



Simrad R3016 12U/6X Radar System



The Simrad R3016 12U/6X is an IMO type approved radar solution for CAT 3 SOLAS vessels. Ideal for use aboard workboats, tugs and coastal fishing vessels, the R3016 12U/6X radar system delivers outstanding radar performance for demanding commercial customers. Built around a new generation digital processing front end, this system features enhanced target tracking capabilities, extremely clear target definition, and advanced automated tuning controls delivering a power solution in a compact package.

The 12-kilowatt X-Band transceiver and 6-foot open array scanner are designed for high reliability and low maintenance, and bring a new level of simplicity in system design and installation. The new R3016 control unit incorporates the display, controls and processor in a single integrated system. Important for smaller vessels with limited space, this system requires no bulky additional PC processor. The system's compact control console features an integrated 16-inch widescreen display, delivering a 180-millimetre PPI and intuitive keypad driven operation. Installation costs are further reduced with easily-routed Ethernet cabling and a compact, bulkhead mounted power supply unit.

IMO Type Approved

The R3016 12U/6X is an IMO compliant X-Band radar solution for CAT3 SOLAS vessels (those under 500 gross tonnes).

X-Band Radar System

This X-Band radar system features a 6-foot open array scanner with 12-kilowatt up-mast transceiver. Designed for maximum reliability aboard commercial vessels, the antenna is driven by a brushless motor and robust mechanical gearbox while the transceiver includes a long-life magnetron.

Technical specifications overleaf.

R3016 Radar Control Unit

The R3016 radar control unit comprises a compact 16-inch widescreen display with integrated processor, keypad, and rotary control dial. Its high-definition display provides a detailed 180-millimetre PPI to meet IMO type approval standards for CAT3 SOLAS vessels, while the widescreen format offers ample on-screen display space for alarms, indicators, and target tracking information.



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Keypad Operation with Direct-Access Menu Keys

The R3016 is operated by an integrated keypad and rotary dial. Direct-access menu keys beside the display activate adjacent on-screen menu options, for quick and intuitive access to key settings and features. With reliable, long-life operation and clear tactile feedback, the R3016's large buttons are suitable for use in rough seas, while travelling at speed, and with wet or gloved hands.

Simple, Low-Impact Installation

The radar control unit may be flush or bracket mounted, for simple installation aboard new vessels or retrofit into existing pilothouse setups. The control unit connects to the up-mast transceiver via thin and easily-routed Ethernet cabling, allowing cable runs of up to 60 metres; a 15 metre cable is standard. The system is designed for 24-volt DC operation, with direct 24-volt input to the control unit and a compact bulkhead-mounted power supply for the antenna.

IEC 61162-1 and IEC 61162-2 Compatible

The R3016 radar control unit provides four inputs and two output ports selectable between IEC 61162-1 or high-speed transmission IEC 61162-2 to enable communication with compatible devices such as heading and speed sensors, AIS transceivers, and GPS receivers.

Main Features:

- IMO type approved radar system for CAT3 SOLAS vessels (under 500 gross tonnes)
- X-Band radar with 6-foot open array scanner and 12 kW up-mast transceiver
- Robust mechanical gearbox, brushless motor and long-life magnetron
- Computer controlled auto tuning system
- Sensitivity anti-sea clutter time control to allow an optimum picture under adverse weather conditions
- Consistent automatic target tracking
- Compact control console with integrated processor and 16-inch widescreen display (180mm PPI)
- Keypad and rotary-dial interface with 8 direct-access menu keys
- Bracket and flush-mount console installation options
- Ethernet, IEC 61162-1/IEC 61162-2 connectivity
- Antenna de-icing option available

Technical Specifications

► OVERVIEW	
Display Size	16-inch widescreen
Screen Brightness	300 cd/m ²
Networking Capability	4x IEC 61162-1/2 input ports, 2x IEC 61162-1/2 output ports, 1x NMEA2000, 1x Ethernet
Video Integration	1x HDMI output (DVI via optional cable)
► DISPLAY	
Display Resolution [pixels & pixels]	1366 x 768
Display Type	16-inch LED-backlit Colour TFT LCD
► RADAR	
Antenna Distance Range [nm]	72 NM
Antenna Horizontal Beam Width [deg]	1-,3° (at -3 dB)
Antenna Output Power [kW]	12 kW
Antenna Receiver Noise Figure [dB]	< 6 dB
Antenna Rotation Speed	≥20 or ≥ 36 RPM nominal
Antenna Type	6-foot open array
Antenna Vertical Beam Width	22° (at -3 dB)
Radar Warm Up Time [minutes]	3 minutes
► TECHNICAL/ENVIRONMENTAL	
Operating Temperature	-15°C to +55°C / +5°F to +131°F (Display), -25°C to +55°C / -13°F to +131°F (Antenna)
Operating Temperature Stored	-15°C to +70°C / 5°F to 158°F (Display), -25°C to +70°C / -13°F to +158°F (Antenna)
Waterproof Standard/Rating	IPX6 (Display), IP66 (Antenna)
Specified Standards	IMO CAT 3, CCS & RMRS (Pending)
Product Width	455.5 mm / 17.93 in (Display) 364 mm / 14.3 in (Antenna)
Product Depth	82.3 mm / 3.24 in (Display) 516 mm / 20.3 in (Antenna)
Product Height	260.1 mm / 10.24 in (Display) 696 mm / 27.4 in (Antenna)
Product Weight	4 kg / 8.8 lb (Display) 40 kg / 88 lb (Antenna)
► POWER	
Power Supply (Supply Voltage)	24 V DC
Power Consumption	20 W (Display), 360 W (Antenna)
External Power Supply Box	24 V DC in / 48 V DC out (Antenna), 24 V DC in / 48 V DC out (Optional de-icing system)

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