FLIR T650sc

Portable Thermal Imaging Camera

The T650sc infrared camera offers thermal and visual imagery, excellent spot size resolution, and reliable temperature measurement accuracy—all at an affordable price. Technicians, engineers, and scientists will appreciate features such as a built-in digital camera, voice annotation, laser target locator, GPS, and much more. The tiltable IR unit gives you great flexibility and allows you to conduct your experiments fast and in a comfortable position.

EXCELLENT IMAGE QUALITY AND THERMAL SENSITIVITY

The T650sc camera is equipped with an uncooled Vanadium Oxide (VOx) microbolometer detector that produces thermal images of 640 x 480 pixels. It generates crisp and clear detailed pictures that are easy to interpret, resulting in reliable imaging with high accuracy.

TOUCH SCREEN

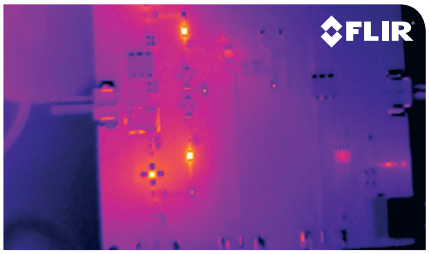
The high quality LCD touch screen presents sharp and bright images and brings interactivity and user comfort to a new level. In combination with the large backlit buttons and joystick, the camera is very easy to use.

RADIOMETRIC RECORDING

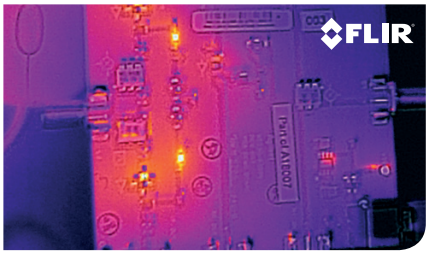
The T650sc allows for full dynamic video streaming to a PC using USB or to mobile devices using Wi-Fi. It can also record visual and thermal non-radiometric MPEG-4 video files. The T650sc can record radiometric IR sequences in real-time directly on the camera. These sequences contain all temperature data and can be post analyzed during playback on the camera or PC.

RICH FEATURE SET

The T650sc comes with features such as Multi Spectral Dynamic Imaging (MSX®), UltraMax™ image enhancement, auto-image rotation, image sketch, and autofocus. It is equipped with Auto Hot/Cold Spot and Audible/Visual Alarms. On-screen emissivity tables, up to 5 temperature measurement spots, and Delta T functionality mean you can quickly acquire and easily compare temperature data.



Thermal image without MSX.



Thermal image with MSX. MSX allows you to see even more detail on the thermal image.

SOFTWARE

The FLIR T650sc camera works seamlessly with FLIR ResearchIR Max software, enabling intuitive viewing, recording, and advanced processing of thermal data.

MATHWORKS® MATLAB

Control the T650sc and capture data directly into MathWorks® MATLAB software for advanced image analysis and enhancement.

KEY FEATURES

- Thermal and visual camera
- VOx uncooled microbolometer: 640 x 480 pixels
- Measures temperatures up to +2,000 °C
- Accuracy of +/- 1 °C
- Multi Spectral Dynamic Imaging (MSX®)
- UltraMax™ for up to 1.2 MP thermal resolution
- Software included

MathWorks

Specifications

System Overview	T650sc
Detector Type	Uncooled Microbolometer
Spectral Range	7.5 – 13.0 µm
Resolution	640 × 480
Detector Pitch	17 µm
NETD	<20 mK
Electronics / Imaging	
Time Constant	<8 ms
Frame Rate	30 Hz
Dynamic Range	14-bit
Digital Data Streaming	Real-time Radiometric = USB to PC Real-time Non-radiometric = MPEG via USB to PC
On-Camera Radiometric Recording	Real-time Temperature Calibrated Movie Recording at 30 Hz to SD card
Analog Video	DVI over HDMI
GPS	Location Data Stores with Every Image
Command & Control	USB, WiFi
Measurement	
Object Temperature Range	-40°C to 150°C (-40°F to 302°F) +100°C to 650°C (+212°F to 1202°F)
Accuracy	±1°C (±1.8°F) or ±1% of reading for limited temperature range for measuring object within +5°C to +120°C (+41°F to +248 °F) and ambient temperatures of +10°C to +35°C (+49°F to +95°F) This is only valid for the temperature range -40°C to +120°C (-40°F to +248°F)
Optics	
Camera f/#	f/1.0, Integrated Lens 18 mm (25°)
Available Lenses	88.9 mm (7°), 41.3 mm (15°), 24.6 mm (25°),13.1 mm (45°), 6.5 mm (80°)
Close-up Lenses / Microscopes	Close-up (25 µm), (50 µm), (100 µm)
Focus	Continuous Automatic or Manual (Motorized and Tactile)
Image Presentation	
On-Camera Display	Touch Screen/4.3 in LCD Display (800 x 480) LCD Viewfinder (800 x 480)
Auto-Orientation	Keeps Onscreen Temperature Data Upright in Portrait or Landscape
Automatic Gain Control	Manual, Linear, Histogram, DDE
Image Analysis	Spot Meters, Areas, Auto Hot / Cold Detection, Difference Temp, Isotherms, Alarms, Line Profile
Image Annotations	60 Sec Voice, Text, 4 x Markers, Sketch
Visible Image	5.0 Megapixel from Integrated Visible Camera
MSX® Enhancement/ Picture in Picture	Adds Visible Detail to Thermal/P-i-P Overlays Thermal on Visible Image
UltraMax™ Image Enhancement	Increases Number of Pixels up to 4x Via Software
General	
Operating Temperature Range	-15°C to 50°C (5°F to 122°F)
Storage Temperature Range	-40°C to 70°C (-40°F to 158°F)
Encapsulation	IP 54 (IEC 60529)
Bump / Vibration	25 g (IEC 60068-2-29) / 2 g (IEC 60068-2-6)
External Power	AC Adapter 90-260 VAC, 50/60 Hz or 12 V from a Vehicle
Battery System	Li Ion, 4 Hours Operating Time
Weight w/ Battery	1.3 kg (2.87 lb)
Size (L × W × H)	143 × 195 × 95 mm (4.2 × 7.9 × 4.9 in)
Mounting	¼"-20

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

NASHUA
FLIR Systems, Inc.
9 Townsend West
Nashua, NH 06063
USA
PH: +1 866.477.3687

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

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

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

LATIN AMERICA
FLIR Systems Brasil
Av. Antonio Bardella, 320
Sorocaba, SP 18052-852
Brasil
TEL: +55 15 3238 7080

HONG KONG
FLIR Systems Co., Ltd
Rm 1613-16, Tower II
Grand Central Plaza
138 Shatin Rural
Committee Road Shatin,
New Territories
Hong Kong
TEL: +852 2792 8955

CANADA
FLIR Systems, Ltd.
920 Sheldon Court
Burlington, ON L7L 5L6
Canada
PH: +1 800.613.0507

www.flir.com/research
NASDAQ: FLIR