FMU SERIES
FIBER OPTIC GYRO INERTIAL MEASUREMENT UNITS

- Equipped with high-performance closed-loop FOG & MEMS accelerometers
- Very large FOG bandwidth
- Long usage & shelf life
- Flexible & reliable
- Low life cycle cost
- Compliant with civilian aviation certifications
Capitalizing on Safran Electronics & Defense’s 60-year experience in inertial systems, these units are equipped with Fiber Optic Gyro (FOG) technology and servo-looped MEMS accelerometers.

FMUs, as well as their packaged versions, are particularly designed for civil and industrial applications which need a combination of very high reliability, excellent signal stability and very low noise.

Applications

- Geo-localization
- Guidance, navigation & control
- Attitude & heading reference systems
- Helicopter autopilots
- Automatic flight control systems
- Industrial & robotics
- Etc.

All FMUs can be delivered in a packaged version.

Technical specifications

**Accelerometers**

- Measurement range (g): 5
- Bias (OTR\textsuperscript{(1)}, mg): <1
- In run stability (μg, 1 hour): <250
- Scale factor accuracy (OTR\textsuperscript{(1)}, ppm): <3,000
- Scale factor non linearity (ppm of input): <2,000
- Noise (mg/√Hz): 0.05
- Bandwidth (Hz): 50

**General**

- Output type: RS422 / up to 2,000 Hz
- Built In Test: Yes
- Operating temperature: -40°C to +71°C
- Storage temperature: -55°C to +85°C
- Acceleration sensitivity: negligible
- Random vibrations (g rms 20 to 2,000 Hz): 6.3
- Shock (g, half sine, 6ms): 30

\*Accelerometers with higher accuracy are also available for FMU-300 and FMU-500

<table>
<thead>
<tr>
<th>Gyro</th>
<th>FMU-100</th>
<th>FMU-200</th>
<th>FMU-300</th>
<th>FMU-500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range (°/sec)</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
</tr>
<tr>
<td>Bias (OTR\textsuperscript{(1)}, °/h)</td>
<td>3</td>
<td>1</td>
<td>0.7</td>
<td>0.3</td>
</tr>
<tr>
<td>In run stability (°/h, 10 min)</td>
<td>1</td>
<td>0.5</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Scale factor accuracy (OTR\textsuperscript{(1)}, ppm)</td>
<td>500</td>
<td>500</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>Scale factor non linearity (ppm)</td>
<td>250</td>
<td>250</td>
<td>150</td>
<td>50</td>
</tr>
<tr>
<td>Noise (°/h/√Hz)</td>
<td>25</td>
<td>12</td>
<td>1.7</td>
<td>0.85</td>
</tr>
<tr>
<td>Angle random walk (°/√h)</td>
<td>0.3</td>
<td>0.14</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>Bandwidth (Hz)</td>
<td>&gt; 500</td>
<td>&gt; 500</td>
<td>&gt; 500</td>
<td>&gt; 500</td>
</tr>
<tr>
<td>Power supply (Vdc)</td>
<td>+/-15, +5</td>
<td>+/-15, +5</td>
<td>+/-15, +5</td>
<td>+/-15, +5</td>
</tr>
<tr>
<td>Power consumption (W)</td>
<td>10…17</td>
<td>10…17</td>
<td>11…17</td>
<td>11…17</td>
</tr>
<tr>
<td>External dimensions (LxWxH, mm)</td>
<td>62 x 67 x 91</td>
<td>71 x 83.5 x 110</td>
<td>83.5 x 89 x 110</td>
<td>92.5 x 93 x 114</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>700</td>
<td>1,000</td>
<td>1,300</td>
<td>1,400</td>
</tr>
</tbody>
</table>

\(1\) OTR: Over operating Temperature Range