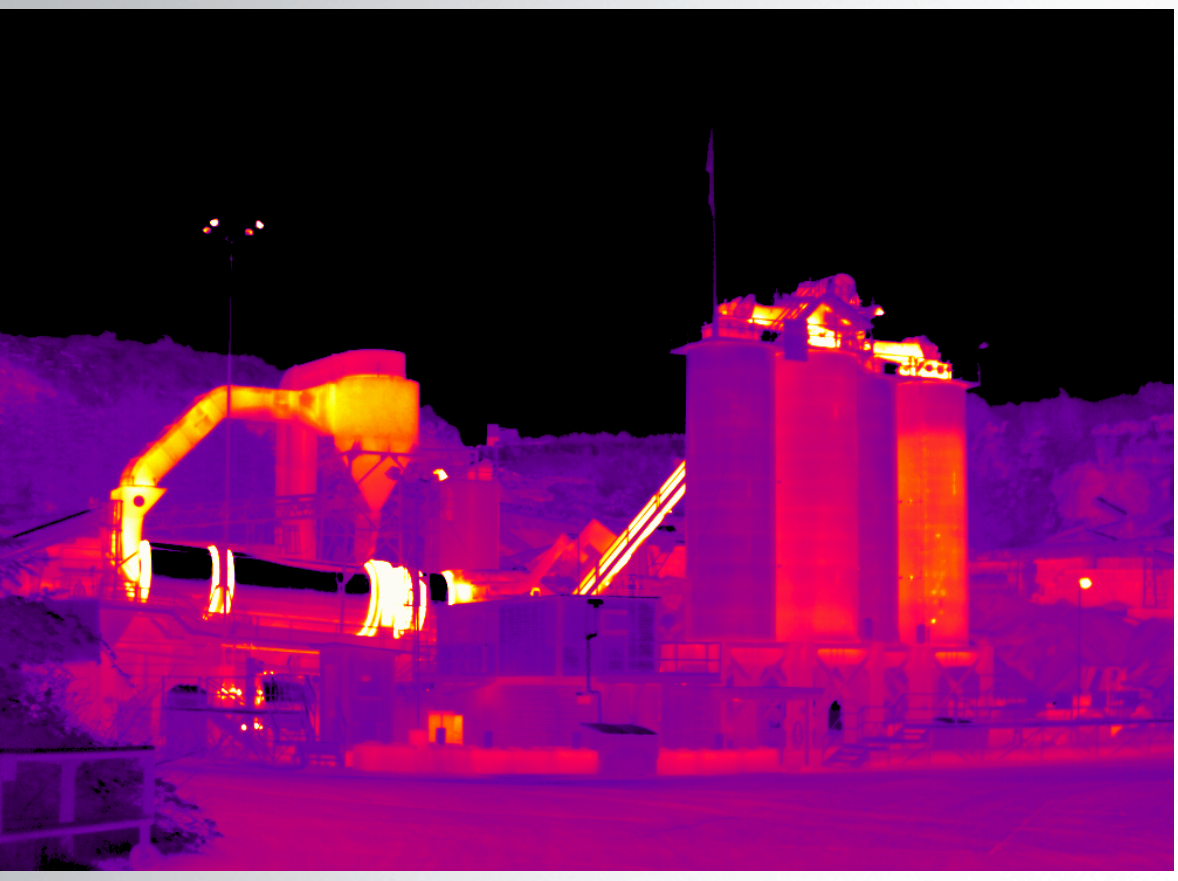
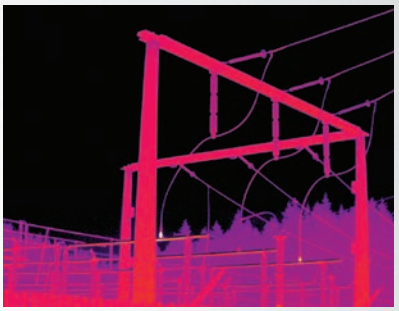
FLUKE®

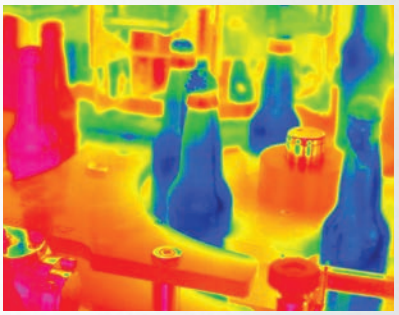
It's time to SEE WHAT YOU'RE MISSING

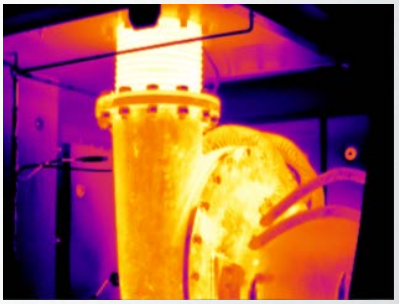
THE EXPERT SERIES

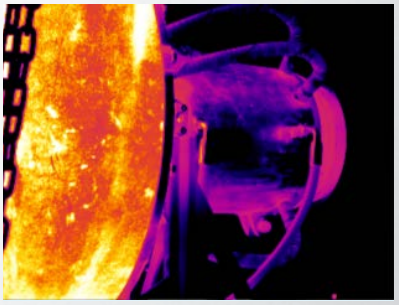
The FUTURE OF INFRARED is here.











Your work as an expert thermographer is defined by the quality of the infrared images you take and your ability to analyze what's before you. The most pressing challenge lies not in analyzing what you see, but the fear of missing something you can't.

* HD images are captured by the TiX1000 in SuperResolution mode and viewable in the SmartView® software.

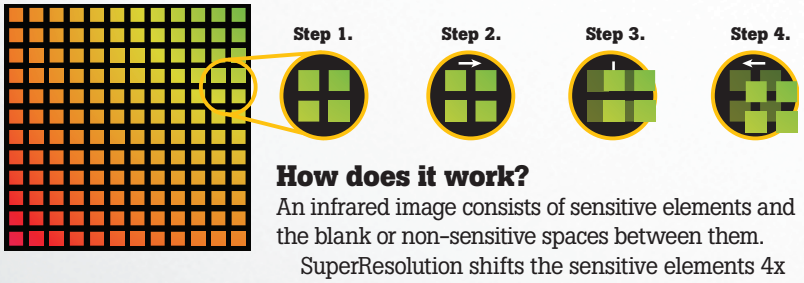
Introducing
THE EXPERT SERIES

The right cameras when you can't afford to be wrong.

Instantly capture highly detailed images and start analyzing them while still in the field.
See incredible detail from a distance or extremely close up.
Capture tough shots with the largest LCD displays with Fluke Connect®

SuperResolution: The most spectacular images ever from a Fluke infrared camera.

Select the SuperResolution mode before you capture images and transfer them to the included SmartView® software to reveal up to 3.1 million pixels (use the TiX1000 and SuperResolution to produce HD quality imagery)—4x the on-camera standard resolution and see infrared in a whole new way.



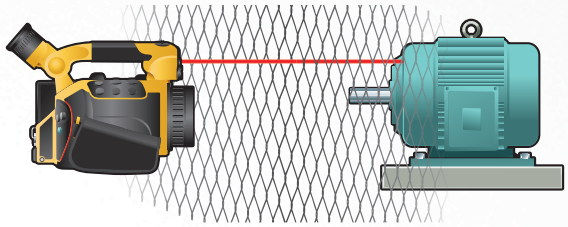
How does it work?

An infrared image consists of sensitive elements and the blank or non-sensitive spaces between them.

SuperResolution shifts the sensitive elements 4x and fills the spaces, resulting in 100% coverage and an image with 4x more resolution.

The industry's most advanced focus options.

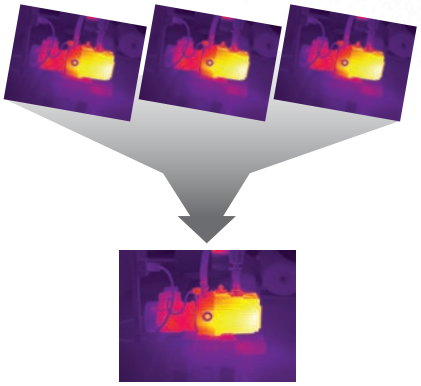
Get through your day faster. The advanced focus systems in these cameras take in-focus images faster and easier providing premium image quality and precise temperature readings.



LaserSharp® Auto Focus.

Get an in-focus image like never before with just a touch of a button. LaserSharp® Auto Focus, exclusive to Fluke, uses its built-in laser distance meter to calculate and display the distance to your designated target with pinpoint accuracy. On target and in-focus. Every. Single. Time.

Available on TiX1000/X660/X560/X520



EverSharp multi-focus recording for edge-to-edge clarity.

Capture multiple images from varying focal distances to get the best image possible. Using special algorithms, SmartView® software combines those images and creates one image with sharpened details of your target.

Available on TiX1000/X660/X640

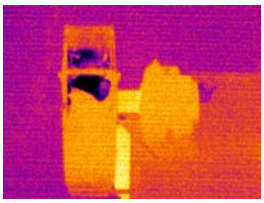


Image sharpening **off**

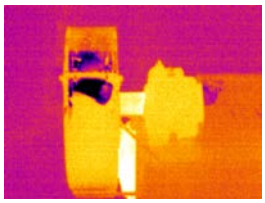
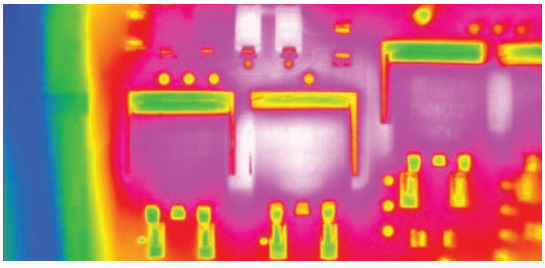


Image sharpening **on**

Image sharpening

Get premium images in high temp applications by combining multiple frames of data into one with image sharpening.

Available on TiX560



Subwindowing helps identify failures in the lab before they become failures in the field.

Capture, document and analyze multiple frames of data per second to see sudden temperature changes in critical product development and quality control applications.

Available on TiX1000/X660/X640

Fluke TiX1000, TiX660 and TiX640 Infrared Cameras

Work from safer distances

Inspect areas that you could not get close to before and still get spectacular, detailed infrared images.

TiX660

1 Save time and get consistently in-focus images
With LaserSharp® Auto Focus, (TiX1000/X660 only) auto focus, manual, and EverSharp multifocal recording—the most advanced focus options all in one camera.

2 Enhanced image quality and temperature measurement accuracy
Details come to life with 4x greater resolution than standard mode with SuperResolution (3.1 million pixels).

3 Optimized for outdoor inspections
Viewfinder reduces outdoor glare for fast and easy image capture. (TiX1000/X660 only)

TiX640

TiX1000
The FIRST HD* infrared camera with Fluke Connect®
10x more on-camera pixels than standard 320 x 240 infrared cameras
1024 x 768 resolution (786,432 pixels)

TiX660 and TiX640
4x more on-camera pixels than standard 320 x 240 infrared cameras
640 x 480 resolution (307,200 pixels)

4 Large, adjustable 5.6 inch display for premium viewing
Get a premium in-field viewing experience for quick issue identification with the large 5.6-inch high resolution LCD screen. Easily navigate over, under and around objects to get the best picture.

5 Choose the most convenient image transfer protocol for your application
Camera data ports: SD card, GigE Vision, RS-232, USB 2.0, DVI-D and composite video. SmartView® software: SD card (GigE Vision and RS-232)

6 Help identify failures in the lab before they become failures in the field
Track rapid changes in temperature with optional Subwindowing features. Capture, document and analyze multiple frames of data per second in product development and quality control (eg. printed circuit board production).

TiX1000	TiX660/TiX640
Option 1: 640 x 480 (60 fps) Option 2: 384 x 288 (120 fps) Option 3: 1024 x 96 (240 fps)	Option 1: 384 x 288 (120 fps) Option 2: 640 x 120 (240 fps)

8 User defined programmable buttons
Program one-touch access for most used features.

9 More lenses, More options. Better results.
Optional lenses for maximum versatility (2 wide angle, 3 macro and 2x and 4x telephoto lenses)

7 See it. Save it. Share it
See what your team is seeing, watch live video and readings to troubleshoot problems, get questions answered and work orders approved before you leave the field.

*HD images are captured by the TiX1000 in SuperResolution mode and viewable in the SmartView® software.
**Fluke Connect is not available in all countries.
***Within your providers wireless service area

Fluke TiX560, TiX520 and TiX500 Infrared Cameras

Your view of infrared technology is about to change 180°

Easily annotate, edit and analyze images with the largest 5.7 inch touchscreen LCD in its class.[4]

TiX560

1 Easy navigation
Easily navigate over, under and around objects with the 180° articulating lens and see the image before you capture it.

2 More lenses. More options. Better results.
Bring small and distance objects closer, widen your field of view in tight spaces or see incredible detail, smaller than the average human hair with optional field installable smart lenses—2x and 4x telephoto, wide angle and 25 micron macro lenses.

3 Enhanced image quality and temperature measurement accuracy
Turn your 320 x 240 images into 640 x 480 images, 4x's the resolution and pixels with SuperResolution.

4 Save time and get consistently in-focus images
With LaserSharp® Auto Focus—uses a built-in laser distance meter that calculates and displays the distance to your designated target[1] and optional manual focus.

TiX560
Remote control
High temperature measurements up to 1200° C
On-camera post image editing
Turn your 320 x 240 images into 640 x 480 images with SuperResolution mode *(available on camera and in software)*

TiX520 and TiX500
On-camera post image editing
Turn your 320 x 240 images into 640 x 480 images with SuperResolution mode *(available in software)*

5 On camera analytics
Save time with post-capture image editing—edit emissivity, background temperature, transmissivity, palettes, color alarms, IR-Fusion® and enable/disable markers from the field.

6 Get premium image output in high temp applications
By combining multiple sequential frames of data into one with image sharpening.

7 Find subtle temperature differences easier
Instantly improve thermal sensitivity from 45 mK to 30 mK in the TiX560 and from 50 mK to 40 mK in the TiX520 with filter mode.

TiX520/500

8 IR-Fusion® Technology
Our patented technology blends digital and infrared images into a single image to precisely document problem areas.

9 See it. Save it. Share it with the Fluke Connect® app[2]
See what your team is seeing, watch live video and readings to troubleshoot problems, get questions answered and approve work orders from the field.[3]

10 Large, adjustable 5.7 inch display
Get a premium in-field viewing experience with the only 5.7 inch responsive touchscreen LCD in its class[4]—150% more viewing area[5].

[1] Up to 30 meters (100 feet). [2] Fluke Connect is not available in all countries. [3] Within your providers wireless service area. [4] Compared to industrial handheld infrared cameras with 320 x 240 detector resolution as of September 1, 2015. [5] Compared to a 3.5 inch screen.

THE EXPERT SERIES

Specifications

	TiX1000	TiX660	TiX640	TiX560	TiX520	TiX500
IFOV (spatial resolution)	0.6 mRad	0.8 mRad		1.3 mRad		
Detector resolution	1024 x 768 (786,432 pixels) SuperResolution mode: 2048 x 1536 (3.1 million pixels)	640 x 480 (307,200 pixels) SuperResolution mode: 1280 x 960 (1.2 million pixels)	640 x 480 (307,200 pixels)	320 x 240 (76,800 pixels)		
Field of view	32.4° x 24.7°	30.9° x 23.1°		24 °H x 17 °V		
Optional lenses	Capture spectacular images close up or from a distance with optional lenses: 2 wide angle, 2 telephoto, 3 macro and 1 standard			Optional 2x and 4x telephoto, wide angle and 25 Micron macro lenses		
Wireless connectivity	Fluke Connect® app compatible with Fluke Connect WiFi SD Card[1]			Fluke Connect® app compatible with built-in Fluke Connect WiFi		
Focus system	LaserSharp® Auto Focus, auto focus, manual focus, and EverSharp multifocal recording		Auto focus, manual focus, and EverSharp multifocal recording	LaserSharp® Auto Focus with built-in laser distance meter and advanced manual focus		
IR-Fusion® technology/ Visible context	IR-Fusion® AutoBlend mode Picture-in-picture, color alarms (above and below user defined temperatures)					
Display	Extra-large 5.6 inch color TFT display, 1280 x 800 pixel resolution, Suitable for daylight operation			5.7 inch touchscreen LCD, 640 x 480 pixel resolution		
Design	Camcorder with handle, Tiltable LCoS color viewfinder display for outdoor use, 800 × 600 pixel resolution		Camcorder	Ergonomic FlexCam design with a 180 degree articulating lens		
Thermal sensitivity	≤ 0.05 °C at 30 °C target temp (50 mK)	≤ 0.03 °C at 30 °C target temp (30 mK)		≤ 0.045 °C at 30 °C target temp (45 mK); Filter Mode (NETD improvement) ≤ 0.03 °C at 30 °C target temp (30 mK)	≤ 0.05 °C at 30 °C target temp (50 mK); Filter Mode (NETD improvement) ≤ 0.04 °C at 30 °C target temp (40 mK)	≤ 0.05 °C at 30 °C target temp (50 mK)
Temperature measurement range	-40 °C to +1200 °C (-40 °F to +2192 °F) High temperature option: up to 2000°C (3632°F)		-40 °C to +1200 °C (-40 °F to +2192 °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)
Frame rate	30 Hz or 9 Hz versions	60 Hz or 9 Hz versions				
Subwindowing modes[2]	Option 1: 640 x 480 (60 fps) Option 2: 384 x 288 (120 fps) Option 3: 1024 x 96 (240 fps)	Option 1: 384 x 288 (120 fps) Option 2: 640 x 120 (240 fps)		–		
Software	SmartView® software and Fluke Connect®[1]					
Voice annotation	Yes					
Text annotation	Yes					
Video recording	Standard and radiometric					
Streaming video (remote display)	Via HDMI; GigE Ethernet available in SmartView® software in 2015			Via USB or WiFi		
Remote control	Yes. Available in 2015			Yes	–	
Alarms	High-temperature, low-temperature, and isotherm color alarms					
Warranty	2 years (standard), extended warranties are available					

[1] Fluke Connect® not available in all countries
[2] Add-on at time of order—subwindowing options are not available on 9 Hz models

FLUKE®

More lenses. More options. BETTER RESULTS.

Field swappable lenses can make your camera work better for your application. Capture spectacular images in challenging situations and gain greater insight through the use of a specialized lenses. Super-wide angle to super telephoto and three macro lenses—when you need ultimate flexibility.

Lens to camera compatibility

Lens type	TiX560/520/500	TiX1000/660/640	Use for	Applications
2x telephoto	**TELE2**	**XLens/Tele**	Small to medium sized target, viewed from a distance	• Industrial maintenance • Building inspections
4x telephoto	**4XTELE2**	**XLens/SupTele**	Small target, viewed from a great distance	• Petrochemical • Power utilities generation and transmission • Metallurgy and metals refinement
Wide angle	**WIDE2**	**XLens/Wide** **XLens/SupWide**	Large target, viewed from a relatively close distance	• Industrial maintenance • Building inspections
Macro	**25MAC2** 25 micron	**XLens/Macro1** 81 micron (TiX1000) or 119 micron (TiX660/640) **XLens/Macro2** 32 micron (TiX1000) or 47 micron (TiX660/640) **XLens/Macro3** 35 micron (TiX1000) or 50 micron (TiX660/640)	Tiny to microscopic target, viewed from extremely close	• Research and development • Electronics design and validation • Microscopic thermography

See HD infrared in action at FLUKE.COM/EXPERTSERIES

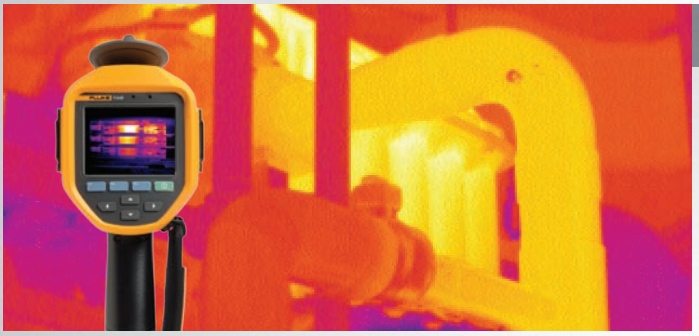
FLUKE®

Fluke infrared cameras are ON THE JOB because they DO THE JOB.

EXPERT SERIES

Engineers, R&D professionals and advanced thermographers who require premium image quality and an excellent level of detail in every infrared image.

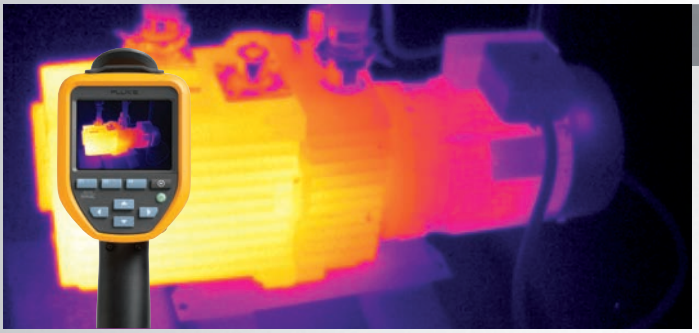
- Industrial maintenance
- Utilities
  - Transmission/distribution
- Oil and gas predictive maintenance
- Research and development
  - Electrical
  - Mechanical
  - Biology/sciences
- Quality control



PROFESSIONAL SERIES

Professional in-house, contract and service thermographers who need superior quality images and advanced features and specifications for use in multiple applications.

- Industrial maintenance
- Heavy commercial facility maintenance
- Oil and gas maintenance
- Veterinary
- Reliability inspections



PERFORMANCE SERIES

Technicians and contractors who need quality images and feature rich affordability for quick scans and/or intermittent inspections.

- Electrical
- HVAC
- Mechanical
- Home inspections
- Light commercial maintenance
- Building diagnostics
  - Building envelope
  - Commercial/industrial facilities

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

FLUKE CONNECT®

See it. Save it. Share it.*

Download the app

Download on the App Store

GET IT ON Google play

*Fluke Connect is not available in all countries.

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