



*POLARIS*

# FOG-50

FIBER - OPTIC GYRO COMPASS  
Attitude & Heading Reference System



Commercial & Industrial

Ideal for:

**Cargoes**

**Cruise Ships**

**Super Yachts**

**Ferry Boats**



Type Approved



**WHEELMARK**  
Notified Body N°: 0098

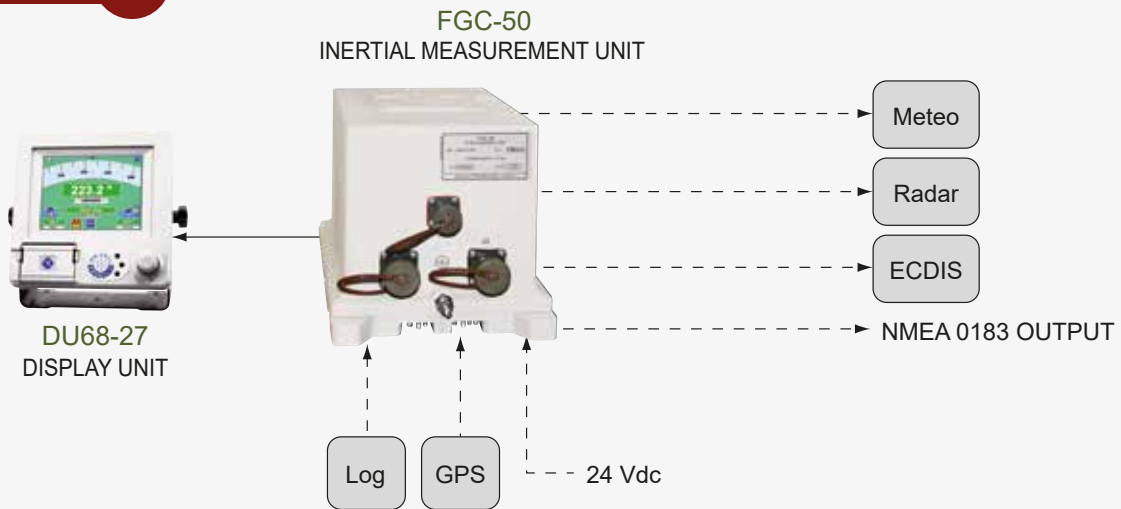
Certificate N°: 94 022 - 10 HH  
Certificate N°: 94 838 - 10 HH  
Certificate N°: 94 849 - 10 HH

Based on GEM's proprietary fiber-optic technology, the Polaris series gives accurate true-north alignment and attitude reference without GPS aiding through refined processing algorithms.



## ORDERING INFORMATION

### Configuration A

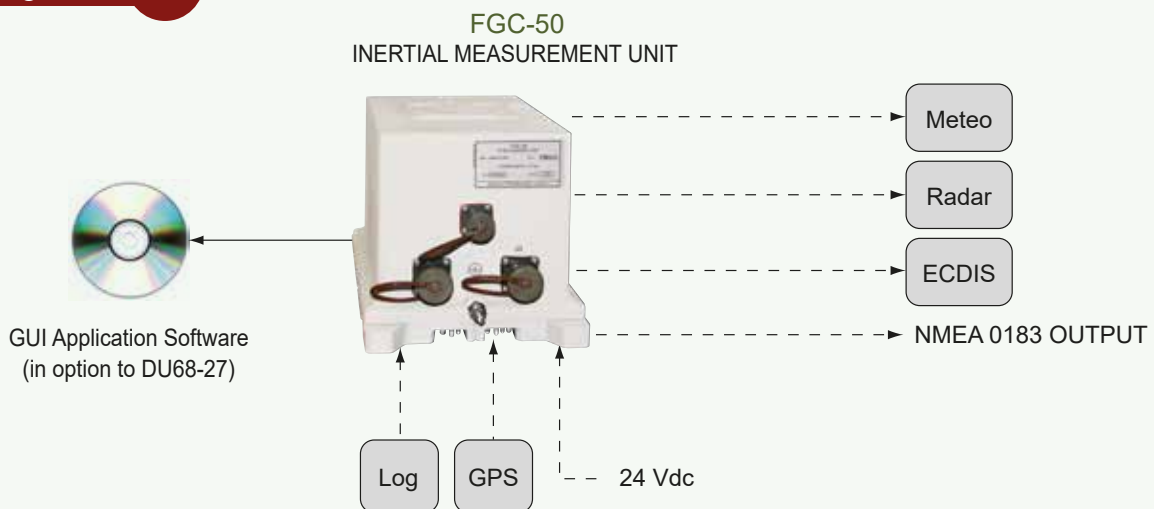


#### SUPPLY COMPOSITION

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

Ordering information: P/N PF200240

### Configuration B



#### SUPPLY COMPOSITION

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

Ordering information: P/N PF200241

## TECHNICAL SPECIFICATION

FGC-50 Inertial Measurement Unit	
<b>Performances*</b>	
Heading accuracy	≤ 0.4° Secant (Latitude) RMS **
Roll / Pitch accuracy	≤ 0.1° RMS
Heave	0.05 m or 5% whichever is greater
Heading range	0° ÷ 360°
Roll / Pitch range	± 60°
Settling time	≤ 10 min (static) ≤ 30 min (sea conditions)
* Certified according to IMO A.424 (XI), A.821 (19), A.526 (13), ISO 8728 (1997), ISO 16328 (2001), ISO 20672 (2001), IEC 60945 (2008), IEC 62288 (2008), IEC 61162 series.	
** Secant (Latitude) = 1/cosine (Latitude)	
<b>Signal Outputs</b>	
Number of outputs	7 serial lines
Data output	HDG, ROLL, PITCH, ROT, HEAVE
Output protocols (user defined)	NMEA 0183, IEC-61162, Binary
Baud rate (user defined)	4800 bps, 38400 bps
Output rate (user defined)	0.25 Hz to 100 Hz
<b>Environmental conditions</b>	
Operating temperature	0° C to + 55°C
Storage temperature	-40° C to +80°C
MTBF	> 100,000 hours
Protection grade	IP66
Other requirements	Fully compliant to IEC-60945
<b>Signal Inputs</b>	
Number of inputs	3 serial lines
Input protocols	NMEA 0183, IEC-61162
Baud rate (user defined)	up to 115200 bps
Input rate (user defined)	up to 10 Hz
<b>Power requirements</b>	
Supply	24 Vdc -10%, +30%
Consumption	12 W
<b>Weight and dimensions</b>	
Weight	6.8 Kg
Dimensions (W x D x H)	322 x 177 x 167.5 mm

DU68-27 Display Unit	
<b>Features</b>	
Display size	6.5" Touch Screen
Display resolution	640 x 480 pixel (VGA)
Supply	24 Vdc -10%, +30%
Consumption	15 W
<b>Weight and dimensions</b>	
Weight	1.2 Kg
Width	234 mm
Depth	148.5 mm
Height	224.2 mm

## OPTION

PSU-1800 AC / DC with automatic changeover	
<b>Features</b>	
Main input	115/230 Vac, 50/60 Hz
Aux input	18 V to 36 Vdc
Output	24 Vdc
Power output	600 W max
<b>Weight and dimensions</b>	
Weight	5.7 Kg
Width	200 mm
Depth	150 mm
Height	300 mm

## ACCESSORY

MR33D / MR34D Repeater	
<b>Features</b>	
Interface	NMEA0183, RS422
Baud rate	4800 bps
Supply	24 Vdc -10%, +30%
Consumption:	5 W
Protection	IP56 (MR34D) - IP40 (MR33D)
<b>Weight and dimensions</b>	
Weight	5 Kg (MR34D) 2.5 Kg (MR33D)
Dimensions (W x D x H)	Ø 208 x 191 mm (MR34D) 192 x 88 x 192 mm (MR33D)

# ACCESSORY EQUIPMENT



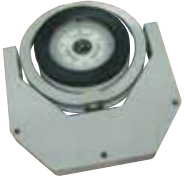
**MR33-D**  
Self-aligning steering repeater for console mounting with 360° and 10° compass cards.



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



**MR-21**  
Repeater stand with gimbals for MR34-D.



**MR35**  
Bulkhead repeater stand with gimbals for MR34-D.

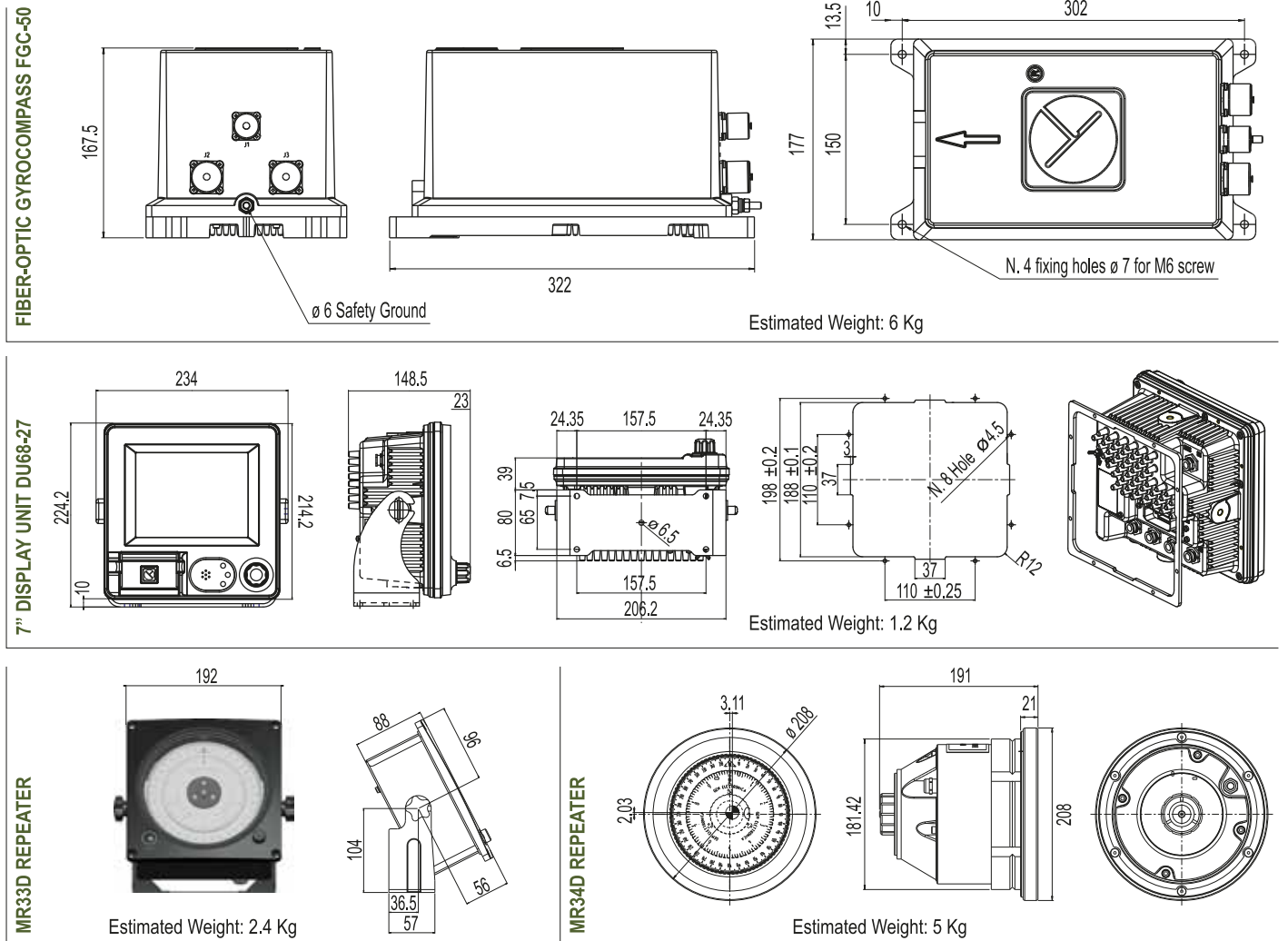


**MR43**  
Azimuth circle for MR34-D bearing repeater



**NT920DHR**  
Digital repeater

## OUTLINE DRAWING dimensions in mm.



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

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.

