



FLUKE®

Ti40 and Ti45 IR FlexCam® Thermal Imagers

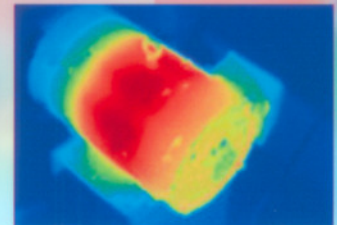
The versatile choice for maintenance and production engineers and technicians.

The Fluke Ti4x models feature everything needed for virtually every thermography task. With a 160 x 120 detector and a temperature sensitivity to 0.08 °C (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.

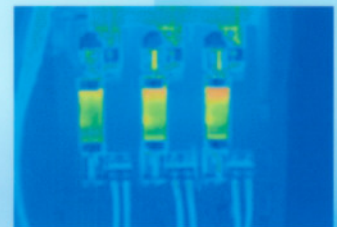


Features

	Ti45FT	Ti45	Ti40FT	Ti40
High resolution, low noise VOx detector for high quality images	160 x 120			
Temperature range to cover broad industrial applications	-20 to +600 °C [-4 to 1112 °F]		-20 to +350 °C [-4 °F to 662 °F]	
High temperature option	1200 °C [2192 °F]			
High thermal sensitivity for viewing even the smallest temperature differences	≤0.08 °C		≤0.09 °C	
180° articulating flexible lens to view images in every situation	●	●	●	●
Choice of 3 interchangeable lenses to cover every application	●	●	●	●
Large 5" high contrast color LCD for a clear picture independent of lighting conditions	●	●	●	●
Fully radiometric for detailed temperature analysis and tracking	●	●	●	●
SmartFocus for best image quality and accurate temperature measurements	●	●	●	●
Windows CE based menu structure for ease of use	●	●	●	●
Personalized instrument set-up for multiple use	●	●	●	●
CompactFlash memory cards to store over 1000 IR images plus fully radiometric temperature data	●	●	●	●
SmartView reporting and analysis software included	●	●	●	●
AutoCapture for making intermittent problems visible	●	●		
On-board analysis functions	●	●		
User defined text annotations for simplified reporting	●	●		
Built-in visible light (digital) camera	●		●	
IR-Fusion blending thermal and visible light images to easily pinpoint suspect components	●		Picture-in-picture only	
IR/Visible Alarm function	●			
Laser pointer for easy targeting	●		●	
Flash and torch light for high quality images in dark environments	●		●	



Motor



3-phase system



Predictive maintenance

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 Ti40	Fluke Ti45	
Imaging performance	Thermal		
	Field of view (FOV)*	23° horizontal x 17° vertical	
	Spatial resolution (IFOV)*	2.60 mrad	
	Min focus distance*	0.15 m	
	Thermal sensitivity (NETD)	<0.08 °C at 30 °C	<0.09 °C at 30 °C
	Detector data acquisition / Image frequency	30 Hz/30 Hz	
	Focus	SmartFocus; one finger continuous focus	
	IR digital zoom	2x	
	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	
	Visual (IR-Fusion models only)		
	On camera operating modes	Full thermal, full visual light or merged thermal-visual images. Picture-in-Picture	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	2x		
Temperature measurement	Calibrated temperature range	-20 °C to 600 °C (-4 °F to 1112 °F) in 3 ranges	-20 °C to 350 °C (-4 °F to 662 °F) in 2 ranges
		Range 1 = -20 °C to 100 °C (-4 °F to 212 °F)	Range 1 = -20 °C to 100 °C (-4 °F to 212 °F)
		Range 2 = -20 °C to 350 °C (32 °F to 662 °F)	Range 2 = -20 °C to 350 °C (32 °F to 662 °F)
		Range 3 = 250 °C to 600 °C (482 °F to 1112 °F)	-
	Optional - High temperature	Up to 1200 °C (2192 °F)	-
		Range 4 = 500 °C to 1200 °C (932 °F to 2192 °F)	-
	Accuracy	±2 °C or 2% (whichever is greater)	
Measurement modes	Centerpoint, center box (area min/max, average), moveable spots/boxes, user defined field/text annotations, isotherms, automatic hot and cold point detection, visible color alarm above and below	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	HST70 EIA/MTSC or CCIR/PAL composite video	
	Palettes	Grayscale, grayscale inverted, blue red, high contrast, hot metal, infrared, amber, amber inverted	
Optional lenses	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 (512MB card standard)	
	File formats supported	14 bit measurement data included. Exportable JPEG, BMP, PCX, PNG, PSD.	
Interfaces and software	Interface	Compact flash card reader included	
	Software	SmartView, Full analysis and reporting software included	
Laser (IR-Fusion models only)	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, open, auto adjust (continuous/manual)	
	On-screen indicators	Battery status, target emissivity, background temperature and real-time clock	
Power	Battery type	Li-Ion smart battery, rechargeable, field-replaceable	
	Battery operating time	3 hours continuous operation (2 hours for models with IR-Fusion)	
	Battery charging	2 bay intelligent charger powered via AC outlet	
	AC operation	AC adapter 110/220 VAC, 50/60 Hz	
	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 101mm (6.5" x 10.5" x 4.0")	
Other	Warranty	2 years	

*standard 20 mm Germanium lens

Included accessories

- Heavy duty carrying case
- 2 rechargeable battery packs
- Battery charger
- AC adapter (for Ti45 only)
- Video cable
- 512 MB compact flash card
- Compact flash card reader and USB cable
- PCMCIA compact flash card reader
- Neck strap
- SmartView reporting and analysis software on CD
- User manual on CD

Ordering information*

- Fluke Ti40-20 IR FlexCam Thermal Imager
- Fluke Ti40FT-20 IR FlexCam Thermal Imager with Fusion
- Fluke Ti45-20 IR FlexCam Thermal Imager
- Fluke Ti45FT-20 IR FlexCam Thermal Imager with Fusion

*For ordering information of optional lenses check the Fluke web

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