LWIR THERMAL IMAGING CAMERA

FLIR A6780 SLS

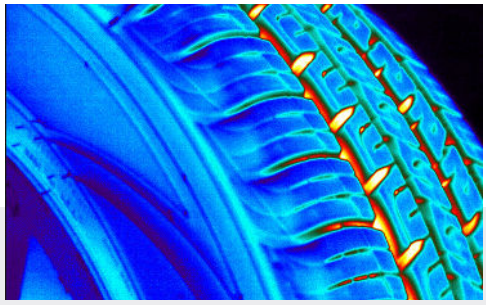
The FLIR A6780 SLS longwave camera system makes it easy to accurately measure temperatures of rapid thermal events and high-speed targets across a wide temperature range. This camera's cooled Strained Layer Superlattice (SLS) detector provides faster snapshot speeds than other detectors when imaging ambient temperature scenes – producing crisp images without motion blurring. Plus, advanced synchronization options and high-speed windowed frame rates ensure you will always capture precise thermal data. The A6780 also features a built-in, 3-position warm filter wheel for simple, remote switching between standard and high-temperature ranges. A full suite of lens options, including both manual and motor-focus lenses, provide the flexibility to maximize the number of measurement pixels on the object of interest regardless of size and distance. And with the ability of this 327,680 (640 × 512) pixel resolution camera to achieve spatial resolutions down to 15 µm per pixel, the A6780 is an ideal choice for industrial, military, and manufacturing R&D applications.

www.flir.com/A6780-SLS

GET UP AND RUNNING QUICKLY

Start testing quickly with limited ramp-up time and simple connections

- Control all aspects of the A6780 camera and stream data using a single Gigabit Ethernet cable
- Effortlessly achieve crisp, sharp thermal images using automatic, remote, or manual focusing
- Easily measure high-temperature targets with the software controlled built-in 3-position warm filter wheel
- Capture the data you want when you want it thanks to advanced triggering and synchronization capabilities



MEASURE TEMPERATURE ACCURATELY

Precisely measure temperatures on nearly any target

- Measure accurate temperatures on small objects with spatial resolution down to 15 µm per pixel
- Capture fast-moving thermal events or targets with sub-windowed frame rates up to 4,130 Hz and fast integration times
- Maximize the number of measurement pixels on the object under test regardless of size or distance with multiple lens options

SIMPLIFY DATA ANALYSIS, SHARING, & COLLABORATION

Collect and share meaningful data easily

- Employ FLIR Research Studio's simple Connect ➔ View ➔ Record ➔ Analyze workflow to record and analyze thermal data without the need for extensive training
- Compare multiple live data streams or recorded files to quickly determine results and make decisions
- Work in the operating system you prefer and share data globally with colleagues in their preferred language

SPECIFICATIONS

Model Number	A6781 SLS	A6783 SLS
Detector Type	Strained-Layer Superlattice	
Spectral Range	7.5 µm (lower), 10-11 µm (upper)	
Resolution	640 × 512	
Pixel Size [Square]	15 µm	
Thermal Sensitivity / NETD	≤40 mK typical	
Operability	≥98% (≥99% typical)	
Sensor Cooling	Closed-cycle rotary	
Readout Electronics		
Readout	Snapshot	
Readout Modes	Asynchronous integrate while read, asynchronous integrate then read	
Image Time Stamp	Yes	
Integration Time	480 ns to ~full frame	
Pixel Clock	50 MHz	
Frame Rate (Full Window)	Programmable; 0.0015 Hz to 125 Hz	
Subwindow Mode	Flexible windowing down to 16 × 4 (steps of 16 columns, 4 rows)	
Camera Electronics		
Synchronization Modes	Internal, external, video	
Sync In/Sync Out Connection	Sync In (via Rear Panel), Sync Out (via Aux Cable)	
Trigger Input	Yes (via AUX breakout cable)	
Superframing/DRX	Yes	
Dynamic Range	14-bit	
On-Camera Image Storage	None	
Radiometric Data Streaming	Gigabit Ethernet (GigE Vision)	
Standard Video	SDI	
Command and Control	GenICam (GigE), RS-232	
Integration Active Output	Yes (via AUX breakout cable)	
Lock-in Signals Input	Optional (via AUX breakout cable)	
Record Start Input	Yes (via AUX breakout cable)	
Measurement		
Standard Temperature Range [with band-matched optics]	-20°C to 650°C (-4°F to 1202°F)	
Optional Temperature Range [with band-matched optics]	250°C to 2000°C/482°F to 3632°F (ND1) 500°C to 3000°C/932°F to 5432°F (ND2)	
Accuracy	≤100°C (≤212°F) ±2°C (±3.6°F) accuracy (±1°C/1.8°F typical) >100°C ±2% of reading (±1% typical)	
Ambient Drift Compensation [with factory calibration]	Yes	

Optics		
Camera f/#	f/2.5	f/4.0
Available Lenses	Manual (7.5-12 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm Motorized (7.5-12 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm	
Close-up Lenses / Microscopes	1X	
Lens Interface	FLIR FPO-M (4-tab bayonet, motorized)	
Focus	Motorized (compatible w/ manual)	
Filter Holder [Warm]	3-position motorized filter wheel (1-inch diameter filters), factory installed only	
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@50 / 59.9, 1080p@25 / 29.9	
Standard Video Zoom	Automatic, best fit	
General		
Operating Temperature Range	-20°C to 50°C (-4°F to 122°F)	
Power	24 VDC (< 24 W steady state)	
Weight w/o Lens	2.3 kg (5 lb)	
Size [L × W × H] w/o Lens	226 × 102 × 109 mm (8.9 × 4.0 × 4.3 in)	
Mounting	2 × ¼"-20 tapped holes 1 × 3/8"-16 tapped hole 4 × 10-24 tapped holes	