



Polaris FOG series

F I B E R - O P T I C G Y R O C O M P A S S

Including proprietary “Tightly Coupled” navigation algorithm it is specially designed for any type of surface vessel requesting high precision in attitude and position calculation.

Type Approved

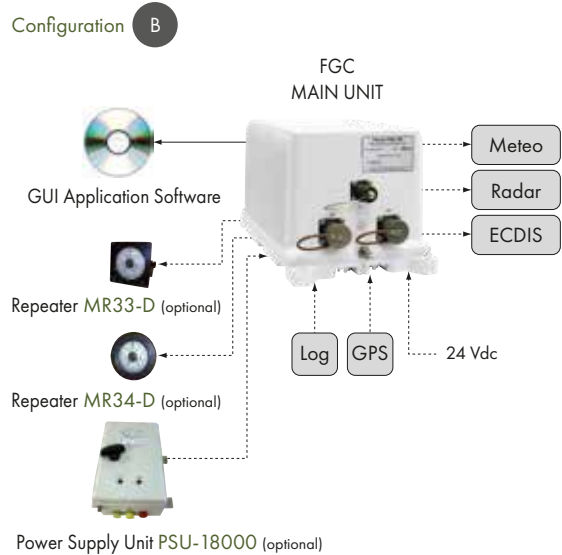
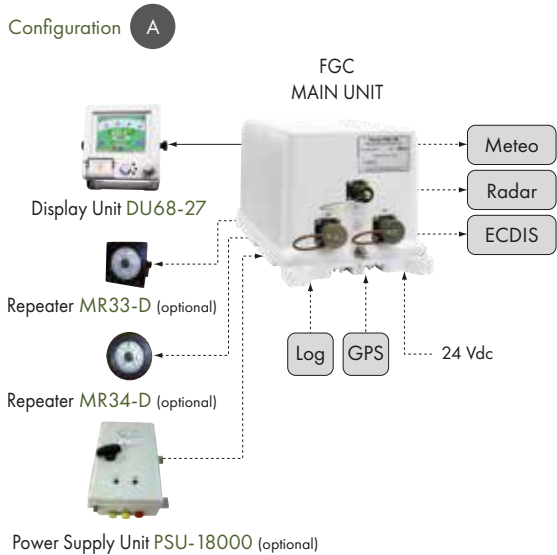


WHEELMARK
Notified Body N°: 0098

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

**ITAR
FREE**





FOG-50

Ideal for:

Cargoes

Cruise Ships

Leisure Vellels

Ferry Boats



SUPPLY COMPOSITION

- FGC-50 Main Unit
- DU68-27 Display Unit
- Connection cable (10 m)
- User and Installation manual
- Certificate of conformance

SUPPLY COMPOSITION

- FGC-50 Main Unit
- GUI Application Software
- User and Installation manual
- Certificate of conformance

FOG-100

Ideal for:

Oil Tankers

Super Yachts

Commercial Vessels

Stabilization Systems



SUPPLY COMPOSITION

- FGC-100 Main Unit
- DU68-27 Display Unit
- Connection cable (10 m)
- User and Installation manual
- Certificate of conformance

SUPPLY COMPOSITION

- FGC-100 Main Unit
- GUI Application Software
- User and Installation manual
- Certificate of conformance

FOG-200

Ideal for:

Hydrographic Survey

High precision applications

Underwater navigation

Precise reference for Stabilization



SUPPLY COMPOSITION

- FGC-200 Main Unit
- DU68-27 Display Unit
- Connection cable (10 m)
- User and Installation manual
- Certificate of conformance

SUPPLY COMPOSITION

- FGC-200 Main Unit
- GUI Application Software
- User and Installation manual
- Certificate of conformance

OPTIONS for FOG-50, FOG-100, FOG-200

- Self-aligning repeaters MR33-D or MR34-D
- Power Supply Unit PSU-18000
- 115/220 Vac, 50 Hz, 1 phase mains available through external unit

POLARIS

FOG-50

FOG-100

FOG-200



Performances

Heading accuracy	$\leq 0.4^\circ \text{ Sec (Lat) RMS}^*$	$\leq 0.2^\circ \text{ Sec (Lat) RMS}^*$	$\leq 0.1^\circ \text{ Sec (Lat) RMS}^*$
Roll / Pitch accuracy	$\leq 0.1^\circ \text{ RMS}$	$\leq 0.05^\circ \text{ RMS}$	$\leq 0.01^\circ \text{ RMS}$
Heave	5 cm or 5% whichever is greater		
Roll / Pitch range	$\pm 60^\circ$		
Settling time	$\leq 10 \text{ min (static)}$ $\leq 30 \text{ min (full accuracy, all conditions)}$		

INS optional performances

Position accuracy INS	$\leq 3 \text{ m CEP (GPS signal available)}$ $\leq 1.8 \text{ NM/12h CEP (with LOG aiding)}$ $\leq 3.5 \text{ NM/12h CEP (full inertial)}$	$\leq 3 \text{ m CEP (GPS signal available)}$ $\leq 1 \text{ NM/12h CEP (with LOG aiding)}$ $\leq 2 \text{ NM/12h CEP (full inertial)}$
Velocity accuracy INS	$< 0.1 \text{ m/s (GPS)}$ $< 0.5 \text{ m/s (with SpeedLog)}$	$< 0.1 \text{ m/s (GPS)}$ $< 0.3 \text{ m/s (with SpeedLog)}$

Certified according to IMO A.424 (XI), A.821 (19), A.526 (13), A.694 (17), ISO 8728 (1997), ISO 16328 (2001), ISO 20672 (2001), IEC 60945 (2008), IEC 62288 (2008), IEC 61162 series.

* Secant (Latitude) = $1/\cosine(\text{Latitude})$

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 $\pm 1 \text{ mm}$, 13.2 Hz - 100 Hz at 7 m/s^2 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	>150.000 hours

Signal Outputs

Number of outputs	7 serial lines
Data output AHRS	HDG, HDT, XDR, ROT, HEAVE
Data output INS (option)	VTG, VNE, VHD, GGA, GLL, RMC, HDG, HDT, XDR, ROT, HEAVE
Output protocols (user defined)	IEC-61162, Binary
Baud rate (user defined)	from 4800 bps, up to 460800 bps
Output rate (user defined)	from 0.25 Hz up to 10 Hz

Signal Inputs

Number of inputs	3 serial lines
Input protocols	IEC-61162
Baud rate (user defined)	up to 460800 bps
Input rate (user defined)	up to 10 Hz

Power Supply Fiber-Optic Gyrocompass

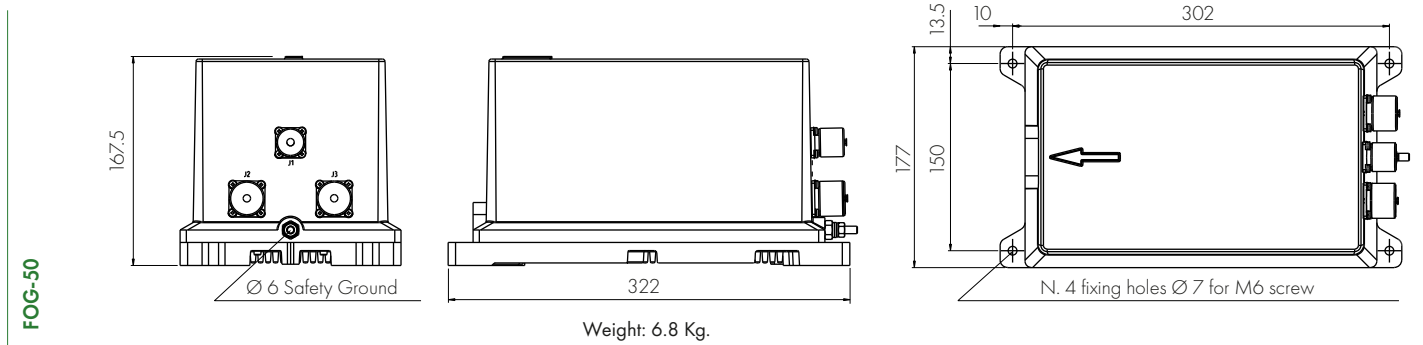
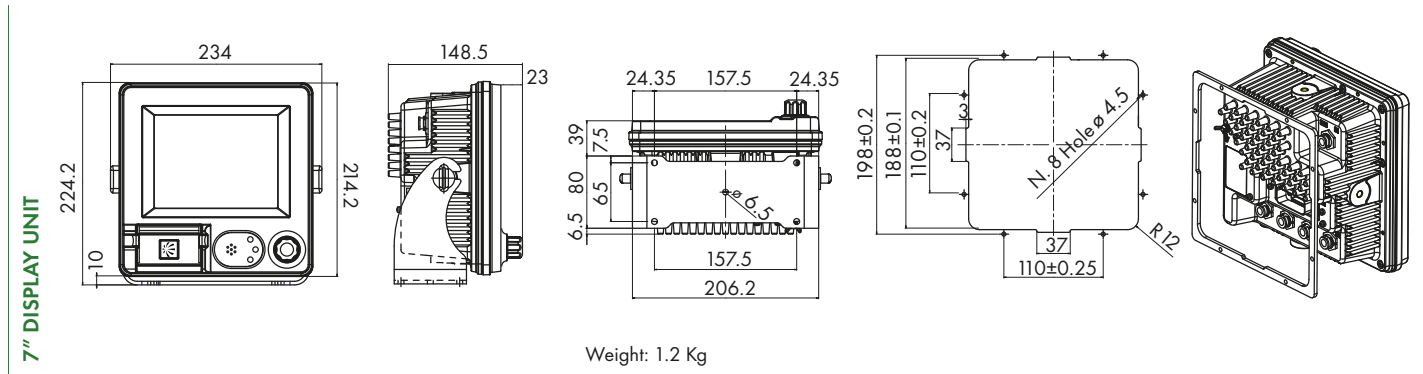
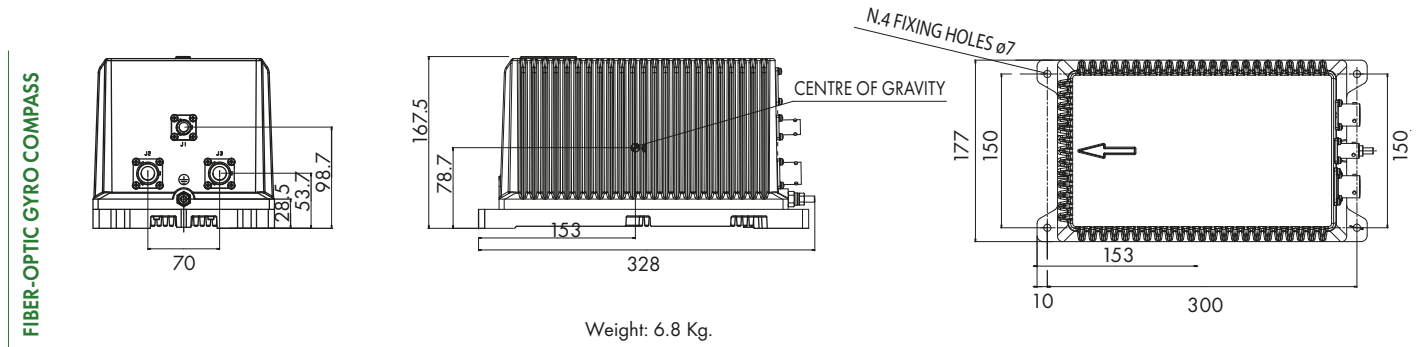
Supply	24 Vdc -10% +30%
Power consumption	Typical 12 W (24 V, 0.5 A)
Protection	Against over-voltage, low voltage and inversion of polarity

Weight and dimensions

Weight	6.8 Kg
Dimensions (W x D x H)	322 x 177 x 167.5 mm

OUTLINE DRAWING

dimensions in mm.



ACCESSORY EQUIPMENT



PSU-100
Power Supply Unit



MR33-D
Self-aligning steering repeater for console mounting with 360° and 10° compass cards.



MR34-D
Self-aligning, watertight bearing repeater with 360° and 10° compass cards



MR-21
Repeater stand with gimbal for MR34-D.



MR45
Bulkhead repeater stand with gimbal for MR34-D.



MR43
Azimuth circle for MR34-D bearing repeater



NT920DHR
Digital repeater

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

