

# Ti400, Ti300 and Ti200 Advanced Performance Infrared Cameras

FLUKE®

## Technical Data

A new generation of tools with  
next generation performance.

This trio of new Fluke infrared cameras is equipped with LaserSharp™ Auto Focus. Yes, there are other auto focus systems on the market but Fluke took it one step further so you get in-focused images, Every. Single. Time. Every infrared camera user knows that focus is the single most important thing to ensure when conducting an infrared inspection. Without an in-focus image temperature measurements may not be accurate and it's much easier to miss a problem. LaserSharp auto focus tells you exactly where you are focusing. It uses a laser to calculate the distance to your target before it focuses. Place the red laser dot on the object you are inspecting, then pull and release the trigger for a perfect in-focus image.

- Capture up to five additional measurements with CNX™ Wireless System for more complete analysis and reporting\*
- Detect and communicate issues faster with patented Fluke IR-Fusion® technology with AutoBlend™ mode
- Faster communication with wireless image transfer directly to your PC, Apple® iPhone® or iPad®
- One-handed, easy-to-use user interface
- Ruggedized high resolution 640x480 capacitive touch screen for quick menu navigation
- Capture additional digital images to show location or additional site details with IR-PhotoNotes™ Annotation System
- Standard and radiometric video recording\*
- Streaming video (USB and HDMI)
- Text\* and voice recording and annotation gets additional details saved with the image file
- Optional interchangeable lenses for greater flexibility in additional applications
- High-temperature measurement (up to 1200 °C on the Ti400)
- Included SmartView® and SmartView Mobile App Analysis and Reporting Software

*\*Coming soon via firmware update.  
Users notified via SmartView software when available.*

New



HDMI™



Announcing  
the new  
SmartView®  
Mobile App

Bring your office to your inspection site with the SmartView Mobile App. Create an inspection report on site and communicate directly to your client or manager via your Apple® iPhone® or iPad®.

**Optimize:** Adjust the image to present problems in the most effective way.

**Analyze:** Use markers and other tools to quantify the severity of problems.

**Communicate:** Share inspection results by emailing images or reports to:

- Plan next steps or gain approval for work done before you even leave the job site
- If needed, get assistance analyzing the problem

Fluke SmartView Mobile will increase the return on your infrared camera investment.

*It's not just about working faster – it's about working smarter.*

## Detailed specifications

|                                                                      | Ti400                                                                                                                                             | Ti300                                                        | Ti200                                                        |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|
| Temperature                                                          |                                                                                                                                                   |                                                              |                                                              |
| 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)                        |                                                              |
| Temperature measurement accuracy                                     | ± 2 °C or 2 % (at 25 °C nominal, whichever is greater)                                                                                            |                                                              |                                                              |
| On-screen emissivity correction                                      | Yes (by number and table)                                                                                                                         |                                                              |                                                              |
| On-screen reflected background temperature compensation              | Yes                                                                                                                                               |                                                              |                                                              |
| On-screen transmission correction                                    | Yes                                                                                                                                               |                                                              |                                                              |
| Imaging performance                                                  |                                                                                                                                                   |                                                              |                                                              |
| Image capture frequency                                              | 9 Hz refresh rate or 60 Hz refresh rate depending upon model variation                                                                            |                                                              |                                                              |
| Detector type                                                        | Focal Plane Array, uncooled microbolometer, 320 x 240 pixels                                                                                      | Focal Plane Array, uncooled microbolometer, 240 X 180 pixels | Focal Plane Array, uncooled microbolometer, 200 X 150 pixels |
| Thermal sensitivity (NETD)                                           | ≤ 0.05 °C at 30 °C target temp (50 mK)                                                                                                            |                                                              | ≤ 0.075 °C at 30 °C target temp (75 mK)                      |
| Total pixels                                                         | 76,800                                                                                                                                            | 43,200                                                       | 30,000                                                       |
| Infrared spectral band                                               | 7.5 μm to 14 μm (long wave)                                                                                                                       |                                                              |                                                              |
| Visual (visible light) camera                                        | Industrial performance 5.0 megapixel                                                                                                              |                                                              |                                                              |
| Standard infrared lens type                                          |                                                                                                                                                   |                                                              |                                                              |
| Field of view                                                        | 24 ° x 17 °                                                                                                                                       |                                                              |                                                              |
| Spatial resolution (IFOV)                                            | 1.31 mRad                                                                                                                                         | 1.75 mRad                                                    | 2.09 mRad                                                    |
| Minimum focus distance                                               | 15 cm (approx. 6 in)                                                                                                                              |                                                              |                                                              |
| Optional telephoto infrared lens type, available soon                |                                                                                                                                                   |                                                              |                                                              |
| Field of view                                                        | 12 ° x 9 °                                                                                                                                        |                                                              |                                                              |
| Spatial resolution (IFOV)                                            | 0.65 mRad                                                                                                                                         | 0.87 mRad                                                    | 1.05 mRad                                                    |
| Minimum focus distance                                               | 45 cm (approx. 18 in)                                                                                                                             |                                                              |                                                              |
| Optional wide-angle infrared lens type, available soon               |                                                                                                                                                   |                                                              |                                                              |
| Field of view                                                        | 46 ° x 34 °                                                                                                                                       |                                                              |                                                              |
| Spatial resolution (IFOV)                                            | 2.62 mRad                                                                                                                                         | 3.49 mRad                                                    | 4.19 mRad                                                    |
| Minimum focus distance                                               | 15 cm (approx. 6 in)                                                                                                                              |                                                              |                                                              |
| Focus mechanism                                                      |                                                                                                                                                   |                                                              |                                                              |
| LaserSharp™ Auto Focus System                                        | Yes                                                                                                                                               |                                                              |                                                              |
| Advanced Manual Focus                                                | Yes                                                                                                                                               |                                                              |                                                              |
| Image presentation                                                   |                                                                                                                                                   |                                                              |                                                              |
| Palettes                                                             |                                                                                                                                                   |                                                              |                                                              |
| Standard                                                             | Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted                                                 |                                                              |                                                              |
| Ultra Contrast™                                                      | Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra |                                                              |                                                              |
| Level and span                                                       | Smooth auto-scaling and manual scaling of level and span                                                                                          |                                                              |                                                              |
| 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)                                                                                                                                   |                                                              |                                                              |
| IR-Fusion® information                                               |                                                                                                                                                   |                                                              |                                                              |
| Picture-In-Picture (PIP)                                             | Yes                                                                                                                                               |                                                              |                                                              |
| Full screen infrared                                                 | Yes                                                                                                                                               |                                                              |                                                              |
| AutoBlend™ mode                                                      | Yes                                                                                                                                               |                                                              |                                                              |
| Color alarms (temperature alarms)                                    | High-temperature , low-temperature, and isotherm (user-selectable)                                                                                |                                                              |                                                              |
| Image capture and data storage                                       |                                                                                                                                                   |                                                              |                                                              |
| Image capture, review, save mechanism                                | One-handed image capture, review, and save capability                                                                                             |                                                              |                                                              |
| Storage medium                                                       | Micro SD Memory Card, on-board flash memory, save-to-USB capability, direct download via USB-to-PC connection                                     |                                                              |                                                              |
| File formats                                                         | Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2) Video*: non-radiometric (MPEG - encoded .AVI) and fully-radiometric (.IS3)          |                                                              |                                                              |
|                                                                      | No analysis software required for non-radiometric (.bmp, .jpg and .avi*) files                                                                    |                                                              |                                                              |
| Export file formats w/SmartView® software                            | BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF                                                                                           |                                                              |                                                              |
| Memory review                                                        | Thumbnail view navigation and review selection                                                                                                    |                                                              |                                                              |
| Other time-saving and productivity features                          |                                                                                                                                                   |                                                              |                                                              |
| Voice annotation                                                     | 60 seconds maximum recording time per image; reviewable playback on imager                                                                        |                                                              |                                                              |
| IR-PhotoNotes™                                                       | Yes                                                                                                                                               |                                                              |                                                              |
| Wi-Fi connectivity                                                   | Yes, to PC, iPhone®, iPad® and WiFi to LAN*                                                                                                       |                                                              |                                                              |
| Text annotation*                                                     | Yes                                                                                                                                               |                                                              |                                                              |
| Video recording*                                                     | Standard and Radiometric                                                                                                                          |                                                              |                                                              |
| Streaming Video                                                      | Via USB to PC and HDMI to HDMI compatible screen                                                                                                  |                                                              |                                                              |
| CNX™ Wireless System*                                                | Yes*                                                                                                                                              |                                                              |                                                              |
| Cardinal Compass*                                                    | Yes*                                                                                                                                              |                                                              |                                                              |
| GPS coordinates and recording                                        | Yes                                                                                                                                               |                                                              |                                                              |
| Auto capture (temperature and interval)*                             | Yes*                                                                                                                                              |                                                              |                                                              |
| Remote control and operation (for special and advanced applications) | Yes                                                                                                                                               | No                                                           | No                                                           |

\* Coming soon via firmware update. Users notified via SmartView software when available.

## General specifications

|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating temperature</b>                       | -10 °C to +50 °C (14 °F to 122 °F)                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Storage temperature</b>                         | -20 °C to +50 °C (-4 °F to 122 °F) without batteries                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Relative humidity</b>                           | 10 % to 95 % non-condensing                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Ruggedized Touchscreen Display (Capacitive)</b> | 8.9 cm (3.5 in) diagonal landscape color VGA (640 x 480) LCD with backlight                                                                                                                                                                                                                                                                                                                                                     |
| <b>Controls and adjustments</b>                    | User selectable temperature scale (°C/°F)<br>Language selection<br>Time/Date set<br>Emissivity selection<br>Reflected background temperature compensation<br>Transmission correction<br>User selectable hot spot and cold spot, and center point on the image<br>Expandable-contractable Measurement Box with MIN-AVG-MAX temp<br>Color alarms<br>User selectable backlight setting<br>Graphical information display preference |
| <b>Software</b>                                    | SmartView® and SmartView Mobile App - full analysis and reporting software included                                                                                                                                                                                                                                                                                                                                             |
| <b>Batteries</b>                                   | Two lithium ion rechargeable smart battery packs with five-segment LED display to show charge level, all models                                                                                                                                                                                                                                                                                                                 |
| <b>Battery life</b>                                | Four+ hours continuous use per battery pack (assumes 50 % brightness of LCD and average usage)                                                                                                                                                                                                                                                                                                                                  |
| <b>Battery charge time</b>                         | 2.5 hours to full charge                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>AC battery charging</b>                         | Two-bay ac battery charger (110 V ac to 220 V ac, 50/60 Hz) (included), or in-imager charging. AC mains adapters included. Optional 12 V automotive charging adapter. All models                                                                                                                                                                                                                                                |
| <b>AC operation</b>                                | AC operation with included power supply (110 V ac to 220 V ac, 50/60 Hz). AC mains adapters included.                                                                                                                                                                                                                                                                                                                           |
| <b>Power saving</b>                                | User selectable sleep and power off modes                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Safety standards</b>                            | UL 61010-1:2012 CAN/CSA-C22.2 No.61010-1-12 IEC 61010-1 3rd Edition (2010)                                                                                                                                                                                                                                                                                                                                                      |
| <b>Electromagnetic compatibility</b>               | EN 61326-1:2006 IEC 61326-1:2005                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>C Tick</b>                                      | IEC/EN 61326-1                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>US FCC</b>                                      | CFR 47, Part 15 Subpart B Class B                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Vibration</b>                                   | 0.03 g2/Hz (3.8 grms), 2.5g IEC 68-2-6                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Shock</b>                                       | 25 g, IEC 68-2-29                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Drop</b>                                        | Engineered to withstand 2 meter (6.5 feet) with standard lens                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Size (H x W x L)</b>                            | 27.7 cm x 12.2 cm x 16.7 cm (10.9 in x 4.8 in x 6.5 in)                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Weight (battery included)</b>                   | 1.04 Kg (2.3 lb)                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Enclosure rating</b>                            | IP54 (protected against dust, limited ingress; protection against water spray from all directions)                                                                                                                                                                                                                                                                                                                              |
| <b>Warranty</b>                                    | Two-years (standard), extended warranties are available.                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Recommended calibration cycle</b>               | Two-years (assumes normal operation and normal aging)                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Supported Languages</b>                         | Czech, Dutch, English, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish                                                                                                                                                                                                                                       |

## Ordering information

**FLK-Ti400 9 Hz** Thermal Imager, 9 Hz  
**FLK-Ti400 60 Hz** Thermal Imager, 60 Hz  
**FLK-Ti300 9 Hz** Thermal Imager, 9 Hz  
**FLK-Ti300 60 Hz** Thermal Imager, 60 Hz  
**FLK-Ti200 9 Hz** Thermal Imager, 9 Hz  
**FLK-Ti200 60 Hz** Thermal Imager, 60 Hz

### Included

Thermal imager with standard infrared lens; ac power supply and battery pack charger (including mains adapters); two, rugged lithium ion smart battery packs; Micro SD memory card with SD adapter; 3m USB cable; 3m HDMI video cable; SmartView® software with free software upgrades for life; rugged, hard carrying case; soft transport bag; adjustable hand strap; printed users manual (five languages); CD user manual; warranty registration card.

### Optional accessories

**FLK-LENS/TELE2** Telephoto infrared lens (2X magnification)  
**FLK-LENS/WIDE2** Wide-angle infrared lens  
**TI-CAR-CHARGER** Thermal imager vehicle charger  
**FLK-TI-VISOR3** Thermal imager visor  
**BOOK-ITP** Introduction to Thermography Principles book  
**TI-TRIPOD3** Tripod mounting base accessory

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