

FLIR A6700sc



Compact, thermal imaging camera with cooled InSb detector at an extremely affordable price.

Designed for electronics inspections, medical thermography, manufacturing monitoring, and non-destructive testing, FLIR A6700sc is ideal for high-speed thermal events and moving targets.

*FLIR A6700sc
thermal imaging camera*

High sensitivity, crisp thermal images

FLIR A6700sc incorporates a cooled 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 and temperature difference information.

Synchronization and triggering

Precise camera synchronization and triggering makes the cameras ideal for high-speed, high sensitivity applications. Working in snapshot mode the FLIR A6700sc is able to register all pixels from a thermal event simultaneously. This is particularly important when monitoring fast moving objects where a standard 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.

Using a standard GigE Vision™ interface to transmit both commands and full dynamic range digital video FLIR A6700sc is a true “plug and play” thermal imaging camera. Simultaneous analog and digital outputs are available.

Cold filters available

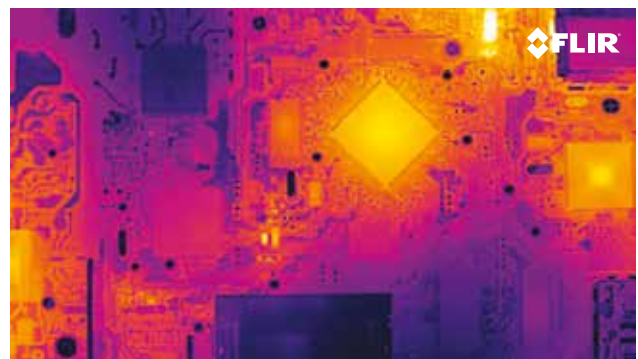
Custom cold filtering options for specific spectral detection and measurement are available. Perfect for imaging through glass, measuring temperature of thin film plastics, filtering different wavebands for laser profiling and detection, or optical gas imaging

Software

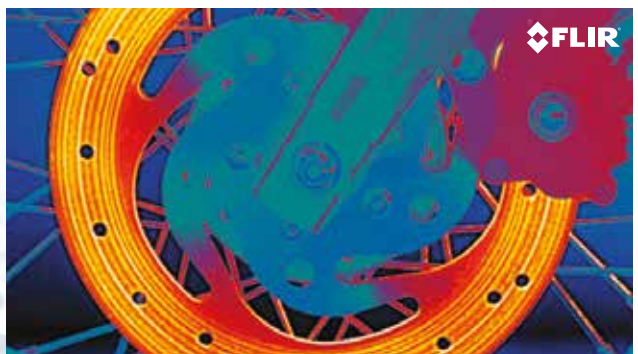
FLIR A6700sc camera works seamlessly together with FLIR ResearchIR Max software enabling intuitive viewing, recording and advanced processing of the thermal data provided by the camera. Each camera comes standard with this especially for R&D applications developed software. A Software Developers Kit (SDK) is optionally available.

Key features

- Excellent image quality: 640 x 512 pixels
- High sensitivity: <20 mK
- High speed image acquisition: up to 480 Hz
- Synchronization: with other instruments
- Extender rings available
- Wide choice of optics
- Very low noise: cryogenically cooled InSb Detector



Circuit board



Motorcycle disc braking system

Technical specifications



Detector

Detector Type	Indium Antimonide (InSb)
Spectral Range	3 – 5 μm or 1 - 5 μm
Resolution	640 x 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	Closed Cycle Rotary

Electronics / Imaging

Readout	Snapshot
Readout Modes	Asynchronous Integrate While Read; Asynchronous Integrate Then Read
Synchronization Modes	Sync In
Integration Time	480 ns to 687 sec
Frame Rate (Full Window)	Up to 60Hz, full res Up to 480Hz, 1/4 res
Subwindow Mode	1/2 or 1/4 Window
Max Frame Rate (@ Min Window)	480Hz @ 1/4 window
Dynamic Range	14-bit
Digital Data Streaming	Gigabit Ethernet (GigE Vision)
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	$\pm 2^\circ\text{C}$ or $\pm 2\%$ of reading

Optics

f/#	f/4.0 or f/2.5
Available Lenses	3-5 μm : 13mm, 13mm (low distortion), 25mm, 50mm, 100mm (all lenses are f/2.5) 1-5 μm : 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

Image Presentation

Analog Palettes	Selectable 8-bit
AG	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 1/2 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 x W x H) w/o Lens	7.7 x 4.0 x 4.0" / 19.6 x 10.2 x 10.2 cm
Mounting	2 x 1/4"-20, 1 x 3/8"-16, 4 x 10/24

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1. On/Off switch
2. Cat 6 Ethernet port
3. Status LEDs
4. Power in
5. Sync
6. Video port