



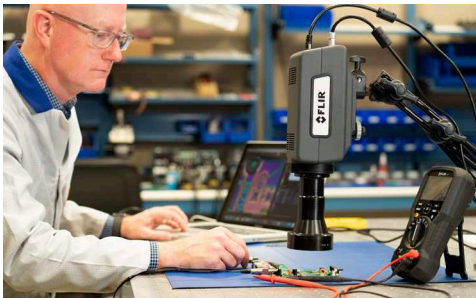
MWIR THERMAL IMAGING CAMERA

FLIR A6780



The FLIR A6780 midwave camera system makes it easy to measure the temperatures of rapid thermal events and fast-moving targets across a wide temperature range. This cooled indium antimonide (InSb) camera offers a built-in, 3-position warm filter wheel for simple, remote switching between standard and high-temperature ranges. The A6780 also offers short exposure times, advanced synchronization options, and high-speed windowed frame rates, ensuring you will always capture meaningful thermal data. 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 5 μm per pixel, the A6780 is an ideal choice for industrial, military, and manufacturing R&D applications.

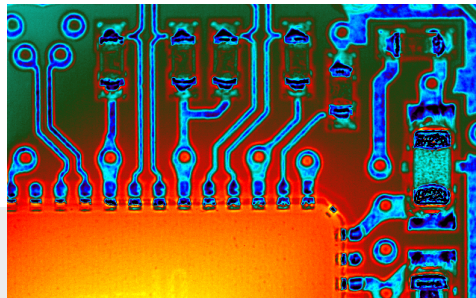
www.flir.com/A6780-MWIR



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 5 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	A6780	A6781	A6782	A6783
Detector Type	FLIR indium antimonide (InSb)			
Spectral Range	1.0 – 5.0 μm	3.0 – 5.0 μm	1.0 – 5.0 μm	3.0 – 5.0 μm
Resolution	640 x 512			
Pixel Size	15 μm			
Thermal Sensitivity / NETD	≤ 25 mK typical	≤ 20 mK typical	≤ 25 mK typical	≤ 20 mK typical
Operability	$\geq 99.8\%$ ($\geq 99.95\%$ 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 x 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			
Max Frame Rate (Min Window)	4,130 Hz (16 x 4 sub-window)			
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 300°C (-4°F to 572°F)	-20°C to 350°C (-4°F to 662°F), Microscope Lenses: -10°C to 350°C (14°F to 662°F)	-20°C to 350°C (-4°F to 662°F)	-20°C to 350°C (-4°F to 662°F), Microscope Lenses: -10°C to 350°C (14°F to 662°F)

Optional Temperature Range [with band-matched optics]	45°C to 600°C/113°F to 1112°F (ND1); 250°C to 2000°C/482°F to 3632°F (ND2); 500°C to 3000°C/932°F to 5432°F (ND3)			
Accuracy	$\leq 100^\circ\text{C}$ ($\leq 212^\circ\text{F}$), $\pm 2^\circ\text{C}$ ($\pm 3.6^\circ\text{F}$) accuracy ($\pm 1^\circ\text{C}/1.8^\circ\text{F}$ typical); $>100^\circ\text{C}$ $\pm 2\%$ of reading ($\pm 1\%$ typical)			
Ambient Drift Compensation [with factory calibration]	Yes			
Optics				
Camera f/#	f/2.5		f/4.0	
Available Lenses	Manual (broadband): 25 mm, 50 mm, 100 mm	Manual (3-5 μm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm Motorized (3-5 μm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm	Manual (broadband): 25 mm, 50 mm, 100 mm	Manual (3-5 μm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm Motorized (3-5 μm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm
Close-up Lenses / Microscopes	No microscopes available	1X, 3X	No microscopes available	1X, 3X
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 at 50/59.9 Hz, 1080p at 25/29.9 Hz			
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 lbs)			
Size [L x W x H] w/o Lens	226 x 102 x 109 mm (8.9 x 4.0 x 4.3 in)			
Mounting	2 x ¼"-20 tapped holes, 1 x 3/8"-16 tapped hole, 4 x 10-24 tapped holes			

CORPORATE HEADQUARTERS
FLIR Systems, Inc.
27700 SW Parkway Ave.
Wilsonville, OR 97070
PH: +1 877.773.3547

NASHUA
FLIR Systems, Inc.
9 Townsend West
Nashua, NH 06063
USA
PH: +1 603.324.7611

CANADA
FLIR Systems Ltd.
3430 South Service Rd, Ste 103
Burlington, Ontario L7N 3T9
Canada
PH: +1 800 613 0507

LATIN AMERICA
FLIR Systems Brasil
Av. Antonio Bardella, 320
Sorocaba, SP 18085-852
Brasil
PH: +55 15 3238 8070

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