



SURF-100

F I B E R - O P T I C G Y R O C O M P A S S
Attitude and Heading Reference System (AHRS)
and Inertial Navigation System (INS)



Performance

- high accuracy
- low settling time
- high reliability
- compact
- calibration free

High level applications at sea for:

Military Vessels and Ships

Submarines

Based on closed-loop, strap-down Fiber Optic Gyroscope technology to offer a cost effective, highly reliable solution.

SURF-100

Technical data

AHRS General features

Full accuracy settling time:	< 5 min. (dockside)
	< 15 min. (all sea conditions)
Operation speed range:	- 20 kn < V < 70 kn

AHRS Accuracies

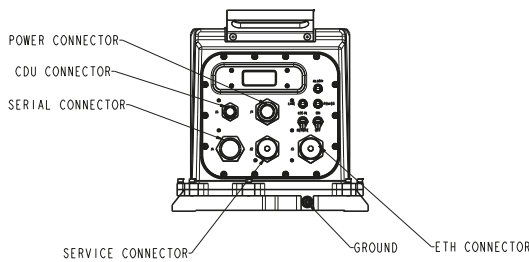
Heading	< 0.03° sec (lat) rms no GPS aiding
	< 0.01° sec (lat) rms with GPS aiding
Roll / Pitch	< 0.01° rms
Heading resolution	0.01°
Roll/Pitch resolution	0.005°

AHRS Range

Heading	0° ÷ 360°
Roll/Pitch	± 45°

INS accuracy - pure inertial

Position	1Nm/12h CEP
Heave	0.05 m or 5% (whatever is bigger) rms
Velocity	< 0.5 kt rms



INTERFACES

Output serial:	6 serial lines
Input serial:	5 serial lines
Protocol:	NMEA 0183, binary
USB	2 USB 2.0 Host
Wireless (optional)	USB dongle for Wi-Fi, Bluetooth, modem HSDPA
Ethernet LAN:	N. 4 available 100 Mb (UDP/TCP client/TCP server)
Pulse port	4 Input / 2 Output
Sensors supported:	GPS, DVL, Depth, CTD/SVP, EM LOG Acoustic, USBL, LBL
Baud rate	600 baud to 115.2 Kbaud
Data Output rate	0.1 Hz to 200 Hz
Synchro output (optional)	Attitude output: 115V AC, 400 Hz Heading: 1x and 36x Roll and Pitch: 2x and 36x or 4x and 36x
Synchro input (optional)	Log speed input: 115V AC, 400Hz

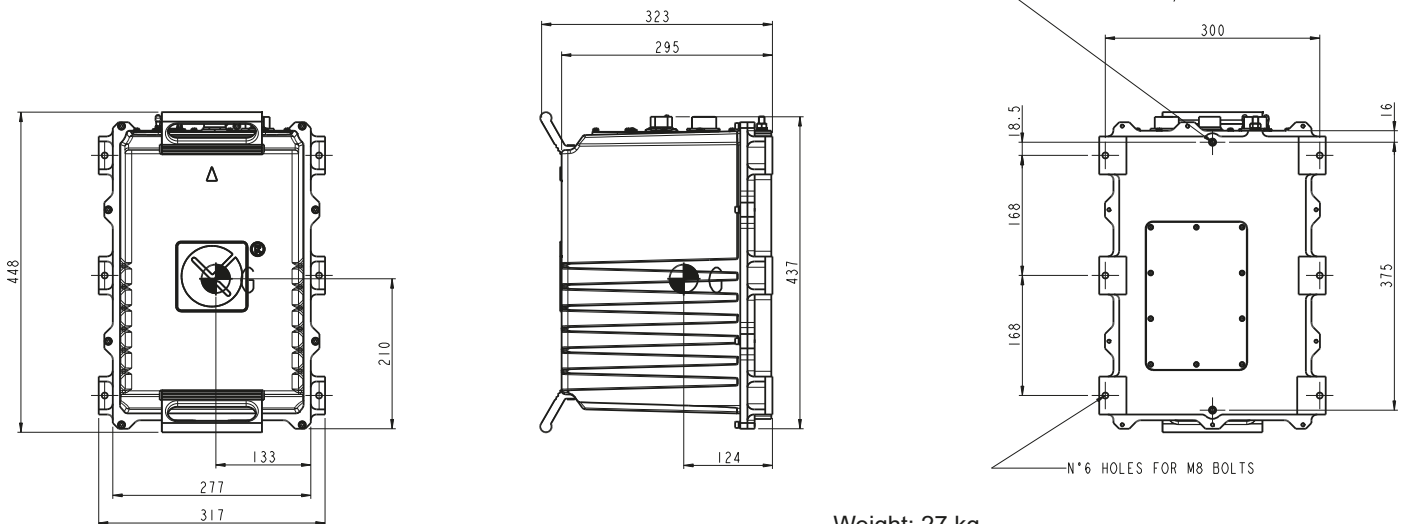
ENVIRONMENTAL FEATURES

Operating temperature	0° C ÷ 55° C
Storage temperature	-40° C ÷ 80° C
Damp heat	up to 95% at 40° C
Vibrations	MIL-STD -167-1A (type 1)
Shock	MIL-STD-901D (grade A, type A, class II)
Waterproof	in accordance with IP66 standard
Electromagnetic interference	MIL-STD-461
MTBF	≥ 100000 hours

POWER SUPPLY

Voltage:	24 Vdc 115V 400 Hz Vac (optional for Synchro I/O)
Power absorption:	< 40 W
Protection:	against over-voltage, low voltage and inversion of polarity

dimensions in mm



Weight: 27 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.

