

TiX1000, TiX660 and TiX640 Infrared Cameras

The Fluke Expert Series

Technical Data



PREMIUM IMAGE QUALITY

SPATIAL RESOLUTION

TiX1000

0.6 mRad

TiX660 and TiX640

0.8 mRad

RESOLUTION

TiX1000

1024 x 768 (786,432 pixels)

TiX660 and TiX640

640 x 480 (307,200 pixels)

SUPER RESOLUTION MODE

TiX1000

2048 x 1536 (3,145,728 pixels)

TiX660

1280 x 960 (1,228,800 pixels)

FIELD OF VIEW

TiX1000

32.4 ° x 24.7 ° (1.0/30 mm)

TiX660 and TiX640

30.9 ° x 23.1 ° (1.0/30 mm)

TEMPERATURE RANGE

-40 to 2000 °C (-40 to 3632 °F)

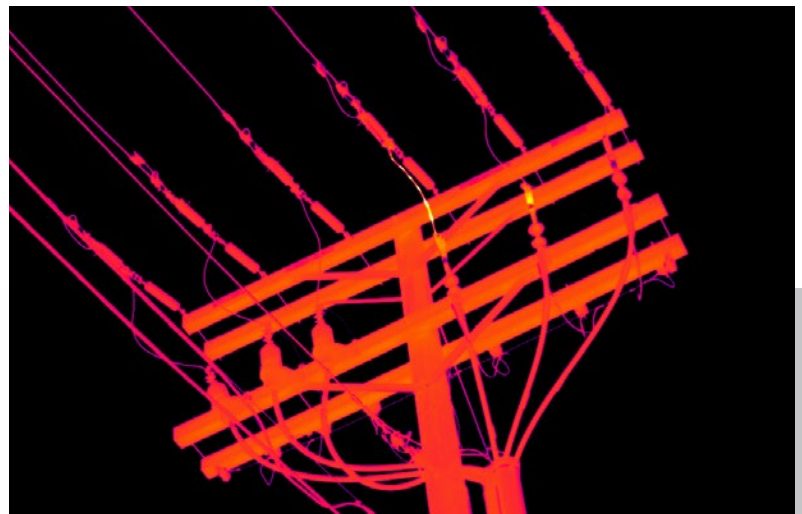
TiX1000 and TiX660

-40 to 1200 °C (-40 to 2192 °F) TiX640

Fluke Infrared Cameras Experience. Performance. Confidence.

Take the guesswork out of your inspection and analysis.

- **The first HD infrared camera with our Fluke Connect™ technology**—10 times the on-camera pixels than standard 320x240 cameras (1024x768 resolution, 786,432 pixels)
- **Enhanced image quality and temperature measurement accuracy**—get 4 times the resolution and pixels than standard mode with SuperResolution (up to 3,145,728 pixels)
- **Work from greater distances.** See a 5 mm (0.2 in) target from 35 m (115 ft) away using the TiX1000 with the Super Telephoto lens
- **Get a premium in-field viewing experience** for quick issue identification with the large 5.6 inch high resolution LCD screen
- **Save time focusing** with the most advanced focus options available for consistently in focus image: LaserSharp® Auto Focus, auto focus, manual and EverSharp multifocal recording features—available on one camera.
- **The Fluke Expert Series offers the best flexibility of the entire Fluke infrared camera portfolio** to capture spectacular images close up or from a distance. The TiX1000, TiX660 and TiX640 are compatible with 8 lens options (2x and 4x telephoto lenses, 2 wide angle lenses, 3 macro lenses and 1 standard lens) so great images can be captured despite certain obstacles.



Electrical utility distribution lines

| | TiX1000 | | TiX660 | | TiX640 |
|--|---|---|--|--|--|
| Key features | | | | | |
| IFOV (spatial resolution) | 0.6 mRad | | 0.8 mRad | | 0.8 mRad |
| Image resolution (pixel) | 1024 x 768 (786,432 pixels) | 2048 x 1536 (3,145,728 pixels) (SuperResolution mode) | 640 x 480 (307,200 pixels) | 1280 x 960 (1,228,800 pixels) (SuperResolution mode) | 640 x 480 (307,200 pixels) |
| Frame rate (@ max. image resolution) | 30 Hz | – | 60 Hz | – | 60 Hz |
| SuperResolution & Dynamic SuperResolution (resolution enhancement) | Yes, MicroScan technology quadruples IR measurement pixels. | | | | No |
| Subwindowing modes available: (add-on at time of order–subwindowing options are not available on 9 Hz models) | Option 1: 640 × 480 (60 fps) Option 2: 384 × 288 (120 fps) Option 3: 1024 × 96 (240 fps) | | Option 1: 384 × 288 (120 fps) Option 2: 640 × 120 (240 fps) | | |
| Field of View (FOV) w/standard 30mm lens | 32.4° x 24.7° | | 30.9° x 23.1° | | |
| Thermal sensitivity [NETD] | ≤ 0.05 °C at 30 °C target temp (50 mK) | | ≤ 0.03 °C at 30 °C target temp (30 mK) | | |
| Spectral range | 7.5 μm to 14 μm | | | | |
| Wireless connectivity | | | | | |
| Fluke Connect® compatible | Yes, with Fluke Connect® WiFi SD Card (available in approved certified regions only) | | | | |
| IR-Fusion® technology | | | | | |
| AutoBlend™ | Yes | | | | |
| Viewing modes | Picture-in-picture, continuous blending, color alarms (above and below user defined temperatures) | | | | |
| Focus systems | | | | | |
| LaserSharp® Auto Focus | Yes | | | | No |
| Auto focus | Yes | | | | |
| Manual focus | Yes, with the touch of a finger for tighter views. | | | | |
| EverSharp multifocal recording | Yes. Multifocal recording captures images from different focal distances and combines them into one image displaying each object sharply for the best image quality. | | | | |
| Temperature measurement | | | | | |
| Temperature measurement range | -40 °C to +1200 °C (-40 °F to 2192 °F), High temperature option–request at time of order: up to 2000 °C (3632 °F) | | | | -40 °C to +1200 °C (-40 °F to 2192 °F) |
| Measurement accuracy | +/- 1.5 % or +/- 1.5 % | | | | |
| Correction functions | Laser rangefinder based distance correction, emissivity (manual or material table) | | | | Emissivity (manual or material table) |
| | Transmissivity, ambient temperature, humidity (option) | | | | |
| Data storage and image capture | | | | | |
| Image / video storage | SDHC memory card | | | | |
| Interfaces for image/data transfer | Camera data ports: Image transfer: SD card, USB 2.0, video output DVI-D (HDMI). GigE vision and RS232 available in 2015. SmartView® software: SD card, USB 2.0, GigE Vision and RS232 available in 2015. | | | | |
| General specifications | | | | | |
| Laser pointer | Yes, laser class: 2 | | | | |
| Laser distance meter | Accuracy: ± 1.5 mm, range: 70 m (230 ft.), wavelength: 635 nm (red), laser class: 2 | | | | None |
| Display | Extra-large 5.6" color TFT display, 1280 × 800 pixel resolution, suitable for daylight operation | | | | |
| Geo-localization | Built-in GPS for geo-referencing | | | | |
| Digital visible light camera | Up to 8 Megapixel resolution for image and video recording | | | | |
| Digital zoom | Up to 32x digital zoom | | | | |
| Text annotation | Yes | | | | |
| Voice annotation | Yes | | | | |
| Audio | Integrated microphone and loudspeaker for voice annotations | | | | |
| A/D conversion | 16 bit | | | | |
| Power supply | External: 12 VDC ... 24 VDC, Battery: standard Li-Ion video camera battery | | | | |
| Replaceable Smart Batteries with LED level indicator | Two | | | | One |
| Operating temperature | -25 °C to +55 °C (-13 °F to 131 °F) | | | | |
| Storing temperature | -40 °C to +70 °C (-40 °F to 158 °F) | | | | |
| Humidity | Relative humidity 10 % to 95 %, non-condensing | | | | |
| Shock | Operational: 25G, IEC 68-2-29 | | | | |
| Vibration | Operational: 2G, IEC 68-2-6 | | | | |
| Protection class | IP54 | | | | |
| Ergonomics | Camcorder w/ handle | | | | Camcorder |

| | TiX1000 | TiX660 | TiX640 |
|--|--|--------|---|
| General specifications (continued) | | | |
| Viewfinder | Tilttable LCoS color viewfinder display, 800 × 600 pixel resolution | | No |
| Dimensions (L x W x H, with standard 30 mm lens) | 210 mm × 125 mm × 155 mm (8.25 in x 4.9 in x 6.1 in) | | 206mm x 125mm x 139mm (8.1 in x 4.9 in x 5.5 in) |
| Weight (with standard 30 mm lens) | 1.95 kg (4.3 lb) | | 1.4 kg (3.1 lb) |
| Measurement functions (selection) | Multiple measurement spots & regions of interest (ROIs), hot/cold spot detection, isotherms, profiles, differences | | |
| Automatic functions (selection) | Focus, image, level, range, NUC, lens recognition, image optimization, alarm sequence | | |
| SmartView® software | Yes | | |
| Supported languages | Czech, Dutch, English, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese and Turkish | | |

Available optional lenses*

with IP54-proof bayonet mount



| Fluke Model | Lens description | Focal distance (mm) | Focus (m) | 1024 x 768 | | 640 x 480 | |
|---------------------------|-----------------------|---------------------|-----------|-------------|---------------|-------------|--------------|
| | | | | iFOV (mRad) | FOV (°) | iFOV (mRad) | FOV (°) |
| FLK-Xlens/Sup-Wide | Super wide-angle lens | 7.5 | 0.17 | 2.3 | 135.8 x 101.4 | 3.3 | 128.9 x 92.7 |
| FLK-Xlens/Wide | Wide-angle lens | 15 | 0.47 | 1.1 | 67.8 x 50.7 | 1.7 | 62.3 x 46.4 |
| FLK-Xlens/Stan | Normal lens | 30 | 0.72 | 0.6 | 32.4 x 24.7 | 0.8 | 30.9 x 23.1 |
| FLK-Xlens/Tele | Telephoto lens | 60 | 1.99 | 0.3 | 16.4 x 12.4 | 0.4 | 14.9 x 11.3 |
| FLK-Xlens/SupTele | Super telephoto lens | 120 | 6.58 | 0.1 | 8.1 x 6.2 | 0.2 | 7.5 x 5.7 |

| Fluke Model | Lens description | Focal distance (mm) | Focus (mm) | 1024 x 768 | | 640 x 480 | |
|-------------------------|------------------|---------------------|------------|----------------|-----------------|----------------|-----------------|
| | | | | FOV (°) (mRad) | Resolution (µm) | FOV (°) (mRad) | Resolution (µm) |
| FLK-Xlens/Macro1 | Close-up 0.2x | For 30 | 137.4 | 85.5 x 63.2 | 81 | 78.1 x 57.9 | 119 |
| FLK-Xlens/Macro2 | Close-up 0.5x | For 30 | 47.4 | 34.3 x 25.3 | 32 | 31.3 x 23.2 | 47 |
| FLK-Xlens/Macro3 | Close up 0.5x | For 60 | 100 | 35.1 x 26.5 | 35 | 32.3 x 24.4 | 50 |

*Optional lenses must be calibrated to the individual camera. If lens purchase is post camera purchase, the camera will need to be returned for calibration with the lens.

Ordering information

FLK-TiX1000 30Hz Thermal Imager; 1024x768; 30 Hz

FLK-TiX660 60Hz Thermal Imager; 640x480; 60 Hz

FLK-TiX640 60Hz Thermal Imager; 640x480; 60 Hz

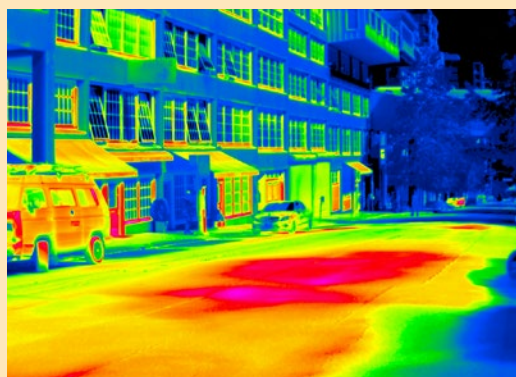
FLK-TiX1000 9Hz Thermal Imager; 1024x768; 9 Hz

FLK-TiX660 9Hz Thermal Imager; 640x480; 9 Hz

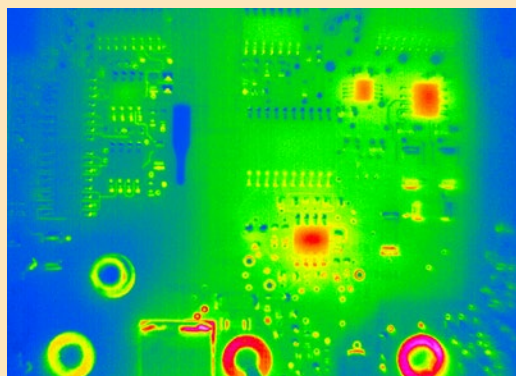
FLK-TiX640 9Hz Thermal Imager; 640x480; 9 Hz

Included with product

These infrared cameras are shipped with a rechargeable battery (2 for TiX1000 and TiX660; 1 for TiX640), battery charger and adapter, AC adapter, SD card reader, FC SD card for Fluke Connect, protective lens cap, hand strap, neck strap, carrying case, warranty card, safety instructions, calibration certificate, CD includes product manuals in English, Chinese, German, Portuguese, Spanish, French, Italian, Korean, Japanese, Russian and Turkish (printed in English and Chinese) and SmartView® software. (Software is also available via download at www.fluke.com/smartviewdownload).



Steam vents under city street



Printed circuit board assembly inspection



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