

# TECHNICAL DATA

## TiX560, TiX520 and TiX500 Infrared Cameras The Fluke Expert Series



### PREMIUM IMAGE QUALITY

#### SPATIAL RESOLUTION

**TiX560, TiX520 and TiX500**

1.31 mRad

#### RESOLUTION

**TiX560, TiX520 and TiX500**

320 x 240 (76,800 pixels) and 640x480 (307,200 pixels) with SuperResolution Mode

#### FILTER MODE (NETD IMPROVEMENT)

**TiX560**

≤ 0.03 °C at 30 °C target temp (30 mK)

**TiX520**

≤ 0.04 °C at 30 °C target temp (40 mK)

#### TEMPERATURE RANGE

**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)

### Your view of infrared technology is about to change 180°

- Easily navigate over, under and around objects with the **180° articulating lens** and see the image before you capture it
- Premium in-field viewing experience with the **only 5.7 inch responsive touchscreen LCD in its class**<sup>1</sup>—150 % more viewing area<sup>3</sup>
- **Enhanced image quality and temperature measurement accuracy**—turn your 320 x 240 images into 640 x 480 images, that's 4x's the resolution and pixels with SuperResolution
- **Get an in-focus image with the touch of a button.** **LaserSharp® Auto Focus**, exclusive to Fluke, uses a built-in laser distance meter that calculates and displays the distance to your designated target with pinpoint accuracy<sup>2</sup>
- See the details you need with **smart lenses**—2x and 4x telephoto, wide angle, and 25 micron macro—no calibration required, interchangeable between compatible cameras
- See, save and share from the field and connect to the **largest selection of wireless test and measurement tools** with Fluke Connect®

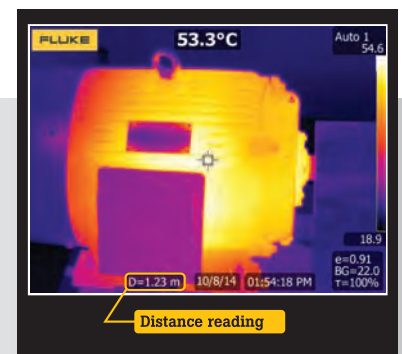
<sup>1</sup>Compared to industrial handheld infrared cameras with 320x240 detector resolution as of September 1, 2015.

<sup>2</sup>Up to 30 meters (100 feet).

<sup>3</sup>Compared to a 3.5 inch screen.



Get tough shots from any angle with a 180° degree rotating lens and the only 5.7 inch LCD.



**LaserSharp® Auto Focus** uses a built in laser distance meter that calculates and displays the distance to your designated target with pinpoint accuracy.



## Detailed specifications

|                                                         | TiX560                                                                                                                              |  | TiX520                                 | TiX500 |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------|--------|
| Key Features                                            |                                                                                                                                     |  |                                        |        |
| IFOV with standard lens (spatial resolution)            | 1.31 mRad, D:S 764:1                                                                                                                |  |                                        |        |
| Detector resolution                                     | 320 x 240 (76,800 pixels)                                                                                                           |  |                                        |        |
| Field of view                                           | 24 °H x 17 °V                                                                                                                       |  |                                        |        |
| Minimum focus distance                                  | 15 cm (approx. 6 in)                                                                                                                |  |                                        |        |
| IFOV with optional 2x telephoto smart lens              | 0.65 mRad, D:S 1528:1                                                                                                               |  |                                        |        |
| Field of view                                           | 12 °H x 9 °V                                                                                                                        |  |                                        |        |
| Minimum focus distance                                  | 45 cm (approx. 18 in)                                                                                                               |  |                                        |        |
| IFOV with optional 4x telephoto smart lens              | 0.33 mRad, D:S 3056:1                                                                                                               |  |                                        |        |
| Field of view                                           | 6.0 °H x 4.5 °V                                                                                                                     |  |                                        |        |
| Minimum focus distance                                  | 1.5 m (approx. 5 ft)                                                                                                                |  |                                        |        |
| IFOV with optional wide-angle smart lens                | 2.62 mRad, D:S 399:1                                                                                                                |  |                                        |        |
| Field of view                                           | 46 °H x 34 °V                                                                                                                       |  |                                        |        |
| Minimum focus distance                                  | 15 cm (approx. 6 in)                                                                                                                |  |                                        |        |
| Minimum micron spot size with optional macro smart lens | 25 microns                                                                                                                          |  |                                        |        |
| Field of view                                           | 36.1° X 27.1°                                                                                                                       |  |                                        |        |
| Working distance                                        | ~8 mm (0.3 in) to ~14 mm (0.6 in) with optimal at 10 mm (0.4 in)                                                                    |  |                                        |        |
| SuperResolution                                         | On camera and in software                                                                                                           |  | In software                            |        |
| Image sharpening                                        | Yes                                                                                                                                 |  | —                                      |        |
| 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                                                                                                                                 |  |                                        |        |
| Streaming video (remote display)                        | Via HDMI or WiFi hot spot in remote control mode                                                                                    |  | Via HDMI or WiFi to SmartView          |        |
| Touchscreen display (capacitive)                        | 14.4 cm (5.7 in) diagonal landscape color VGA (640 x 480) LCD with backlight                                                        |  |                                        |        |
| Wireless connectivity                                   | Yes                                                                                                                                 |  |                                        |        |
| Wireless compatibility                                  | 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 (where available)                                                                                                               |  |                                        |        |
| Fluke Connect® tool compatible                          | Yes (where available). Connects wirelessly to select Fluke Connect® enabled tools. Five simultaneous connections supported          |  |                                        |        |
| IR-Fusion® technology                                   | Yes                                                                                                                                 |  |                                        |        |
| AutoBlend™ mode                                         | Yes                                                                                                                                 |  |                                        |        |
| Picture-In-Picture (PIP)                                | Yes                                                                                                                                 |  |                                        |        |
| Continuous AutoBlend™                                   | Set AutoBlend™ level across continuum                                                                                               |  | —                                      |        |
| Rugged, ergonomic design                                | Rotatable (articulating lens) >180 degrees                                                                                          |  |                                        |        |
| Thermal sensitivity (NETD)                              | ≤ 0.045 °C at 30 °C target temp (45 mK)                                                                                             |  | ≤ 0.05 °C at 30 °C target temp (50 mK) |        |
| Filter Mode (NETD improvement)                          | ≤ 0.03 °C at 30 °C target temp (30 mK)                                                                                              |  | ≤ 0.04 °C at 30 °C target temp (40 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)                 | 5 megapixel industrial performance                                                                                                  |  |                                        |        |
| Frame rate                                              | 60 Hz or 9 Hz versions                                                                                                              |  |                                        |        |
| Laser pointer                                           | Yes                                                                                                                                 |  |                                        |        |
| LED light (torch)                                       | Yes                                                                                                                                 |  |                                        |        |
| Digital Zoom                                            | 2x, 4x, 8x                                                                                                                          |  | 2x, 4x                                 | 2x     |
| Data storage and image capture                          |                                                                                                                                     |  |                                        |        |
| Extensive memory options                                | Removable micro SD memory card, on-board flash memory, save-to-USB flash drive capability, direct download via USB-to-PC connection |  |                                        |        |
| Image capture, review, save mechanism                   | One-handed image capture, review, and save capability                                                                               |  |                                        |        |
| Post-capture image editing (on camera)                  | Yes. Conduct on camera analysis for in-field results                                                                                |  |                                        |        |

|                                                             | TiX560                                                                                                                                                                                    |  | TiX520                                |  | TiX500                                |  |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------|--|---------------------------------------|--|
| Data storage and image capture (continued)                  |                                                                                                                                                                                           |  |                                       |  |                                       |  |
| Advanced text Annotation                                    | Yes. Including standard shortcuts as well as user programmable options                                                                                                                    |  |                                       |  |                                       |  |
| File formats                                                | Non-radiometric (.bmp) or (.jpeg) or fully radiometric (.is2); no analysis software required for non-radiometric (.bmp, .jpg and .avi) files                                              |  |                                       |  |                                       |  |
| Memory review                                               | Thumbnail view navigation and review selection                                                                                                                                            |  |                                       |  |                                       |  |
| Software                                                    | SmartView® software, Fluke Connect™ (where available), and SmartView® Mobile App—full analysis and reporting software                                                                     |  |                                       |  |                                       |  |
| Export file formats with SmartView® software                | BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF                                                                                                                                   |  |                                       |  |                                       |  |
| Voice annotation                                            | 60 seconds maximum recording time per image; reviewable playback on camera; Bluetooth headset provided*                                                                                   |  |                                       |  |                                       |  |
| IR-PhotoNotes™                                              | Yes                                                                                                                                                                                       |  |                                       |  |                                       |  |
| Text annotation                                             | Yes                                                                                                                                                                                       |  |                                       |  |                                       |  |
| Video recording                                             | Standard and radiometric                                                                                                                                                                  |  |                                       |  |                                       |  |
| File formats video                                          | Non-radiometric (MPEG - encoded .AVI) and fully radiometric (.IS3)                                                                                                                        |  |                                       |  |                                       |  |
| Remote control operation                                    | Yes                                                                                                                                                                                       |  | —                                     |  |                                       |  |
| 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                                                | Three hours continuous use per battery pack                                                                                                                                               |  |                                       |  |                                       |  |
| 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 +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                                                                                                                                                                                       |  |                                       |  |                                       |  |
| 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 and low-temperature                                                                                                                                                      |  |                                       |  |                                       |  |
| 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                                                                                                                                                                 |  |                                       |  |                                       |  |
| User-definable spot markers                                 | 3 user-definable spot markers                                                                                                                                                             |  |                                       |  |                                       |  |
| Center box                                                  | Expandable—contractible measurement box with MIN-MAX-AVG temp                                                                                                                             |  |                                       |  |                                       |  |
| Safety                                                      | IEC 61010-1: Overvoltage Category II, Pollution degree 2                                                                                                                                  |  |                                       |  |                                       |  |
| Electromagnetic compatibility                               | IEC 61326-1: Basic EM Environment; CISPR11, Group 1, Class A                                                                                                                              |  |                                       |  |                                       |  |
| Australian RCM                                              | IE 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 |  |                                       |  |                                       |  |

\*Bluetooth not available in all countries.

## Ordering information

**FLK-TiX560 60Hz** Thermal Imager; 320x240; 60 Hz  
**FLK-TiX560 9Hz** Thermal Imager; 320x240; 9 Hz  
**FLK-TiX520 60Hz** Thermal Imager; 320x240; 60 Hz  
**FLK-TiX520 9Hz** Thermal Imager; 320x240; 9 Hz  
**FLK-TiX500 60Hz** Thermal Imager; 320x240; 60 Hz  
**FLK-TiX500 9Hz** Thermal Imager; 320x240; 9 Hz

### Included with product

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; rugged, hard carrying case, adjustable neck and hand strap, bluetooth headset (where available), warranty registration card and calibration certificate. Flash drive includes product manuals in English, Chinese, German, Portuguese, Spanish, French, Italian, Korean, and Japanese, Russian and Turkish and SmartView® software. (Software is also available via download at [www.fluke.com/smartviewdownload](http://www.fluke.com/smartviewdownload)).

### 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  
**FLK-LENS/25MAC2** 25 Micron Macro Infrared Lens  
**TI-CAR-CHARGER** Car Charger  
**BOOK-ITP** Introduction to Thermography Principles Book  
**FLK-TI-SBP4** Additional Smart Battery  
**FLK-TI-SBC3** 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



**Set up and sustain preventive maintenance practices with ease to help you oversee your complex world with the Fluke Connect® system of software and wireless test tools.**

- Maximize uptime and make confident maintenance decisions with data you can trust and trace.
- Save measurements to the Fluke Cloud™ and associate with an asset so your team can consult both historical and current measurements from one location.
- Collaborate with ease by sharing your data with others with ShareLive™ video calls and emails.
- Wireless one-step measurement transfer with AutoRecord™ measurements removes the need for clipboards and paperwork.
- Consult summary views of all assets over time for easy identification of correlated or periodic failures for easier prioritization of maintenance work.
- Generate reports with multiple measurement types to provide status or work recommendations.

Find out more at [flukeconnect.com](http://flukeconnect.com)

Download the app at:



Smartphone is not included with purchase.



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

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