FLIR A6600/A6650

High Speed Thermal Imaging Camera with FLIR Cooled InSb Detector

Manufacturing and process engineering specialists use thermal imaging cameras with great success for a full range of automation applications. Practical uses include: automated inspections, process control, condition monitoring, fire prevention & detection, and continuous optical gas imaging.

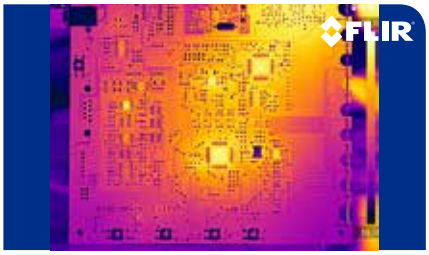
Powerful cooled FLIR A66xx-Series thermal cameras can help you see minute temperature differences, capture high speed processes and thermal events, measure temperatures of very small targets, and synchronize with other measuring devices.

HIGH SENSITIVITY, CRISP THERMAL IMAGES

FLIR A66xx-Series incorporates a cooled FLIR Indium Antimonide (InSb) detector that operates in the 3- to 5-micron waveband. The camera produces crisp thermal images of 640 x 512 pixels. Achieving a high thermal sensitivity of <20 mK, FLIR A66xx-Series is able to capture the finest image details.

FAST INTEGRATION TIMES

Working in snapshot mode, FLIR A66xx-Series cameras are 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 A6600 supports image frame rates up to 480 frames per second when operating in windowing mode. The A6650 supports frame rates up to 4,175 frames per second when operating in a 16 x 4 pixel window.



High resolution inspection of PCB board

Through glass inspection of light bulb filament

STANDARD VIDEO INTERFACES

FLIR A66xx-Series uses a standard GigE Vision™ / GenICam interface to transmit both commands and full dynamic range digital video. 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, filtering different wavebands for laser profiling and detection, or optical gas imaging.

SOFTWARE

A Software Developer's Kit (SDK) is optionally available.

HOSKIN SCIENTIFIC LTD www.hoskin.ca Vancouver | Burlington | Montreal
(604) 872-7894 (905) 333-5510 (514) 735-5267

Imaging Specifications

System Overview	FLIR A6600	FLIR A6650
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	500 ns to full frame	
Subwindow Modes	Full, 1/2 or 1/4 Window	Flexible (16x4 incr.)
Max Frame Rate	60Hz @ Full Window 240Hz @ 1/2 Window 480 Hz@ 1/4 Window	125Hz @ Full Window 409Hz @ 1/2 Window 1077Hz @ 1/4 Window 4175Hz @ 16x4 pixels Window
DRX	No	Yes
Dynamic Range	14-bit	
Digital Data Prototcol	Gigabit Ethernet (GigE Vision 2.0)	
Analog Video	NTSC, PAL	
Camera Control	GenICam	
Trigger In (Record Start)	No	Yes
Sync OUT	No	Yes
AUX Connector (RS-232, GPIO)	No	Yes
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)	
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