FLIR SC8000 Series

High Speed MWIR Megapixel Science-Grade Infrared Cameras

THERMAL IMAGING IN HD

FLIR SC8000 series offers true megapixel resolution of up to 1,344 × 784 pixels. The highly sensitive cooled FLIR InSb detector produces ultra sharp thermal images from which the smallest details can be seen and measured.

Four active preset operating modes provide adjustable integration times, embedded non-uniformity correction, bad pixel replacement, and window size adjustments. The FLIR readout provides digital data at 200 megapixels per second for extreme imaging flexibility.

HIGH SPEED THERMAL IMAGING

FLIR SC8000 Series offers lightning fast frame rates with full resolution 14-bit data at 128 fps. Flexible FPA windowing provides for even higher frame rates.

IMAGE TRIGGERING & TIME STAMPING

Advanced triggering options through external BNC input, IRIG time, or a software trigger; clock out single images, multiple images, or multiple images from multiple presets. IRIG-B timing is built directly into camera for on-board deterministic time-stamping of each frame.

Shuttle launch

INTERFACE FLEXIBILITY

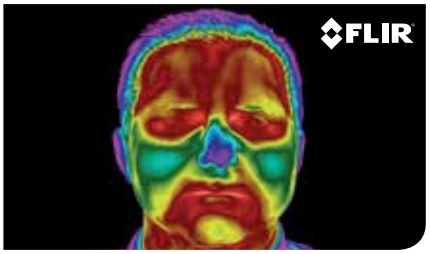
FLIR SC8000 has multiple simultaneous digital outputs including industry-standard CameraLink, Gigabit Ethernet, CoaXPress and HD-SDI.

SOFTWARE

FLIR SC8000-series cameras work seamlessly together with FLIR ResearchIR Max software enabling intuitive viewing, recording and advanced processing of the thermal data provided by the camera. A Software Developers Kit (SDK) is optionally available.

MATHWORKS® MATLAB

Capture data directly into MathWorks® MATLAB software for advanced image analysis and processing.



Human physiology

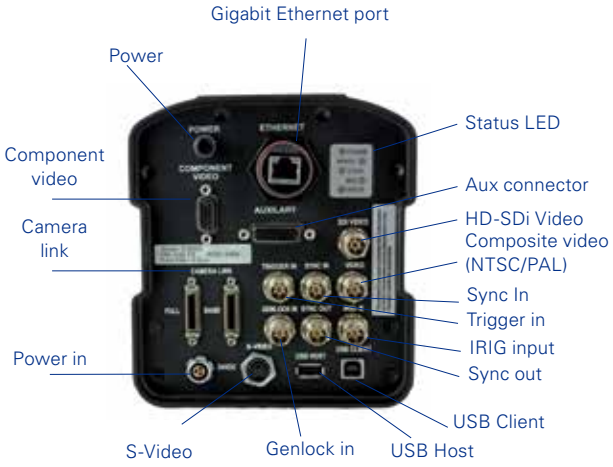
KEY FEATURES

- High image quality: up to 1,344 × 784 pixels
- Measures temperatures up to +2,000 C
- Close-up and zoom lenses available
- 3.0 - 5.0 or 1.5 - 5.0 waveband options
- On-camera Radiance and Thermographic Calibration

MathWorks

Imaging Specifications

System Overview	SC8200	SC8300
Detector Type	FLIR Indium Antimonide (InSb)	
Spectral Range	3.0 – 5.0 µm or 1.5 – 5.0 µm	
Resolution	1,024 × 1,024	1,344 × 784
Detector Pitch	18 µm	14 µm
NETD	<25 mK	
Well Capacity	12.1 M electrons	5.9 M electrons
Operability	>99.5% (>99.9% typical)	
Sensor Cooling	Closed Cycle Linear	
Electronics / Imaging		
Readout	Snapshot	
Readout Modes	Asynchronous Integrate While Read; Asynchronous Integrate Then Read	
Synchronization Modes	Genlock; IRIG-B; Sync In, Sync Out, Trigger In	
Image Time Stamp	Internal IRIG-B Decoder Clock / TSPI Accurate Time Stamp	
Integration Time	500 ns to Full Frame	
Frame Rate (Full Window)	129 Hz	124 Hz
Subwindow Mode	Flexible (steps of 64 columns, 8 rows)	Flexible (steps of 64 columns, 4 rows)
Dynamic Range	14-bit	
Digital Data Streaming	Simultaneous Gigabit Ethernet and Camera Link Full (or CoaXPress)	
Analog Video	NTSC, PAL, S-Video, SVGA	
HD Video	HD-SDI 720p50/59/60 1080p25/29/30	
Camera Control	Gigabit Ethernet, USB, RS-232, Camera Link Full (or CXP)	
Measurement		
Standard Temperature Range	-20°C to 350°C (-4°F to 662°F)	
Optional Temperature Range	Up to 1,500°C (2,732°F) Up to 2,000°C (3,632°F)	
Accuracy	± 2°C or ±2% of Reading	
Optics		
Camera f/#	f/4.0	
Available Lenses	17 mm, 25 mm, 50 mm, 100 mm, 1000 mm TFOV (50 / 250 / 500 mm) Continuous Zoom (50 / 500 mm)	
Focus	Manual (Motorized & Tactile – Lens Dependant)	
Filtering	Behind-the-Lens	
Image Presentation		
Palettes	Selectable 8-bit	
Automatic Gain Control	Manual, Linear, Plateau Equalization, ROI, DDE	
Overlay	Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)	
Zoom	1-4x , Digital Zoom, Panning	
General		
Operating Temperature Range	-40°C to 50°C (-40°F to 122°F)	
Storage Temperature Range	-55°C to 80°C (-67°F to 176°F)	
Altitude	0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational	
Shock / Vibration	40 g, 11 msec ½ Sine Pulse / 4.3 g RMS Random Vibration, All 3 Axis	
Power	24 VDC	
Weight w/o Lens	4.5 kg (10 lb)	
Size (L × W × H) w/o Lens	218 × 143 × 158 mm (8.6 × 5.64 × 6.21 in)	
Mounting	2 × ¼"-20, 1 × 3/8"– 16, 4 × 10/24	



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Specifications are subject to change without notice