



  
Universal Mounting

## S-BAND FULLY SOLID STATE RADAR

THE UNIQUE AND MODERN DESIGN OF ANTENNA GROUP WITH SOLID STATE TRANSMITTER-RECEIVER ENSURES A HIGH RELIABILITY AND EXCELLENT PERFORMANCES

- **Solid State Amplifier (SSPA) designed in house;**
- Radar features are fully configurable and reprogrammable by software (Software Defined Radar);
- Automatic detection of small and large naval targets;
- Performance of detection and tracking fully complies with the IMO MSC.192(79) and IEC 62388;
- Extensive multifunctional capacity of the display with: ARPA (250 targets), electronic charts (optional) and data overlay support; AIS, fusion and information;
- Digital video output in proprietary protocol or ASTERIX CAT 240 (optional);
- Innovative Human Machine Interface (HMI) with modern user-friendly windows based operation;
- Compact, silent, light weight and low power consumption;
- Antenna rotation speed: 22 rpm (standard version), 40 rpm;
- Embedded performance monitor;
- High reliability with extensive automatic BITE;
- De-icing optional provision;
- Antenna length: 12' ;
- Up-mast and Down-mast transceiver configuration;
- Brushless motor (maintenance free).



## S-BAND ANTENNA GROUP

<b>LENGTH</b>	<b>12 feet</b>
Type	Slotted waveguide array
Frequency band	X band, $\lambda = 3.2$ cm, frequency range 2900-3100 MHz
Polarization	Horizontal
VSWR	$\leq 1.2:1$
Horizontal beamwidth to -3dB	$1.9^\circ \pm 0.1^\circ$
Vertical beamwidth to -3dB	$\sim 25^\circ \pm 10\%$
Sidelobes within $10^\circ$	$\leq 26$ dB
Sidelobes outside $10^\circ$	$\leq 30$ dB
Gain	$\geq 27$ dBi
Bearing discrimination with e-DAR <sup>®</sup> processing optional	

## TRANSCEIVER UNIT PERFORMANCE

Solid State Power Amplifier (SSPA) / Coherent two-channel receiver  
 Superheterodyne / Digital configuration with functions defined by the software  
 (Software Defined Radar) / Pulse compression techniques

## SCANNER UNIT PERFORMANCE

### S-BAND

<b>TRANSMISSION OUTPUT</b>	<b>400 watt</b>
Pulse Repetition rate (PRR)	from 500 to 5000 Hz
Pulse Width	from 0.05 $\mu$ s up to 93 $\mu$ s
Sector blanking	Available
Receiver	Coherent, 16 bits sampling
Dynamic range	$\geq 120$ dB
Built-In Test Equipment (BITE)	Fully integrated in all modules, covering also PRF parts.
Interface	Gbit Ethernet. Asterix CAT 240 (optional)

## RANGE SCALE

Range (NM)	0.0625	0.125	0.25	0.5	0.75	1.5	3	6	12	24	48	96
RI (NM)	0.03125	0.0625	0.125	0.125	0.125	0.25	0.5	1	2	4	8	16
Number of rings	2		4		6							

## ROTATION UNIT PERFORMANCE

Rotation speed	20 or 40 rpm (for HSC requirement)
Wind load	Operational: 100 knots Survival: 120 knots
Performance monitor	Option

## ENVIRONMENTAL CONDITIONS

Models SSR are designed to operate in a reliable and continuous mode, with full operative performances, in the environmental conditions specified in the following table:

Antenna Group	Operating Temperature From -25° C to 55° C (storage from -28° C to +70° C) with optional anti-icing device (de-icer)
Protection grade	IP66
Relative humidity	Up to 95% at +40° C
Vibrations	In accordance with IEC-60945
Shocks	In accordance with IEC -62388 (17.3.2)

## POWER SUPPLY

Antenna Supply Unit	single phase 88 - 264 VAC, (powering Antenna Group and Transceiver)
	47-63 Hz, 800 W max

## COLORS

White RAL9003 (Standard)
Navy Gray FED-STD 595 - 26373 (on request)

## WEIGHTS

- Scanner Unit:	111 Kg.
- 12' Antenna:	77 Kg.

## PANEL PC

Size	23.6" wide screen
Aspect ratio	16:9
Active area	521.0 x 293.0 mm
Native resolution	1920 x 1080 (full HD)
View angle	89° (L/R/T/B) typical
Glass	Anti reflection coated front glass
Qualified	IEC 60945, approved for ECDIS/RADAR use

