



Fluke Ti5xFT and Ti4xFT FlexCam® Thermal Imagers

Technical Data

The experts' choice for problem solving and preventive/predictive maintenance



Features

| | Ti55FT | Ti50FT | Ti45FT | Ti40FT |
|--|--------------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|
| High resolution, low noise VOx detector for high quality images | 320 x 240 | | 160 x 120 | |
| Temperature range to cover broad industrial applications | -20 °C to +600 °C (-4 °F to 1112 °F) | -20 °C to +350 °C (-4 °F to 662 °F) | -20 °C to +600 °C (-4 °F to 1112 °F) | -20 °C 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 | ≤0.05 °C at 30 °C (50 mK) | ≤0.07 °C at 30 °C (70 mK) | ≤0.08 °C at 30 °C (80 mK) | ≤0.09 °C at 30 °C (90 mK) |
| 180 ° articulating flexible lens to view images in every situation | • | • | • | • |
| Choice of 3 interchangeable lenses to cover every application* | • | • | • | • |
| Large 5 inch 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 person 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 (visual) light camera | • | • | • | • |
| IR-Fusion blending thermal and visible light images | • | • | • | • |
| IR/Visible Alarm function | • | • | • | • |
| Laser pointer for easy targeting | • | • | • | • |
| Flash and torch light for high quality images in dark environments | • | • | • | • |

The Fluke Ti5xFT and Ti4xFT models feature everything needed for virtually any thermography task.

All Fluke FlexCam Thermal Imagers come standard with the patent-pending Fluke IR-Fusion® Technology fusing visual (visible light) images with infrared images. SmartView™ IR analysis and reporting software is included with each purchase along with free software upgrades for the life of your product.

The Ti4xFT models feature 160 x 120 detectors and temperature sensitivity (NETD) down to 0.08 °C (80 mK) in the higher end model.

The Ti5xFT models feature 320 x 240 detectors and temperature sensitivity (NETD) down to 0.05 °C (50 mK) in the higher end model.

Choose Fluke FlexCam Thermal Imagers when you need industry leading thermal sensitivity for high resolution, ultra high-quality images.

Typical applications:

- **Troubleshooting**—Pinpointing the location of specific problems in equipment and systems.
- **Preventive/predictive maintenance**—Identify electrical and mechanical problems before they cause failure.
- **Industrial maintenance**—Check whether repairs have been performed correctly.
- **Process monitoring**—Real-time observation to ensure efficient and safe operations.
- **Quality control**—Examine prototypes and refine thermal management designs.
- **Research and development**—Quantify heat patterns to improve product designs (Ti5XFT models).
- **Electronic design**—Circuit board analysis (Ti5XFT models).

*10 mm and 54 mm lenses are optional and are only available at time of initial order.

Detailed specifications

| | Fluke Ti55FT | Fluke Ti50FT | Fluke Ti45FT | Fluke Ti40FT |
|---|---|---|---|---|
| Imaging performance | | | | |
| Field of view (FOV)* | 23° horizontal x 17° vertical | | | |
| Spatial resolution (IFOV)* | 1.30 mrad | | 2.60 mrad | |
| Min focus distance* | 0.15 m (5.9 in) | | | |
| Thermal sensitivity (NETD) | ≤ 0.05 °C at 30 °C (50 mK) | ≤ 0.07 °C at 30 °C (70 mK) | ≤ 0.08 °C at 30 °C (80mK) | ≤ 0.09 °C at 30 °C (90mK) |
| Detector data acquisition/ image frequency | 60 Hz/60 Hz | | 30 Hz/30 Hz | |
| Focus | SmartFocus; one finger continuous focus (manual) | | | |
| IR digital zoom | 2x, 4x, 8x | 2x | 2x | — |
| Detector type | 320 x 240 Focal Plane Array, Vanadium Oxide (VOx) Uncooled Microbolometer | | 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 | | | |
| On camera operating modes | Full thermal, full visual light or merged thermal-visual images. Picture-in-Picture | | 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 | 2x | 2x | — |
| Temperature measurement | | | | |
| Calibrated temperature range | -20 °C to 600 °C (-4 °F to 1112 °F) in three ranges Range one = -20 °C to 100 °C (-4 °F to 212 °F) Range two = -20 °C to 350 °C (32 °F to 662 °F) Range three = 250 °C to 600 °C (482 °F to 1112 °F) | -20 °C to 350 °C (-4 °F to 662 °F) in two ranges Range one = -20 °C to 100 °C (-4 °F to 212 °F) Range two = -20 °C to 350 °C (32 °F to 662 °F) | -20 °C to 600 °C (-4 °F to 1112 °F) in three ranges Range one = -20 °C to 100 °C (-4 °F to 212 °F) Range two = -20 °C to 350 °C (32 °F to 662 °F) Range three = 250 °C to 600 °C (482 °F to 1112 °F) | -20 °C to 350 °C (-4 °F to 662 °F) in two ranges Range one = -20 °C to 100 °C (-4 °F to 212 °F) Range two = -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, automatic hot and cold point detection, visible color alarm above and below | Centerpoint, center box (area min/max, average) | Centerpoint, center box (area min/max, average), moveable spots/boxes, user defined field/text annotations, 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 | 13 cm (5 in) diagonal 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 | | | |
| Optical lenses | | | | |
| 54 mm telephoto lens | High precision Germanium lens Field of view (FOV): 9° horizontal x 6° vertical | | | |
| | Spatial resolution (IFOV): 0.47 mrad | | Spatial resolution (IFOV): 0.94 mrad | |
| | Min focus distance: 0.6 m (1.97 ft) | | | |

General specifications

| | Fluke Ti55FT | Fluke Ti50FT | Fluke Ti45FT | Fluke Ti40FT |
|--|---|--------------|--------------------------------------|--------------|
| Optical lenses (continued) | | | | |
| 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 | | Spatial resolution (IFOV): 4.9 mrad | |
| | Min focus distance: 0.3 m (0.98 ft) | | | |
| 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 Images: bmp, gif, jpg, png, tiff; Data formats: comma separated (csv), tab separated (txt). | | | |
| Interface and software | | | | |
| Interface | Compact flash card reader included | | | |
| Software | SmartView; Full analysis and reporting software included | | | |
| Laser | | | | |
| 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 (two included) | | | |
| Battery operating time | Two hours continuous operation (per battery) | | | |
| Battery charging | Two bay intelligent charger powered via ac outlet | | | |
| Continuous ac operation | AC adapter 110/220 V ac, 50/60 Hz | — | AC adapter 110/220 V ac, 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 lb) | | | |
| Camera size (H x W x D) | 162 mm x 262 mm x 101 mm (6.5 in x 10.5 in x 4.0 in) | | | |
| Other | | | | |
| Warranty | Two-years | | | |

*Standard 20 mm Germanium lens