R5 SUPREME NAV MkII

MARKET LEADING **PERFORMANCE** WITH THE **NEW** R5 NAVIGATION SENSOR

Saab's IMO-compliant Navigation systems have been the top choice for professional mariners for over a decade. Saab now proudly offers the R5 SUPREME NAV Mk II system featuring the all new R5 Navigation sensor providing reliability, performance and flexibility like no other type approved system on the market.

The R5 NAV products are self-monitoring and extremely user friendly. The R5 SUPREME NAV MkII system utilizes the highly versatile R5 CDU (Control and Display Unit) and, with an option of R5 Sensors and antennas, it represents one of the most flexible navigation systems on the market.

The PRO version gives access to centimeter level navigation with RTK data or from L-Band satellite corrections, offering unparalleled performance in the familiar R5 NAV format.

R5 SUPREME system in use

The large color touch-screen display and intuitive graphical user interface makes operation both visually appealing and easy. Receiver Autonomous Integrity Monitoring and options of redundant configurations gives maximum reliability. Add as many additional R5 CDU displays as needed using the network interface.

R5 SENSOR FEATURES

- GPS combined with GLONASS, Beidou and GALILEO operation
- 8 output and 5 input ports independently configurable for serial or digital signals
- Dual 1 Gbps network ports
- Dedicated 1PPS timing output port
- Web server
- Integrated Junction Box
- Integrated IALA Beacon receiver option

R5 NAV PRO ADDITIONAL FEATURES

- Multi frequency operation
- Centimeter level accuracy
- Increased multi path resilience
- Satellite based correction subscription service
- RTK support license option

R5 CDU FEATURES

- Bright 7" display with touch and keypad control
- Route Navigation
- Route Logging to SD card memory
- Supports combined Nav & R5 Supreme AIS transponder operation

TECHNICAL SPECIFICATION

GENERAL

Waypoints:	4000
Routes:	128 (max 512 waypoints in each route)
Functions:	Support for additional read only displays and redundant systems
Integrity:	RAIM and Heartbeat Monitoring
Power supply:	Sensor; 12/24 VDC CDU; 12/24 VDC
Power Consumption: *(Preliminary values)*	Sensor: 5 W (GPS L1) 8 W (All options enabled) Display: 13 W

GNSS RECEIVER

Type	Combined GPS, GLONASS, BeiDou and GALILEO receiver
Differential modes:	SBAS, external RTCM-104 input Integrated IALA Beacon Receiver (DGNSS version)
Minimum GNSS signal types supported	GPS L1, GLONASS G1, BeiDou B1, GALILEO E1
Sensitivity	142 dBm
Channels	372
Update rate:	Up to 10 Hz
Horizontal accuracy* (95%):	Uncorrected: 1.3m, SBAS(WAAS): 0.4m,
Vertical accuracy* (95%):	Uncorrected: 2.5m, SBAS(WAAS): 0.7m,
Timing (1PPS) accuracy:	50 ns (preliminary value)
Cold start:	1 min typical

R5 NAV PRO additions

License options:	Multi frequency (L1/L2/L5) RTK L-Band correction subscriptions (can be combined with RTK)
Antenna:	Precise Multi Frequency L1/L2/L5 DGNSS
Horizontal accuracy* (RMS 67%)	RTK: 1 cm, L-Band correction: 8 cm
Vertical accuracy* (RMS 67%)	RTK: 1.6 cm, L-Band correction: 16 cm
RTK protocols supported	ROX, RTCM v3.1, CMR, CMR+
Raw data output	Yes

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

IALA BEACON RECEIVER (DGNSS version)

Dual receiver:	Manual or Automatic tuning
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

APPLICABLE STANDARDS

IMO Resolution MSC.112(73)	IEC 61108-1
IMO Resolution MSC.114(73)	IEC 61162-1
IMO Resolution MSC.115(73)	IEC 61162-2
IMO Resolution MSC.191(79)	IEC 61162-450
IMO Resolution A.694 (17)	IEC 62288
	IEC 60945

DIMENSIONS

Control & Display Unit:	255x140x84 mm / 1.6 kg
Control & Display Unit (incl. gimbal mount):	295x170x84 mm / 1.8 kg
R5 Navigation Sensor:	261x53x177 mm / 1.9 kg

CABLES

• R5 Power Cable (for R5 CDU)
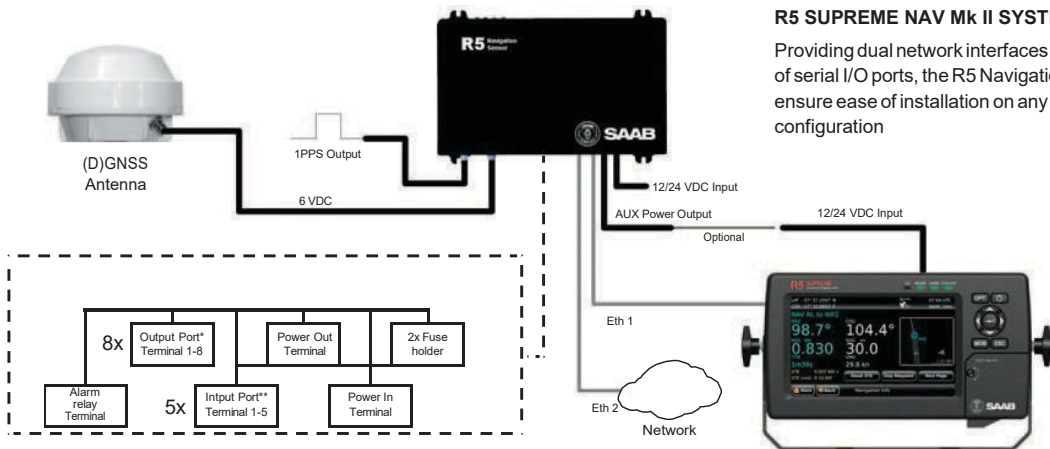• R5 Ethernet Cable

ELECTRICAL INTERFACES

R5 Sensor:
• 2x Ethernet 1 Gbps - (LWE IEC 61162-450 type)
• 8x User configurable output - (NMEA/IEC 61162-1 Ed. 4/ Digital out)
• Alarm Relay – (0.1-5A, 30VDC, 150W)
• 5x User configurable input - (NMEA/IEC 61162-1 Ed. 4 / RTK / Digital in)
• Sensor Power input terminal - (12/24 VDC, 2A Fuse)
• CDU Power output terminal - (Input VDC, 5A Fuse)

R5 CDU:
• USB Host 2.0 – Service Port
• SDHC Card Reader – Route Track Logging / Service
• Ethernet 100 Mbit (LWE IEC 61162-450 type)
• R5 Power Cable port (12/24 VDC)

ENVIRONMENTAL DATA

• IEC 60945 (Protected)
• Operation temperature: –15 °C to +55 °C
• Storage temperature: –30°C to +80°C

R5 SUPREME NAV Mk II SYSTEM

Providing dual network interfaces and a multitude of serial I/O ports, the R5 Navigation Sensor will ensure ease of installation on any bridge, in any configuration

* Each Output Terminal configurable to IEC 61162-1/2 or to digital pulse such as Speed log pulse or Event marker
** Each Input Terminal configurable to IEC 61162-1/2 or to digital switch such as ALR Ack, MOB Button and more

Specifications subject to change without notice

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