FLIR X6000sc Series

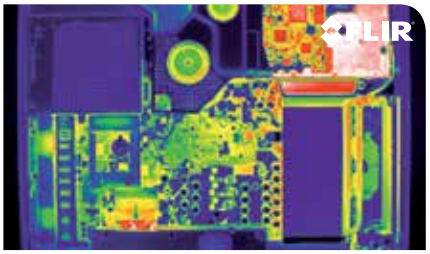
High End Thermal Imaging Cameras

The FLIR X6000sc Series thermal imaging cameras are designed to provide the best thermal measurement performance together with the most advanced connectivity. They are ideal for Scientists and R&D professionals that are working on the most demanding applications. State-of-the-art connectivity and ease of use allow the user to concentrate on the experiment and not on the camera.

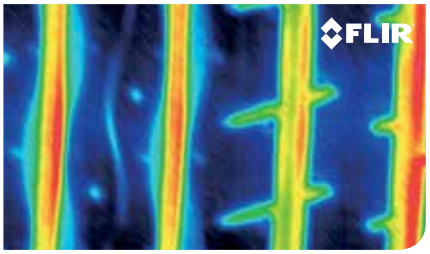
THERMAL IMAGING WITH HIGH SENSITIVITY

The FLIR X8000sc Series are equipped with a cooled Indium Antimonide detector that produces crisp thermal images of 640 x 512 pixels. They allow seeing the smallest of details. FLIR X6000sc Series detect temperature differences smaller than 25mK (18mK typically). With the "lock-in" process temperatures differences as small as 1mK will become clearly visible. The cameras automatically adjust their temperature range to best fit the thermal scene.

The FLIR X6000sc Series contain a 4 slots motorized filter wheel with automatic filter recognition and measurement parameter adjustment. A temperature probe is integrated for improved measurement accuracy.



Electronic board, wafer and cells inspection



Rolling tire structure thermal evaluation

ULTRA HIGH FRAME RATE WITH WINDOWING

The FLIR X6580sc has an adjustable frame rate of up to 355 Hz full frame. It can deliver images up to a speed of 4,500 Hz in windowing. The FLIR X6550sc and X6540sc have an adjustable frame rate of up to 125 Hz full fram. They can deliver images up to a speed of 4,011 Hz in windowing. The sub-sample windows can be arbitrarily chosen and are easily defined.

CONNECTIVITY

The FLIR X6000sc Series offer a wide range of connectivity options such as Camera Link medium for full bandwidth data acquisition, Gigabit Ethernet for simple connectivity, Standard BNC connectors for often used features such as Detector Sync, Acquisition trigger, analog lockin input, MicroSD-card slot, DVI-output 1080p and IRIG-B connector for external time stamping. An extension port with advanced features and connections is available.

SOFTWARE

FLIR X6000sc Series cameras work 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

- Cooled Indium Antimonide detector (InSb): 640 x 512 pixels
- High frame rates with windowing
- Removable touchscreen LCD
- Motorized filter wheel

Imaging Specifications

System Overview	X6000sc-Series
Resolution	640 x 512
Frame rate	355 Hz for X6580sc / 125 Hz for X6550sc and X6540sc
Motorized focus mechanism	no
Well Capacity	6.5 M electrons
Digital Data Streaming	Simultaneous Gigabit Ethernet and Camera Link Base Camera Link Medium
Focus	USL Mechanism or Manual
Detector	
Detector Type	Indium Antimonide (InSb)
Operability	>99.5%
Spectral Range	1.5 – 5.1 µm
Detector Pitch	15 µm
NETD	<25 mk (20 mk Typical)
Sensor Cooling	Closed Cycle Rotary
Electronics / Imaging	
Readout	Snapshot Digital
Readout Modes	Asynchronous Integrate While Read; Asynchronous Integrate Then Read
Synchronization Modes	IRIG-B; Sync In, Trigger In
Image Time Stamp	Internal IRIG-B Decoder Clock / TSPI Accurate Time Stamp
Integration Time	500 ns to Full Frame rate, with auto exposure
Subwindow Mode	User-Defined
Dynamic Range	14-bit , 16 bits with DRX
HD Video	DVI 1080p
Command and Control	Gigabit Ethernet, Camera Link, Detachable LCD Display, WiFi
Measurement	
Accuracy	±1°C or ±1% of Reading
Calibration	Custom calibration on request
Standard Temperature Range	+5°C to +300°C
Optional Temperature Range	Up to +3,000°C / From -20°C
Optics	
Available optics	12mm-44°x34°-USL Motorized 25mm - 22° x 17° - USL Motorized 50mm - 11° x 8.8° - USL Motorized 100mm - 5.5° x 4.4° - USL Motorized 200mm-2.75°x2.2°- USL Motorized Close up x3 - 3.2 x 2.6m
Camera f/#	3.0 for X6580sc and X6540sc 2.5 for X6550sc
Filtering	4× Position Motorized, with drift compensation and automatic identification
Image Presentation	
On-Camera Display	Detachable Touchscreen LCD Display (800 × 480)
Analog Palettes	Selectable 8-bit
Automatic Gain Control	Manual, Linear, ROI
Display Overlay	Temperature Measurement & Scale
Image Analysis	On-Camera Temperature Analysis
General	
Operating Temperature Range	-20°C to +50°C
Shock / Vibration	operational 15G, IEC 68-2-29 / Operational 2G, IEC 68-2-26
Power	24 VDC
Weight w/o Lens	5.05 kg
Size (L × W × H) w/o Lens	280 × 150 × 180 mm
Mounting	UNC 1/4"–20 + 3×M5 threads

PORTLAND
Corporate Headquarters
FLIR Systems, Inc.
27700 SW Parkway Ave.
Wilsonville, OR 97070
USA
PH: +1 866.477.3687

BELGIUM

FLIR Systems Trading
Belgium BVBA
Luxemburgstraat 2
2321 Meer
Belgium
PH: +32 (0) 3665 5100

SWEDEN

FLIR Systems AB
Antennvägen 6,
PO Box 7376
SE-187 66 Täby
Sweden
PH: +46 (0)8 753 25 00

NASHUA

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

UK

FLIR Systems UK
2 Kings Hill Avenue
Kings Hill
West Malling - Kent
ME19 4AQ
United Kingdom
PH: +44 (0)1732 220 011

www.flir.com
NASDAQ: FLIR

Specifications are subject to change without notice
©Copyright 2014, FLIR Systems, Inc. All other brand and product names are trademarks of their respective owners. The images displayed may not be representative of the actual resolution of the camera shown. Images for illustrative purposes only. (Created 08/14)