FLIR A6750SC SLS

Longwave Infrared Thermal Camera

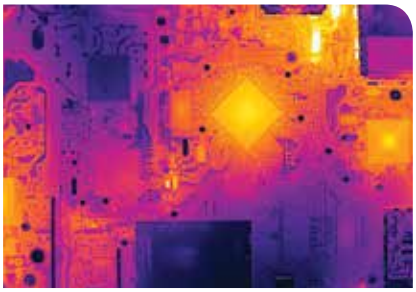
The FLIR A6750sc SLS incorporates a cooled Strained Layer Superlattice (SLS) detector that operates in the 7.5 to 9.5 micron waveband producing crisp LWIR thermal imagery at 640x512 pixel resolution.

FAST INTEGRATION TIMES

Working in snapshot mode, the FLIR A6750sc SLS is able to capture all pixels from a scene simultaneously in under 190µs for room temperature scenes. This is particularly important when monitoring fast moving objects where an uncooled thermal imaging camera would suffer from image blur. The camera supports image frame rates up to 4.1k frames per second when operating in windowing mode.

STANDARD VIDEO INTERFACES

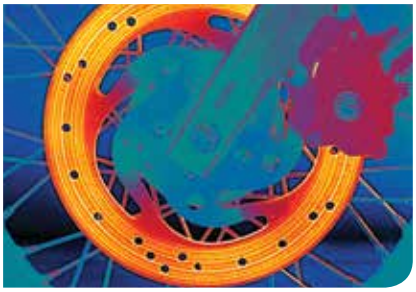
Using a standard GigE Vision® interface to transmit full dynamic range digital video, and GenICam for camera control, the FLIR A6750sc SLS is a true "plug and play" thermal imaging camera. Additional interfaces include a BNC analog video output. The Gigabit Ethernet and analog video are simultaneously active yet independently controlled allowing greater flexibility for recording and display purposes.



Circuit board

CUSTOM COLD FILTERS AVAILABLE

Custom cold filtering options for specific spectral detection and measurement are available.



Motorcycle disc brake system

SOFTWARE

FLIR A6750sc SLS camera works seamlessly 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.

COMPATIBLE WITH 3RD PARTY SOFTWARE

Control the A6750sc SLS and capture data directly into MathWorks® MATLAB software for custom image analysis and enhancement.

GEN<i>CAM MathWorks

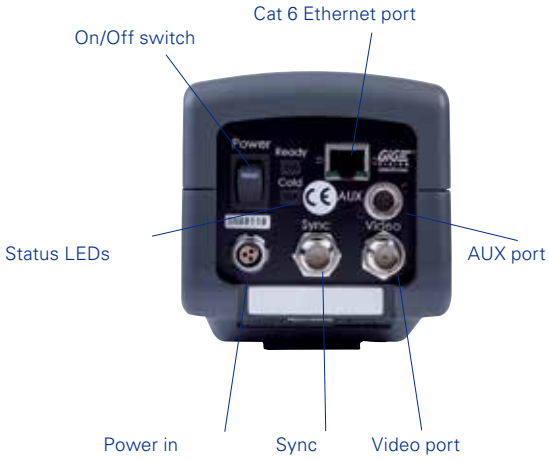
KEY FEATURES

- EXCELLENT LWIR IMAGE QUALITY: 640 X 512 PIXELS
- HIGH SPEED IMAGE ACQUISITION: UP TO 4.1kHz IN WINDOWING MODE
- SYNCHRONIZATION WITH OTHER INSTRUMENTS AND EVENTS
- WIDE TEMPERATURE RANGES UP TO +2000°C
- MATLAB COMPATIBILITY

Imaging Specifications

Detector	A6750sc SLS
Detector Type	Strained Layer Superlattice (SLS)
Spectral Range	7.5 - 9.5 µm
Resolution	640 x 512
Detector Pitch	15 µm
NETD	<30mK
Well Capacity	7.2 M electrons
Operability	>98%
Sensor Cooling	Closed Cycle Rotary
Electronics / Imaging	
Readout	Snapshot (FLIR 4 Channel)
Readout Modes	Asynchronous Integrate While Read; Asynchronous Integrate Then Read
Synchronization Modes	Sync In, Sync Out, Trigger In
Integration Time	480 ns to 687 sec
Frame Rate (Full Window)	Programmable 0.0015Hz to 125Hz
Subwindow Mode	User Defined Size, Centered in Image
Max Frame Rate (@ Min Window)	4,175Hz (16 x 4)
Dynamic Range	14-bit
Digital Data Streaming	Gigabit Ethernet
Analog Video	NTSC, PAL
Command & Control	Gigabit Ethernet and RS-232
Measurement	
Standard Temperature Range	-20°C to 650°C (-4°F to 1,202°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/#	2.5 or 4.0
Available Lenses	13mm, 25mm, 50mm, 100mm, 200mm
Focus	Manual
Filtering	Behind the Lens, Custom Cold Filtering
Image Presentation	
Analog Palettes	Grayscale + Color
AGC	Manual, Linear, Plateau Equalization, DDE
Zoom	Video Zoom is Auto Selected: Full Res = 1x, 1/4 Res = 2x
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 10,000 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 (< 50 W steady state)
Weight w/o Lens	5 lbs
Size (L x W x H) w/o Lens	7.7" x 4.0" x 4.0"
Mounting	2 x ¼"-20, 1 x 3/8"– 16, 4 x 10/24

Back Panel



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FLIR A6700sc

Thermal imaging camera with FLIR cooled InSb detector

HIGH SENSITIVITY, CRISP THERMAL IMAGES

FLIR A6700sc incorporates a cooled FLIR Indium Antimonide (InSb) detector that operates in the 3- to 5-micron waveband. Optionally, a broadband version that operates in the 1-5 micron waveband is available. Both versions produce crisp thermal images of 640 x 512. Achieving a high thermal sensitivity of <20 mK, FLIR A6700sc is able to capture the finest image details.

FAST INTEGRATION TIMES

Working in snapshot mode, the FLIR A6700sc is able to capture all pixels from a scene simultaneously. This is particularly important when monitoring fast moving objects where an uncooled thermal imaging camera would suffer from image blur. The camera supports image frame rates up to 480 frames per second when operating in windowing mode.

STANDARD VIDEO INTERFACES

Using a standard GigE Vision® interface to transmit full dynamic range digital video, and GenICam for camera control, the FLIR A6700sc is a true "plug and play" thermal imaging camera. Additional interfaces include a BNC analog video output. The Gigabit Ethernet and analog video are simultaneously active yet independently controlled allowing greater flexibility for recording and display purposes.

CUSTOM COLD FILTERS AVAILABLE

Custom cold filtering options for specific spectral detection and measurement are available. Perfect for imaging through glass, measuring temperature of thin film plastics, laser profiling and detection, or optical gas imaging

SOFTWARE

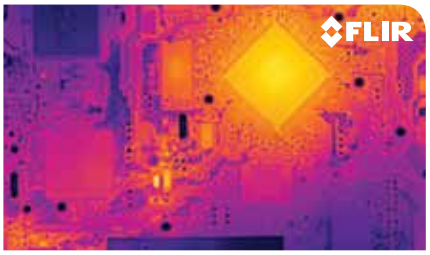
FLIR A6700sc camera works seamlessly with FLIR ResearchIR Max software enabling intuitive viewing, recording and advanced processing of the thermal data provided by the camera. A Software Developers Kit (SDK) is optionally available.

COMPATIBLE WITH 3RD PARTY SOFTWARE

Control the A6700sc and capture data directly into MathWorks® MATLAB software for custom image analysis and enhancement.

KEY FEATURES

- FLIR built cryo cooler and insb detector
- Excellent image quality: 640 x 512 pixels
- High sensitivity: <20 mk
- High speed image acquisition: up to 480 hz
- Synchronization with other instruments and events
- Wide choice of optics & extender rings



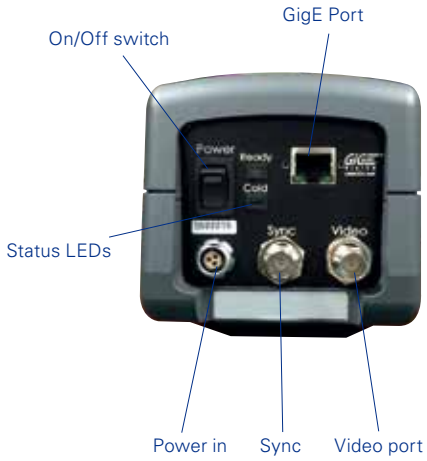
Electronics microscopy

Motorcycle brake testing

GiGE VISION GENICAM MathWorks

Imaging Specifications

System Overview	FLIR A6700sc
Detector Type	FLIR Indium Antimonide (InSb)
Spectral Range	3 – 5 µm or 1 - 5 µm
Resolution	640 × 512
Detector Pitch	15 µm
NETD	<20 mK (18 mk typical)
Well Capacity	7.2 M electrons
Operability	>99.8% (>99.95% typical)
Sensor Cooling	FLIR Closed Cycle Rotary
Electronics / Imaging	
Readout	Snapshot
Readout Modes	Asynchronous Integrate While Read; Asynchronous Integrate Then Read
Synchronization Modes	Frame Sync
Integration Time	480 ns to 687 sec
Subwindow Modes	Full, 1/2 or 1/4 Window
Max Frame Rate	60Hz @ Full Window 240Hz @ 1/2 Window 480 Hz @ 1/4 Window
Dynamic Range	14-bit
Digital Data Prototcol	Gigabit Ethernet (GigE Vision 2.0)
Analog Video	NTSC, PAL
Camera Control	GenICam
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	
f/#	f/4.0 or f/2.5
Available Lenses	3-5µm: 13mm, 13mm (low distortion), 25mm, 50mm, 100mm (all lenses are f/2.5) 1-5µm: 25mm, 50mm, 100mm (lenses are f/2.5)
Microscopes	1x (this lens is f/4 and requires an f/4 camera)
Focus	Manual
Filtering	Removable Behind the Lens or Permanent "cold" Filter Available
Analog Video	
Analog Palettes	Selectable 8-bit
AGC	Manual, Linear, Plateau Equalization, DDE
Digital Zoom	Video Zoom is Auto Selected: 1x for Full and 1/2 window, 2x for 1/4 window
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 10,000 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 (< 50 W steady state)
Weight w/o Lens	5 lbs / 2,3 kg
Size (L × W × H) w/o Lens	8.5 x 4.0 x 4.3" / 21.6 x 10.2 x 10.9cm
Mounting	2 × ¼"-20, 1 × 3/8"– 16, 4 × 10/24



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FLIR A6750sc MWIR

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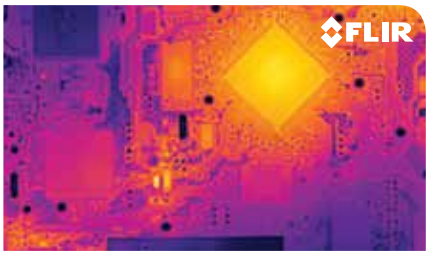

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