



FLIR SC645

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Speed up your design cycle with infrared

With its highly sensitive uncooled detector, high resolution, and all of the cutting-edge functionality scientists and researchers have come to expect from FLIR, the new SC645 brings affordable science and R&D thermography to a whole new level.

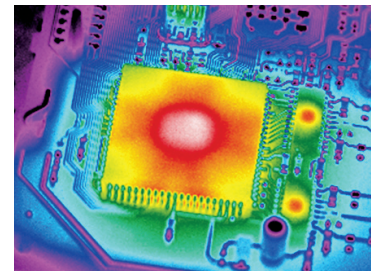


Key features and Benefits:

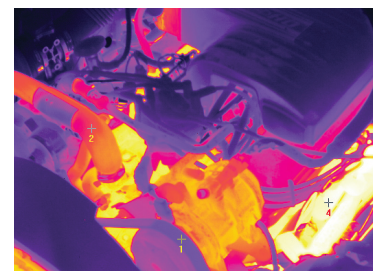
- Affordable, compact, and powerful, the SC645 provides over 300,000 pixels of accurate temperature measurement data
- High-resolution 640 × 480, 17 micron pixel detector provides great image detail and small spot size for accurate measurements of small temperature anomalies
- The world's first high-resolution uncooled infrared camera to provide high-speed windowing modes (up to 200 Hz with a 640 × 120 window), and digital control of image flow and recording to FLIR's R&D software
- Fully compliant with both GenICam and GigE Vision protocols, the SC645 is ready to integrate with a variety of third-party analysis software packages
- FPA windowing for faster frame rates and focused analysis
- Fast frame rate options provide imaging performance from full-frame resolution, 16-bit data at 50 fps, to 640 × 120 resolution at 200 fps
- Perfect for infrared research, product development, and non-destructive testing, the SC645 helps you to see and accurately quantify heat patterns, leakage, dissipation, and other heat-related factors in equipment, products, and processes in real time.

Typical applications:

The FLIR SC645 camera is an excellent choice for those who want to work in R&D but don't need the highest frame rates but do require 640 x 480 pixels resolution. For those who need to use the camera in R&D, it is highly recommended to use the FLIR ResearchIR software.



High thermal sensitivity captures the finest image details and temperature difference information.



Infrared measurement provides the fastest and easiest way possible in R&D and Non-destructive testing.

FLIR SC645 Technical Specifications

Imaging and optical data	
Field of view (FOV)	25° x 18.8°
Minimum focus distance	0.4 m
Focal Length	24.5 mm
Spatial resolution (IFOV)	0.69 mrad
Lens identification	Automatic
F-number	1.0
Thermal sensitivity/ NETD	<0.05°C @ + 30°C/ 50 mK
Image frequency	25 Hz
Focus	Automatic or manual (built in motor)
Detector data	
Detector type	Focal Plane Array (FPA), uncooled microbolometer
Spectral range	7.5-13 µm
IR resolution	640 x 480 pixels
Detector pitch	17 µm
Detector time constant	Typical 8 ms
Measurement	
Object temperature range	-20 to +150°C 0 to +650°C
Accuracy	±2°C or ±2% of reading
Measurement analysis	
Atmosphere transmission correction	Automatic, based on inputs for distance, atmospheric temperature and relative humidity
Optics transmission correction	Automatic, based on signals from internal sensors
Emissivity correction	Variable from 0.01 to 1.0
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
External optics / windows correction	Automatic, based on input of optics / window transmission and temperature
Measurement corrections	Global object parameters
USB	
USB	Control and image
USB, standard	USB 2 HS
USB, connector type	USB Mini-B
USB, communication	TCP/IP socket-based FLIR proprietary
USB, image streaming	16-bit 640 x 480 pixels @ 25 Hz - Signal linear - Temperature linear - Radiometric
USB, protocols	TCP, UDP, SNMP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour), uPnP
Ethernet	
Ethernet	Control and image
Ethernet, type	Gigabit Ethernet
Ethernet, standard	IEEE 802.3
Ethernet, connector type	RJ-45
Ethernet, communication	TCP/IP socket-based FLIR proprietary and GenICam protocol
Ethernet, image streaming	16-bit 640 x 480 pixels @ 25 Hz - Signal linear - Temperature linear - Radiometric
Ethernet, protocols	GigE Vision and GenICam compatible TCP, UDP, SNMP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour), uPnP
Digital input / output	
Digital input, purpose	Image tag (start, stop, general), Image flow ctrl. (Stream on/off), Input ext. device (programmatically read)
Digital input	2 opto-isolated, 10-30 VDC
Digital output, purpose	Output to ext. device (programmatically set)
Digital output	2 opto-isolated, 10-30 VDC, max 100 mA
Digital I/O, isolation voltage	500 VRMS
Digital I/O, supply voltage	12/24 VDC, max 200 mA
Digital I/O, connector type	6-pole jackable screw terminal

Power system	
External power operation	12/24 VDC, 24W absolute max
External power, connector type	2-pole jackable screw terminal
Voltage	Allowed range 10-30 VDC
Environmental data	
Operating temperature range	-15°C to +50°C
Storage temperature range	-40°C to +70°C
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity +25°C to +40°C
EMC	<ul style="list-style-type: none"> EN 61000-6-2:2001 (Immunity) EN 61000-6-3:2001 (Emission) FCC 47 CFR Part 15 Class B (Emission)
Encapsulation	IP 30 (IEC 60529)
Bump	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)
Physical data	
Weight	0.7 kg
Camera size (L x W x H)	216 x 73 x 75 mm
Tripod mounting	UNC1/4" -20 (on three sides)
Base mounting	2 x M4 thread mounting holes (on three sides)
Housing material	Aluminium

Scope of delivery	
Hard transport case or cardboard box	
Infrared camera with lens	
Calibration certificate	
Ethernet™ cable	
Mains cable	
Power cable, pig-tailed	
Power supply	
Printed Getting Started Guide	
Printed Important Information Guide	
USB cable	
User documentation CD-ROM	
Utility CD-ROM	
Warranty extension card or Registration card	
Optional Accessories	
High temp option +300°C to 2000°C (+572°F to 3632°F) for FLIR SC645/SC655	
Power supply for A/SC3XX and A/SC6XX	
Power cord EU	
Power cord US	
Power cord UK	
USB cable Std A <-> Mini-B, 2 m/6.6 ft.	
Ethernet cable CAT-6, 2m/6.6 ft.	
Power cable, pig-tailed	
Hard transport case for A/SC3XX and A/SC6XX series	

Recommended softwares for documentation and analysis:	
- ThermoVision(TM) System Developers Kit	
- FLIR ResearchIR	
- FLIR QuickPlot	

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