

“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
- ✓ X-Band available

"LEONARDO" LD-1800 Series - Technical Specifications

DISPLAY AND KEYBOARD

Data Display Capabilities	Radar, Repeater
Display	19" LCD, equivalent to 20" standard CRT
Display resolution	1280 x 1024 pixels, 16 levels
Display type	Super TFT, LCD
Interfaces	4 NMEA 0183 for connection GPS - AIS - ECHOSOUNDER - COMPASS - AUTOPILOT - SPEEDLOG
Keyboard	embedded keyboard
Mounting Methods	Table Top Deeply integrated and Roof mounting
ARPA	capability of manual/automatic acquisition and automatic tracking of 50 targets
ATA	capability of manual/automatic acquisition and automatic tracking of 12 targets
Pixel pitch	0,31 mm
Video levels	15
Range scales	0,125/0,25/0,5/0,75/1,5/3/6/12/24/ /48/64/72/96 n.m.
Max range PPI off centered	more than 130 n.m.
Plot intervals	15 sec. • 30 sec. • 1 min. • 3 min. • 6 min.
Azimuth discrimination	0.1°
Bearing accuracy	± 0.5°

ENVIRONMENTAL AND SUPPLY

Temperature (IEC 60945)	- 15°C to 55°C (display) - 25°C to 55°C (External Unit)
Enclosure	Waterproofing IPX5
Input Voltage	from 20 to 40 Vdc or 115/220 Vac
Power absorption	≤ 100 W (radar of 12 kW) ≤ 200 W (radar of 25 kW)

INSTALLATION KIT

Installation GEM cable 20 mt.
Kit of ancillaries, installation and operator manual

INTERFACE

Input signals

Gyrocompass:

Standard NMEA 0183 with sentence type HDT,XXX.,T

Radionavigation System:

Serial RS232 or, on request, RS422 from 300 to 9600 baud for radionavigation and satellite systems (GPS / NAVSTAR / OMEGA TRANSIT / LORAN C etc.).

Log:

Contact closure with 100/200/400 pulses/n.m..

Gyrocompass (optional):

- Synchro threewire 90V, format 1X and 36X with reference 115 Vac 60 Hz and/or 400 Hz (same input); absorption as S/D module
- 12 bit positive TTL logic, binary code, LSB=0.0879°, valid data line, TTL logic, positive polarity
- Stepper

Log (optional):

Synchro threewire 90V, with 30/40/72/96 knots/rev., with internal hardware selection and reference 115V, 60Hz and 400Hz

Input/Output signals (optional)

- RGB signal RS-343 for high resolution auxiliary monitor (CRT, LCD, etc.) for radar video presentation (output)
- 4 digital outputs, open collector for general purpose device control (output)
- Bidirectional RS422 serial lines (one of which RS232 configurable) to output target data
- Serial NMEA for direction finder (input)

ANTENNA OPEN ARRAY

Length	4 feet	6 feet	7.5 feet
Type	Slotted waveguide		
Frequency band	9410 ± 30 MHz.		
Polarization	Horizontal/Circular		
Horizontal beamwidth	1.8° ± 0.1°	1.2° ± 0.1°	1.1° ± 0.1°
Vertical beamwidth	25° ± 2°	25° ± 2°	25° ± 2°
Sidelobes within ± 10°	≤ 26 dB	≤ 26 dB	≤ 26 dB
Sidelobes outside ± 10°	≤ 28 dB	≤ 30 dB	≤ 30 dB
Gain	≥ 27dBi	≥ 29 dBi	≥ 30 dBi
Rotation speed	22 rpm (opt. 16, 40 rpm selectable through keyboard control)		
Tolerable relative wind speed		100 Knots	

TRANSCEIVER UNIT

Peak power (nominal):		4 kW		12 kW		25 kW	
Range scale:		64 nm		72 nm		96 nm	
Radiation frequency:		9410 ± 30 MHz.					
Pulse Width:		50 nS		50 nS		50 nS	
		200 nS		200 nS		200 nS	
		400 nS		400 nS		400 nS	
		800 nS		800 nS		800 nS	
(± 20nsec; for PW > 300nsec ± 10% tolerance)							
Pulse Repetition Frequency:		μS	Hz	μS	Hz	μS	Hz
	Short	0.05	3200	0.08	3200	0.08	2000
	Medium	0.20	1600	0.30	1600	0.30	1000
	Long	0.40	800	0.60	800	0.60	750
	Extra Long	0.80	500	1.20	500	1.20	500
(with ± 5% tolerance – stagger function included)							
Modulator:		fully solid state					
Receiver type:		logarithmic, fully solid state					
Dynamic range:		>100 dB					
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)					
Noise Figure:		4 dB					
Duplexer:		ferrite circulator, solide state limiter diode					

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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