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 utilises 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 multitude of interfaces make the system highly appropriate for integration into modern networked bridge solutions.

R5 SUPREME system in use

The large colour 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 configurable for serial data or digital I/O as needed
- Dual 1 Gbps network ports
- Dedicated 1PPS timing output port
- Built-in web server for easy configuration in black box operation
- Integrated Junction Box
- Integrated IALA Beacon receiver option
- Options for high accuracy RTK and L-Band Atlas service operation

R5 CDU FEATURES

- 7" high quality LCD
- Touch or Keypad control
- Route Navigation
- Route Logging to SD card memory
- Supports combined Nav & R5 Supreme AIS transponder operation
- USB service port

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, with options for L1/L2/L5, L-Band and RTK operation with optional license and antennas.
Differential modes:	SBAS, external RTCM-104 input. Optional: Integrated IALA Beacon Receiver, RTK, L-band (Atlas)
Minimum GNSS signal types supported Sensitivity	GPS L1, GLONASS G1, BeiDou B1, GALILEO E1 -142 dBm
Channels	372
Update rate:	Up to 10 Hz
Horizontal accuracy* (95%):	Uncorrected: 1.3m, SBAS(WAAS): 0.4m, RTK: 10mm
Vertical accuracy* (95%):	Uncorrected: 2.5m, SBAS(WAAS): 0.7m, RTK: 16mm
Timing (1PPS) accuracy:	50 ns (preliminary value)
Cold start:	1 min typical
Correction input protocols supported: Raw data output:	ROX Format, RTCM v2.3, RTCM v3.1, CMR, CMR+, Hemisphere Format Yes

L-Band Receiver (License option)

Dual receiver:	Manual or Automatic tuning
Frequency:	283.5 to 325.0 kHz
Freq:	1525 to 1560 MHz
Sensitivity	-140 dBm
Satellite Selection:	Reaquisition Time: 15 s typical

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

IALA BEACON RECEIVER (HW option)

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 Ed. 2.0
IMO Resolution MSC.114(73)	IEC 61162-1 Ed. 4.0
IMO Resolution MSC.115(73)	IEC 61162-2 Ed. 1.0
IMO Resolution MSC.191(79)	IEC 61162-450 Ed. 1.0
IMO Resolution A.694 (17)	IEC 62288 Ed. 2.0
	IEC 60945 Ed. 4.0

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

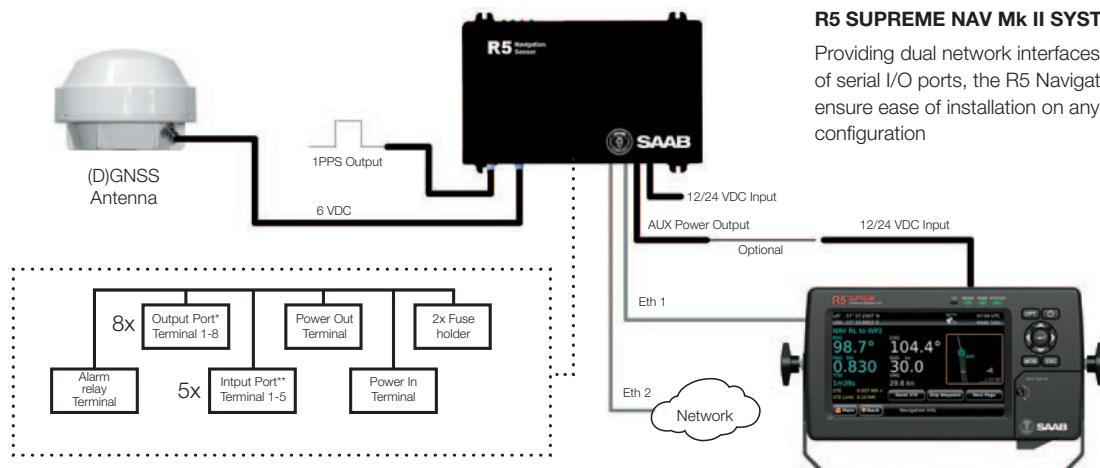## ELECTRICAL INTERFACES

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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