

TECHNICAL DATA

Ti450, Ti400 and Ti300 Thermal Imagers

The Fluke Professional Series



Focus redefined.

- Capture a clear, accurate image focused throughout the field of view with **MultiSharp™ Focus**. Simply point and shoot—the camera automatically processes a stack of images focused near and far
- Get an instant in-focus image of your designated target. **LaserSharp® Auto Focus**, exclusive to Fluke, uses a built-in laser distance meter that calculates and displays the distance from your designated target with pinpoint accuracy
- Get 4x the pixel data with **SuperResolution**, which captures multiple images and combines them to create a 640 x 480 image (Ti450)
- **Get the context** of the visual and infrared details all in one precisely blended or picture-in-picture image with IR-Fusion® technology
- **See the details you need** with interchangeable smart lenses—2x and 4x telephoto and wide angle—no calibration required

SUPERIOR IMAGE QUALITY

SPATIAL RESOLUTION

Ti450 and Ti400

1.31 mRad

Ti300

1.75 mRad

RESOLUTION

Ti450

320 x 240

SuperResolution mode: 640 x 480

Ti400

320 x 240

Ti300

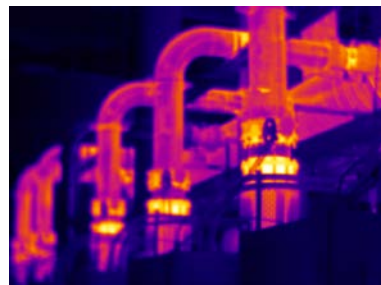
240 x 180

FIELD OF VIEW

Ti450, Ti400, Ti300

24 °H x 17 °V

100% Focused—Every object. Near and far. MultiSharp™ Focus.



Manual Focus



MultiSharp™ Focus, available on the Ti450.

Detailed specifications

| | Ti450 | Ti400 | Ti300 |
|--|--|---------------------------|---------------------------|
| Key features | | | |
| Detector resolution | 320 x 240 (76,800 pixels)—or 640 x 480 with SuperResolution | 320 x 240 (76,800 pixels) | 240 x 180 (43,200 pixels) |
| SuperResolution | Yes, on camera and in software. Captures and combines 4x the data to create a 640 x 480 image | — | — |
| I FOV with standard lens (spatial resolution) | 1.31 mRad, D:S 753:1 | | 1.75 mRad, D:S 565:1 |
| Field of view | 24 °H x 17 °V | | |
| Minimum focus distance | 15 cm (approx. 6 in) | | |
| I FOV with optional 2x telephoto smart lens | 0.65 mRad, D:S 1529:1 | | 0.87 mRad, D:S 1147:1 |
| Field of view | 12 °H x 9 °V | | |
| Minimum focus distance | 45 cm (approx. 18 in) | | |
| IR-Fusion® technology | Picture-in-picture and full screen | | |
| I FOV with optional 4x telephoto smart lens | 0.33 mRad, D:S 2941:1 | | 0.44 mRad, D:S 2208:1 |
| Field of view | 6.0 °H x 4.5 °V | | |
| Minimum focus distance | 1.5 m (approx. 5 ft) | | |
| IR-Fusion® technology | Picture-in-picture and full screen | | |
| I FOV with optional wide-angle smart lens | 2.62 mRad, D:S 377:1 | | 3.49 mRad, D:S 283:1 |
| Field of view | 46 °H x 34 °V | | |
| Minimum focus distance | 15 cm (approx. 6 in) | | |
| IR-Fusion® technology | Full screen | | |
| MultiSharp™ Focus | Yes, focused near and far, throughout the field of view | — | — |
| LaserSharp® Auto Focus | Yes, for consistently in-focus images. Every. Single. Time. | | |
| Laser distance meter | Yes, calculates distance to the target for precisely focused images and displays distance on screen | | |
| Advanced manual focus | Yes | | |
| IR-Fusion® technology | Yes, adds the context of the visible details to your infrared image | | |
| AutoBlend™ mode | Min, Mid, Max IR plus full visible on camera; continuously variable in software | | |
| Picture-In-Picture (PIP) | Yes | | |
| Ruggedized touchscreen display | 3.5 inch (landscape) 640 x 480 LCD | | |
| Rugged, ergonomic design for one-handed use | Yes | | |
| Thermal sensitivity (NETD) | ≤ 0.05 °C at 30 °C target temp (50 mK) | | |
| Filter mode (NETD improvement) | ≤ 0.03 °C at 30 °C target temp (30 mK) | — | — |
| Level and span | Smooth auto and manual scaling | | |
| Fast auto toggle between manual and auto modes | Yes | | |
| Fast auto-rescale in manual mode | Yes | | |
| Minimum span (in manual mode) | 2.0 °C (3.6 °F) | | |
| Minimum span (in auto mode) | 3.0 °C (5.4 °F) | | |
| Built-in digital camera (visible light) | 5MP | | |
| Frame rate | 60 Hz or 9 Hz versions | | |
| Laser pointer | Yes | | |
| LED light (torch) | Yes | | |
| Digital zoom | 2x and 4x | — | — |
| Data storage and image capture | | | |
| Extensive memory options | Removable 4 GB micro SD memory card, 4 GB internal flash memory, save to USB flash drive capability | | |
| Image capture, review, save mechanism | One-handed image capture, review, and save capability | | |
| Image file formats | Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2); no analysis software required for non-radiometric (.bmp, .jpg and .avi) files | | |

Detailed specifications

| | Ti450 | Ti400 | Ti300 |
|---|---|-------|--|
| Memory review | Thumbnail and full screen review | | |
| Software | SmartView® software—full analysis and reporting software | | |
| Export file formats with SmartView® software | Bitmap (.bmp), GIF, JPEG, PNG, TIFF | | |
| Voice annotation | 60 seconds maximum recording time per image; reviewable playback on camera | | |
| IR-PhotoNotes™ | Yes (5 images) | | |
| Text annotation | Yes | | |
| Video recording | Standard and radiometric | | |
| File formats video | Non-radiometric (MPEG - encoded .AVI) and fully-radiometric (.IS3) | | |
| Streaming video (remote display) | Yes, see the live stream of the camera display on your PC via USB or TV monitor via HDMI | | |
| Remote control operation | Yes, through SmartView® software | | — |
| Auto capture (temperature and interval) | Yes | | |
| Battery | | | |
| Batteries (field-replaceable, rechargeable) | Two lithium ion smart battery packs with five-segment LED display to show charge level | | |
| Battery life | 3-4 hours per battery (*Actual life varies depending on settings and usage) | | |
| Battery charge time | 2.5 hours to full charge | | |
| Battery charging system | Two-bay battery charger or in-imager charging. Optional 12 V automotive charging adapter | | |
| AC operation | AC operation with included power supply (100 V AC to 240 V AC, 50/60 Hz) | | |
| Power saving | User selectable sleep and power off modes | | |
| Temperature measurement | | | |
| Temperature measurement range (not calibrated below -10 °C) | -20 °C to +1200 °C (-4 °F to +2192 °F) | | -20 °C to +650 °C (-4 °F to +1202 °F) |
| Accuracy | ± 2 °C or 2 % (at 25 °C nominal, whichever is greater) | | |
| On-screen emissivity correction | Yes (both value and table) | | |
| On-screen reflected background temperature compensation | Yes | | |
| On-screen transmission correction | Yes | | |
| Color palettes | | | |
| Standard palettes | 8: Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted | | |
| Ultra Contrast™ palettes | 8: Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra | | |
| General specifications | | | |
| Color alarms (temperature alarms) | High temperature, low temperature, and isotherms (within range) | | |
| Infrared spectral band | 7.5 μm to 14 μm (long wave) | | |
| Operating temperature | -10 °C to +50 °C (14 °F to 122 °F) | | |
| Storage temperature | -20 °C to +50 °C (-4 °F to 122 °F) without batteries | | |
| Relative humidity | 10 % to 95% non-condensing | | |
| Center-point temperature measurement | Yes | | |
| Spot temperature | Hot and cold spot markers | | |
| User-definable spot markers | 3 user-definable spot markers | | |
| Center box | Expandable-contractible measurement box with MIN-MAX-AVG temp display | | |
| Safety | IEC 61010-1: Overvoltage category II, Pollution Degree 2 | | |
| Electromagnetic compatibility | IEC 61326-1: Basic EM environment. CISPR 11: Group 1, Class A | | |
| Australian RCM | IEC 61326-1 | | |
| US FCC | CFR 47, Part 15 Subpart B | | |
| Vibration | 0.03 g2/Hz (3.8 g), 2.5 g IEC 68-2-6 | | |
| Shock | 25 g, IEC 68-2-29 | | |
| Drop | Engineered to withstand 2 meter (6.5 feet) drop with standard lens | | |
| Size (H x W x L) | 27.7 cm x 12.2 cm x 16.7 cm (10.9 in x 4.8 in x 6.5 in) | | |
| Weight (battery included) | 1.04 kg (2.3 lb) | | |
| Enclosure rating | IEC 60529: IP54 (protected against dust, limited ingress; protection against water spray from all directions) | | |
| Warranty | Two-years (standard), extended warranties are available | | |
| Recommended calibration cycle | Two-years (assumes normal operation and normal aging) | | |
| Supported languages | Czech, Dutch, English, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish | | |

Ordering information

FLK-Ti450 60Hz Thermal Imager
 FLK-Ti450 9Hz Thermal Imager
 FLK-Ti400 60Hz Thermal Imager
 FLK-Ti400 9Hz Thermal Imager
 FLK-Ti300 60Hz Thermal Imager
 FLK-Ti300 9Hz Thermal Imager

Included

Thermal Imager with standard infrared lens; AC power supply and battery pack charger (including universal AC adapters); two rugged lithium ion smart battery packs; USB cable; HDMI video cable; 4 GB micro SD card; rugged, hard carrying case; soft transport bag and adjustable hand strap. **Available by free download:** SmartView® desktop software and user manual.

Optional accessories

FLK-LENS/TELE2 Infrared Telephoto Lens
 (2X magnification)
 FLK-LENS/4XTELE2 Infrared Telephoto Lens
 (4X magnification)
 FLK-LENS/WIDE2 Infrared Wide Angle Lens
 TI-CAR-CHARGER Car Charger
 FLK-TI-VISOR3 Sun Visor
 BOOK-ITP Introduction to Thermography Principles Book
 TI-TRIPOD3 Tripod Mounting Accessory
 FLK-TI-SBP3 Additional Smart Battery
 FLK-TI-SBC3B Additional Smart Battery Charger

Visit www.fluke.com to get complete details on these products or ask your local Fluke sales representative.

RF connection time (binding time) may take up to 1 minute.



The Expert Series

Go expert with the Fluke TiX560, TiX520 or TiX500, and get maximum flexibility with an articulating lens that rotates a full 240 degrees and a 5.7 inch touchscreen LCD. Includes in-field analysis and post-capture image processing on camera, along with other expert-level features and more lens options.



Fluke. *Keeping your world up and running.*®

Fluke Europe B.V.
 P.O. Box 1186
 5602 BD Eindhoven
 The Netherlands
 Web: www.fluke.co.uk

For more information call:
 In Europe/M-East/Africa
 +31 (0)40 267 5100 or
 Fax +31 (0)40 267 5222

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Fluke (UK) Ltd.
 52 Hurricane Way
 Norwich, Norfolk
 NR6 6JB
 United Kingdom
 Tel.: +44 (0) 20 7942 0700
 Fax: +44 (0) 20 7942 0701
 E-mail: industrial@uk.fluke.nl
 Web: www.fluke.co.uk

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 2/2016 6003108g-uken