PRECISION IN POSITION

R6 NAV

Market leading performance

Saab's IMO-compliant navigation systems have been the top choice for professional mariners for almost two decades. The newly type approved **R6 NAV** with its proven navigation sensors is a reliable, flexible, high performing system distinguished by unique features not available in any other system on the market.

Ease of use

The R6 NAV system is self-monitoring and extremely user friendly. It utilizes a highly versatile CDU (Control and Display Unit) and, with options of sensor configurations and antennas, it represents one of the most flexible systems on the market. The R6 NAV is intuitive and easy to operate and designed to be a tool for daily work. Its CDU features a fast modern graphical user interface with a sunlight-readable 7-inch touch display providing accurate colours at any viewing angle. The display has a resolution of 1024x600 pixels in more than 16M colours. The CDU also features an interface for central bridge equipment dimming.

All information is easy to access through a GUI implementation that reminds of a modern smartphone.

Multi purpose display

The R6 CDU shares its display with our type approved R6 Supreme AIS/VDES transponder to minimize the number of screens on the bridge and lower the cost for equipment and installation.

Future proof

The R6 NAV system incorporates the new Bridge Alarm Management (BAM) standard as well as dual LAN interfaces (IEC 61162-450) for efficient network integration into bridge systems.

Simple installation

The R6 NAV system can easily be integrated with other on-board systems such as ECDIS, radar or other display solutions using traditional NMEA serial communication or network interface. Dual network interfaces in both the sensor and CDU makes it simple to install on redundant bridge networks.

High performance

The R6 NAV gives outstanding position performance in either GNSS, DGNSS or RTK mode.. It provides access to centimeter level navigation with RTK data from either external input or L-Band satellite, offering unparalleled performance in the familiar R6 NAV format.

The R6 NAV system is offered in the following configurations:

- R6 NAV GNSS System
- R6 NAV DGNSS System
- R6 NAV PRO System
- R6 NAV PRO RTK System

Features

- Market leading GNSS/DGNSS performance
- Dual 61162-450 networks interfaces for easy integration and redundancy
- Dual-use CDU can combine functionality with R6 Supreme AIS/VDES system
- 1 PPS timing output port
- CDU with waterproof front for exposed panel mount installations
- Up to 4000 waypoints and 128 routes with maximum 128 waypoints per route
- Integrity monitoring by RAIM and Heartbeat

Options

- Integrated IALA Beacon receiver
- Multi frequency operation
- Increased multi-path resilience
- RTK support license option
- Centimetre level accuracy
- Satellite-based correction subscription service

Technical specification

Dimensions/Weight

R5 Navigation Sensor:	261x53x177 mm / 1900 g
R6 CDU:	220x125x45 mm / 1500 g

Interfaces

IEC 61162-1/2	8+1 IEC 61162-1/2 - Output
	5+1 IEC 61162-1/2 - Input
LAN	2x2 IEC 61162-450 Ethernet RJ45
Alert relay	0.1-5A, 30VDC, 150W

(D)GNSS Receiver

GNSS/DGNSS approvals:	61108-1, 61108-4
Supported systems:	GPS/GLONASS/ BeiDou /GALILEO
Differential modes:	SBAS/ IALA Beacon /RTCM-104
Sensitivity:	-142 dBm
Channels:	800+
Update rate:	Up to 10 Hz
Accuracy* (RMS 67% / 95%):	Uncorrected: 1.2 m / 2.5 m SBAS (WAAS): 0.3 m / 0.6 m
Timing (1 PPS) accuracy:	20 ns
Cold start:	1 min typical

Accuracy depends on multipath environment, number of satellites in view, satellite geometry baseline length (for local services) and ionospheric activity.

IALA Beacon Receiver (DGNSS/NAV PRO)

Dual receiver:	Manual or Automatic
Frequency:	283.5 to 325.0 kHz
MSK Bit Rates:	50, 100, 200 bps
Cold Start Time:	< 1 minute typical
Reacquisition:	< 2 seconds typical
Sensitivity:	25 µV/m for 6 dB SNR @ 200 bps

Environmental data

R5 Navigation Sensor:	IEC 60945 Protected
R6 Supreme CDU:	IEC 60945 Protected

Power input

Input voltage	12-24 VDC Nominal

Power consumption

R5 Navigation Sensor:	8 Watts
R6 CDU:	5 Watts

GNSS Antenna interface

50 Ohm (TNC), 5 VDC

Bridge alert management

IEC 62923-1/-2

R6 NAV PRO additions

License options:	Multi frequency RTK (L1,L2,L5,G1,G2,E1,E5,B1,B2) L-Band correction subscriptions (can be combined with RTK)
Antenna:	Precise Multi Frequency DGNSS
Accuracy* (RMS 67% / 95%):	RTK: 1 cm / 1.7 cm L-Band correction: 4 cm / 8 cm
RTK protocols supported	ROX, RTCM v3.1, CMR, CMR+

GNSS Antenna

Data Interfaces Input/Output
1 PPS
Alarm Relay

Power

Network A
Network B