



FLUKE®

Ti40 and Ti45 IR FlexCam® Thermal Imagers

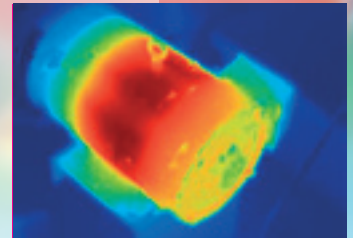
The versatile choice for maintenance and production engineers and technicians.

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.

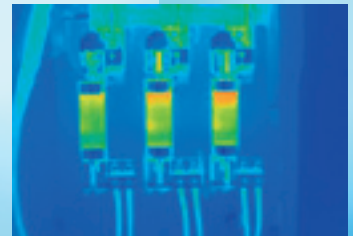


Features

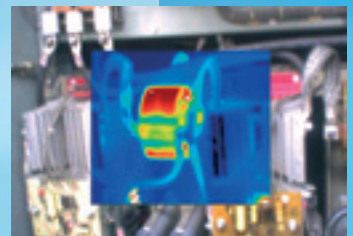
| | Ti45SFT | Ti45 | Ti40FT | Ti40 |
|--|--------------------------------|------|----------------------------------|------|
| High resolution, low noise VOx detector for high quality images | 160 x 120 | | | |
| Temperature range to cover broad industrial applications | -20 to +600 °C (-4 to 1112 °F) | | -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 | | |
| | 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 | 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) | 0.94 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, 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 (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**.

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