



COMPACT LWIR HD THERMAL CAMERA

FLIR A8580 SLS



The FLIR A8580 LWIR High Definition Thermal Camera provides best-in-class imagery for industrial, military, and manufacturing R&D applications. The 1.3 MP Strained Layer Superlattice (SLS) detector produces beautiful, crisp images while the new built-in 4-position warm filter wheel allows the camera to easily measure temperatures up to 3,000°C. With the support for optional remote motor-focus lenses in addition to the standard manual focus and microscope lens options, users can maximize the number of measurement pixels on the object being tested and optimize focusing to ensure accurate temperature measurements regardless of size or distance. Simple, single cable connectivity using Gigabit Ethernet or CoaXPress provides complete camera control plus data capturing in FLIR Research Studio software, so users can analyze and understand data faster than ever before.

FLIR-Partner: ITEMA GmbH

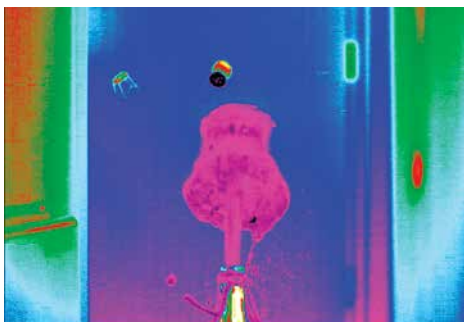
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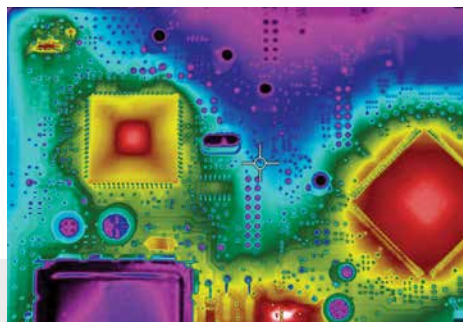
www.flir.com/A8580-SLS



ADVANCED FEATURES FOR OPTIMAL FLEXIBILITY

Capture meaningful thermal data even in the most demanding applications

- Ensure your images are always crisp with the auto and remote focusing capabilities of the optional motor-focus lenses
- Effortlessly measure high temperature objects using the internal 4-position filter wheel preloaded with neutral density filters*
- Capture the data you need when you need it with advanced triggering and synchronization capabilities
- Acquire clear images on fast moving targets with fast integration times



SUPERIOR RESOLUTION AND MEASUREMENT ACCURACY

Get accurate thermal data on your entire device and individual subcomponents

- Analyze and record stunning 1.3 MP (1280 × 1024) resolution thermal images
- Detect thermal difference down to <45 mK with measurement accuracy of better than ±2%
- Choose from a range of lenses to ensure the maximum number of measurement pixels on the test article—regardless of size or distance from the camera
- Accurately measure temperatures on small objects with optional microscope lenses for spatial resolutions down to 12 µm/pixel



SIMPLIFIED DATA ANALYSIS, SHARING, & COLLABORATION

Start collecting and sharing meaningful data with limited ramp-up time and simple connections

- Control all camera parameters and stream fully radiometric thermal data at more than 44 Hz using Gigabit Ethernet and CoaXPress
- Employ FLIR Research Studio's simple Connect → View → Record → Analyze workflow to obtain and analyze thermal results quickly
- Work in the operating system you prefer and share data globally with colleagues in their preferred language

*Neutral density filters are optional

SPECIFICATIONS

Model number	A8581 SLS
Detector Type	Strained Layer Superlattice (SLS)
Spectral range	7.5 μm (lower) 11.5–12.5 μm (upper)
Resolution	1280 \times 1024
Pixel size	12 μm
Thermal sensitivity/NEΔT	≤ 45 mK (≤ 40 mK typical)
Well capacity	Gain 0: 3.0 Me ⁻ , Gain 1: 11.5 Me ⁻
Operability	$\geq 98\%$ ($\geq 99\%$ typical)
Sensor cooling	Linear Sterling cooler
Electronics	
Readout	Snapshot
Readout modes	Asynchronous integrate while read, Asynchronous integrate then read
Synchronization modes	Sync In, Sync Out
Image time stamp	Yes
Integration time	480 ns to ~full frame
Pixel clock	100 MHz
Frame rate (full window)	Programmable; Up to ~45 Hz (GigE), 60 Hz (CXP)
Subwindow mode	Flexible windowing down to 32 \times 4 (steps of 32 columns, 4 rows)
Dynamic range	14-bit
On-camera image storage	None
Radiometric data streaming	Gigabit Ethernet (GigE Vision), CoaXPress
Standard video	HD-SDI
Command and control	GenICam (GigE, CXP), RS-232
Measurement	
Standard temperature range	-20°C to 650°C (-4°F to 1202°F)
Optional temperature range (with band-matched optics)	250°C to 2000°C (ND1); 500°C to 3000°C (ND2)
Accuracy	$\pm 2^\circ\text{C}$ ($\pm 1^\circ\text{C}$ typical) below 100°C, $\pm 2\%$ of reading ($\pm 1\%$ typical) above 100°C
Ambient drift compensation (with factory calibration)	Yes
Optics	
Camera f/#	f/2.5
Available lenses	Manual or Motorized (7.5–12.5 μm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm
Close-up lenses / microscopes	1 \times (12 μm /pixel)
Lens interface	FLIR FPO-M (4-tab bayonet, motorized)
Focus	Motorized (compatible w/manual lenses)
Filter holder (warm)	Internal 4-position motorized filter wheel; factory installed filters

Image/video presentation	
Palettes	Selectable 8-bit
Automatic gain control	Manual, linear, plateau equalization, DDE
Overlay	Fixed configuration, can be turned off
Video modes	SDI: 720p at 50/59.9/60 Hz, 1080p at 25/29.9/30 Hz
Standard video zoom	Automatic, variable
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 (< 24 W steady state)
Weight w/o lens	2.3 kg (5 lbs)
Size (L \times W \times H) w/o lens	226 \times 102 \times 109 mm (8.9 \times 4.0 \times 4.3 in.)
Mounting	2 \times ¼" -20 tapped holes, 1 \times 3/8" -16 tapped hole 4 \times 10-24 tapped holes

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