FLUKE®

Ti400, Ti300 and Ti200 Advanced Performance Infrared Cameras

Technical Data

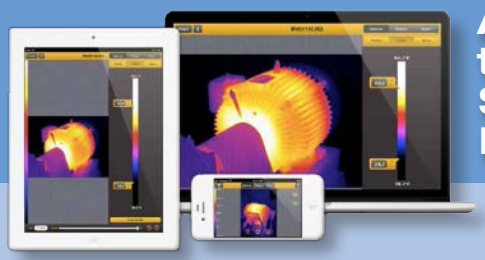
A new generation of tools with next generation performance.



This trio of new Fluke infrared cameras is equipped with LaserSharp™ Auto Focus. Yes, there are other auto focus systems on the market but Fluke took it one step further so you get in-focused images, Every. Single. Time. Every infrared camera user knows that focus is the single most important thing to ensure when conducting an infrared inspection. Without an in-focus image temperature measurements may not be accurate and it's much easier to miss a problem. LaserSharp auto focus tells you exactly where you are focusing. It uses a laser to calculate the distance to your target before it focuses. Place the red laser dot on the object you are inspecting, then pull and release the trigger for a perfect in-focus image.

- Capture up to five additional measurements with CNX™ Wireless System for more complete analysis and reporting*
- Detect and communicate issues faster with patented Fluke IR-Fusion® technology with AutoBlend™ mode
- Faster communication with wireless image transfer directly to your PC, Apple® iPhone® or iPad®
- One-handed, easy-to-use user interface
- Ruggedized high resolution 640x480 capacitive touch screen for quick menu navigation
- Capture additional digital images to show location or additional site details with IR-PhotoNotes™ Annotation System
- Standard and radiometric video recording*
- Streaming video (USB and HDMI)
- Text* and voice recording and annotation gets additional details saved with the image file
- Optional interchangeable lenses for greater flexibility in additional applications
- High-temperature measurement (up to 1200 °C on the Ti400)
- Included SmartView® and SmartView Mobile App Analysis and Reporting Software

** Coming soon via firmware update.*
Users notified via SmartView software when available.



Announcing the new SmartView® Mobile App

Bring your office to your inspection site with the SmartView Mobile App. Create an inspection report on site and communicate directly to your client or manager via your Apple® iPhone® or iPad®.

Optimize: Adjust the image to present problems in the most effective way.

Analyze: Use markers and other tools to quantify the severity of problems.

Communicate: Share inspection results by emailing images or reports to:

- Plan next steps or gain approval for work done before you even leave the job site
- If needed, get assistance analyzing the problem

Fluke SmartView Mobile will increase the return on your infrared camera investment.

It's not just about working faster – it's about working smarter.

Detailed specifications

	Ti400	Ti300	Ti200
Temperature			
Temperature measurement range (not calibrated below –10 °C)	–20 °C to +1200 °C (–4 °F to +2192 °F)	–20 °C to +650 °C (–4 °F to +1202 °F)	
Temperature measurement accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)		
On–screen emissivity correction	Yes (by number and table)		
On–screen reflected background temperature compensation	Yes		
On–screen transmission correction	Yes		
Imaging performance			
Image capture frequency	9 Hz refresh rate or 60 Hz refresh rate depending upon model variation		
Detector type	Focal Plane Array, uncooled microbolometer, 320 x 240 pixels	Focal Plane Array, uncooled microbolometer, 240 X 180 pixels	Focal Plane Array, uncooled microbolometer, 200 X 150 pixels
Thermal sensitivity (NETD)	≤ 0.05 °C at 30 °C target temp (50 mK)		≤ 0.075 °C at 30 °C target temp (75 mK)
Total pixels	76,800	43,200	30,000
Infrared spectral band	7.5 µm to 14 µm (long wave)		
Visual (visible light) camera	Industrial performance 5.0 megapixel		
Standard infrared lens type			
Field of view	24 ° x 17 °		
Spatial resolution (IFOV)	1.31 mRad	1.75 mRad	2.09 mRad
Minimum focus distance	15 cm (approx. 6 in)		
Optional telephoto infrared lens type, available soon			
Field of view	12 ° x 9 °		
Spatial resolution (IFOV)	0.65 mRad	0.87 mRad	1.05 mRad
Minimum focus distance	45 cm (approx. 18 in)		
Optional wide–angle infrared lens type, available soon			
Field of view	46 ° x 34 °		
Spatial resolution (IFOV)	2.62 mRad	3.49 mRad	4.19 mRad
Minimum focus distance	15 cm (approx. 6 in)		
Focus mechanism			
LaserSharp™ Auto Focus System	Yes		
Advanced Manual Focus	Yes		
Image presentation			
Palettes			
Standard	Ironbow, Blue–Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted		
Ultra Contrast™	Ironbow Ultra, Blue–Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra		
Level and span	Smooth auto–scaling and manual scaling of level and span		
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)		
IR–Fusion® information			
Picture–In–Picture (PIP)	Yes		
Full screen infrared	Yes		
AutoBlend™ mode	Yes		
Color alarms (temperature alarms)	High–temperature , low–temperature, and isotherm (user–selectable)		
Image capture and data storage			
Image capture, review, save mechanism	One–handed image capture, review, and save capability		
Storage medium	Micro SD Memory Card, on–board flash memory, save–to–USB capability, direct download via USB–to–PC connection		
File formats	Non–radiometric (.bmp) or (.jpeg) or fully–radiometric (.is2) Video*: non–radiometric (MPEG – encoded .AVI) and fully–radiometric (.IS3)		
	No analysis software required for non–radiometric (.bmp, .jpg and .avi*) files		
Export file formats w/SmartView® software	BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF		
Memory review	Thumbnail view navigation and review selection		
Other time–saving and productivity features			
Voice annotation	60 seconds maximum recording time per image; reviewable playback on imager		
IR–PhotoNotes™	Yes		
Wi–Fi connectivity	Yes, to PC, iPhone®, iPad® and WiFi to LAN*		
Text annotation*	Yes		
Video recording*	Standard and Radiometric		
Streaming Video	Via USB to PC and HDMI to HDMI compatible screen		
CNX™ Wireless System*	Yes*		
Cardinal Compass*	Yes*		
Auto capture (temperature and interval)*	Yes*		
Remote control and operation (for special and advanced applications)	Yes	No	No

** Coming soon via firmware update. Users notified via SmartView software when available.*

General specifications

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
Ruggedized Touchscreen Display (Capacitive)	8.9 cm (3.5 in) diagonal landscape color VGA (640 x 480) LCD with backlight
Controls and adjustments	User selectable temperature scale (°C/°F) Language selection Time/Date set Emissivity selection Reflected background temperature compensation Transmission correction User selectable hot spot and cold spot, and center point on the image Expandable-contractable Measurement Box with MIN-AVG-MAX temp Color alarms User selectable backlight setting Graphical information display preference
Software	SmartView® and SmartView Mobile App - full analysis and reporting software included
Batteries	Two lithium ion rechargeable smart battery packs with five-segment LED display to show charge level, all models
Battery life	Four+ hours continuous use per battery pack (assumes 50 % brightness of LCD and average usage)
Battery charge time	2.5 hours to full charge
AC battery charging	Two-bay ac battery charger (110 V ac to 220 V ac, 50/60 Hz) (included), or in-imager charging. AC mains adapters included. Optional 12 V automotive charging adapter. All models
AC operation	AC operation with included power supply (110 V ac to 220 V ac, 50/60 Hz). AC mains adapters included.
Power saving	User selectable sleep and power off modes
Safety standards	UL 61010-1:2012 CAN/CSA-C22.2 No.61010-1-12 IEC 61010-1 3rd Edition (2010)
Electromagnetic compatibility	EN 61326-1:2006 IEC 61326-1:2005
C Tick	IEC/EN 61326-1
US FCC	CFR 47, Part 15 Subpart B Class B
Vibration	0.03 g2/Hz (3.8 grms), 2.5g IEC 68-2-6
Shock	25 g, IEC 68-2-29
Drop	Engineered to withstand 2 meter (6.5 feet) 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	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-Ti400 9 Hz Thermal Imager, 9 Hz
FLK-Ti400 60 Hz Thermal Imager, 60 Hz
FLK-Ti300 9 Hz Thermal Imager, 9 Hz
FLK-Ti300 60 Hz Thermal Imager, 60 Hz
FLK-Ti200 9 Hz Thermal Imager, 9 Hz
FLK-Ti200 60 Hz Thermal Imager, 60 Hz

Included
Thermal imager with standard infrared lens; ac power supply and battery pack charger (including mains adapters); two, rugged lithium ion smart battery packs; Micro SD memory card with SD adapter; 3m USB cable; 3m HDMI video cable; SmartView® software with free software upgrades for life; rugged, hard carrying case; soft transport bag; adjustable hand strap; printed users manual (five languages); CD user manual; warranty registration card.

Optional accessories

FLK-LENS/TELE2 Telephoto infrared lens (2X magnification)
FLK-LENS/WIDE2 Wide-angle infrared lens
TI-CAR-CHARGER Thermal imager vehicle charger
FLK-TI-VISOR3 Thermal imager visor
BOOK-ITP Introduction to Thermography Principles book
TI-TRIPOD3 Tripod mounting base accessory

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