

# NAUTILUS

Naval Inertial Navigation Family



credits: Italian Navy



INS/GNSS

Navigation and Stabilization System


# The NAUTILUS FAMILY

The **NAUTILUS** family of strapdown Fiber Optic Gyro (FOG) Naval Inertial Navigation Systems (INS) is designed for performance scalability up to high-grade position accuracy and long endurance missions.

The proprietary ITAR-free FOG-based sensor technology coupled with advanced state estimation techniques based on Kalman Filter algorithm, provides the best-value solution for Gyrocompass, AHRS (Attitude Heading Reference Systems) and Positioning in an all-in-one maintenance-free product, compact, light and reliable.

Specifically aimed at maritime navigation, **NAUTILUS** family is engineered to guarantee performance in severe environments, both with or without GNSS and Speed Log aiding, and to allow flexible and easy integration in retrofit programs and in new vessels' installations.



CHARACTERISTICS	NAUTILUS 4000	NAUTILUS 3000	NAUTILUS 2000	NAUTILUS 1000
Heading (RMS)	< 0.025° sec LAT	< 0.05 sec LAT	< 0.1 sec LAT	< 0.5 sec LAT
Roll / Pitch (RMS)	< 0.01°	< 0.01°	< 0.02°	< 0.1°
Heave (RMS)	< 2.5 cm or 2.5%	< 5 cm or 5%	< 5 cm or 5%	N.A.
Position (CEP50)	< 1nm/8hr	< 1nm/2hr	< 4 nm/hr	N.A.
Alignment time (data availability)	10 minutes	10 minutes	15 minutes	10 minutes
Alignment time (full accuracy)	30 minutes	30 minutes	30 minutes	30 minutes
IMO (MED/96/98/EC)	compliant	compliant	WheelMark 	compliant

## SYSTEM CHARACTERISTICS

### Interfaces

RS422/RS232  
Ethernet  
PPS  
Data Output Rate: *up to 100 Hz*  
Input/Output Standards: *Binary, NMEA0183*

### Environmental and Reliability

Operating Temperature: *-20°C to +55°C*  
Storage Temperature: *-40°C to +80°C*  
EMC/EMI: *MIL-STD-461F or IEC 60945*  
Vibration: *MIL-STD-167-1A or IEC 60945*  
MTBF: *250000 hours*  
Waterproofness: *IP66*

### Dimensions

WxHxD: *151x161x286*

### Weight

8.5 Kg

### Power requirements

28VDC (18-36VDC): *<15 W*