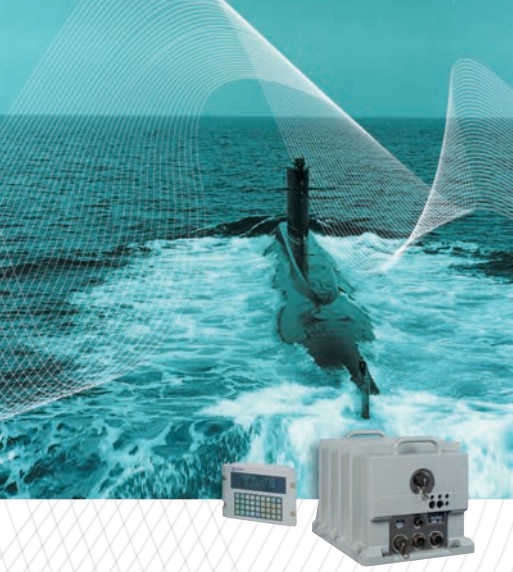


SIGMA 40XP

1 NM/24 HOURS SUBMARINE
INERTIAL NAVIGATION SYSTEM



- > ENHANCED PERFORMANCE
- > CERTIFIED FOR MILITARY STANDARDS
- > IMO CERTIFIED
- > IN-HOUSE TECHNOLOGY
- > 50 YEARS OF SUBMARINE NAVIGATION EXPERIENCE
- > INTEGRATED DIGITAL & SYNCHRO INTERFACE



SIGMA 40XP

1 Nm/24 hours submarine Inertial Navigation System

SIGMA 40XP (eXtended Performance) is a strapdown ring-laser-gyro inertial navigation system designed for new generation military submarines. Its open and modular architecture makes it the ideal solution for modernizing existing vessels.

With its 1 Nm/24h free inertial performance, SIGMA 40XP permits long submerged endurance. The most compact and lightweight INS in the world, SIGMA 40XP is the best solution for submarine weight and volume constraints.

Developed and manufactured by Sagem, it elaborates and transmits the following information:

- Attitude: heading, roll and pitch and their angular rates
- Position: latitude, longitude and depth
- Horizontal and vertical linear velocities

The equipment comprises:

- The inertial navigation unit (INU), which contains the inertial sensor block and computing modules with enhanced filtering software and interfaces
- The control and display unit (CDU)
- The alignment support (SDI XPH), fixed to the vessel and allowing quick installation or removal of the INU, with a specially designed shield providing outstanding magnetic shield protection (MS-XP).



SIGMA 40XP is contained in a single unit, with no moving parts and no preventive maintenance requirements. As such, it offers improved operational availability and reduced life-cycle costs.

European leader in inertial navigation

The SIGMA 40 family capitalizes on Sagem's extensive experience in high-precision navigation solutions. Sagem's navigation systems are used in simplex, duplex or triplex configuration on more than 450 ships deployed by 35 navies worldwide, including surface vessels and conventional, nuclear and air-independent propulsion submarines which require extended performances.

- 1 Nm/24 hours TRMS
- Fast settling time
- Strapdown solution
- No preventive maintenance
- Submerged endurance for submarine discretion

Technical specifications

- Dimensions: 285x225x410 mm (INU)
352x356x510 mm (MS-XP)
- Weight: 24 kg (INU)
24 kg (MS-XP)
- Power supply: < 60 W (24 VDC)
- Environment: military naval standards
- MTBF: > 35,000 hours
- Proven by > 12 000 000 operational hours at sea on SIGMA 40 family
- Digital interface: up to 8 RS422
- Synchro interfaces: heading, roll & pitch
- MTTR: less than 30 minutes

Contractual performance

Attitude

- Heading: < 3 arc minutes Sec Lat (RMS)
- Roll and pitch: < 1 arc minute (RMS)

Autonomous navigation

- 1 Nm/24 hours TRMS

Settling time

- Data availability at dockside: 3 minutes (full accuracy: < 15 minutes)
- Data availability at sea: 6 minutes (full accuracy: < 30 minutes)



IMO Certified
N° 14750/B1 EC

SAGEM

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