



FLUKE®

Ti40 and Ti45 IR FlexCam® Thermal Imagers

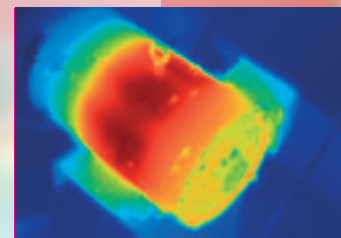
The versatile choice for maintenance and production engineers and technicians.

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.

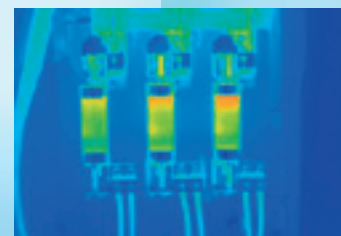


Features

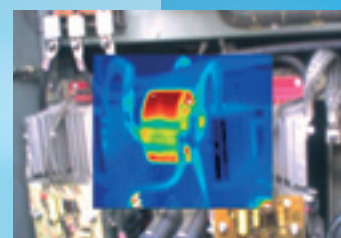
	Ti45FT	Ti45	Ti40FT	Ti40
High resolution, low noise VOx detector for high quality images	160 x 120			
Temperature range to cover broad industrial applications	-20 to +600 °C (-4 to 1112 °F)		-20 to +350 °C (-4 °F to 662 °F)	
High temperature option	1200 °C (2192 °F)			
High thermal sensitivity for viewing 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 Ti45	Fluke Ti40
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
Temperature measurement	Visible light camera	1280 x 1024 pixels, full color	
	Visible light digital zoom	2x	-
	Calibrated temperature range	-20 °C to 600 °C (-4 °F to 1112 °F) in 3 ranges 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 3 = 250 °C to 600 °C (482 °F to 1112 °F)	-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 2 = -20 °C to 350 °C (32 °F to 662 °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	
Optional lenses	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	
	54 mm Telephoto lens	High precision Germanium lens	
	Field of view (FOV)	9° horizontal x 6° vertical	
Image and data storage	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	
Interfaces and software	Min focus distance	0.3 m	
	Storage medium	Compact flash card stores over 1000 IR images (512MB card standard)	
Other	File formats supported	14 bit measurement data included. Exportable JPEG, BMP, PCX, PNG, PSD.	
	Interface	Compact flash card reader included	
Laser (IR-Fusion models only)	Software	SmartView; Full analysis and reporting software included	
	Classification	Class II	
Controls and adjustments	Laser targeting	Laser dot visible on screen when blending thermal and visible image	
	Set-up controls	Date/time, temperature units C/F, language, scale, LCD intensity (high/normal/low)	
	Image controls	Level, span, auto adjust (continuous/manual)	
Power	On-screen indicators	Battery status, target emissivity, background temperature and realtime clock	
	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	-
Environmental and mechanical design	Power saving	Automatic shutdown and sleep modes (user specified)	
	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

Visit the Fluke web site for complete specifications



To find out more about Fluke thermal imagers go to www.fluke.com/thermography or in the United States call **1-800-760-4523**.

Fluke. Keeping your world up and running.™

Fluke Corporation

PO Box 9090, Everett, WA USA 98206

Fluke Europe B.V.

PO Box 1186, 5602 BD Eindhoven, The Netherlands

For more information call:

In the U.S.A. (800) 443-5853 or Fax (425) 446-5116
In Europe/M-East/Africa +31 (0) 40 2675 200 or Fax +31 (0) 40 2675 222
In Canada (800)-36-FLUKE or Fax (905) 890-6866
From other countries +1 (425) 446-5500 or Fax +1 (425) 446-5116
Web access: <http://www.fluke.com>

©2006 Fluke Corporation. All rights reserved.
Printed in U.S.A. 5/2006 2674273 D-US-N Rev A

