



**FLUKE®**

# Ti40 and Ti45 IR FlexCam® Thermal Imagers

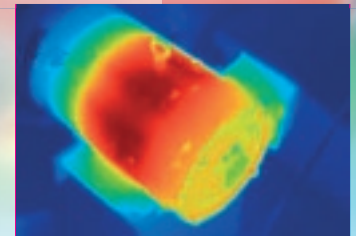
**The versatile choice for maintenance and production engineers and technicians.**

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.

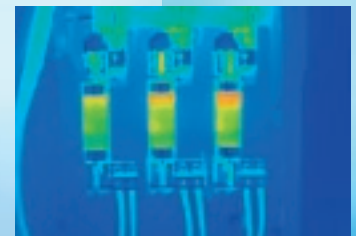


## Features

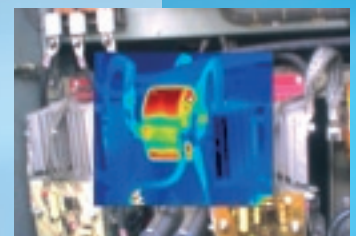
	Ti45FT	Ti45	Ti40FT	Ti40
High resolution, low noise VOx detector for high quality images	160 x 120			
Temperature range to cover broad industrial applications	-20 to +600 °C (-4 to 1112 °F)		-20 to +350 °C (-4 °F to 662 °F)	
High temperature option	1200 °C (2192 °F)			
High thermal sensitivity for viewing 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
<b>Imaging performance</b>	<b>Thermal</b>	
	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		
<b>Visual (IR-Fusion models only)</b>		
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		
<b>Temperature measurement</b>	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)		
<b>Image presentation</b>	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		
<b>Optional lenses</b>	<b>54 mm Telephoto lens</b>	
	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		
<b>10.5 mm wide angle lens</b>		
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		
<b>Image and data storage</b>	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.		
<b>Interfaces and software</b>	Interface	
	Compact flash card reader included	
Software		
SmartView; Full analysis and reporting software included		
<b>Laser (IR-Fusion models only)</b>	Classification	
	Class II	
Laser targeting		
Laser dot visible on screen when blending thermal and visible image		
<b>Controls and adjustments</b>	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 realtime clock		
<b>Power</b>	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)		
<b>Environmental and mechanical design</b>	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")		
<b>Other</b>	Warranty	
	2 years	

\*standard 20 mm Germanium lens



To find out more about Fluke thermal imagers go to [www.fluke.com/thermography](http://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

### 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\*

- |               |                                       |
|---------------|---------------------------------------|
| FLK Ti40-20   | IR FlexCam Thermal Imager             |
| FLK Ti40FT-20 | IR FlexCam Thermal Imager with Fusion |
| FLK Ti45-20   | IR FlexCam Thermal Imager             |
| FLK 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