



**FLUKE®**

# Ti40 and Ti45 IR FlexCam® Thermal Imagers

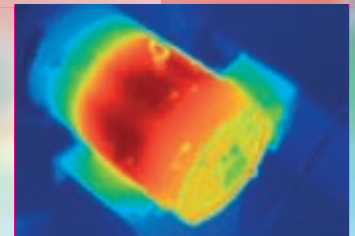
**The versatile choice for maintenance and production engineers and technicians.**

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

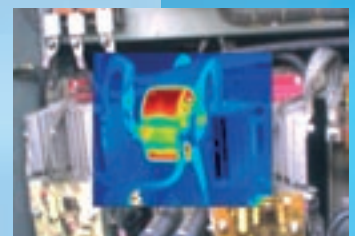
	Ti45FT	Ti45	Ti40FT	Ti40
High resolution, low noise VOx detector for high quality images	160 x 120			
Temperature range to cover broad industrial applications	-20 to +600 °C		-20 to +350 °C	
High temperature option	1200 °C			
High thermal sensitivity for viewing even the smallest temperature differences	≤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	●		PiP 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 in 3 ranges	-20 °C to 350 °C in 2 ranges	
		Range 1 = -20 °C to 100 °C	Range 1 = -20 °C to 100 °C	
		Range 2 = -20 °C to 350 °C	Range 2 = -20 °C to 350 °C	
		Range 3 = 250 °C to 600 °C	-	
	Optional - High temperature	Up to 1200 °C	-	
		Range 4 = 500 °C to 1200 °C	-	
	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		
	Storage temperature	-40 °C to +70 °C		
	Relative humidity	Operating and storage 10% to 95%, non-condensing		
	Water and dust resistant	IP54		
	Weight (including batteries)	1.95 kg		
	Camera size (HxWxD)	162 x 262 x 101mm		
<b>Other</b>	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



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