VANDENTEMPEL

FLUKE®

TECHNICAL DATA

Ti480, Ti450, Ti400 and Ti300 Infrared Cameras

The Fluke Professional Series



Fluke Connect® compatible

Focus redefined.

- Capture a clear, accurate image focused throughout the field of view with **MultiSharp™ Focus**. Simply point and shoot—the camera automatically processes a stack of images focused near and far (Ti480 and Ti450)
- Get an instant in-focus image of your designated target. **LaserSharp® Auto Focus**, exclusive to Fluke, uses a built-in laser distance meter that calculates and displays the distance from your designated target with pinpoint* accuracy
- Get 4x the pixel data with **SuperResolution**, which captures multiple images and combines them to create a 1280 x 960 image (Ti480) or a 640 x 480 image (Ti450)
- 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.
- Reduce the need to take notes in the field with two helpful features:
  – IR-PhotoNotes™ annotation system—captures digital images of the surrounding area to reference conditions or actual location
  – Any additional details can also be saved to the file with voice annotation
- **Highlight areas that are outside your pre-set 'normal' temperature ranges quickly with color alarms**
- **See the details you need** with interchangeable smart lenses—2x and 4x telephoto and wide angle—no calibration required
- **Included Fluke Connect® desktop software:** Optimize thermal images, perform analytics, generate quick, customizable, robust reports and export images to the format of your choice in the cloud

SUPERIOR IMAGE QUALITY

SPATIAL RESOLUTION

Ti480 *0.93 mRad*

Ti450 and Ti400 *1.31 mRad*

Ti300 *1.75 mRad*

RESOLUTION

Ti480 *640 x 480*
SuperResolution mode: 1280 x 960

Ti450 *320 x 240*
SuperResolution mode: 640 x 480

Ti400 *320 x 240*

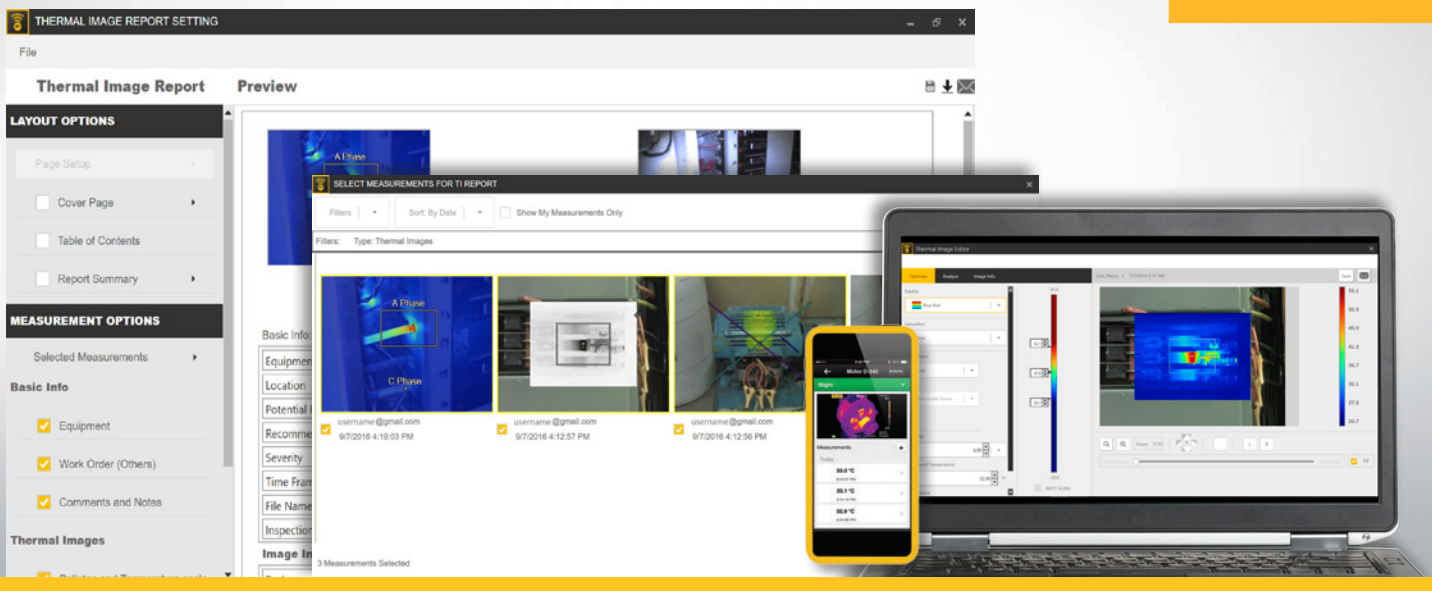
Ti300 *240 x 180*

FIELD OF VIEW

Ti480 *34 °H x 24 °V*

Ti450, Ti400, Ti300 *24 °H x 17 °V*

*Up to 30 meters (100 feet)



FLUKE CONNECT®

Powerful, new, easy-to-use Fluke Connect® 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 desktop software is included with your camera purchase.

Download at **fluke.com/FlukeConnectTI**

100 % Focused–Every object. Near and far. MultiSharp™ Focus.



Manual focus



MultiSharp Focus

FLUKE®

Detailed specifications

	Ti480	Ti450	Ti400	Ti300
Key features				
Detector resolution	640 x 480 (307,200) or 1280 x 960 with SuperResolution	320 x 240 (76,800 pixels) or 640 x 480 with SuperResolution	320 x 240 (76,800 pixels)	240 x 180 (43,200 pixels)
SuperResolution	Yes, on camera and 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		1.75 mRad, D:S 565:1
Field of view	34 °H x 24 °V	24 °H x 17 °V		
Minimum focus distance	15 cm (approx. 6 in)			
IFOV with optional 2x telephoto smart lens	0.46 mRad. D:S is 2145.1	0.65 mRad, D:S 1529:1		0.87 mRad, D:S 1147:1
Field of view	17 °H x 12 °V	12 °H x 9 °V		
Minimum focus distance	45 cm (approx. 18 in)			
IR-Fusion® technology	Picture-in-picture and full screen			
IFOV with optional 4x telephoto smart lens	0.23 mRad. D:S is 4300:1	0.33 mRad, D:S 2941:1		0.44 mRad, D:S 2208:1
Field of view	8.5 °H x 6 °V	6.0 °H x 4.5 °V		
Minimum focus distance	1.5 m (approx. 5 ft)			
IR-Fusion® technology	Picture-in-picture and full screen			
IFOV with optional wide-angle smart lens	1.85 mRad. D:S is 525:1	2.62 mRad, D:S 377:1		3.49 mRad, D:S 283:1
Field of view	68 °H x 48 °V	46 °H x 34 °V		
Minimum focus distance	15 cm (approx. 6 in)			
IR-Fusion® technology	Full screen			
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	Min, Mid, Max IR plus full visible on camera; continously variable in software			
Picture-In-Picture (PIP)	Yes			
Ruggedized touchscreen display	3.5 inch (landscape) 640 x 480 LCD			
Rugged, ergonomic design for one-handed use	Yes			
Thermal sensitivity (NETD)**	≤ 0.05 °C at 30 °C target temp (50 mK)	≤ 0.03 °C at 30 °C target temp (30 mK)	≤ 0.05 °C at 30 °C target temp (50 mK)	
Level and span	Smooth auto and manual scaling			
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 and 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			
Image capture, review, save mechanism	One-handed image capture, review, and save capability			

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

Detailed specifications

	Ti480	Ti450	Ti400	Ti300
Image 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 and full screen review			
Software	Fluke Connect desktop software—full analysis and reporting software with access to the Fluke Connect system			
Export file formats with Fluke Connect® desktop software	Bitmap (.bmp), GIF, JPEG, PNG, TIFF			
Voice annotation	60 seconds maximum recording time per image; reviewable playback on camera, optional bluetooth headset available but not required			
IR-PhotoNotes™	Yes (5 images)			
Text annotation	Yes			
Video recording	Standard and radiometric			
File formats video	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 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	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 +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)			
Operating temperature	–10 °C to +50 °C (14 °F to 122 °F)			
Storage temperature	–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 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 g), 2.5 g IEC 68-2-6			
Shock	25 g, IEC 68-2-29			
Drop	Engineered to withstand 2 meter (6.5 feet) drop with standard lens			
Size (H x W x L)	27.7 cm x 12.2 cm x 16.7 cm (10.9 in x 4.8 in x 6.5 in)			
Weight (battery included)	1.04 kg (2.3 lb)			
Enclosure rating	IEC 60529: IP54 (protected against dust, limited ingress; protection against water spray from all directions)			
Warranty	Two-years (standard), extended warranties are available			
Recommended calibration cycle	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			

Ordering information

FLK-Ti480 60 Hz Infrared Camera
FLK-Ti480 9 Hz Infrared Camera
FLK-Ti450 60 Hz Infrared Camera
FLK-Ti450 9 Hz Infrared Camera
FLK-Ti400 60 Hz Infrared Camera
FLK-Ti400 9 Hz Infrared Camera
FLK-Ti300 60 Hz Infrared Camera
FLK-Ti300 9 Hz Infrared Camera

Included

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; 4 GB micro SD card; rugged, hard carrying case; soft transport bag and adjustable hand strap. **Available by free download:** Fluke Connect® desktop software and user manual.

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
TI-CAR-CHARGER Car Charger
FLK-TI-VISOR3 Sun Visor
BOOK-ITP Introduction to Thermography Principles Book
TI-TRIPOD3 Tripod Mounting Accessory
FLK-TI-BLUETOOTH Bluetooth headset
FLK-TI-SBP3 Additional Smart Battery
FLK-TI-SBC3B Additional Smart Battery Charger

Kits

FLK-TI400 60HZ/FCA* Infrared Camera, 3000 FC DMM, a3001FC iFlex Module
FLK-TI300 60HZ/FCA* Infrared Camera, 3000 FC DMM, a3001FC iFlex Module
FLK-TI400 60HZ/FCC* Infrared Camera, 3-a3001FC iFlex Modules, 805 Vibration Tester
FLK-TI400 9HZ/FCA Infrared Camera, 3000 FC DMM, a3001FC iFlex Module
FLK-TI300 9HZ/FCA Infrared Camera, 3000 FC DMM, a3001FC iFlex Module
FLK-TI400 9HZ/FCC Infrared Camera, 3-a3001FC iFlex Modules, 805 Vibration Tester

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

***Only available in certain countries.**

RF connection time (binding time) may take up to 1 minute.

The Expert Series

Go expert with the Fluke TIX580, TiX560, TiX520 or TiX500, and get up to 640 x 480 resolution along with maximum flexibility of a screen that rotates a full 240 degrees and a 5.7 inch touchscreen LCD. Includes in-field analysis and post-capture image processing on camera, along with other expert-level features and more lens options.



FLUKE®



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 Ti4XX Series and Ti300 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**

Download on the App Store

ANDROID APP ON Google play



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.

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