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)
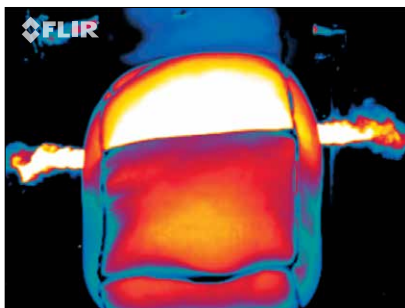
Key Features:
- 1004 Hz full-frame high-speed imaging

- 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
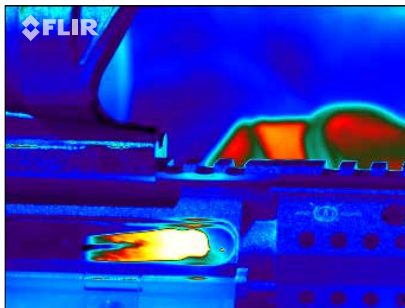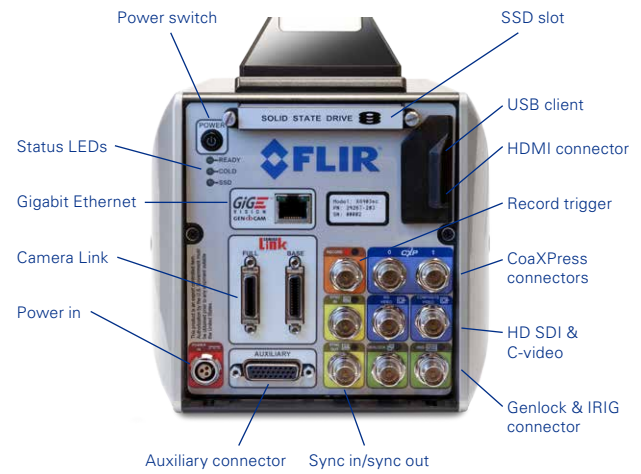

High speeds and wide temperature ranges

Synchronizes with events or external instruments

Integration times 12.6x faster than similar MWIR models

FLIR® | The World's Sixth Sense™

Specifications

	X6900sc SLS LWIR
Detector Type	Strained layer superlattice (SLS)
Spectral Range	7.5 - 12 µm
Resolution	640 x 512
Detector Pitch	25 µm
Thermal Sensitivity/NETD	< 40 mK
Well Capacity	11.0 M electrons
Operability	> 98%
Sensor Cooling	Closed cycle rotary
Electronics	
Readout Type	Snapshot
Readout Modes	Asynchronous integrate while read Asynchronous integrate then read
Synchronization Modes	Genlock, IRIG-B, Sync-in, Sync-out
Image Time Stamp	Hi resolution timestamp, sync to internal clock or IRIG-B
Minimum Integration time	270 ns
Pixel Clock	355 MHz
Frame Rate (Full Window)	Programmable; 0.0015 Hz to 1004 Hz
Subwindow Mode	Flexible windowing down to 32 x 4 (steps of 32 columns, 4 rows)
Dynamic Range	14-bit
On-Camera Image Storage	RAM (volatile): 16 GB, up to 26,000 frames, full frame, SSD (non-volatile): 512 GB (supports >4 TB)
Radiometric Data Streaming	Simultaneous Gigabit Ethernet (GigE Vision), Camera Link Full, CoaXPress (CXP)
Standard Video	Composite, HDMI, HD-SDI
Command and Control	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 1202°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
Optics	
Camera f/Number	f/2.5 or f/4.1
Available Lenses (Uses FLIR HDC Optics)	7.5 - 12 µm: 17 mm, 25 mm, 50 mm, 100 mm, 200 mm
Lens Interface	FLIR HDC (4-tab bayonet)
Focus	Manual
Filtering	4-Position warm filter wheel, standard 1-inch filters
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	6.35 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

Power switch — SSD slot — Status LEDs — USB client — HDMI connector — Gigabit Ethernet — Record trigger — Camera Link — CoaXPress connectors — Power in — HD SDI & C-video — Genlock & IRIG connector — Auxiliary connector — Sync in/sync out

Your authorized FLIR distributor:

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