remote Interface Cabinet

1/2 – DSL line 1
3/4 – DSL line 2, optional
5/6 – DSL line 3, optional

Power connection for DSL modem and switch, 24 VDC

DSL modem, for DSL line to Remote Interface Cabinet

Fuse 4A. Power to system monitor

240 VAC. Power distribution for system

Main switch for system



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XPR

Processing Unit (Front)



Behind the lid on the left:

- Power switch
- LAN1, network connector, User configurable
- USB port for software upgrades, backup and to copy log files out from the system



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XPR

Processing Unit (Front)



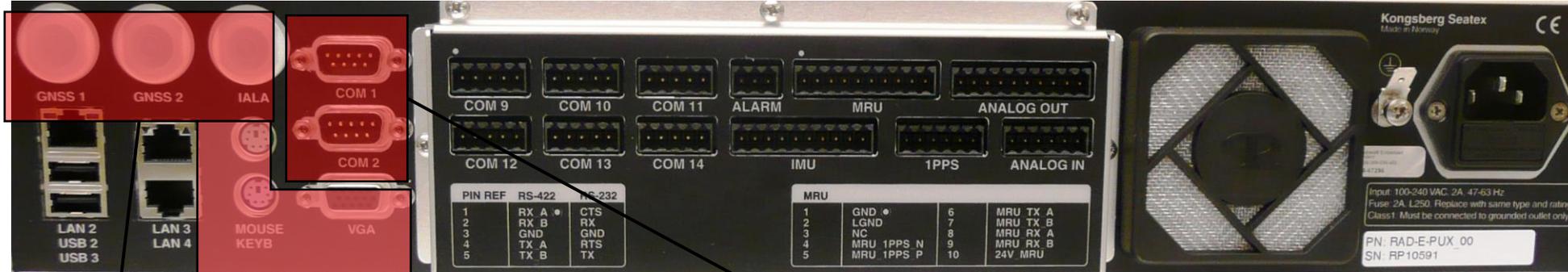
- There are 4 light indicators on the front
- LED 1, left most, Power/SW LED
 - LED 4, right most, Network card status
 - LED 2 & 3, No function in this system



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XPR

Processing Unit (Rear)



GNSS 1 – GNSS 2 – IALA
Not used by this system

Mouse – Keyboard- Monitor
connectors

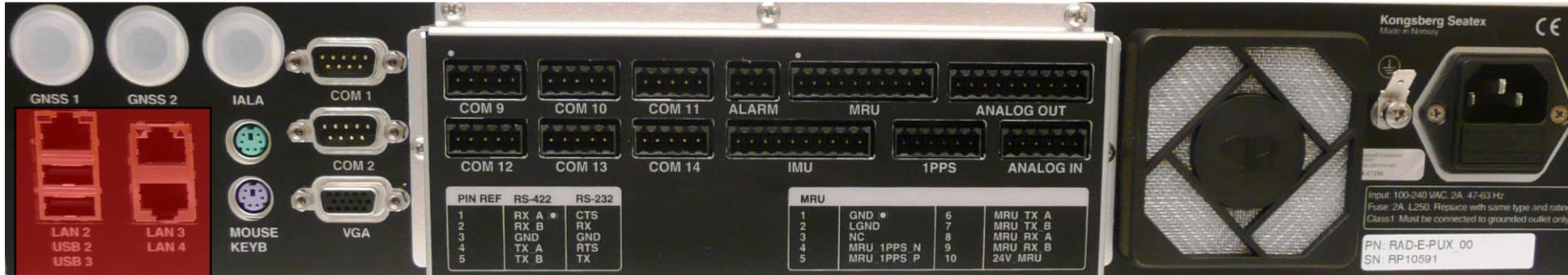
COM1 –COM2
RS-232 user configurable



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XPR

Processing Unit (Rear)



LAN 2 – User configurable
 LAN 3 – User configurable
 LAN 4 – User configurable
 USB 2 & 3 – User configurable

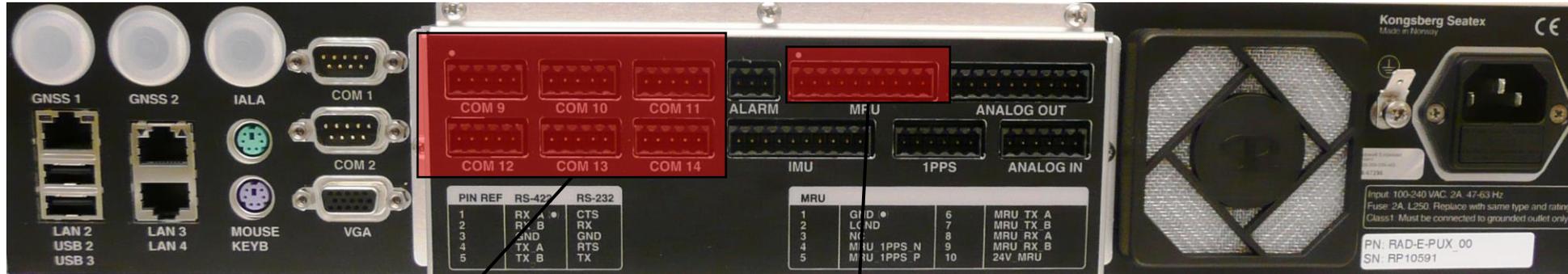
| Port | | (IP) address |
|-------|--|--------------|
| LAN 1 | At the front. Reserved for support | 192.168.4.55 |
| LAN 2 | Sensor units (Local interface rail/DSL modem) optional DSL line or distribution of data | 192.168.1.55 |
| LAN 3 | Sensor units (Local interface rail/DSL modem) | 192.168.2.55 |
| LAN 4 | User configurable | 192.168.3.55 |



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XPR

Processing Unit (Rear)



COM9 to COM14
RS-422, user configurable

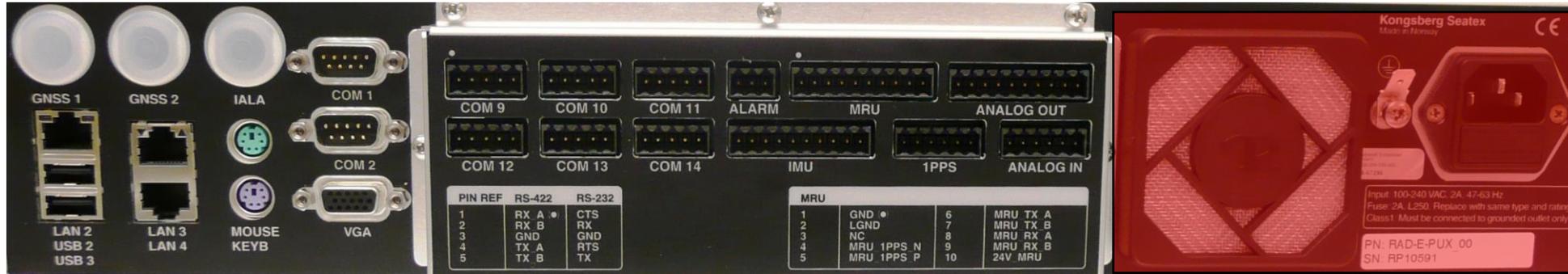
MRU
Power to DSL modem in
Local Interface Rail (LIR)



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XPR

Processing Unit (Rear)



Power input, 100 to 240 V AC 50/60 Hz
Fuse, integrated in Power connector

Cooling fan, with filter



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XPR

Bracket for three panels

Installed bracket for three XPR panels
(sensors)





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XPR

Three panels installed

Three XPR panels (sensors) installed





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XPR Technical Training

Course Content

XPR Technical Training

XPR System Description

XPR Configuration

XPR Maintenance

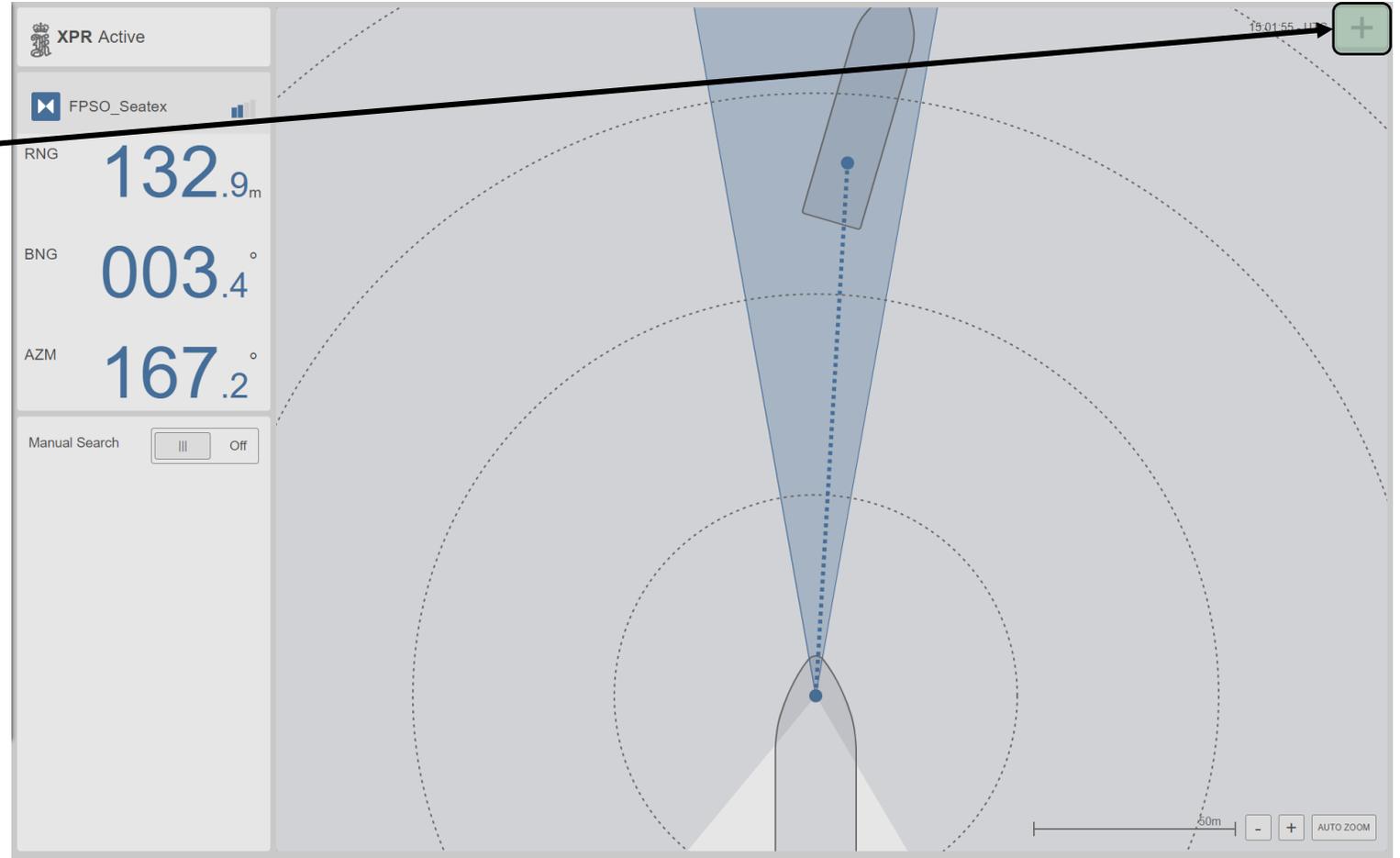
XPR Service/Troubleshooting



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XPR Configuration

Click on the + sign to open main menu

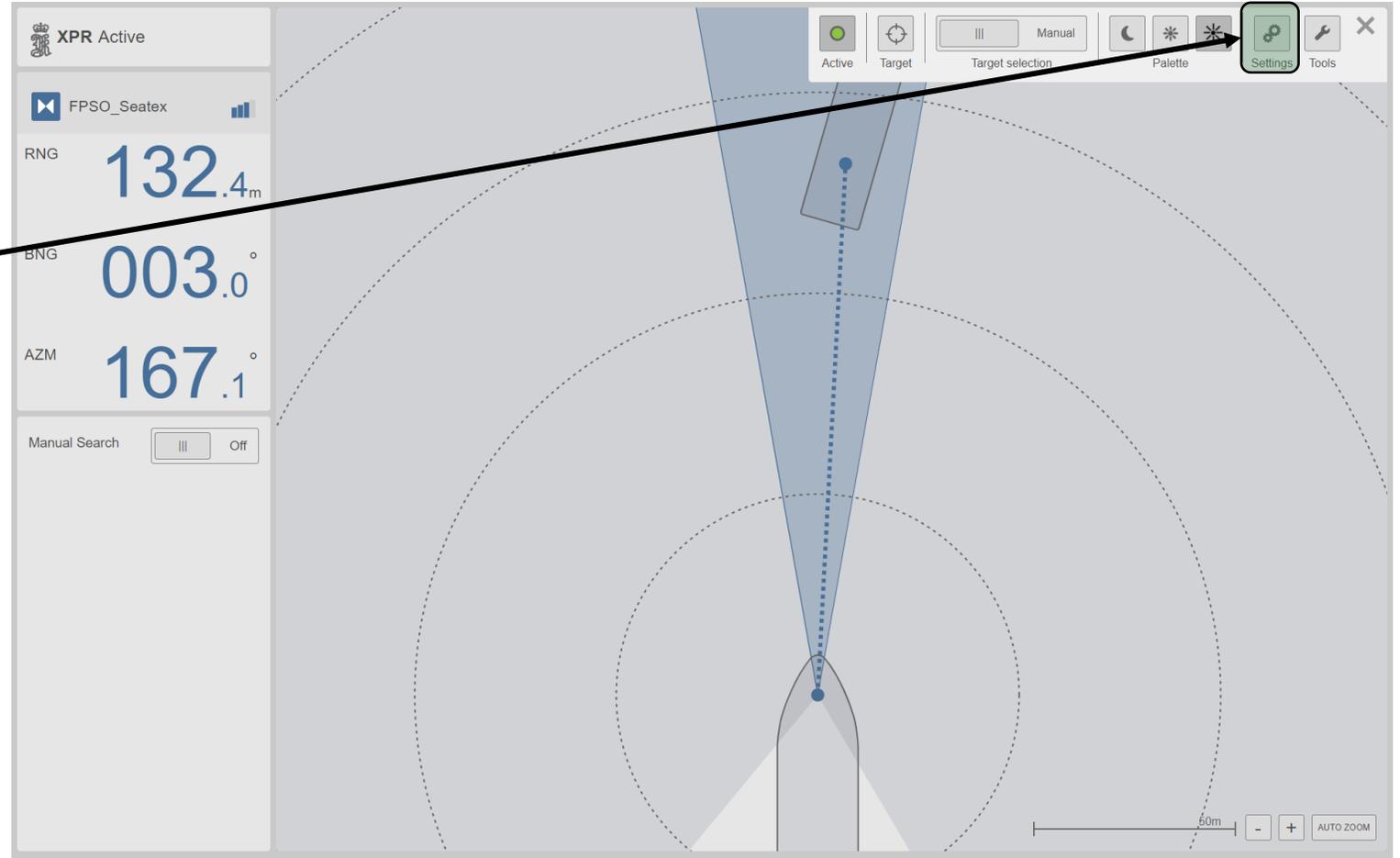




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XPR Settings Menu

Click on Settings



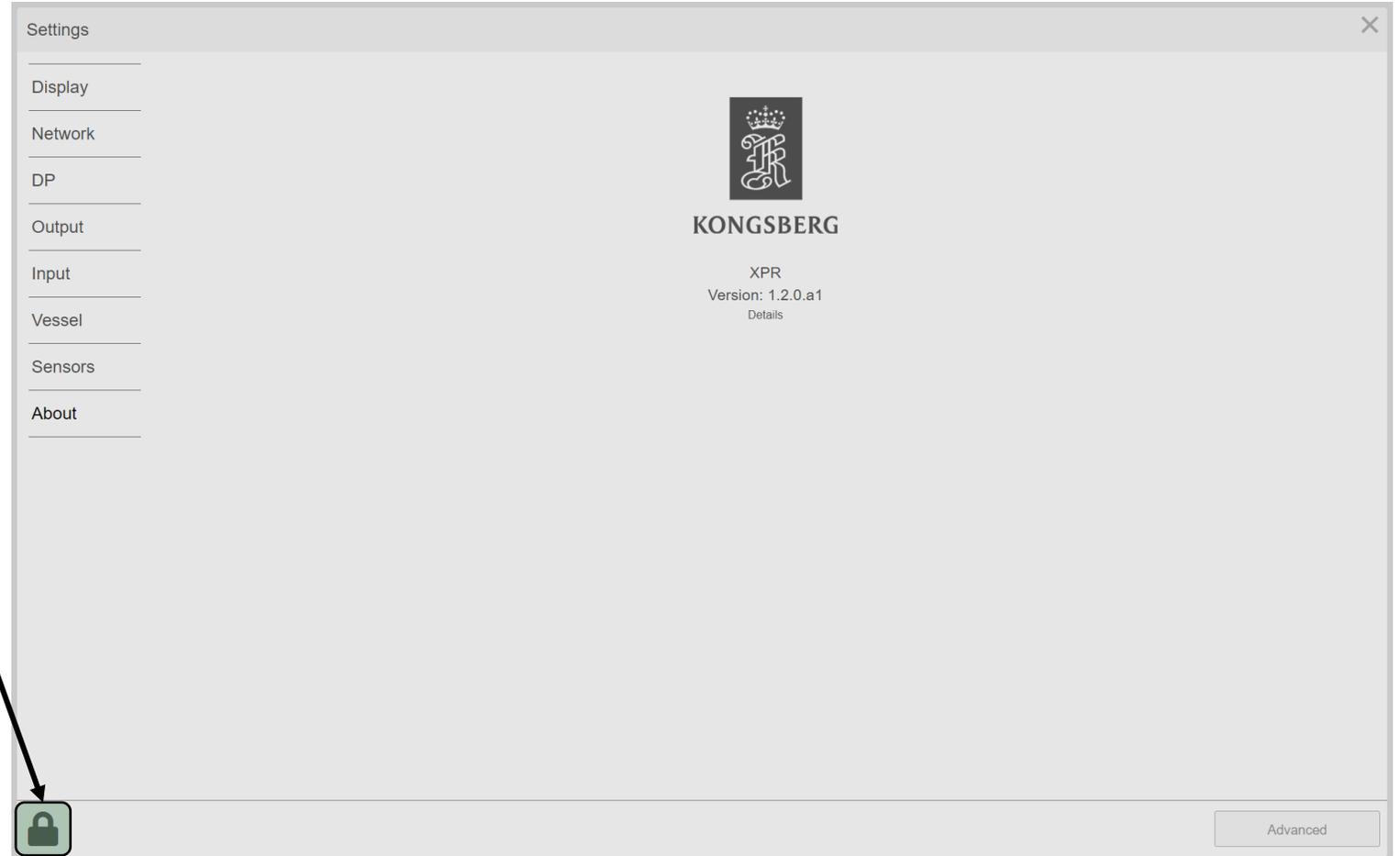


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XPR Settings Menu

By default, the system is locked for editing

To unlock click on the «lock» symbol



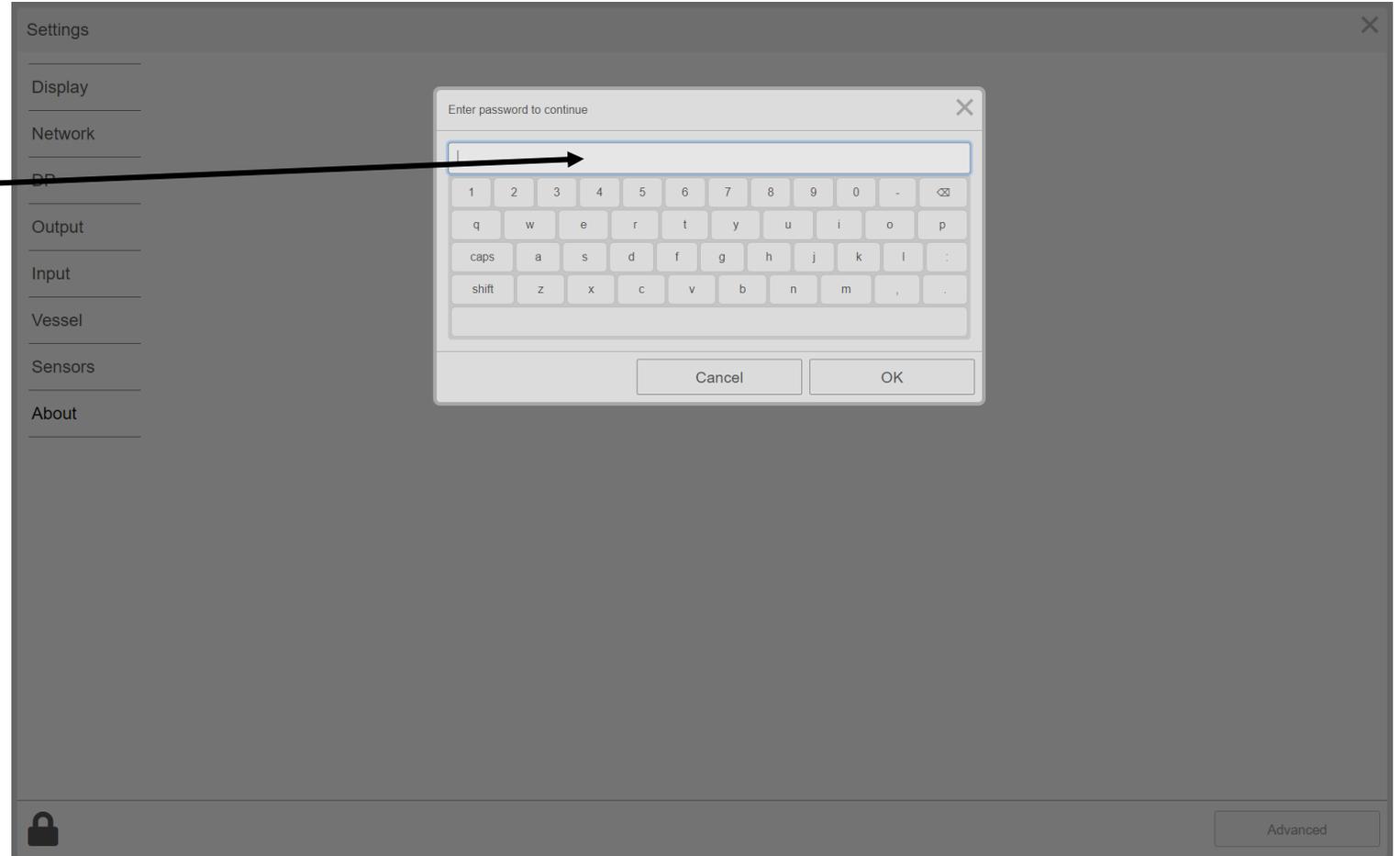


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XPR Settings Menu

Type in the password, by using the onscreen keypad or the keyboard

The password is «stx»
Note: the password is case sensitive



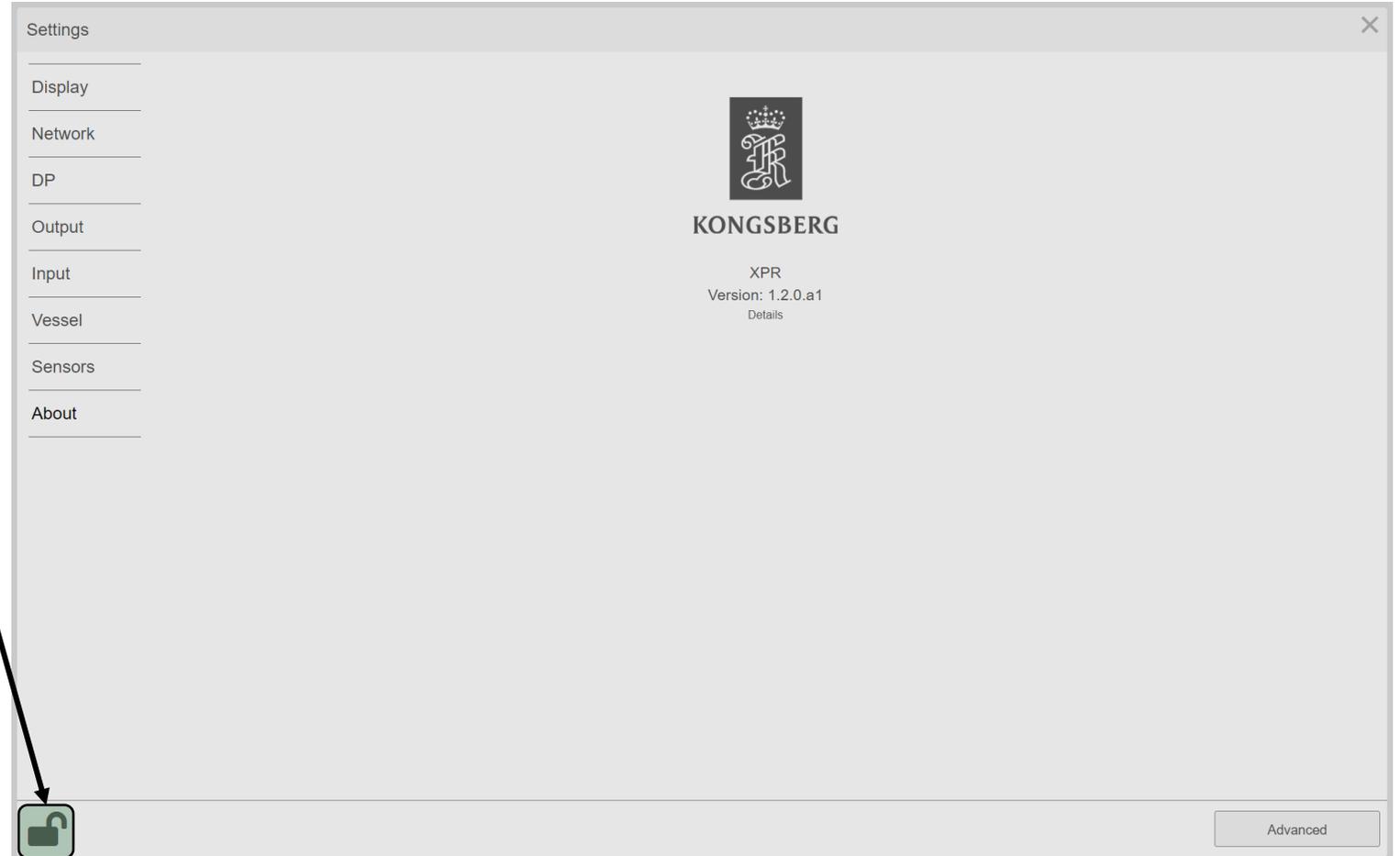


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XPR

Settings Menu

XPR shows «un-lock»,
and configuration can be
changed





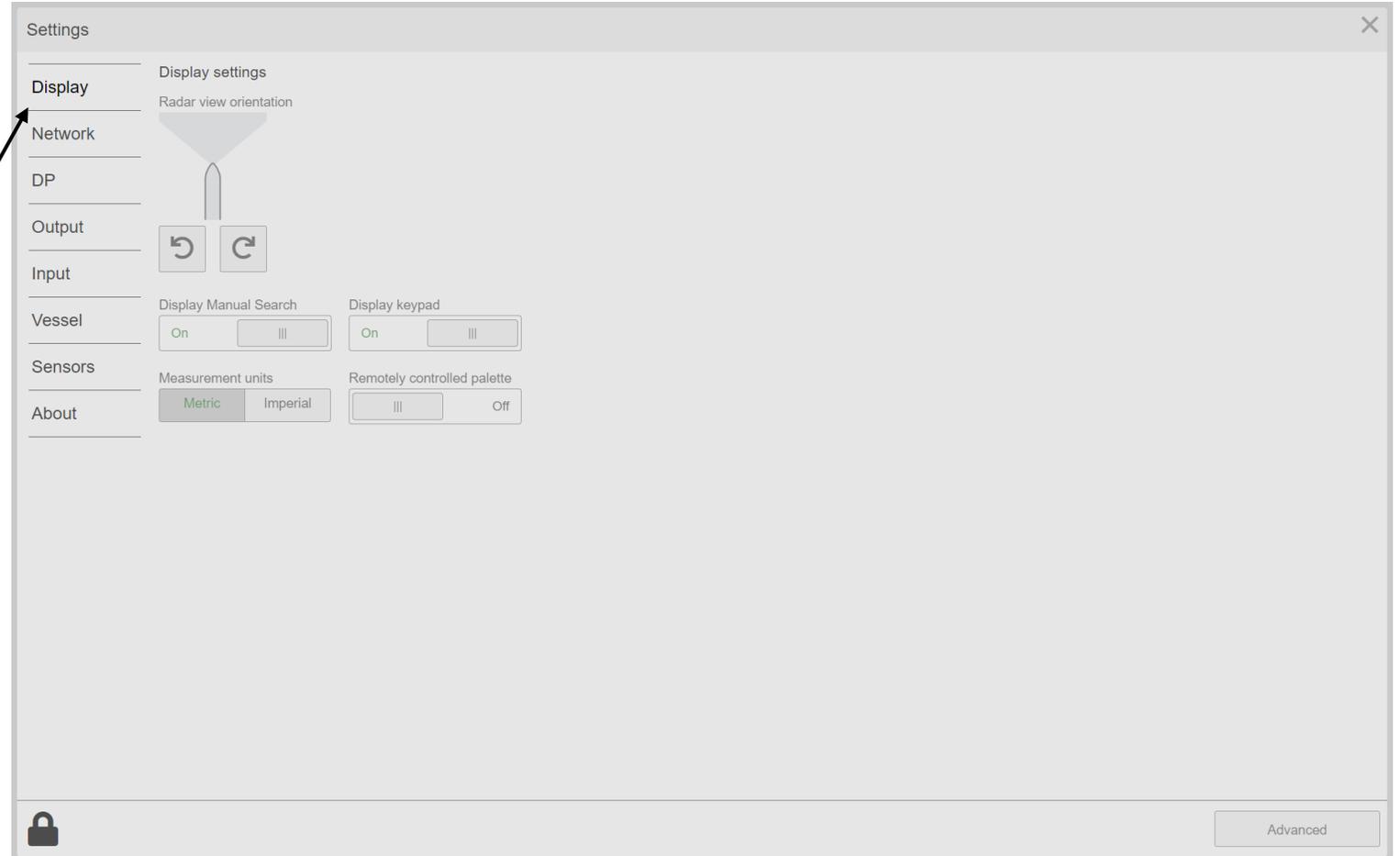
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XPR

Settings Menu

Display settings:

- View orientation
- On/off the display of manual search
- On/off the view of the display keypad
- Select measurements units
- On/off remotely controlled palette





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XPR Settings Menu

Network settings:
Adjust IP-address for the
different interfaces

The screenshot shows the 'Settings' menu with a sidebar on the left containing options: Display, Network, DP, Output, Input, Vessel, Sensors, and About. The 'Network' option is selected, and an arrow points from the text box to it. The main area is titled 'System network and IP settings' and contains a 'Processing unit' section with 'Sensors' listed below it. Under 'Processing unit', there are four LAN interfaces, each with its own IP address settings:

| Interface | IP Address |
|-----------|--------------|
| LAN1 | 192.168.4.55 |
| LAN2 | 10.65.72.247 |
| LAN3 | 192.168.2.55 |
| LAN4 | 172.20.35.55 |

At the bottom of the settings window, there is a lock icon on the left and an 'Advanced' button on the right.



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XPR Interfaces

Typical XPR interfaces
through serial or network



DP-interface
Relative position

DARPS-interface
Target selection,
heading, position

Data logger, Blom/Parker
Maritime, relative
position



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XPR

Settings Menu

DP interface settings:

- Telegram type
- Communication type, either Serial or UDP/IP
- Serial port
- Cable ID, marking on the serial cable

The screenshot shows the 'Settings' window with a sidebar on the left containing menu items: Display, Network, DP, Output, Input, Vessel, Sensors, and About. The 'DP' menu item is selected, and an arrow points from the text box to it. The main content area is titled 'DP interface settings' and contains the following controls:

- Telegram:** A row of four buttons: 'PSXXPR' (highlighted in green), 'PSXRAD', 'ArtemisASCII117', and 'ArtemisADB'.
- Communication type:** A row of two buttons: 'Serial' (highlighted in green) and 'UDP/IP'.
- Serial Port:** A dropdown menu showing 'COM9'.
- Cable ID:** A text input field with a hyphen '-' and an edit icon.

At the bottom of the window, there is a lock icon on the left and an 'Advanced' button on the right.



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XPR Settings Menu

Output settings:
Up to five additional
outputs from the XPR
can be configured.

Add or Delete output is
used to remove and
output or add a new one

Settings

Additional outputs

Display

Network

DP

Output

Input

Vessel

Sensors

About

Additional outputs

Name

TelegramOut #1

Telegram

PSXXPR PSXRAD ArtemisASCII117 ArtemisADB

Communication type

Serial UDP/IP

Serial Port

Cable ID

COM11 -

Add Output Delete Output

Advanced



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XPR Settings Menu

Input settings:
Configure automatic
target selection from
DARPS or DP

XPR will select target
and enter active/standby
mode automatically

Settings

Display

Network

DP

Output

Input

Vessel

Sensors

About

Input

Name

NMEA input #1

Telegram

GGA ZDA THS PSALB DDC

Communication type

Serial

UDP/IP

Serial Port

COM9

Cable ID

-

Add Input

Delete Input

Advanced



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XPR

Settings Menu

Required input:

- PSALB, target selection
- GGA, position
- THS/HDT, heading

Optional input:

- ZDA, time and date

Settings

Display

Network

DP

Output

Input

Vessel

Sensors

About

Input

Name

NMEA input #1

Telegram

GGA ZDA THS PSALB DDC

Communication type

Serial UDP/IP

Serial Port

Cable ID

COM9

Advanced



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XPR

Settings Menu

Vessel setting:

- Name
- Length and width
- On/off fixed heading, if there is no gyro input.

The screenshot shows a 'Settings' window with a sidebar on the left containing menu items: Display, Network, DP, Output, Input, Vessel, Sensors, and About. The main area is titled 'Vessel details' and contains the following settings:

- Vessel name:** A text input field containing 'Vessel' with an edit icon.
- Dimensions:** Two input fields. 'Length [m]' contains '250.0' and 'Width [m]' contains '44', both with edit icons.
- Fixed heading:** A toggle switch labeled 'Fixed heading' is set to 'On'. Next to it is an input field for 'Fixed heading [°]' containing '15' with an edit icon.

At the bottom left of the window is a lock icon, and at the bottom right is an 'Advanced' button.



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XPR Settings Menu

Sensor setting:
Enable sensors with IP
address and
corresponding serial
number is displayed

Configure bracket
placement with yaw
angle

| Enabled | Name | Address | Serial |
|-------------------------------------|---------|-------------|-----------|
| <input checked="" type="checkbox"/> | Sensor1 | 10.0.80.190 | 19-018686 |
| <input checked="" type="checkbox"/> | Sensor2 | 10.0.80.191 | 19-018696 |
| <input checked="" type="checkbox"/> | Sensor3 | 10.0.80.192 | 19-018692 |

Dist from stern [m], positive forward: 90

Dist from center [m], positive starboard: 0.0

Dist from keel [m], positive downwards: 0.0

Yaw angle [°]: 0.0



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XPR Settings Menu

About menu:
Software version

Click on details to see
more information about
installed components





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XPR

Settings Menu

Details on connected sensors.

SW Ver. of processing software and graphical user interface.

Relevant when calling support for assistance.

| Sensor #1 | Sensor #2 | Sensor #3 | XPR Core | HMI |
|--|--|--|----------------------------------|--------------------------|
| SW version: HW version: FW version: Serial: | SW version: HW version: FW version: Serial: | SW version: HW version: FW version: Serial: | XPR Core SW version: 1.2.0.a1 | HMI SW version: 1.2.0 |



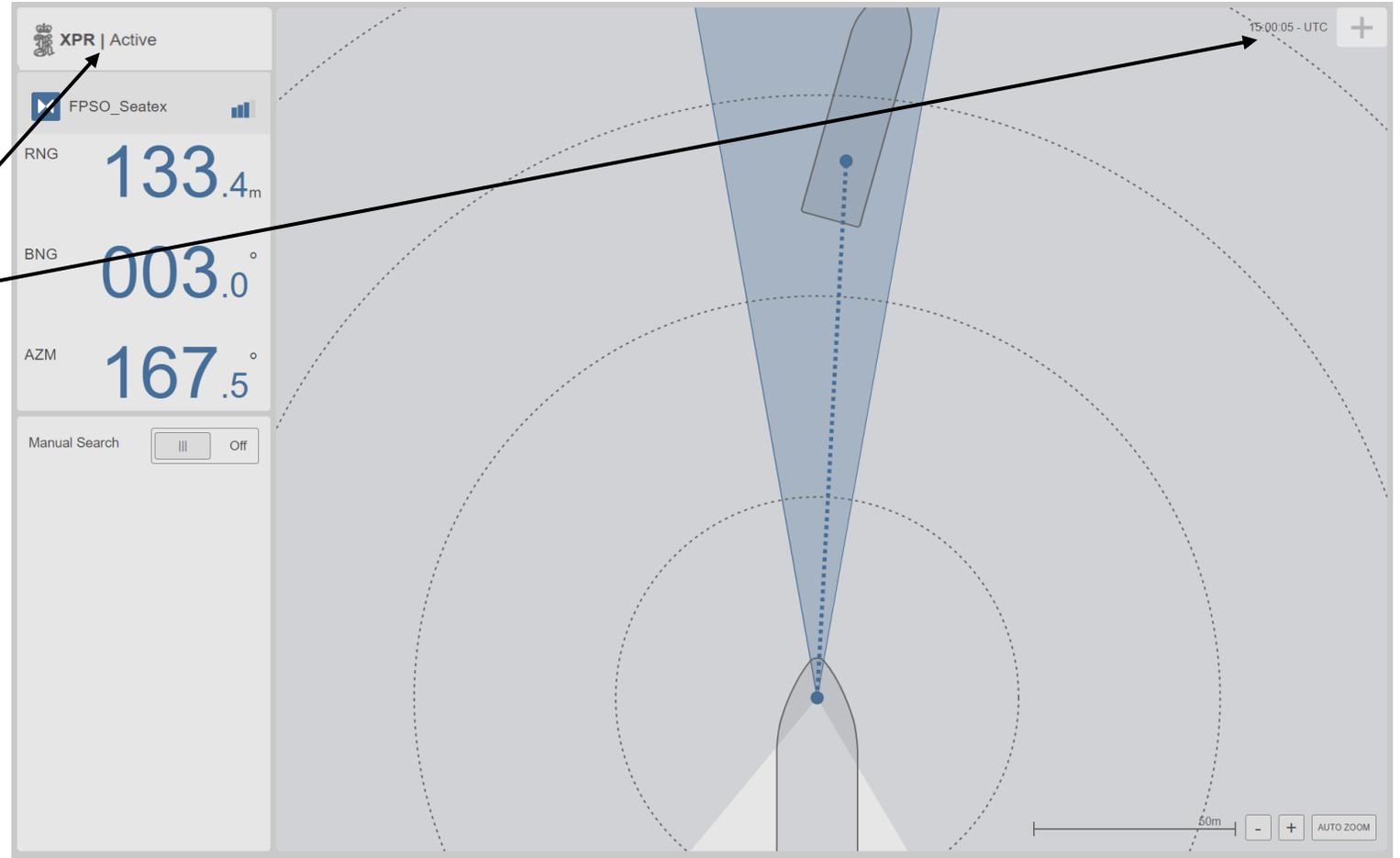
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XPR

Settings Menu

After any changes, verify that the XPR is ready for operation.

- System status should show Active
- Time indicator should run





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XPR Technical Training

Course Content

XPR Technical Training

XPR System Description

XPR Configuration

XPR Maintenance

XPR Service/Troubleshooting



KONGSBERG

XPR

Maintenance – Backup and Restore

System backup and restore:

- Backup should be made after installation has been completed.
- Backup will include operating system, XPR software and all configured parameters.

Procedure to create backup located in the XPR Installation manual.

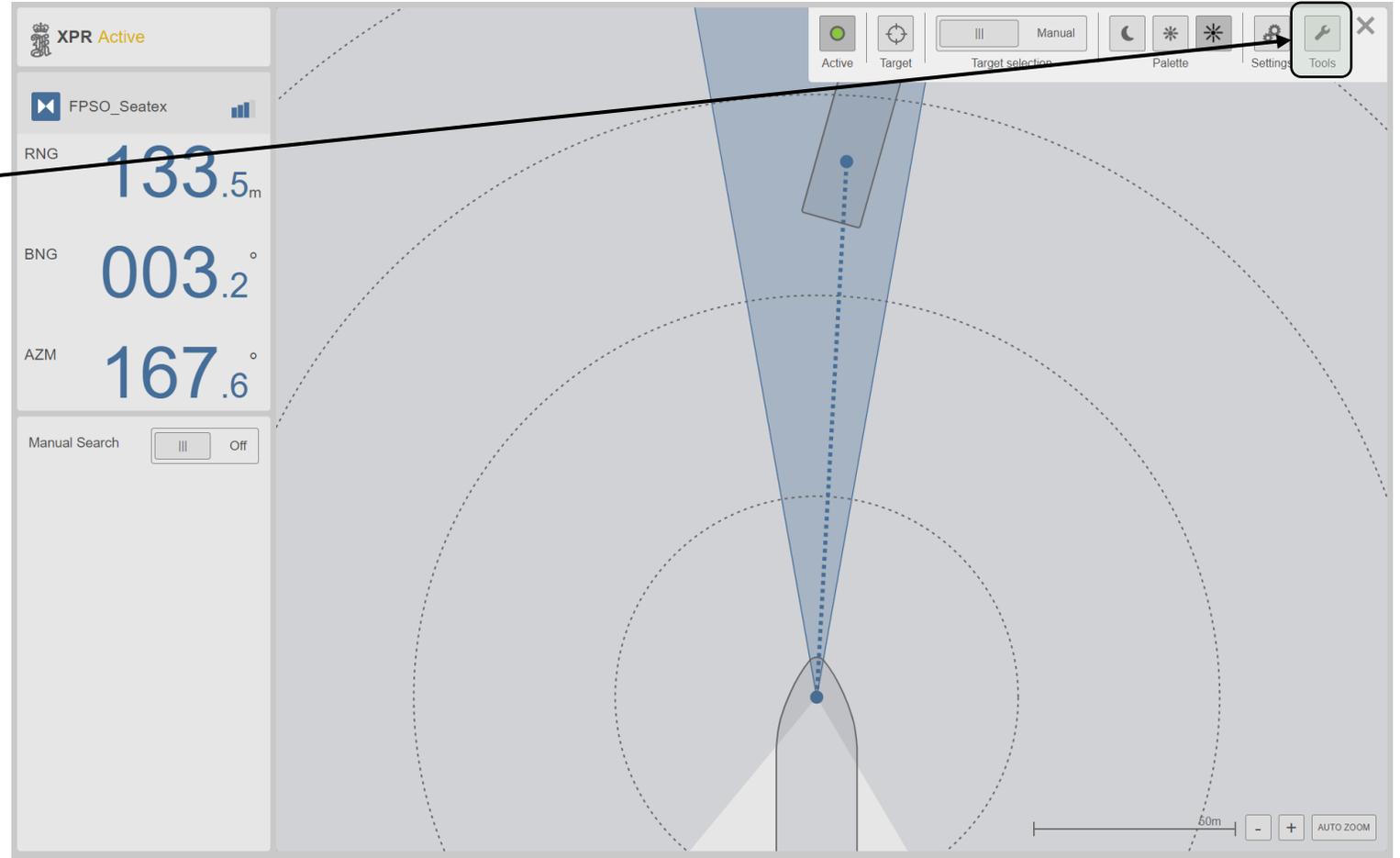


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Maintenance – Software Update

Software update:
Located under the tool's
menu.





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XPR

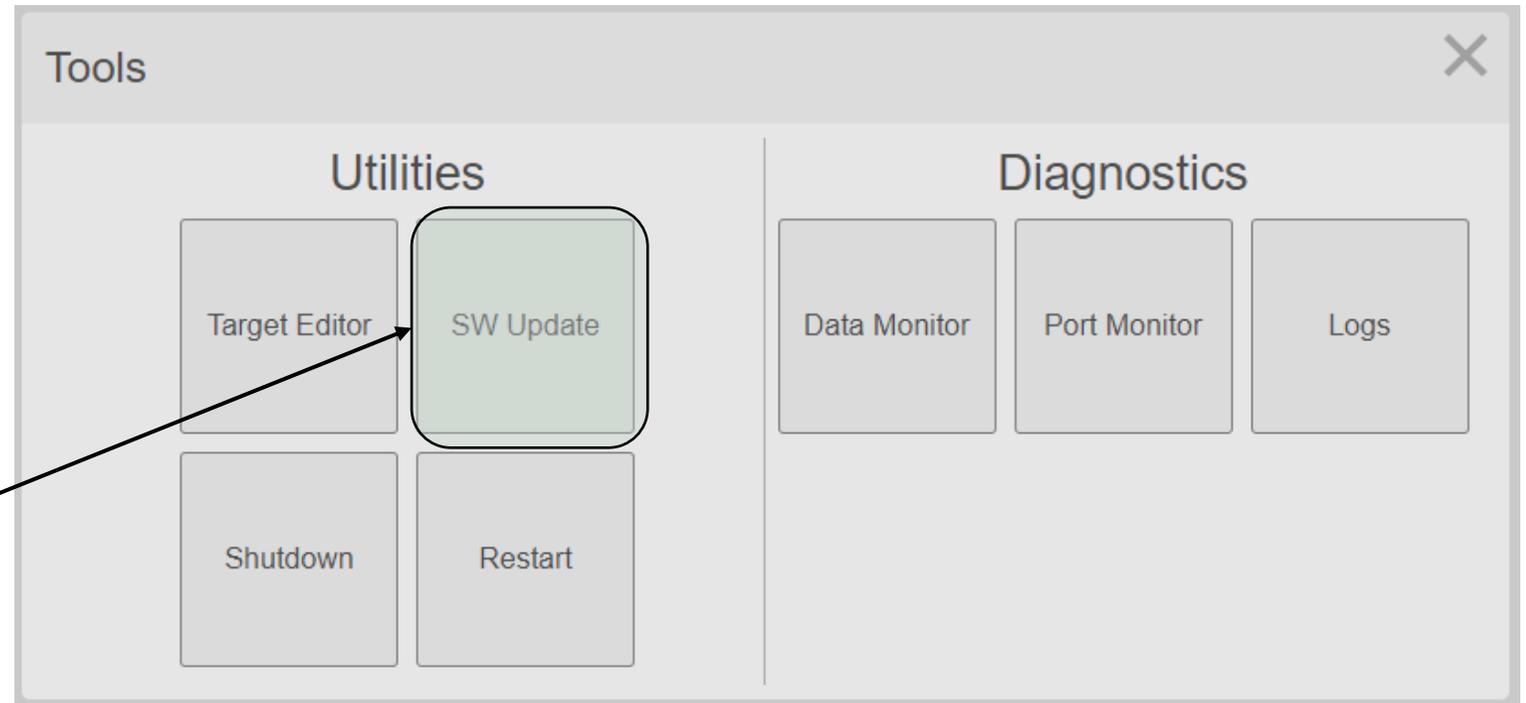
Maintenance – Software Update

Software update:

- Insert USB stick with new software into USB port in front of the Processing Unit.
- Select SW Update under Tools menu.

Further information will be received together with the new software.

System will restart after update is completed.





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XPR

Periodic Maintenance

Periodic maintenance:

- It is important to keep the Sensor Unit cover clean to get accurate and reliable signal.
- Clean the Sensor Unit cover with a moist anti-static cloth on a regular basis.
- Inspect the Sensor Unit cable and cable gland, replace if necessary.
- Inspect the Sensor Unit screws are properly tightened.
- Check that there is no noticeable corrosion on metallic parts.





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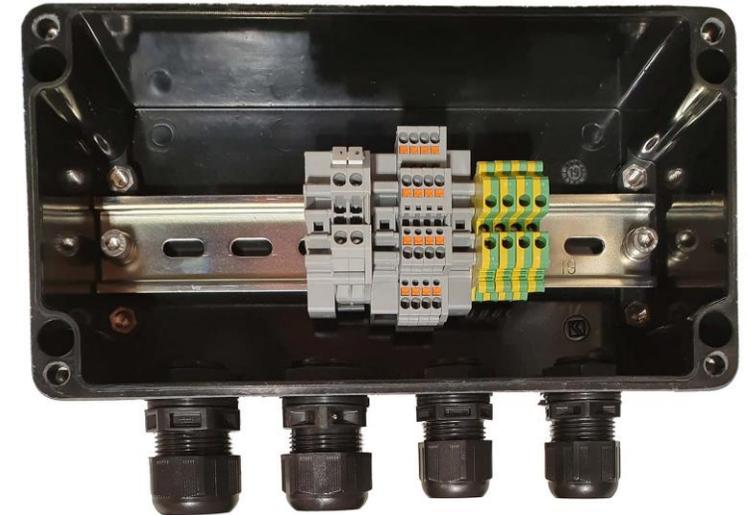
XPR

Periodic Maintenance

Periodic maintenance:

Caution: Make sure power in Remote Interface Cabinet is switched off before opening Junction Box.

- Check that there is no evidence of water and dust
- Check that there is no damage to wires and cables
- Check that terminals are tightened
- Check that the cable glands are properly tightened
- Check that the earthing connections are satisfactory
- Check that the integrity of the conduit system is maintained
- Check that there is no noticeable corrosion on metallic parts



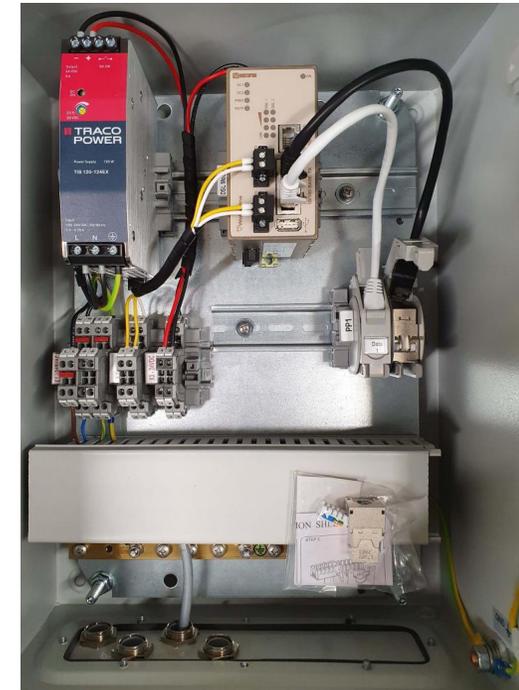


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XPR

Periodic Maintenance

- Periodic maintenance:
Inspecting the Remote Interface Cabinet, recommended inspection once a year.
- 1 – Check the door hinges for ease of movement.
 - 2 – Check the door lock for ease of movement.
 - 3 – Check the gasket in the contact edge area.
 - 4 – Check all components and surfaces for external damage.
 - 5 – Check for traces of corrosion.





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XPR

Periodic Maintenance

Periodic maintenance:

Cleaning of Processing Unit air inlet recommended every 6 months depending on the air quality in operation's location.

Steps:

- Remove cover.
- Remove the filter and clean it by washing or vacuuming.
- Replace the plastic cover with the cleaned filter.





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XPR Technical Training

Course Content

XPR Technical Training

XPR System Description

XPR Configuration

XPR Maintenance

XPR Service/Troubleshooting



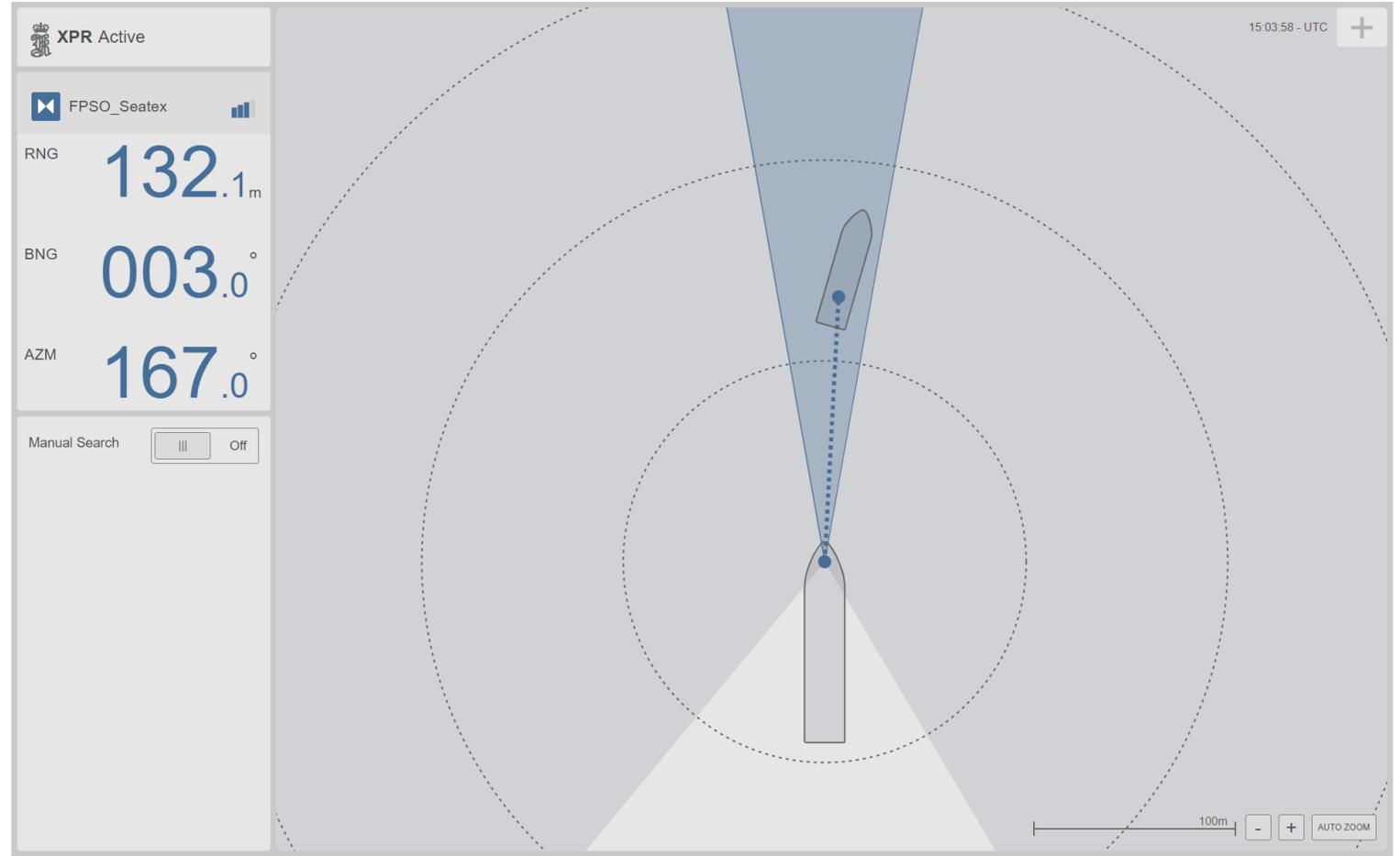
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XPR Service

Wrong heading of target

If target/remote vessel is shown 180-degree error in display, azimuth setting is wrong.

To change this target parameters must be changed.





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XPR Service

Select Target Editor

The screenshot shows a 'Tools' window with a close button (X) in the top right corner. The window is divided into two main sections: 'Utilities' and 'Diagnostics'. Under 'Utilities', there are four buttons: 'Target Editor' (highlighted with a green border and a callout arrow), 'SW Update', 'Shutdown', and 'Restart'. Under 'Diagnostics', there are three buttons: 'Data Monitor', 'Port Monitor', and 'Logs'.



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XPR Service

A target is selected

Select Edit

Target Editor

| Name ▼ | Id | Freq. pair | Address code |
|---------------------|-----|------------|--------------|
| Balder_1 | 26 | 2 | 14 |
| Balder_2 | 126 | 2 | 14 |
| C.d. Ilhabela-BOW | 220 | 0 | 22 |
| C.d. Ilhabela-STERN | 221 | 1 | 33 |
| Caraguatatuba-BOW | 240 | 1 | 51 |
| Caraguatatuba-STERN | 241 | 1 | 51 |
| FPSO_Seatex | 24 | 0 | 8 |
| FPSO_Test | 99 | 0 | 8 |
| Gina Frog | 244 | 3 | 0 |
| Jotun_1 | 37 | 3 | 9 |
| Jotun_2 | 137 | 3 | 9 |
| Munkholmen | 98 | 1 | 11 |
| OLSB | 1 | 2 | 14 |
| P-50 - Bow | 64 | 2 | 20 |
| P-50 - Stern | 65 | 2 | 25 |
| São Paulo - BOW | 210 | 3 | 22 |
| São Paulo - STERN | 211 | 3 | 33 |
| Åsgard A_1 | 30 | 2 | 11 |
| Åsgard C_1 | 5 | 0 | 10 |

New Edit Delete



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XPR Service

Input password to enable target editing.

Change the Azimuth reference

Click on Save.
The target should now show up correct in the display view

Edit Target

| | | |
|--|-------------------------------------|---|
| Id 26 1-9999 | Frequency pair 2 0-3 | Dist from stern [m] 5.1 Positive forward |
| Name Balder_1 1-20 characters | Address code 14 0-63 | Dist from center [m] -6.8 Positive starboard |
| Sector Norway | Length [m] 240 | Width [m] 40 |
| Latitude N 59 11.461699800 N/S dd mm.mmmmm | Compatibility Artemis MK5 | Dist from keel [m] 0 Positive downwards |
| Longitude E 2 23.146000200 E/W ddd mm.mmmmm | | Azimuth 0° reference Aft |

Save Cancel



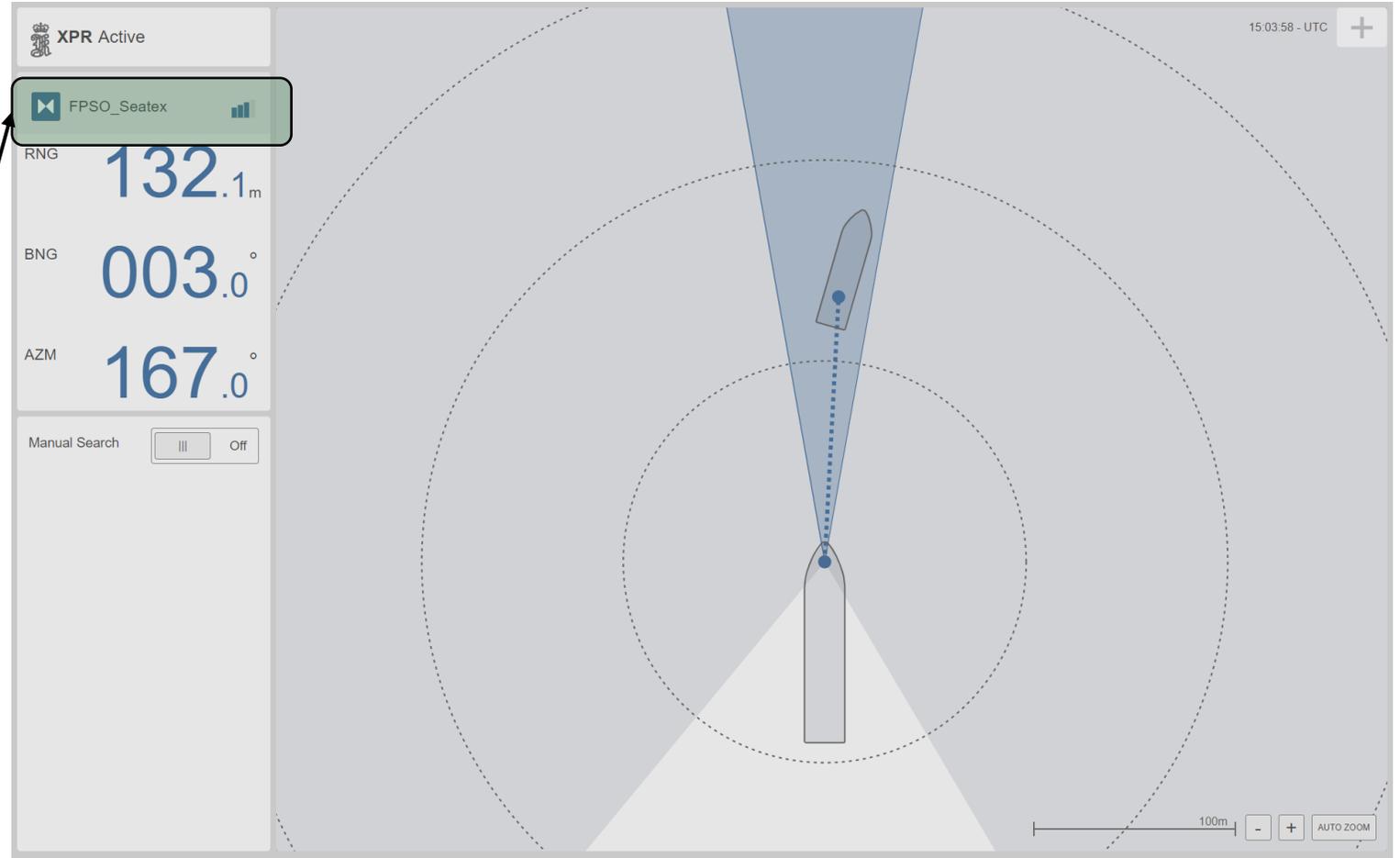
KONGBERG

XPR Service

Unstable signal from XPR

If experiencing unstable signal, check the signal, range and bearing history

Click in this field to open Target history view

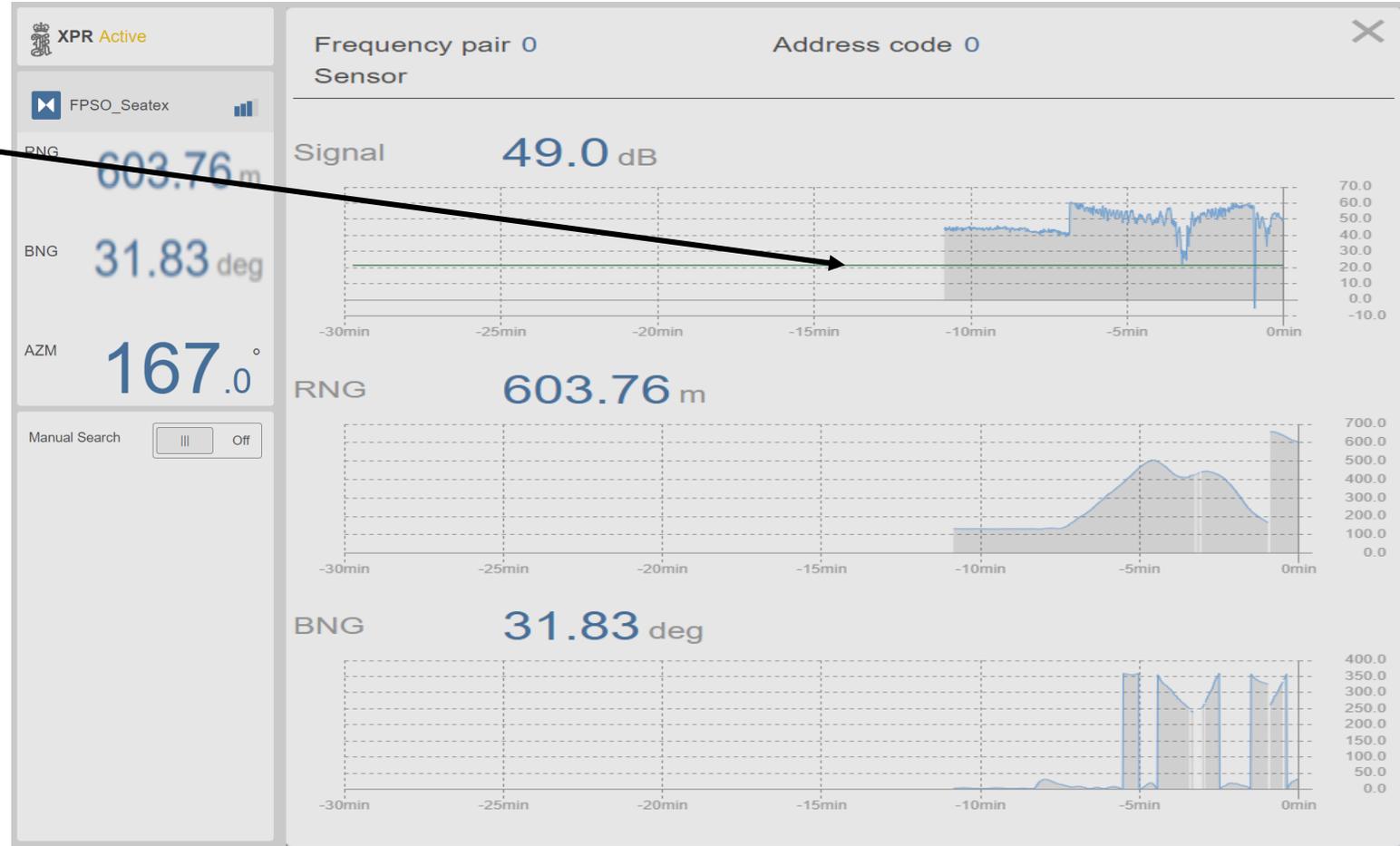




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XPR Service

Acceptable min. 20 dB



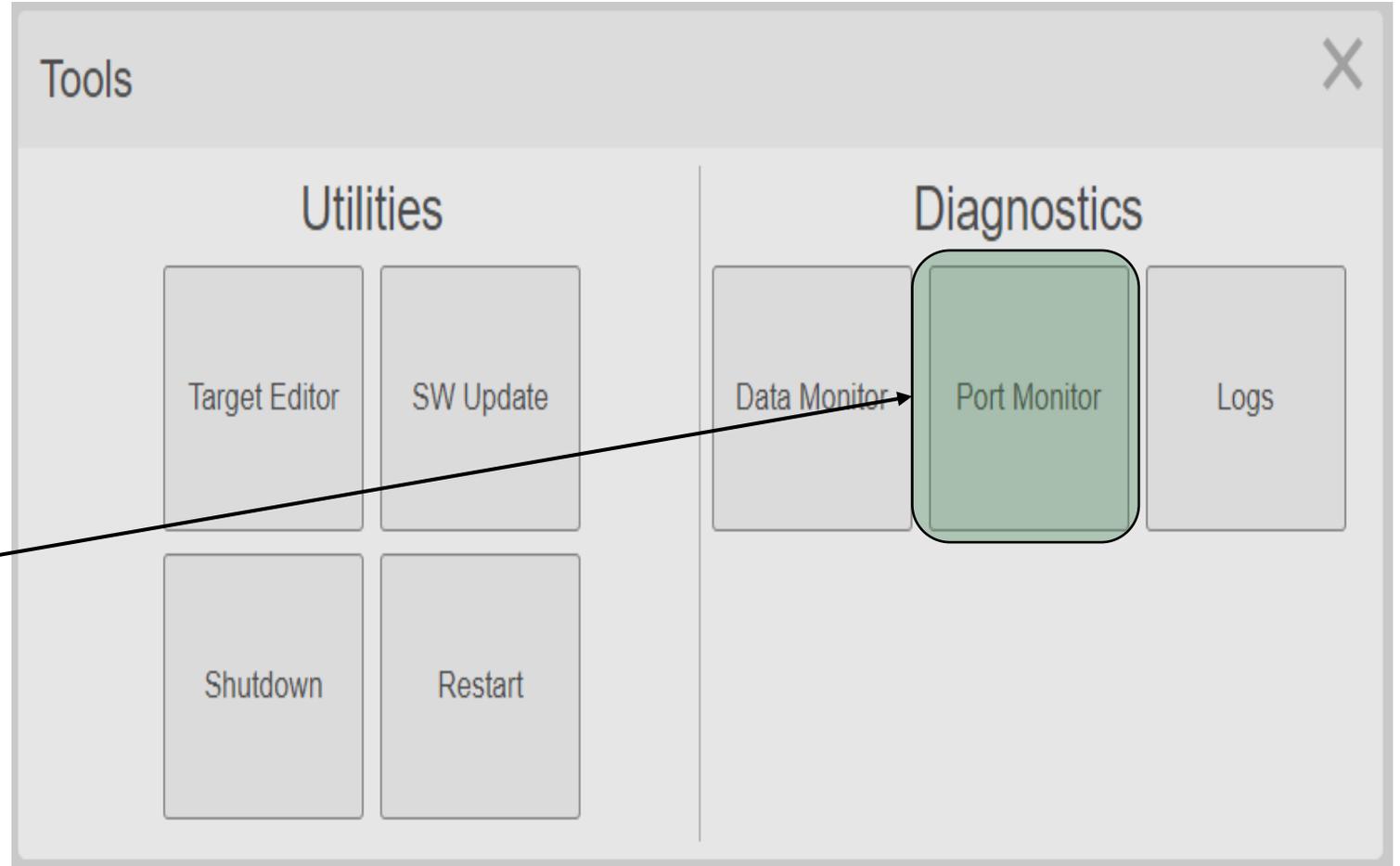


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XPR Service

If experiencing problems with data inputs or outputs, use the Port Monitor to view data send on the interfaces.

The Port Monitor is selected in the tools menu.





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XPR Service

The Port Monitor will list all interfaces configured in the XPR system

Click on serial to look at only Serial interfaces

Port Monitor

TCP UDP **Serial**

| Port | rx | tx | type | subtype | device | portname | localport | remoteport |
|----------------|----|-------|--------|---------|--------|----------|-----------|------------|
| DP 1 | 0 | 36848 | serial | RS422 | | ttyhx6 | | |
| Telegram out 1 | 0 | 19104 | serial | RS422 | | ttyhx7 | | |
| KSReport 1 | 0 | 20917 | udp | bctx | eth0 | | 0 | 31005 |



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XPR Service

Click on desirable interface/Port to view data activity on this interface.

The screenshot shows the 'Port Monitor' window with a 'Serial' interface selected. The interface displays a table of ports and their activity, and a list of received data packets.

| Port | rx | tx |
|------------|----|-------|
| DP IF | 0 | 62216 |
| Telegra... | 0 | 44472 |
| KSRepor... | 0 | 40404 |

| rxcount | txcount | interface | type | subtype | portname | baudrate | linestatus | parity | wordlength | stopbit | bufferin |
|---------|---------|----------------|--------|---------|----------|----------|------------|--------|------------|---------|----------|
| 0 | 44472 | Telegram out 1 | serial | RS422 | ttyhx7 | 9600 | DtrRtsCts | N | 8 | 1 | 0 |

| bufferout | parityerr | framingerr | overrun | id |
|-----------|-----------|------------|---------|-----|
| 0 | 0 | 0 | 0 | 265 |

Received

Sent

```
$PSXXPR,150244.20,3,132.28,1.0,3.22,0.02,167.11,120*0F  
$PSXXPR,150244.45,3,132.34,1.0,3.24,0.02,167.15,119*09  
$PSXXPR,150244.68,3,132.42,1.0,3.33,0.02,167.11,121*0E  
$PSXXPR,150244.93,3,132.25,1.0,3.36,0.02,167.09,121*07  
$PSXXPR,150245.19,3,131.89,1.0,3.23,0.02,167.11,120*0D  
$PSXXPR,150245.44,3,131.87,1.0,3.24,0.02,167.10,119*07  
$PSXXPR,150245.69,3,132.20,1.0,3.29,0.02,167.09,120*09  
$PSXXPR,150245.94,3,132.46,1.0,3.22,0.02,167.16,119*04  
$PSXXPR,150246.19,3,132.47,1.0,3.18,0.02,167.11,120*07  
$PSXXPR,150246.45,3,132.39,1.0,3.25,0.02,167.13,120*0B
```

Freeze



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End of Training

