

SURF-200

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.

AHRS General features

Settling time	< 5 min. (in port)
Full accuracy settling time	< 20 min. (all sea conditions)
Ship speed range	- 20 kn < V < 70 kn
Follow-up speed (Roll, Pitch, Heading)	< 40°/s
Dynamic stability	0.001°/s

AHRS Accuracies

Heading	< 0.05° sec (lat) rms no GPS aiding < 0.01° sec (lat) rms with GPS aiding
Roll / Pitch	< 0.01° rms
Precision	Full precision up to 40°/s

AHRS Range

Heading/Roll/Pitch	0° ÷ 360° / ± 180° / ± 90°
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INS accuracy - pure inertial

Position	0.5Nm/8h CEP 1Nm/24h CEP
Heave	0.05 m or 5% (whatever is bigger) rms
Velocity	< 0.6 kt rms

**INTERFACES**

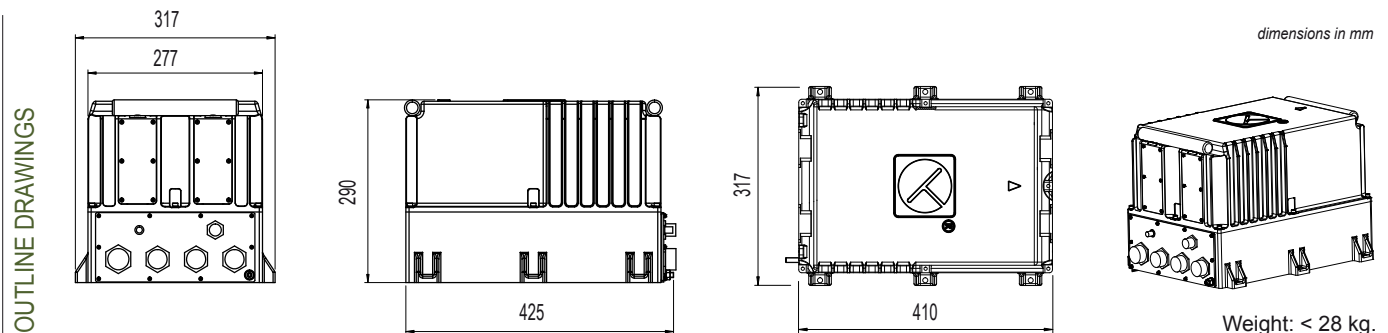
Output serial	6 serial lines
Input serial	5 serial lines
Output protocol	NMEA 0183, binary, ASCII
I/O type	Serial RS232 and RS422 (configurable)
USB	2 USB 2.0 Host
Wireless (optional)	USB dongle for Wi-Fi, Bluetooth, modem HSDPA
Ethernet LAN	N. 4 available
Pulse port	4 input / 2 output (PPS, Trigger)
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
Sensors supported	GPS, Acoustic Sensors, Depth, EM Log, CTV/SVP
Baud rate	600 baud to 115.2 Kbaud
Data Output rate	0.1 Hz to 200 Hz

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
Magnetic Shield	Up to 5 Gauss
MTBF	100000 hours

POWER SUPPLY

Voltage	24 Vdc 115V 400 Hz Vac (optional for Synchro I/O)
Power absorption	< 20 W
Protection	against over-voltage, low voltage and inversion of polarity



Surveillance & Security

Guidance, Navigation & Positioning

Military & Defence

Marine Electronics

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