FLIR X6900sc SLS

High-Speed LWIR Science-Grade Infrared Camera

The FLIR X6900sc SLS is an extraordinarily fast, highly sensitive LWIR camera designed for scientists, researchers, and engineers. The strained layer superlattice (SLS) detector offers shorter snapshot speeds, wider temperature bands, and better uniformity than current LWIR or MWIR alternatives. With advanced triggering, on-camera RAM/SSD recording, and a four-position motorized filter wheel, this camera offers the functionality to stop motion on high-speed events both in the lab and at the test range.

High Speed Without Compromise
Record at high frame rates and with fast integration times without compromising image resolution

• Freeze action in an instant at full 640 x 512 resolution, with frame speeds up to 1004 Hz
• Reach integration times 12.6x faster than MWIR detectors, down to a minimum of 270 ns
• Measure consistently across thermally-dynamic events with wide temperature ranges (up to 3000°C)
• Detect subtle temperature changes down to <40 mK at any frame speed
• Boot up and start work quickly with the superior uniformity inherent to cooled SLS detectors

Versatile and Configurable
Customizable features and full-frame recording to on-camera RAM allow you to capture critical data – quickly

• With FLIR’s DVIR™, you can save up to 26,000 frames of data to on-camera RAM with a guarantee of zero dropped frames
• Transfer to removable solid-state drive (SSD) in just 90 seconds and be ready to record again
• Advanced triggering and synchronization means you won’t miss a moment of high-speed events
• Exchange filters in the field using easy access, 4-position motorized filter wheel with automatic filter recognition
• Supports custom cold filters for more tailored spectral filtering requirements

Advanced Streaming and Analysis
Control and analyze data live using industry-leading software and advanced data output

• Stream 14-bit data simultaneously over Gigabit Ethernet, CoaXPress (CXP), and Camera Link Full for live viewing, recording, and analysis
• Plug-and-play with FLIR ResearchIR Max or third-party software such as Mathworks® MATLAB
• Integrate radiometric images and data into your enterprise software program seamlessly using the optional Software Developers Kit (SDK)

Key Features:
• 1004 Hz full-frame high-speed imaging
• Save up to 26,000 frames to on-camera RAM
• Synchronization with other instruments and events
• Full GenICam support over GigE interface
• 4-Position warm filter wheel with auto filter recognition

www.flir.com/X6900sc
## Specifications

<table>
<thead>
<tr>
<th>X6900sc SLS LWIR</th>
<th>Detector Type</th>
<th>Strained layer superlattice (SLS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectral Range</td>
<td>7.5 - 12 µm</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>640 x 512</td>
<td></td>
</tr>
<tr>
<td>Detector Pitch</td>
<td>25 µm</td>
<td></td>
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<tr>
<td>Thermal Sensitivity/NETD</td>
<td>&lt; 40 mK</td>
<td></td>
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<tr>
<td>Well Capacity</td>
<td>11.0 M electrons</td>
<td></td>
</tr>
<tr>
<td>Operability</td>
<td>&gt; 98%</td>
<td></td>
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</tbody>
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### Equipment

- **Closed cycle rotary sensor cooling**
- **Asynchronous integrate while read**
- **Genlock, IRIG-B, Sync-in, Sync-out**
- **Hi resolution timestamp, sync to internal clock or IRIG-B**
- **Programmable; 0.0015 Hz to 1004 Hz**
- **Flexible windowing down to 32 x 4 (steps of 32 columns, 4 rows)**
- **14-bit dynamic range**
- **RAM (volatile): 16 GB, up to 26,000 frames, full frame, SSD (non-volatile): 512 GB (supports >4 TB)**
- **Simultaneous Gigabit Ethernet (GigE Vision), Camera Link Full, CoaXPress (CXP)**
- **Composite, HDMI, HD-SDI**
- **GigE, USB, RS-232, Camera Link, CXP (GenICam protocol supported over GigE or CXP)**

### Temperature Measurement

- **Standard Temperature Range**: -20°C to 350°C (-4°F to 1220°F)
- **Optional Temperature Range**: Up to 1,500°C (2,732°F), Up to 2,000°C (3,632°F), Up to 3,000°C (5,432°F)
- **Accuracy**: ± 2°C or ± 2% of reading

### Image/Video Presentation

- **Palettes**: Selectable 8-bit
- **Automatic Gain Control**: Manual, Linear, Plateau equalization, ROI, DDE
- **Overlay**: Customizable (timestamp, Date, Integration time, Internal temp, Frame rate, Sync mode, Cooler hours)
- **Video Modes**: HD: 720p/50/59.9 Hz, 1080p/25/29.9 Hz
- **Digital Zoom**: 1x, 4x, 4:3

### General

- **Operating Temperature Range**: -20°C to 50°C (-4°F to 122°F)
- **Shock/Vibration**: 40 g, 11 msec ½ sine pulse/4.3 g RMS random vibration, all 3 axes
- **Power**: 24 VDC (± 50 W steady state)
- **Weight w/Handle, w/o Lens**: 6.25 kg (14 lbs)
- **Size (L x W x H) w/o Lens, Handle**: 249 x 158 x 147 mm (9.8 x 6.2 x 5.8 in.)
- **Mounting**: 2 x ¼ in. -20, 1 x 3/8 in. -16, 4 x 10 -24

Specifications are subject to change without notice. For the most up-to-date specs, go to www.flir.com/science

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