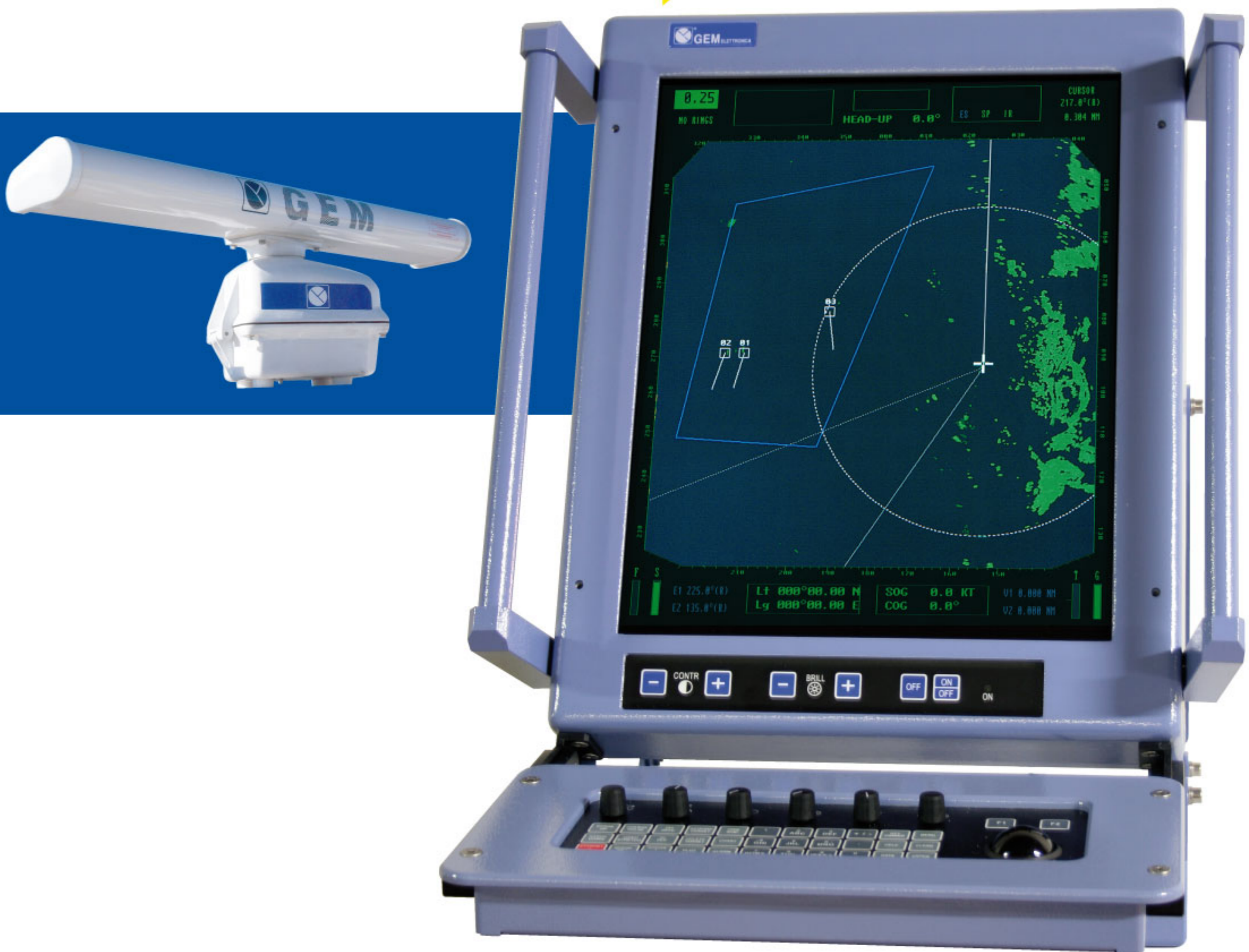


# “LEONARDO”

## LD-1800 SERIES

GEM elettronica, current leader in design, development and production of State-Of-The-Art Radar Systems, introduces on the market **19"** LCD Super TFT Professional Radar



- ✓ Designed to meet IMO specification
- ✓ 270 mm PPI, applicable as primary radar to vessels up to 10.000 GRT
- ✓ STFT LCD display giving wide angle view
- ✓ Compact and ruggedized construction
- ✓ Advanced Built-In Test Equipment
- ✓ True motion, MiniARPA or full ARPA configuration available, AIS facility included
- ✓ X-Band available

ANTENNA			
Type	Slotted waveguide array		
Polarization	Horizontal		
Beamwidth (at - 3 db)	4-foot Open	6-foot Open	7,5-foot Open
	HORIZONTAL 1.8° ± 0.1°	1.2° ± 0.1°	1.1° ± 0.1°
	VERTICAL 25° ± 2°	25° ± 2°	25° ± 2°
Sidelobes	4-foot Open	6-foot Open	7,5-foot Open
	WITHIN 10 ≤ 26 dB	≤ 26 dB	≤ 26 dB
	OUTSIDE 10 ≤ 28 dB	≤ 30 dB	≤ 30 dB
Gain	≥ 27 dBi	≥ 29 dBi	≥ 30 dBi
Rotation speed	22 rpm ± 2 rpm (opt. 16, 22, 40 rpm)		
Wind load	100 knots relative		

RF TRANSCEIVER	
Peak power	4, 12 or 25 kW nominal
Frequency	9410 MHz ± 30 MHz

Range Scale in Nautical Miles **4 kw**

Pulse width ↓	0.0625	0.125	0.25	0.5	0.75	1.5	3	6	12	24	48	64	PRF (Hz)
50 ns	Short	Short	Short	Short	Short	Short							3200
200 ns					Medium	Medium	Medium						1600
400 ns							Long	Long	Long				800
800 ns									Very long	Very long	Very long	Very long	500

Range Scale in Nautical Miles **12 kw - 25 kW**

Pulse width ↓	0.0625	0.125	0.25	0.5	0.75	1.5	3	6	12	24	48	64	72	96	PRF (Hz)
80 ns	Short	Short	Short	Short	Short	Short									3200
300 ns					Medium	Medium	Medium	Medium							1600
600 ns							Long	Long	Long	Long	Long				800
1200 ns									Very long	Very long	Very long	Very long	Very long	Very long	500

Receiver type	Solid state logarithmic
Front-end module	Microwave integrated circuit
Intermediate Frequency (I.F.)	60 MHz
I.F. bandwidth	20 MHz with short and medium pulses 4 MHz with long and extralong pulses (with ± 10% tolerance)
Duplexer	Ferrite circulator with solid state limiter diode
Noise figure (overall)	4.0 dB

**ENVIRONMENTAL PERFORMANCE**

	Display	Scanner
High temperature	+55° C	+70° C
Low temperature	-15° C	-25° C
Humidity	Up to 95% at +35° C	

DISPLAY UNIT	
Type	LCD, Super TFT Technology, high resolution, color.
Display size (diagonal)	19", equivalent to 20" CRT
Video resolution	1280 x 1024 pixels, 16 levels
Range scale (n. miles)	0.065 0.125 0.25 0.5 0.75 1.5 3 6 12 24 48 72 96
Ring spacing (n. miles)	0.031 0.0625 0.125 0.25 0.125 0.25 0.5 1 2 4 8 12 16
Range discrimination	± 25 meters, $\sigma = 10 \text{ m}^2$ , short pulse
Range accuracy	± 6 meters or less than 0.8% of the scale in use, whichever is greater
Plot intervals	15 sec. • 30 sec. • 1 min. • 3 min. • 6 min.
Azimuth discrimination	0.1°
Bearing accuracy	± 0.5°
Keyboard	embedded keyboard
ARPA	capacity of manual/automatic acquisition and automatic tracking of 50 targets

**INTERFACES**

One NMEA 0183 for fluxgate compass with sentence type: \$AAHDM,XXX.,M<CR><LF>
One NMEA 0183 for GPS/Loran with sentence type: \$AAGLL,XXXX.XX,A,YYYYY.YY,A<CR><LF> \$AAVTG,XXX.,T,XXX.,M,XX.X,N,XX.X,K<CR><LF> \$AARMC,XXXXXX,A,XXXX.XXX,N,YYYYY.YYY,W, XX.X,XXX.,XXXXXX,XX.,E*XX<CR><LF>
AIS 4800 BAUD / 38400 BAUD

**POWER REQUIREMENTS**

Enclosure	Waterproofing IPX5
Input Voltage	24 Vdc or 115/220 Vac
Power absorption	≤ 100 W (radar of 4, 12 kW) ≤ 200 W (radar of 25 kW)

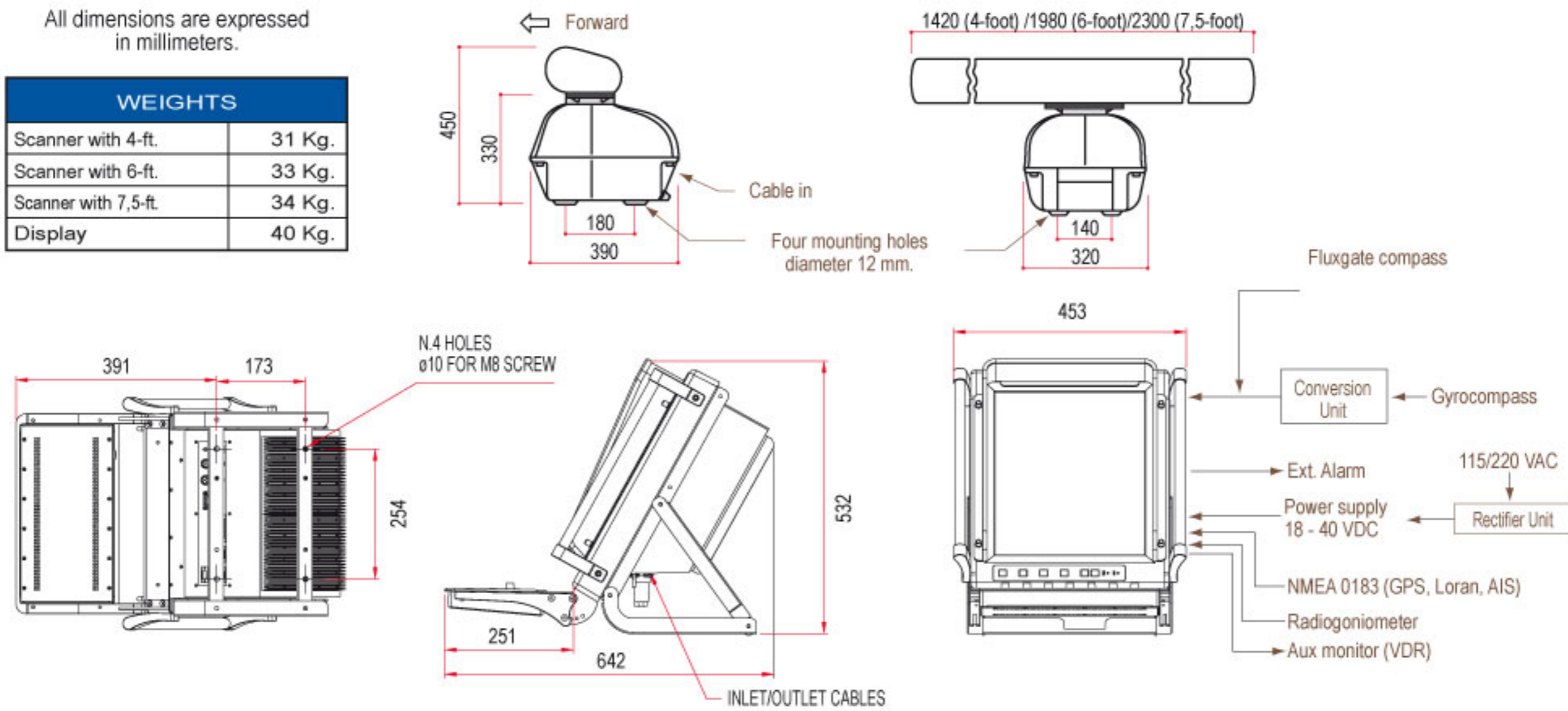
**EQUIPMENT**

Standard	Upmast scanner, display indicator, sun shield, 20 meters cable CB20, operation and installation manual, mounting hardware, consumable spares
Optional	- GB 20-10 Gyro interface unit - RU 40-24 Rectifier unit - RUGB 70-24 Gyro interface unit - NMEA Cable - PM 30-01 Performance monitor - External audio alarm

**DIMENSIONS AND WEIGHTS**

All dimensions are expressed in millimeters.

WEIGHTS	
Scanner with 4-ft.	31 Kg.
Scanner with 6-ft.	33 Kg.
Scanner with 7,5-ft.	34 Kg.
Display	40 Kg.



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.