

FLIR T650sc

Exceptional Value and Image Quality for Thermographic Studies and Temperature Measurements

The T650sc infrared camera offers thermal and visual imagery, spot size resolution, and reliable temperature measurement accuracy—all at an affordable cost. Technicians, engineers, and scientists will appreciate T650sc features including a built-in digital camera, voice annotation, laser target locator, GPS, and much more.

Sensitivity – 640 × 480 infrared detector features <math><0.02^{\circ}\text{C}</math> sensitivity and $\pm 1^{\circ}\text{C}$ (1.8°F) accuracy resulting in outstanding resolution and image quality for precise readings on small targets.

Temperature Range – -40°C to $2,000^{\circ}\text{C}$.

Visible and Thermal Imagery – The integrated thermal camera and 5.0 megapixel visual camera have matching FOV lenses that allow the correlation of targets over various distances with thermal and visible image overlays or MSX® enhancement.

On-Camera Snapshot and Video Recording – Thermal and visual snapshots and video can be stored directly on the camera to high-capacity SD cards.

Versatile Data Transfer/Storage – USB streams 14-bit fully radiometric real-time video directly to a PC.

On-Camera Radiometric Recording – Real-time temperature calibrated movie recording at 30Hz to SD card that can be replayed on the camera or exported to ResearchIR 4.0 for playback, analysis and data sharing.

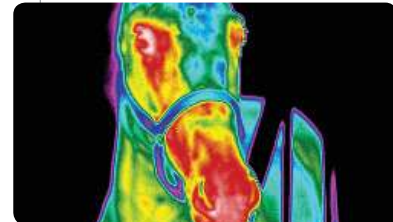
Annotation and GPS – Text comments or 60 seconds of digital voice commentary can be embedded with each IR image, eliminating the need to keep separate notes. Built-in GPS system for geo-referencing.

Increased Convenience and Productivity – 4.3" capacitive touchscreen with easy user interface and rotating optical block plus joystick and button control allow fast, ergonomic operation. Other advanced features include continuous auto-focus, freeze-frame, image storage, and a target illuminator lamp.

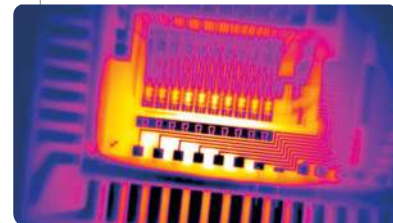
Auto Orientation – Keeps onscreen measurement data upright for easy readability in vertical or horizontal framing.

Rugged, Ergonomic Design – Tough, portable, and ergonomic, the magnesium housing meets the IP54 standard for protection of internal parts from shock, vibration, dust, and water – all in a package weighing only 3.8 pounds.

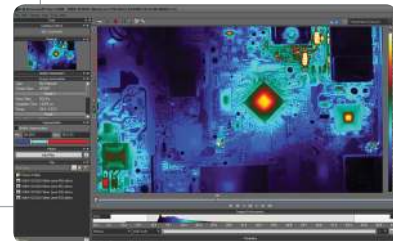
Included ResearchIR Data Acquisition and Analysis Software – Specifically developed for use in research and scientific environments, FLIR ResearchIR 4.0 allows T650sc users to remotely control their camera, record movies & snapshots, and conduct detailed thermal analysis in “live” or “playback” mode.



Veterinary medicine



Microchip



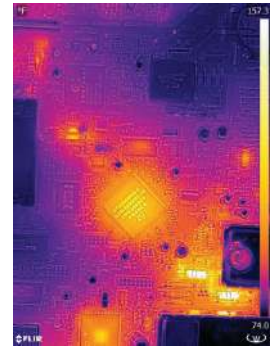
ResearchIR Data Acquisition and Analysis Software

Imaging Specifications

Detector	T650sc
Detector Type	Uncooled Microbolometer
Spectral Range	7.5 – 13.0 μm
Resolution	640 x 480
Detector Pitch	17 μm
NETD	< 20 mK
Electronics / Imaging	
Time Constant	<8 ms
Frame Rate (Full Window)	30 Hz
Dynamic Range	14-bit
Digital Data Streaming	Real-time Radiometric = USB to PC Real-time Non-radiometric = USB to PC
On-Camera Radiometric Recording	Real-time Temperature Calibrated Movie Recording at 30Hz to SD card
Analog Video	DVI over HDMI
GPS	Location Data Stored with Every Image
Command & Control	USB, WiFi
Measurement	
Standard Temperature Range	-40°C to 2,000°C (-40°F to 248°F)
Accuracy	$\pm 1^\circ\text{C}$ or $\pm 1\%$ of Reading (Limited Temperature Range) $\pm 2^\circ\text{C}$ or $\pm 2\%$ of Reading
Optics	
Camera f/#	f/1.0
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 (100 μm , 50 μm , 25 μm)
Focus	Continuous Automatic or Manual (Motorized & Tactile)
Image Presentation	
On Camera Display	Adjustable 4.3" Touchscreen Display (1024 x 600) & LCD Viewfinder (800 x 600)
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, Isotherms
Image Annotations	60 Sec Voice, Text, 4 x Markers, GPS
Zoom	1-8x Digital Continuous
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
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)
Power	AC adapter 90-26- VAC, 50/60 Hz or 12 V from a vehicle
Battery System	Rechargeable Li ion, 7.2 V, 4.4 Ah (>2.5 hours run time at 25°C/68°F)
Weight w/ Battery w/o Lens	1.3 kg (2.87 lb)
Size [L x W x H] w/o Lens	143 x 195 x 95 mm (5.6 x 7.7 x 3.7 in)
Mounting	1/4"-20

T650sc Includes:

- Hard Transport Case
- T650sc Camera with Lens
- 2 x Batteries, Battery Charger, Power Supply
- Headset
- Memory card with adapter
- USB, Video Cables
- User Documentation CD-ROM
- ResearchIR Recording and Analysis Software



Auto-Orientation



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