TECHNICAL DATA

# TiX580, TiX560, TiX520 and TiX500 Infrared Cameras

## The Fluke Expert Series

### Fluke Connect® compatible

### Tablet-sized screen. More details. Faster decisions.

- 5.7-inch screen provides 150 % more viewing area than a standard 3.5-inch screen

- The ergonomic design and neck strap make long inspection days a lot easier

- Easily maneuver over, under and around objects with the 240° rotating screen while viewing the screen at a comfortable angle, unlike standard pistol grip cameras

- Eliminate potential for mis-diagnosis with automatically focused images throughout your field of view with MultiSharp™ Focus

- Get an instant in-focus image of your designated target with LaserSharp® Auto Focus

- Get 4x the pixel data with SuperResolution, which captures multiple images and combines them to create a 1280 x 960 image on the TiX580 and 640 x 480 images on the TiX560 and TiX520

- MATLAB® and LabVIEW® software compatibility allows users to integrate camera data, infrared video and infrared images to support R&D analysis

- Save time–wirelessly sync images directly from your camera to the Fluke Connect® system, and attach to an asset record or work order. Make faster decisions by accessing inspection measurements from anywhere. Team members can instantly see the same data, at the inspection site and the office.

- **Included Fluke Connect® SmartView® desktop software:** Optimize thermal images, perform analytics, generate quick, customizable, robust reports and export images to the format of your choice in the cloud

## PREMIUM IMAGE QUALITY

### SPATIAL RESOLUTION
**TiX580**
*0.93 mRad*
**TiX560, TiX520 and TiX500**
*1.31 mRad*

### RESOLUTION
**TiX580**
*640 x 480*
*SuperResolution mode: 1280 x 960*

**TiX560, TiX520 and TiX500**
*320 x 240*
*SuperResolution mode: 640 x 480*

### THERMAL SENSITIVITY (NETD)*
**TiX580**
*≤ 0.5 °C at 30 °C target temp (50 mK)*
**TiX560**
*≤ 0.03 °C at 30 °C target temp (30 mK)*
**TiX520**
*≤ 0.04 °C at 30 °C target temp (40 mK)*

### TEMPERATURE RANGE
**TiX580**
*-20 °C to +800 °C (-4 °F to + 1472 °C)*
**TiX560**
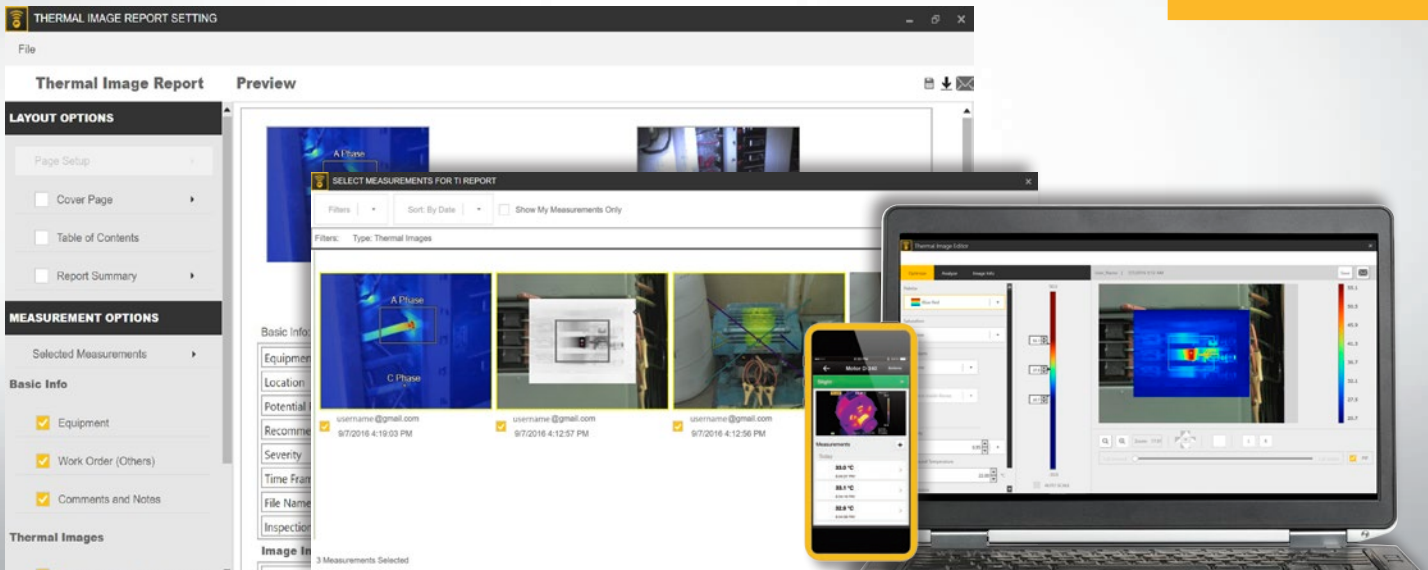*-20 °C to +1200 °C (-4 °F to +2192 °F)*
**TiX520**
*-20 °C to +850 °C (-4 °F to +1562 °F)*
**TiX500**
*-20 °C to +650 °C (-4 °F to +1202 °F)*

*Best possible

## Powerful, new, easy-to-use Fluke Connect® SmartView® desktop software.

Now available, a comprehensive and connected software platform that represents the future of integrated equipment maintenance, monitoring, analysis and reporting. It's easier than ever to optimize thermal images, perform analytics, generate quick, customizable, robust reports, and export images to the format of your choice in the cloud. And you will be able to integrate with Fluke Connect—the largest integrated system of maintenance software and tools in the world.

• Modern visual design
• Intuitive navigation—easier to learn, easier and faster to work in
• Simplified work flows
• Simplified reporting workflow and better report templates
• Fluke Connect Cloud storage

Fluke Connect SmartView® desktop software is included with your camera purchase.

Download at **fluke.com/FlukeConnectTI**

# Detailed specifications

| | TiX580 | TiX560 | TiX520 | TiX500 |
|---|---|---|---|---|
| **Key Features** | | | | |
| Detector resolution | 640 x 480 (307,200 pixels) | 320 x 240 (76,800 pixels) | | |
| SuperResolution | Yes, in software. Captures and combines 4x the data to create a 1280 x 960 image | Yes, on camera and in software. Captures and combines 4x the data to create a 640 x 480 image | | |
| **IFOV with standard lens (spatial resolution)** | 0.93 mRad, D:S 1065:1 | 1.31 mRad, D:S 753:1 | | |
| Field of view | 34 °H x 24 °V | 24 °H x 17 °V | | |
| Minimum focus distance | 15 cm (approx. 6 in) | | | |
| 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 | | | |
| **Wireless connectivity** | Yes, to PC, iPhone® and iPad® (iOS 4s and later), Android™ 4.3 and up, and WiFi to LAN (where available) | | | |
| Fluke Connect® app compatible | Yes*, connect your camera to your smartphone, and images taken automatically upload to the Fluke Connect app for saving and sharing | | | |
| Fluke Connect Assets optional software | Yes*, assign images to assets and create work orders. Easily compare measurement types in one location | | | |
| Fluke Connect Instant Upload | Yes*, connect your camera to your building's WiFi network, and images taken automatically upload to the Fluke Connect system for viewing on your smartphone or PC | | | |
| Fluke Connect tool compatible | Yes*, connects wirelessly to select Fluke Connect enabled tools and displays measurements on camera screen | | | |
| **IR-Fusion® technology** | Yes, adds the context of the visible details to your infrared image | | | |
| AutoBlend™ mode | Continuously variable | 100 %, 75 %, 50 %, 25 % IR plus full visible on camera | | |
| Picture-In-Picture (PIP) | 100 %, 75 %, 50 %, 25 % IR | | | |
| Continuous AutoBlend™ | Set AutoBlend™ level across continuum | — | | |
| Touchscreen display (capacitive) | 5.7 inch (14.4 cm) landscape 640 x 480 LCD | | | |
| Rugged, ergonomic design | 240 ° rotatable (articulating) lens | | | |
| Thermal sensitivity (NETD)** | ≤ 0.05 °C at 30 °C target temp (50 mK) | ≤ 0.03 °C at 30 °C target temp (30 mK) | ≤ 0.04 °C at 30 °C target temp (40 mK) | ≤ 0.05 °C at 30 °C target temp (50 mK) |
| **Level and span** | Smooth auto and manual scaling | | | |
| Touchscreen adjustable level/span | Yes. Span and level can be easily and quickly set by simply touching the screen | | | |
| 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, 4x, 8x | 2x, 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, upload to Fluke Cloud for permanent storage. | | | |
| Post-capture image editing (on camera) | Yes, edit and analyze captured images on camera | | | |



*Fluke Connect® SmartView® analysis and reporting software is available in all countries but Fluke Connect system is not. Please check availability with your authorized Fluke distributor.
**Best possible

| | TiX580 | TiX560 | TiX520 | TiX500 |
|---|---|---|---|---|
| **Data storage and image capture (continued)** | | | | |
| Image file formats | Non-radiometric (.bmp, .jpeg), or fully radiometric (.is2); no analysis software required for non-radiometric (.bmp, .jpg) files | | | |
| Memory review | Thumbnail and full screen review | | | |
| Software | Fluke Connect® SmartView® full analysis and reporting software with access to the Fluke Connect system* | | | |
| Export file formats with Fluke Connect® SmartView® software | Bitmap (.bmp), GIF, JPEG, PNG, TIFF | | | |
| Voice annotation | 60 seconds maximum recording time per image; reviewable playback on camera; Bluetooth headset provided** | | | |
| IR-PhotoNotes™ | Yes (5 images) | | | |
| Advanced text annotation | Yes. Including standard shortcuts as well as user programmable options | | | |
| Video recording | Standard and radiometric | | | |
| Video file formats | Non-radiometric (MPEG - encoded .avi) and fully radiometric (.is3) | | | |
| Remote display viewing | Yes, see the live stream of the camera display on your PC, smartphone, or TV monitor. Via USB, WiFi hotspot, or WiFi network to Fluke Connect software on a PC; via WiFi hotspot to the Fluke Connect app on a smartphone*; or via HDMI to a TV monitor | | | |
| Remote control operation | Yes, through Fluke Connect SmartView® desktop software or Fluke Connect mobile app* | | — | |
| Auto capture (temperature and interval) | Yes | | | |
| MATLAB® and LabVIEW® tool boxes | Integrate camera data, infrared video and images into these software platforms to support R&D analysis | | — | |
| **Battery** | | | | |
| Batteries (field-replaceable, rechargeable) | Two lithium ion smart battery packs with five-segment LED display to show charge level | | | |
| Battery life | 2-3 hours per battery (Actual life varies depending on settings and usage) | 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 +800 °C (–4 °F to +1472 °F) | –20 °C to +1200 °C (–4 °F to +2192 °F) | –20 °C to +850 °C (–4 °F to +1562 °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 | | | |
| Live line marker | 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) | | | |
| Temperature | Operating: –10 °C to +50 °C (14 °F to 122 °F); Storage: –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, individually enabled | | | |
| 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 grms), 2.5g IEC 68-2-6 | | | |
| Shock/Drop | 25 g, IEC 68-2-29/Engineered to withstand 1 meter (3.3 feet) drop with standard lens | | | |
| Size (H x W x L)/Weight (battery included) | 27.3 cm x 15.9 cm x 9.7 cm (10.8 in x 6.3 in x 3.8 in)/1.54 kg (3.4 lb) | | | |
| Enclosure rating | IEC 60529: IP54 (protected against dust, limited ingress; protection against water spray from all directions) | | | |
| Warranty/Calibration cycle | Two-years (standard), extended warranties are available/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 | | | |

*Fluke Connect® SmartView® analysis and reporting software is available in all countries but Fluke Connect system is not.
Please check availability with your authorized Fluke distributor.

**Bluetooth not available in all countries

## Ordering information

**FLK-TiX580 60Hz** Infrared Camera
**FLK-TiX580 9Hz** Infrared Camera
**FLK-TiX560 60Hz** Infrared Camera
**FLK-TiX560 9Hz** Infrared Camera
**FLK-TiX520 60Hz** Infrared Camera
**FLK-TiX520 9Hz** Infrared Camera
**FLK-TiX500 60Hz** Infrared Camera
**FLK-TiX500 9Hz** Infrared Camera

### Included with product
Infrared camera 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; rugged, hard carrying case; adjustable neck and hand strap; bluetooth headset (where available). **Available by free download:** Fluke Connect® SmartView® desktop software and user manual

### Kits
**FLK-TIX560/T2 60HZ** Infrared Camera, Tele2 Infrared 2x Telephoto Lens
**FLK-TIX560/T2 9HZ** Infrared Camera, Tele2 Infrared 2x Telephoto Lens
**FLK-TIX560/W2 60HZ** Infrared Camera, Wide2 Infrared Wide Angle Lens
**FLK-TIX560/W2 9HZ** Infrared Camera, Wide2 Infrared Wide Angle Lens

### Optional accessories
**FLK-LENS/TELE2** Infrared Telephoto Lens (2X magnification), TiX580, TiX560, TiX520, TiX500
**FLK-LENS/4XTELE2** Infrared Telephoto Lens (4X magnification), TiX560, TiX520, TiX500
**FLK-LENS/WIDE2** Infrared Wide Angle Lens, TiX580, TiX560, TiX520, TiX500
**FLK-LENS/25MAC2** 25 Micron Macro Infrared Lens, TiX560, TiX520, TiX500
**TI-CAR-CHARGER** Car Charger
**BOOK-ITP** Introduction to Thermography Principles Book
**FLK-TIX5XX-SBP4** Additional Smart Battery
**FLK-TI-SBC3B** Additional Smart Battery Charger
**FLK-TIX5X-LENS CAP** Infrared Lens Cover
**FLK-TIX5XX-NECK** Neck strap
**FLUKE-TIX5XX HAND** Hand strap
**FLK-TI-BLUETOOTH** Bluetooth Headset
**FLK-TIX5XX-HDMI** HDMI Cable

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



## Preventive maintenance simplified. Rework eliminated.

Save time and improve the reliability of your maintenance data by wirelessly syncing measurements using the Fluke Connect® system.

- Eliminate data-entry errors by saving measurements directly from the tool and associating them with the work order, report or asset record.
- Maximize uptime and make confident maintenance decisions with data you can trust and trace.
- Move away from clipboards, notebooks and multiple spreadsheets with a wireless one-step measurement transfer.
- Access baseline, historical and current measurements by asset.
- Share your measurement data using ShareLive™ video calls and emails.
- The TiX5XX Series is part of a growing system of connected test tools and equipment maintenance software. Visit the website to learn more about the Fluke Connect® system.

Find out more at **flukeconnect.com**



All trademarks are the property of their respective owners. WiFi or cellular service required to share data. Smartphone, wireless service and data plan not included with purchase. First 5 GB of storage is free. Phone support details can be viewed at **fluke.com/phones**.

**Smart phone wireless service and data plan not included with purchase. Fluke Connect is not available in all countries.**

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

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