LEONARDO SSR

GEM ELETTRONICA
a LEONARDO company

Universal Mounting

X-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 Performance Standards 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 (HSC version with 6' or 7.5' antenna);
- Embedded performance monitor;
- High reliability with extensive automatic BITE;
- De-icing optional provision;
- Antenna lengths: 6', 7.5', 9' ;
- Up-mast transceiver configuration;
- Brushless motor (maintenance free).

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X-BAND ANTENNA GROUP

LENGTH	6 feet	7,5 feet	9 feet
Type	Slotted waveguide array		
Frequency band	X band, λ = 3.2 cm, frequency range 9300-9500 MHz		
Polarization	Horizontal		
VSWR	≤ 1.2:1		
Horizontal beamwidth to –3dB	≤ 1.25°	≤ 1.05°	≤ 0.85°
Vertical beamwidth to –3dB	~ 23°		
Sidelobes within 10°	≤ - 27 dB		
Sidelobes outside 10°	≤ - 30 dB		
Gain	≥ 29 dBi	≥ 30 dBi	≥ 31 dBi
Bearing discrimination with e-DAR® processing optional			

TRANSCEIVER UNIT PERFORMANCE

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

SCANNER UNIT X-BAND

TRANSMISSION OUTPUT	100 watt	200 watt	400 watt
Pulse Repetition rate (PRR)	from 500 to 5000 Hz		
Pulse Width	from 0.05 µs up to 93 µs		
Sector blanking	Available		
Receiver	Coherent, 16 bits sampling		
Dynamic range	≥ 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							

ORDERING INFORMATION

MODEL	PEAK POWER	ANTENNA
LEONARDO SSR X400/6' or /7,5' or /9'	400W	6' or 7,5' or 9'
LEONARDO SSR X200/6' or /7,5' or /9'	200W	6' or 7,5' or 9'
LEONARDO SSR X100/6' or /7,5' or /9'	100W	6' or 7,5' or 9'

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

COLORS

White RAL9003 (Standard)

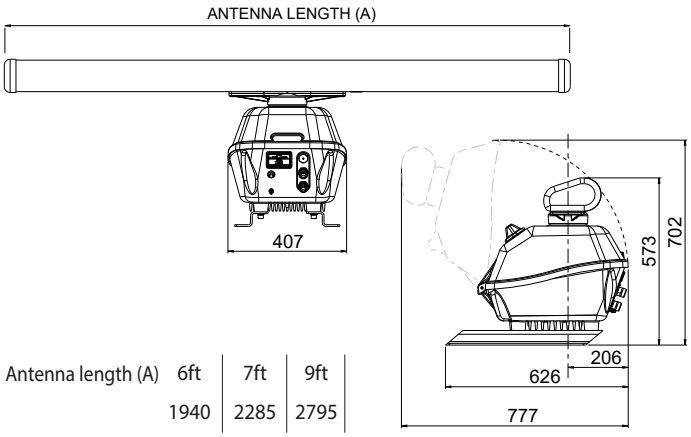
Navy Gray FED-STD 595 - 26373 (on request)

WEIGHTS

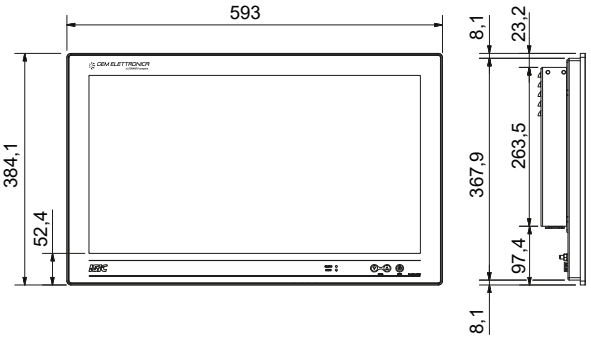
- Scanner Unit X-BAND:	35 Kg.
- 6' Antenna:	5.8 Kg.
- 7.5' Antenna:	9 Kg.
- 9' Antenna:	11 Kg.

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



Antenna length (A)	6ft	7ft	9ft
	1940	2285	2795



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