



*POLARIS*

# FOG-100

**F I B E R - O P T I C   G Y R O C O M P A S S**  
**Attitude & Heading Reference System**

Ideal for:

**Oil Tankers**

**Leisure Vessels**

**Commercial Vessels**

**Stabilization Systems**



**WHEELMARK**  
Notified Body N°: 0098

Certificate N°: 94 022 - 10 HH  
Certificate N°: 94 838 - 10 HH  
Certificate N°: 94 849 - 10 HH



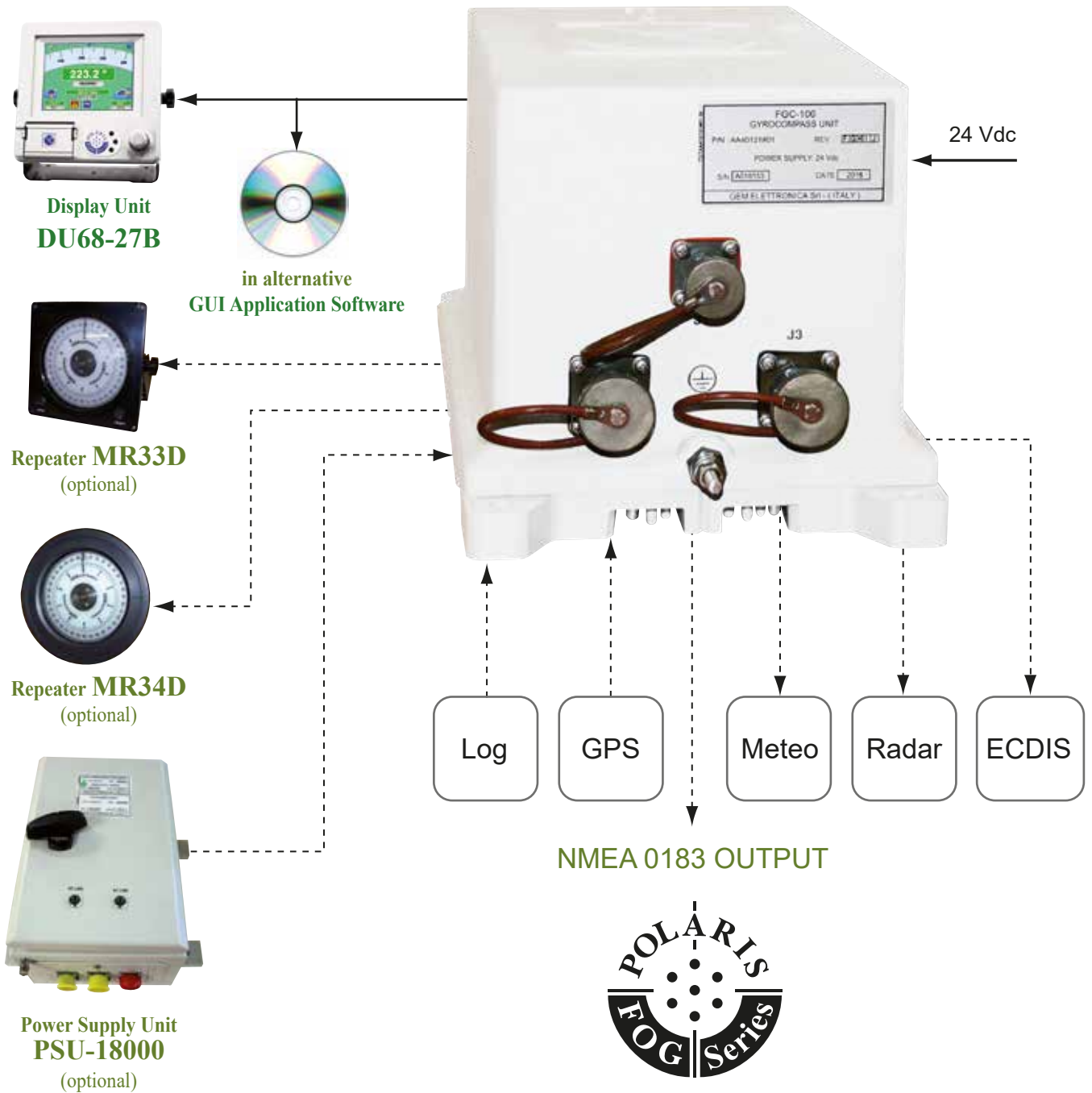
Commercial & Industrial



The strapdown gyrocompass based on state-of-the-art Fiber Optic Gyroscope technology offers a highly reliable and cost effective solution for both commercial and leisure vessels. It gives an accurate, real-time reading of true North as well as control of attitude.

## ORDERING INFORMATION

## INERTIAL MEASUREMENT UNIT FGC-100



### SUPPLY COMPOSITION

- FGC Inertial Measurement Unit
- Display Unit DU68-27B or GUI Application Software
- Installation Cable
- Technical manual of the system in English language
- Certificate of conformance

### OPTIONS

- Self-aligning repeaters MR33D, MR34D
- Power Supply Unit PSU-18000
- 115/220 Vac, 50 Hz, 1 phase mains available through external unit
- NMEA 0183 -> synchro available through external unit

## TECHNICAL SPECIFICATION

### FGC-100

Heading Sec (Lat) RMS	Roll/Pitch	Heave	Settling time
0.2°	0.05° RMS	5 cm or 5% whichever is greater	< 10 min (static) < 30 min (full accuracy, all conditions)

#### Environmental conditions

Operating temperature	0 °C to + 55 °C
Storage temperature	-40°C ÷ 80°C
Damp heat	up to 95% at 40° C
Vibrations	Fully compliant with IEC-60945 (sweep 2 Hz - 13.2 Hz at ± 1 mm, 13.2 Hz - 100 Hz at 7 m/s <sup>2</sup> and for 2 h on each resonance, otherwise 2 h at 30 Hz in all three axes)
Waterproof	in accordance with IP66 standard
Electromagnetic interference	Fully compliant with IEC-60945
MTBF	≥ 100,000 hours

#### Interfaces

Input	3 serial
Output	7 serial
Output protocol	IEC61162, Binary
I/O serial	RS422 or RS232
Output rate	0.025 Hz to 100 Hz (user-defined)

#### Power Supply *Fiber-Optic Gyrocompass*

Supply	24 Vdc -10% +30%
Power consumption	Typical 12 W (24 V, 0.5 A)
Protection	Against over-voltage, low voltage and inversion of polarity

### DU68-27 Repeater

DISPLAY UNIT	WEIGHT AND DIMENSIONS	FGC-100	DU68-27
Display size	color 6.5" Touch Screen	328 mm	234 mm
Display colours	256	177 mm	148.5 mm
Display resolution	640 x 480 pixel (VGA)	167.5 mm	224.2 mm
Display type	Transflective color TFT LCD	6.8 Kg	1.2 Kg

### MR33D Repeater / MR34D Repeater

#### MAIN TECHNICAL DATA

Interface	RS422, standard NMEA 0183
Baud rate	4800 bps
Input voltage	24 Vdc (through external unit)
Power consumption:	5 W
Resolution	0.1°
Repeater accuracy:	± 0.025°
Operating thermal range:	-25 ÷ + 55°C
Storage thermal range:	-25 ÷ + 70°C
Finishing:	MR34-D (IP56), MR33-D (IP40)

OUTLINE DRAWING

dimensions in mm.

**FIBER-OPTIC GYRO COMPASS FGC-100**

167.5  
322  
177  
13.5  
10  
302  
N. 4 fixing holes  $\varnothing 7$  for M6 screw  
 $\varnothing 6$  Safety Ground  
Weight: 6 Kg.

**7" DISPLAY UNIT DU68-27**

234  
224.2  
214.2  
10  
148.5  
23  
24.35  
157.5  
24.35  
198  $\pm 0.2$   
188  $\pm 0.1$   
110  $\pm 0.2$   
37  
6.5  
80  
65  
7.5  
157.5  
206.2  
110  $\pm 0.25$   
37  
R1/2  
N. 8 Hole  $\varnothing 4.5$   
Estimated Weight: 1.2 Kg

**MR33D REPEATER (optional)**

192  
88  
86  
104  
36.5  
57  
56  
Estimated Weight: 2.4 Kg

**MR34D REPEATER (optional)**

191  
21  
208  
181.42  
3.11  
 $\varnothing 208$   
2.03  
Estimated Weight: 5 Kg

**PSU-18000 POWER SUPPLY UNIT (optional)**

200  
300  
149  
8  
80  
302  
252  
200  
50  
40  
Estimated Weight: 5.7 Kg

**Surveillance & Security**    **Guidance, Navigation & Positioning**    **Military & Defence**    **Marine Electronics**

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

