

FLIR INSTRUMENTS

T640

The FLIR T640 is a high-performance thermal imaging camera designed for professional thermographers. It features a 640 × 480 infrared resolution, a tiltable optical block with a built-in viewfinder, and an extensive set of advanced measurement, analysis, and connectivity features.

SPECIFICATIONS

General

Interfaces	USB-A, USB Mini-B, HDMI, Wi-Fi, Bluetooth
Display	4.3 inch touchscreen LCD, 800 × 480 pixels with tiltable viewfinder (800 × 480 pixels)

Physical

Power Supply	AC adapter (90–260 V AC, 50/60 Hz) or 12 V DC from vehicle
Operating Temperature	-15 to +50 °C °C
Dimensions (W×H×D)	143 × 195 × 95 mm mm
Weight	1.3 kg

Imaging and Optical Specifications

IR Resolution	640 × 480 pixels
Spectral Range	7.5 to 14 μm
Thermal Sensitivity (NETD)	< 30 mK @ +30°C
Field of View (FOV)	25° × 19° (with standard 25° lens)
Spatial Resolution (IFOV)	0.68 mrad (with standard 25° lens)
Minimum Focus Distance	0.25 m
Focal Length	24.6 mm (with standard 25° lens)
Lens F-number	f/1.0
Image Frequency (Frame Rate)	30 Hz
Focus Adjustment Options	Continuous, One-shot auto focus, and Manual
Digital Zoom Range	1x to 8x continuous

Detector Specifications

Detector Type	Uncooled Microbolometer
Pixel Pitch	17 μm

Image Presentation and Display

Display Auto-Orientation	Yes
Multi-Spectral Dynamic Imaging (MSX)	Yes, overlays visual details on thermal image
Picture-in-Picture	Resizable and movable IR area on visual image
Color Palettes	Iron, Rainbow, Rainbow HC, White hot, Black hot, Arctic, Lava

Measurement and Analysis

Object Temperature Range	-40°C to +2000°C (-40°F to +3632°F)
Measurement Accuracy	±2°C (±3.6°F) or ±2% of reading
Spotmeters	10
Area Boxes	5 (including max/min/average)
Emissivity Correction	Variable from 0.01 to 1.0 (or selected from materials list)
Measurement Adjustments	Reflected temperature, optics transmission, atmospheric transmission, external optics
Profile Analysis	1 live profile line
Difference Temperature (Delta T)	Yes (difference between any two measurement results)

Digital Camera and Visual Imaging

Digital Camera Resolution	5.0 Megapixels
Digital Camera Video Lamp	Built-in LED (useful as flash or flashlight)
Laser Pointer	Class 2, semiconductor AlGaInP diode laser

Annotation and Metadata

Voice Annotation	60 seconds via Bluetooth (stored with image)
Text Annotation	Predefined list or touchscreen keyboard
Sketch Annotation	Yes, draw sketches directly on touchscreen
GPS	Built-in, automatic geotagging
Compass	Yes, automatic heading orientation stored with image
METERLiNK	Yes, via Bluetooth (connects to Extech meters)

Data Storage and Streaming

Storage Media	SD Memory Card
Radiometric Image Format	Standard JPEG, 14-bit measurement data included
Non-Radiometric Image Format	Standard JPEG
Radiometric IR Video Recording	Real-time radiometric recording to SD card (.csq)
Non-Radiometric Video Recording	MPEG-4 to SD card
Radiometric IR Video Streaming	Yes, via USB to PC running FLIR software
Non-Radiometric Video Streaming	MPEG-4 via Wi-Fi or USB

Power System

Battery Type	Rechargeable Li-Ion battery
Battery Operating Time	Approx. 2.5 hours at +25°C (+77°F) ambient
Charging System	In camera (AC adapter or 12 V from vehicle) or 2-bay charger
Power Management	Automatic shutdown and sleep mode

Environmental and Physical Characteristics

Storage Temperature Range	-40°C to +70°C (-40°F to +158°F)
Relative Humidity Range	95% relative humidity (IEC 60068-2-30)
Encapsulation IP Rating	IP 54 (IEC 60529)
Shock Resistance	25 g (IEC 60068-2-29)
Vibration Resistance	2 g (IEC 60068-2-6)
Drop Test	2 m (6.6 ft)
Tripod Mounting	UNC 1/4"-20

Image Performance

UltraMax Super-Resolution	Yes, increases resolution to 1.2 Megapixels (1280 × 960 pixels)
---------------------------	---

Display & Viewfinder

Viewfinder	Built-in LCOS, 800 × 480 pixels
------------	---------------------------------

Laser Pointer

Laser Wavelength	635 nm (red)
Laser Power	1 mW
Laser Classification	Class 2

Distance Measurement

Laser Distance Meter	Yes, distance displayed on screen
----------------------	-----------------------------------

Audio & Annotations

Audio Recording	Built-in microphone and speaker; Bluetooth headset support
-----------------	--

Connectivity

Wi-Fi Connectivity	802.11 b/g/n, peer-to-peer (ad-hoc) or infrastructure (network)
--------------------	---

Navigation & Orientation

Compass Accuracy	±5° (typical)
------------------	---------------

Laser

Laser Distance Meter Accuracy	±2 mm (±0.08 in.)
-------------------------------	-------------------

Power

Battery Charging Time	2.5 hours to 90% capacity
-----------------------	---------------------------

Measurement & Analysis

Color Alarms	Above, Below, Interval, Condensation, Insulation
Automatic Hot/Cold Detection	Auto hot or cold spotmeter and max/min temp box

Display

Viewfinder Resolution	800 × 480 pixels
-----------------------	------------------

Software & Reporting

Instant Report Generation	PDF report generation directly in camera
---------------------------	--

TECHNOLOGY

Uncooled Microbolometer

APPLICATIONS

Electrical inspections, mechanical troubleshooting, building diagnostics, and R&D thermal analysis

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.