

TECHNICAL DATA

Fluke Ti40FT Infrared Camera

Key features

Fluke IR-Fusion Technology

Infrared and Visible light images are fused together - enabling you to view images in a range of modes from full IR to full visible light, and see exactly what you are viewing.

See exactly what you are viewing

Fluke IR-Fusion® technology links a real world visual image with a thermal image. It merges the two images into one, with the possibility to blend between the two images or create picture-in-picture combinations. Alarm limits can be superimposed over the visible light image to exactly pinpoint the components exceeding a specified temperature limit. Both the visual images and thermal images are available for use in reports. This speeds up documentation by reducing the need to look for individual images taken with a separate digital camera. IR Fusion helps to better identify and report suspect components and enable the repair to be done right the first time.

Large, sharp thermal images

Thanks to the largest display (five-inch) available on this type of thermal imager in combination with low-noise VOx sensors, the Fluke IR FlexCam units produce exceptionally high-quality images making even the smallest temperature differences visible. This is comparable with images normally only obtained on far more expensive instruments.

A sharp image in every situation

The innovative 180 ° articulating lens makes it possible to view and capture images in areas with poor accessibility. The display remains clearly visible while viewing over high objects, under a machine or around immovable obstructions. The SmartFocus wheel simplifies getting a stable and sharp image. No need to take your hand off the instrument to turn a focus ring.

Make anomalies visible

Thanks to built-in functions like AutoCapture, the IR FlexCam Thermal Imagers help to troubleshoot difficult problems. The instrument is easily set up to automatically capture only those images where a temperature limit is exceeded. This way, difficult to find intermittent problems can be captured and analyzed quicker by concentrating only on the images containing the anomalies.

Analysis and reporting comes standard

The SmartView™ software (supplied with the unit) includes a complete range of infrared image viewing, analysis, annotation and reporting tools. It even allows for customized reports to accommodate specific company work processes or requirements like multiple image reporting and comparisons. To find out more select SmartView on the side navigation of this page.

Radiometric measurement – the ‘data behind the picture’

Fully radiometric thermal imagers capture and store calibrated temperature data for the matrix of thousands of points that make up a thermal image. This makes it possible to perform detailed analysis and change key parameters like emissivity or temperature range either in the field on the camera or in the office using the PC software.

Product overview: Fluke Ti40FT Infrared Camera

The versatile choice for maintenance and production engineers and technicians

The Fluke Ti4x models feature everything needed for virtually every thermography task. With a 160 x 120 detector and a temperature sensitivity down to 0.08°C (80mK) (NETD) they deliver high resolution images where even the smallest temperature differences can be seen. The units are extremely easy to use through the Windows® CE menu structure and offer an extended troubleshooting feature set to allow on the spot analysis in the field.

The FT models feature the innovative IR-Fusion® technology. IR-Fusion captures a visible light image in addition to the infrared image and takes the mystery out of IR image analysis. It helps to better identify and report suspect components and enable the repair to be done right the first time. To find out more select IR-Fusion on the side navigation of this page.

Typical applications:

- Predictive maintenance – Identify electrical and mechanical problems before they cause failure
- Industrial maintenance – Check whether repairs have been performed successfully
- Quality control – Examine prototypes and refine thermal management designs
- Process monitoring – Real-time observation to ensure efficient and safe operation

Specifications: Fluke Ti40FT Infrared Camera

Specifications		
Imaging performance	Thermal	
	Field of view (FOV)*	20 mm lens 23 ° x 17 ° FOV 10.5 mm lens 42 ° x 32 ° 54 mm lens 9 ° x 6 °
	Spatial resolution (IFOV)*	2.60 mrad
	Min focus distance*	0.15 m
	Thermal sensitivity (NETD)	≤0.09 °C (90 mK) at 30 °C
	Detector data acquisition / Image frequency*	30 Hz/60 Hz
	Focus	SmartFocus; one finger continuous focus
	IR digital zoom	-
	Detector type	160 x 120 Focal Plane Array, Vanadium Oxide (VOx) Uncooled Microbolometer
	Spectral band	8 μm to 14 μm
	Digital image enhancement	Automatic full-time enhanced
	On-camera operating modes	Full thermal or full visual light. Merge thermal-visual images in SmartView software. Picture-in-Picture
	Visible light camera	1280 x 1024 pixels, full color
	Visible light digital zoom	-

Temperature measurement	Calibrated temperature range	Ti40: -20 °C to 350 °C (-4 to 662 °F) in 2 ranges
	Range 1	-20 °C to 100 °C (-4 to 212 °F)
	Range 2	-20 °C to 350 °C (-4 to 662 °F)
	Range 3	-
	Optional - High temperature	Ti40: -
	Range 4	-
	Accuracy	±2°C or 2 % (whichever is greater)
	Measurement modes	Centerpoint, center box (area min/max, average)
	Emissivity correction	0.1 to 1.0 (0.01 increments)
Image presentation	Digital display	5" large high-resolution digital display
	LCD backlight	Sunlight readable color LCD
	Video output	RS170 EIA/NTSC or CCIR/PAL composite video
	Palettes	Grayscale, grayscale inverted, blue red, high contrast, hot metal, ironbow, amber, amber inverted
Optional lenses (only available at time of original purchase)	54 mm telephoto lens	High precision Germanium lens
	Field of view (FOV)	9° horizontal x 6° vertical
	Spatial resolution (IFOV)	0.94 mrad
	Min focus distance	0.6 m
	10.5 mm wide angle lens	High precision Germanium lens
	Field of view (FOV)	42 ° horizontal x 32 ° vertical
	Spatial resolution (IFOV)	4.9 mrad
	Min focus distance	0.3 m
Image and data storage	Storage medium	Compact flash card stores over 1000 IR images (1 GB card standard)
	File formats supported	14 bit measurement data included. Exportable JPEG, BMP, PNG, GIF, TIFF.
Interfaces and software	Interface	Compact flash card reader included
	Software	SmartView; full analysis and reporting software included
Laser	Classification	Class II
	Laser targeting	Laser dot visible on screen when blending thermal and visible image
Controls and adjustments	Set-up controls	Date/time, temperature units C/F, language, scale, LCD intensity (high/normal/low)
	Image controls	Level, span, auto adjust (continuous/manual)
	On-screen indicators	Battery status, target emissivity, background temperature and real time clock

Power, battery life	Battery type	Li-Ion smart battery, rechargeable, field-replaceable
	Battery operating time	3 hours continuous operation (2 hours with IR-Fusion engaged)
	Battery charging	2 bay intelligent charger powered via AC outlet
	AC operation	AC adapter 110/220 VAC, 50/60 Hz (Ti45 only)
	Power saving	Automatic shutdown and sleep modes (user specified)
Environmental and mechanical design	Operating temperature	-10 °C to +50 °C (14 °F to 122 °F)
	Storage temperature	-40 °C to +70 °C (-40 °F to 158 °F)
	Relative humidity	Operating and storage 10% to 95%, non-condensing
	Water and dust resistant	IP54
	Weight (including batteries)	1.95 kg (4.3 lbs)
	Camera size (HxWxD)	162 x 262 x 101 mm (6.5" x 10.5" x 4.0")
Other	Warranty	2 years

7.5 Hz models are available in some geographies. Check with your Fluke sales representative for additional information.

Ordering information

Fluke Ti40FT-20

Fluke Ti40FT Infrared Camera

Includes:

- Heavy duty carrying case
 - 2 rechargeable battery packs
 - Battery charger
 - Video cable
 - 512 MB compact flash card
 - Compact flash card reader and USB cable
 - Neck strap
 - SmartView reporting and analysis software on CD
 - User manual on CD
 - Calibration certificate
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Fluke. *Keeping your world up and running.®*

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