FLUKE®

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

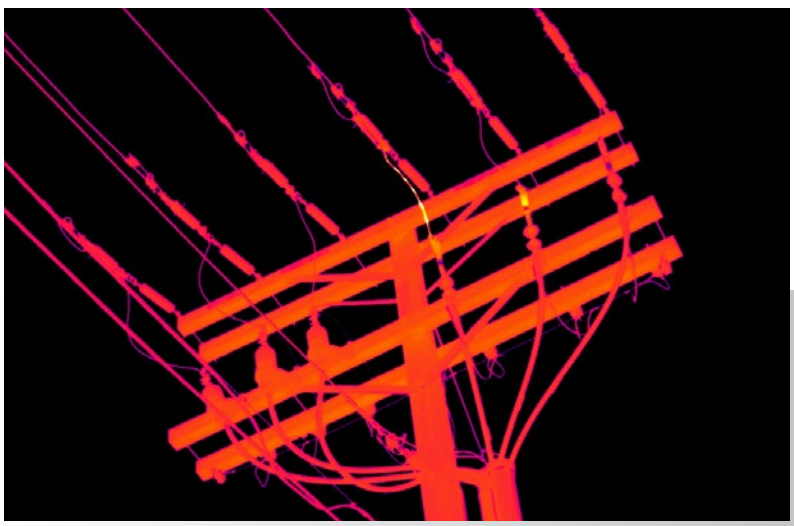
-40 to 2000 °C (-40 to 3632 °F)
TiX1000 and TiX660
-40 to 1200 °C (-40 to 2192 °F) TiX640

Built with FLUKE CONNECT™

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

Detailed specifications

FLUKE®

	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 °C 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

Detailed specifications

	TiX1000	TiX660	TiX640
General specifiations (continued)			
Viewfinder	Tiltable 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, Hugarian, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese and Turkish		

Available optional lenses*

with IP54-proof bayonet mount

				1024 x 768		640 x 480	
Fluke Model	Lens description	Focal distance (mm)	Focus (m)	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

				1024 x 768		640 x 480	
Fluke Model	Lens description	Focal distance (mm)	Focus (mm)	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

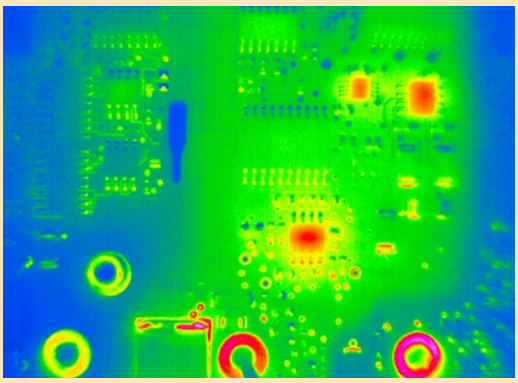
*Optional lenses must be calibrated to the individual camera. If lens purchase is post camera purchase, the camera will need to be returned for calibration with the lens.

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

FLUKE®

Built with
FLUKE CONNECT™

See it. Save it. Share it. All the facts, right in the field.

Fluke Connect™ with ShareLive™ video call is the only wireless measurement system that lets you stay in contact with your entire team without leaving the field. The Fluke Connect™ mobile app is available for Android™ versions: Galaxy S4, Nexus 5, HTC One running Android™ 4.4.x or higher and iOS (iPhone 4x and up running iOS 7 or higher, iPad (in an iPhone frame on iPad) and works with over 20 different Fluke products—the largest system of connected test tools in the world. And more are on the way. Go to the Fluke website to find out more.

Download the app at:

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ANDROID APP ON Google play

Smart phone wireless service and data plan not included with purchase.

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

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