

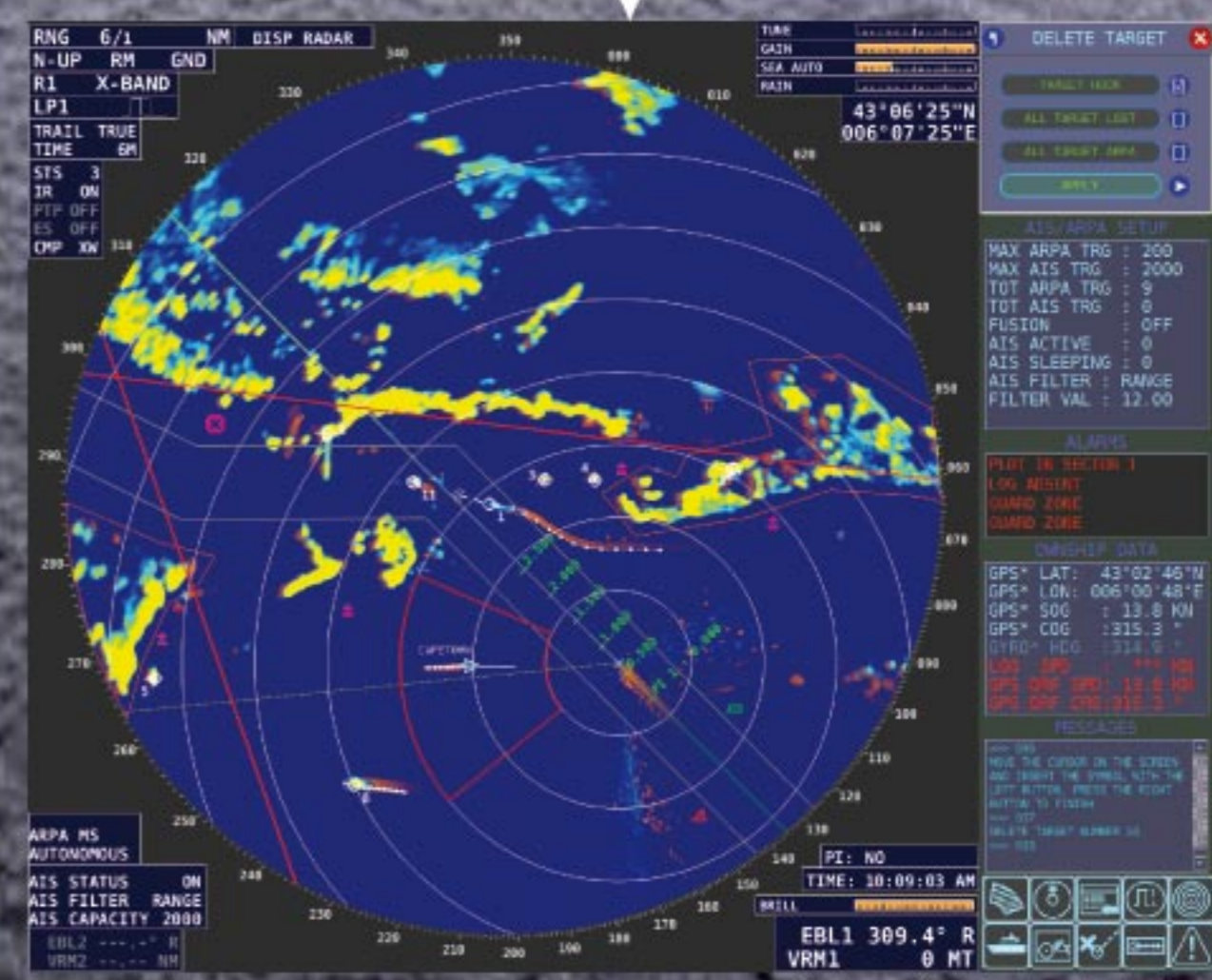
X-BAND FULL SOLID-STATE

SeaEagle

Navigation and Surveillance Coherent Radar



DIGITAL VIDEO (LAN)



Main Features

- X-Band Solid State Transmitter
- Pulse compression and coherent processing
- Frequency agility and frequency diversity
- Pulsed doppler processing
- Low voltage operation
- Up to 100 W peak power with power selection capability
- Fully compatible with existing GEM antenna production (7', 9', 12')

INNOVATION IN RADAR TECHNOLOGY

RADAR DISPLAY UNIT

Presentation:	colour TV raster scan with day / night palettes, user friendly MMI and symbols and colours as per IMO/IHO recommendations.
Screen:	Ruggedised, low flicker, high-resolution 23" LCD based on Si-TFT technology, active matrix, equivalent to 25" standard CRT
PPI size:	≥ 340 mm
Pixel pitch:	0.31 mm
Radar target screen resolution:	1600 x 1200 pixels
Video levels:	15
Range scales (n.m.):	0.125 / 0.25 / 0.5 / 0.75 / 1.5 / 3 / 6 / 12 / 24 / 48 / 96
Max range PPI off centered:	more than 130 n.m.
Minimum Range:	better than 15 mt on 10 m2 target with short pulse
Range discrimination:	better than 20 mt on 10 m2 target with short pulse (on the 0.75 nm range scale)
Azimuth discrimination:	better than 1.4°

Ranges and ring distances:	Scale (n.m.)	Ring distance (n.m.)	Rings
	0.125	0.0625	2
	0.25	0.125	2
	0.5	0.25	2
	0.75	0.125	6
	1.5	0.25	6
	3	0.5	6
	6	1	6
	12	2	6
	24	4	6
	48	8	6
	96	16	6

the accuracy of fixed range rings is less 0.6% of the range in use or 6 m whichever the greater

VRM:	two, with continuous regulation
VRM resolution:	better than 0.42% of the selected scale
VRM precision:	0.001 n.m. up to 1.5 n.m., 0.01 up to 12 n.m. and 0.1 n.m. elsewhere
EBL:	two, with continuous regulation from 0° to 360°
EBL resolution:	0.1°
EBL precision:	± 0.5°
Pointer:	a pointer can be positioned anywhere on the PPI by using the trackball. The position of the pointer (range and bearing) can be displayed either in polar coordinates from the centre of the screen or in latitude and longitude if the equipment is interfaced with a satellite system (GPS).

9' ANTENNA UNIT

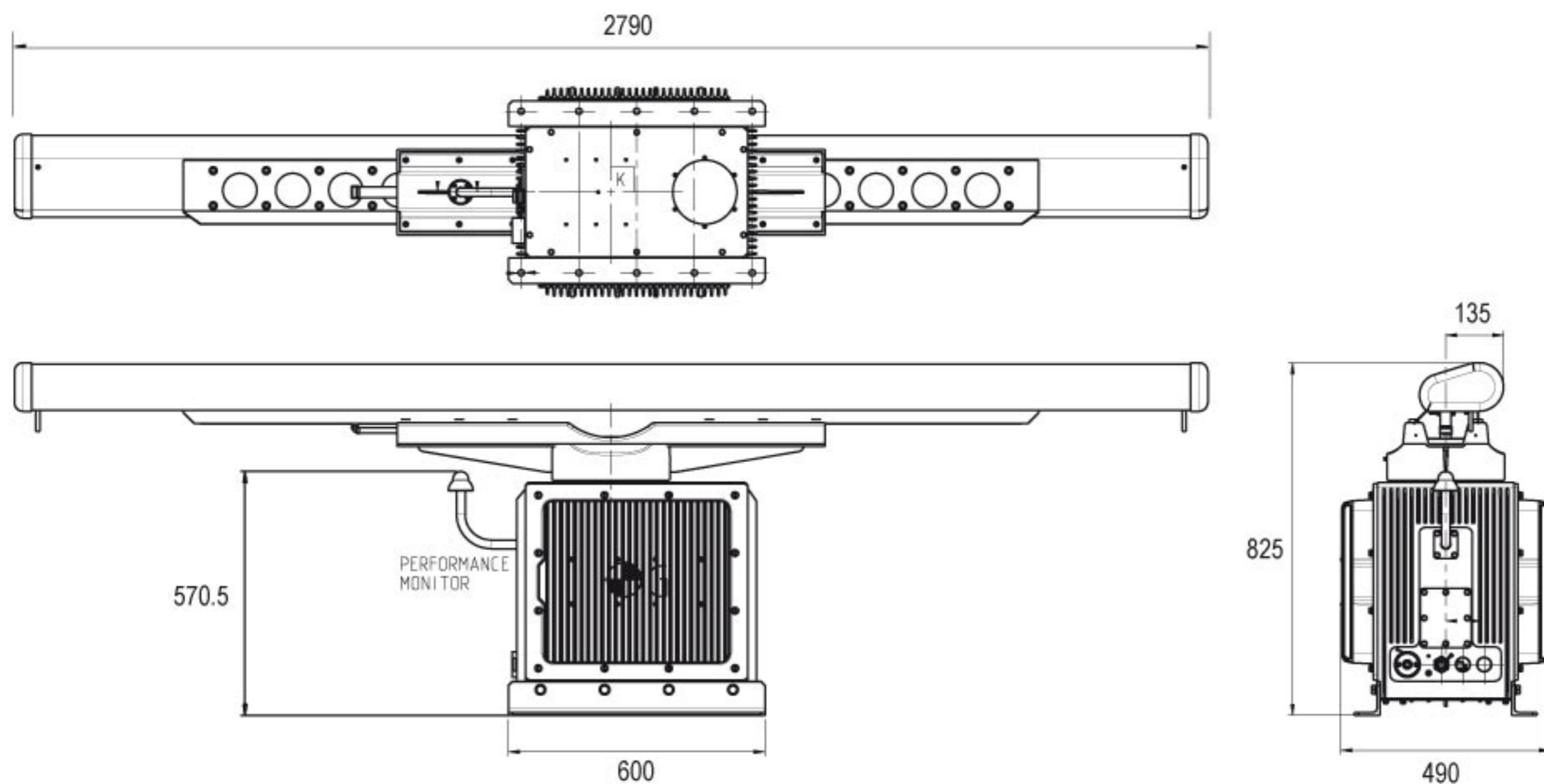
Length:	2790 mm
Type:	slotted waveguide array
Frequency:	9300 + 9500 MHz
Polarization:	horizontal
Horizontal beamwidth:	≤ 0.85°
Vertical beamwidth:	~ 25°
Sidelobes within 10°:	less than -27dB
Sidelobes outside 10°:	less than -30dB
Gain:	≥ 31 dBi
Rotation speed:	27 rpm
Tolerable relative wind speed:	100 knots (operative) – 120 knots (non operative)

TRANSCEIVER

Transmitter type:	multi-stage solid
Peak power:	100 W (at WR90 output flange)
Average power:	depending on mode, up to 4 W or 8 W
Duty:	depending on mode, up to 4%
RF spectrum occupation:	compliance with IMO/ITU rules (nominal bandwidth = 20 MHz)
Selectable frequencies:	approx. 32 (between 9300 and 9500 MHz)
TX mode:	frequency agility / frequency diversity
Receiver:	coherent linear
Noise figure:	5 dB (nominal)
IF frequency:	75 MHz
Receiver bandwidth:	20 MHz (max)
Dynamic range:	approx. 120 dB
Frequency accuracy:	± 50 ppm
Waveform generator:	direct digital synthesizer
Sidelobe suppression:	< -55 dB
Minimum range:	40 m
Instrumental ranges:	from 0.25 nmi up to 96 nmi
PRF:	from 661 to 1612 Hz
Pulse widths:	from 0.05 to 26 μs
Doppler processing:	FFT-based integration for SNR improvement
Signal elaborations:	CFAR, GAIN, STC (manual and automatic), FTC (manual and automatic), interference rejection, echo enhancement
Radar BEACON and SART detection:	yes
Main supply:	24V
Reliability:	> 20000 hours
Availability:	99,995%
Maintenance:	major parts to be replaceable on field without calibration
Diagnostic:	BITE (including but not limited to transmitter power and receiver parameters)
Interfaces:	dual digital (Ethernet) independently configurable

OUTLINE

dimensions in mm



This brochure should not be considered a contractual offer to sell. The specifications given herein may be changed by the manufacturer, GEM elettronica S.r.l., without notice.



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