SIGMA 40XP
INERTIAL NAVIGATION SYSTEM FOR SUBMARINES

• Combat proven
• Highest navigation performance
• Immune to extreme environmental conditions
• In service on 15+ classes of submarines worldwide
The most compact and lightweight inertial navigation system in the world, SIGMA 40XP, is the best solution to address submarine integration constraints. Perfectly suited to highly integrated navigation and weapon systems, Sigma 40XP provides unmatched performances in terms of autonomous positioning and weapon alignment.

Immune to severe environmental conditions, SIGMA 40XP provides accurate data, even in harsh combat situation:
- Position: latitude, longitude and depth;
- Attitude: heading, roll and pitch and their angular rates;
- Horizontal and vertical linear velocities.

Designed to fulfil the growing needs for submarine discretion, SIGMA 40XP offers the best performances in terms of autonomous submerged navigation.

Contained in a single unit, with no moving parts, SIGMA 40XP offers high operational availability and reduced life-cycle costs.

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**European leader in inertial navigation**

The SIGMA 40 family capitalizes on Safran Electronics & Defense’s 70-year experience in inertial technologies. Safran’s navigation systems are used in simplex, duplex or triplex configuration on more than 600 ships in service in 40 navies worldwide, including surface vessels and conventional, nuclear and air-independent propulsion submarines which require extended performances.

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### Technical specifications

**Physical**
- Size: 253 x 262 x 360 mm
- Weight: 23 kg

**Maintenance**
- MTBF: > 60,000 hours
- MTTR: less than 30 minutes
- Proven by > 20 million operational hours at sea on SIGMA 40 family

**Interfaces**
- RS422: 7 outputs/4 inputs
- Ethernet

**Environment**
- Military naval standards
- European in-house technology

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### Performances

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<tr>
<th></th>
<th>SIGMA 40XP-24</th>
<th>SIGMA 40XP-48</th>
<th>SIGMA 40XP-96</th>
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</thead>
<tbody>
<tr>
<td>POSITION (TDRMS)</td>
<td>1Nm/24h</td>
<td>1Nm/48h</td>
<td>1Nm/96h</td>
</tr>
<tr>
<td>HEADING (seclat RMS)</td>
<td>0.01 deg</td>
<td>0.01 deg</td>
<td>0.01 deg</td>
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<tr>
<td>ROLL &amp; PITCH (RMS)</td>
<td>0.01 deg</td>
<td>0.01 deg</td>
<td>0.01 deg</td>
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<tr>
<td>DATA LATENCY</td>
<td>1 ms</td>
<td>1 ms</td>
<td>1 ms</td>
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