IR-Fusion™

FLUKE®

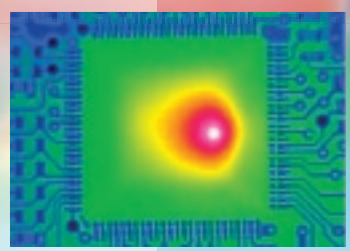
Ti50 and Ti55 IR FlexCam® Thermal Imagers

The professional's choice when demanding the highest sensitivity

Choose the Fluke Ti5x models when you need the best images. They feature 320 x 240 detectors with industry leading thermal sensitivity (≤ 0.05 °C NETD) for high resolution, ultra high-quality images. In addition, with a 60 Hz detector acquisition rate temperatures are displayed live on the large 5-inch color display.

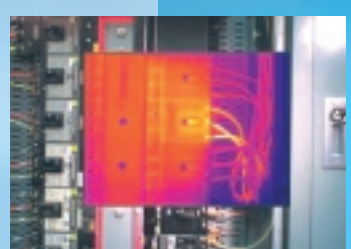
Features

	Ti55FT	Ti55	Ti50FT	Ti50
High resolution, low noise VOx detector for high quality images	320 x 240			
Temperature range to cover broad industrial applications	-20 to +600 °C		-20 to +350 °C	
High thermal sensitivity for viewing even the smallest temperature differences	≤0.05 °C		≤0.07 °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	●		●	
IR/Visible Alarm function	●			
Laser pointer for easy targeting	●		●	
Flash and torch light for high quality images in dark environments	●		●	



Printed circuit board

Power/utilities



Electrical system

Typical applications

- Predictive maintenance – Identify electrical and mechanical problems before they cause failure
- Power/utilities – Real-time analysis of substations, transmission lines and equipment
- Process monitoring – Real-time observation to ensure efficient and safe operation
- Research and development – Quantify heat patterns to improve product designs
- Electronic design – Close up circuit board analysis

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Specifications

		Fluke Ti55	Fluke Ti50
Imaging performance	**Thermal**		
	Field of view (FOV)*	23° horizontal x 17° vertical	
	Spatial resolution (IFOV)*	1.30 mrad	
	Min focus distance*	0.15 m	
	Thermal sensitivity (NETD)	≤0.05 °C at 30 °C	≤0.07 °C at 30 °C
	Detector data acquisition / Image frequency	60 Hz/30 Hz	
	Focus	SmartFocus; one finger continuous focus	
	IR digital zoom	2x, 4x, 8x	2x
	Detector type	320 x 240 Focal Plane Array, Vanadium Oxide (VOx) Uncooled Microbolometer with 25 micron pitch	
	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	
	Visible light camera	1280 x 1024 pixels, full color	
	Visible light digital zoom	2x, 4x, 8x	2x
Temperature measurement	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	-
	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	RS170 EIA/NTSC or CCIR/PAL composite video	
	Palettes	Grayscale, grayscale inverted, blue red, high contrast, hot metal, ironbow, 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)	0.47 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)	2.45 mrad	
	Min focus distance	0.3 m	
Image and data storage	Storage medium	Compact flash card stores over 1000 IR images (512 MB 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, span, auto adjust (continuous/manual)	
	On-screen indicators	Battery status, target emissivity, background temperature and realtime 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	
	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 101 mm	
Other	Warranty	2 years	

*standard 20 mm Germanium lens

Included accessories

Heavy duty carrying case
2 rechargeable battery packs
Battery charger
AC adapter (for Ti55 model 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 Ti50-20	IR FlexCam Thermal Imager
Fluke Ti50FT-20	IR FlexCam Thermal Imager with IR-Fusion
Fluke Ti55-20	IR FlexCam Thermal Imager
Fluke Ti55FT-20	IR FlexCam Thermal Imager with IR-Fusion

*For ordering information of optional lenses check the Fluke web

Visit the Fluke web site for complete specifications

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