HIGH-SPEED INFRARED CAMERAS.

The FAST-IR series includes the fastest infrared cameras available on the market. To analyze dynamic events, the FAST-IR infrared cameras allow high-speed thermal imaging with an impressive temporal resolution at a rapid frame rate. These high-performance infrared cameras are extremely sensitive, enabling the detection of challenging targets.

ULTRAHIGH FRAME RATE
Maximum data throughput is larger than 1 Gigabit/s. High performance electronics produce thermal images at rates of up to 3,100 fps. Sub-windows can even be acquired at rates higher than 100,000 fps.

HIGH-SPEED INTERNAL MEMORY
16 GB (expandable) memory for autonomous operation.

HIGH SENSITIVITY
Temperature differences as small as 25 mK are detectable.

ADVANCED CALIBRATION
Unique proprietary real-time processing of infrared images including NUC, radiometric temperature, automated exposure control (AEC) and enhanced high-dynamic-range imaging (EHDRI). With these unique features, scientists benefit from ease of use and operation flexibility while getting accurate measurements over the entire camera’s operation range.

EXAMPLES OF TYPICAL USES

- Observation of fuel injection
- Tensile testing of a steel rod
### Technical Specifications

<table>
<thead>
<tr>
<th>FAST M3k</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIFICATIONS</strong></td>
<td><strong>FAST M3k</strong></td>
</tr>
<tr>
<td>DETECTOR TYPE</td>
<td>Cooled InSb</td>
</tr>
<tr>
<td>SPECTRAL RANGE</td>
<td>1.5 μm to 5.4 μm</td>
</tr>
<tr>
<td>SPATIAL RESOLUTION</td>
<td>320 × 256 pixels</td>
</tr>
<tr>
<td>DETECTOR PITCH</td>
<td>30 μm</td>
</tr>
<tr>
<td>APERTURE SIZE</td>
<td>F/2.5</td>
</tr>
<tr>
<td>FRAME RATE</td>
<td>3 100 Hz</td>
</tr>
<tr>
<td>MAXIMUM FRAME RATE</td>
<td>100 000 Hz @ 64 × 4</td>
</tr>
<tr>
<td>ENVIRONMENTAL RESISTANCE</td>
<td>IP67</td>
</tr>
<tr>
<td>OPERATIONAL SHOCK</td>
<td>IEC-60068-2-27</td>
</tr>
<tr>
<td>OPERATIONAL VIBRATION</td>
<td>IEC-60068-2-64</td>
</tr>
<tr>
<td>OPERATIONAL TEMPERATURE</td>
<td>-15 °C to +50 °C</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE</td>
<td>-35 °C to +60 °C</td>
</tr>
<tr>
<td>TYPICAL NETD</td>
<td>25 mK</td>
</tr>
<tr>
<td>EXPOSURE TIME</td>
<td>1 μs to full frame rate</td>
</tr>
<tr>
<td>LENS MOUNT</td>
<td>Bayonet interface</td>
</tr>
</tbody>
</table>

**Other Specs & Features**

- Rotary-stirling closed cycle sensor cooling
- Gig-E
- Blackbody-free permanent calibration (up to 150 °C)
- Camera Link
- Calibration up to 2 500 °C (optional)
- Trigger In, Trigger Out
- 16 bits dynamic range
- SDI, GPS, IRIG-B, RS232 and thermistor ports
- High-speed internal memory buffer: up to 32 GB
- Lock-In (optional)
- Automatic exposure control (AEC)
- Weight w/o lens: < 6 kg
- Enhanced high-dynamic-range imaging (EHDRI)
- Size w/o lens: 12.6” × 7.8” × 6.9”
- 321 mm × 199 mm × 176 mm

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**FOR MORE INFORMATION**

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Pulsed detonation rocket engine  
Impact of a projectile in the back of a composite material