

# Ti125, Ti110, Ti105, Ti100, Ti95 and Ti90 Industrial-Commercial Infrared Cameras

## Technical Data



Now compatible with Fluke Connect™ Mobile App

### Fluke Infrared Cameras Experience. Performance. Confidence.

The Fluke Ti125, Ti110, Ti105, Ti100, Ti95 and Ti90 Infrared Cameras can save you time and money by finding potential problems before they become costly failures.

- **Fluke Connect™ ShareLive™ video call** lets you collaborate with others, so they see what you see. Get approvals without leaving the field
- **Brilliantly detailed quality images.** Up to **84 % better** spatial resolution than other competitive models\* and view on a 32 % larger screen
- **Precisely blended visual and infrared images** with crucial details to assist in identifying potential problems – IR-Fusion® technology with AutoBlend™ mode (Ti125, Ti110, Ti105 (Mid-IR Mode))
- **Automatically focus** from 1.2 m (4 ft.) and beyond with IR-OptiFlex™ Focus System and as close as 15 cm (6 in) in manual mode
- Instantly **improve thermal sensitivity from 100 mK to 80 mK** when industrial, electrical and building application flexibility is needed with TiR™ mode—2 cameras in 1

### SUPERIOR IMAGE QUALITY

#### SPATIAL RESOLUTION

Ti125, Ti110, Ti105, Ti100  
3.39 mRad

Ti 95, Ti90  
5.6 mRad

#### RESOLUTION

Ti125, Ti110, Ti105, Ti100  
160x120 (19,200 pixels)

Ti95  
80x80 (6,400 pixels)

Ti90  
80x60 (4,800 pixels)

#### FIELD OF VIEW

Ti125, Ti110, Ti105, Ti100  
22.5 °H x 31 °V

Ti95  
26 °H x 26 °V

Ti90  
19.5 °H x 26 °V

#### EXTENSIVE SD MEMORY SYSTEM

Removable 8Gb SD memory card and 8 Gb wireless SD Card (where available)

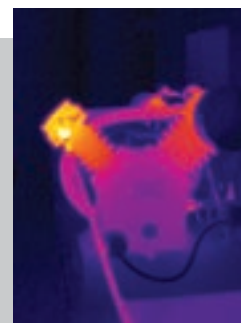
### IR-Fusion® Technology with AutoBlend™ Mode



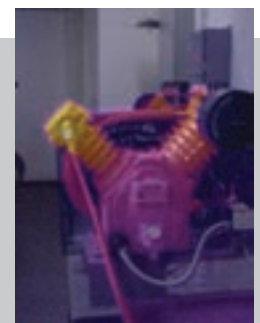
Precisely blended visual and infrared images with crucial details to assist in identifying potential problems.



Air Compressor – Full Visible



Air Compressor – Full Infrared



Air Compressor – AutoBlend™ Mode

\*Compared to industrial hand-held infrared cameras in the same price range, based on MSRP

|   | Ti125   | Ti110                                 | Ti105   | Ti100                          | Ti95                                    | Ti90                                    |
|---|---|---------------------------------------|---|--------------------------------|---|---|
| <b>Key features</b>   |   |                                       |   |                                |   |   |
| <b>IFOV (spatial resolution)</b>                            | 3.39 mRad   |                                       |   | 5.6 mRad                       |   |   |
| Resolution  | 160x120 (19,200 pixels)   |                                       |   | 80x80<br>(6,400 pixels)        | 80x60<br>(4,800 pixels)                 |   |
| Field of view   | 22.5 °H x 31 °V   |                                       |   | 26 °H x 26 °V                  | 19.5 °H x 26 °V                         |   |
| <b>Wireless connectivity</b>                                | Yes   |                                       |   |                                |   |   |
| Fluke Connect™ App compatible                               | Yes, with included wireless SD card (where available)   |                                       |   |                                |   |   |
| CNX™ Wireless System  | Yes (where available)   |                                       |   | —                              |   |   |
| <b>IR-Fusion® technology</b>                                |   |                                       |   |                                |   |   |
| AutoBlend™ mode   | Yes   | Yes (Mid IR Mode)                     | —   |                                |   |   |
| Picture-In-Picture (PIP)                                    | Yes   | PIP (1.2 m (4 ft) to 4.6 m (15 ft))   | —   | PIP (46 cm (18 in) and beyond) | —                                       |   |
| Focus system  | IR-OptiFlex™ focus system<br>15 cm (6 in) and beyond  |                                       | Fixed focus<br>122 cm (48 in) and beyond  |                                | Fixed focus<br>46 cm (18 in) and beyond |   |
| Ruggedized display  | 3.5 inch diagonal (portrait format)   |                                       |   |                                |   |   |
| Rugged, ergonomic design for one-handed use                 | Yes   |                                       |   |                                |   |   |
| Thermal sensitivity (NETD)                                  | ≤ 0.10 °C at 30 °C target temp (100 mK)   |                                       |   |                                |   | ≤ 0.15 °C at 30 °C target temp (150 mK) |
| Enhanced Sensitivity w/TiR™ mode                            | ≤ 0.08 °C at 30 °C target temp (80mK)   |                                       |   | —                              |   |   |
| Temperature measurement range (not calibrated below -10 °C) | -20 °C to +350 °C (-4 °F to +662 °F)  |                                       | -20 °C to +250 °C (-4 °F to +482 °F)  |                                |   |   |
| 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)                               | 2.5 °C  |                                       |   |                                |   |   |
| Minimum span (in auto mode)                                 | 5 °C  |                                       |   |                                |   |   |
| Built-in digital camera (visible light)                     | 2 megapixel industrial performance  |                                       |   | None - IR Only                 | 2 megapixel industrial performance      |   |
| Frame rate  | 9 Hz or 30 Hz versions  |                                       |   | 9 Hz only                      |   |   |
| Laser Pointer   | Yes   |                                       |   | —                              |   |   |
| Torch   | Yes   |                                       |   | —                              |   |   |
| <b>Data storage and image capture</b>                       |   |                                       |   |                                |   |   |
| Extensive SD memory system                                  | Removable 8 Gb SD memory card and 8 Gb wireless SD card (where available); direct download via USB-to-PC connection                 |                                       |   |                                |   |   |
| Image capture, review, save mechanism                       | One-handed image capture, review, and save capability   |                                       |   |                                |   |   |
| File formats image  | Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2); No analysis software required for non-radiometric (.bmp, .jpg) files |                                       |   |                                |   |   |
| Memory review   | Thumbnail view navigation and review selection  |                                       |   |                                |   |   |
| Software  | SmartView® software, Fluke Connect™, and SmartView® Mobile App—full analysis and reporting software                                 |                                       |   |                                |   |   |
| Export file formats with SmartView® software                | BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF   |                                       |   |                                |   |   |
| Voice annotation  | 60 seconds maximum recording time per image; reviewable playback on camera  |                                       | —   |                                |   |   |
| IR-PhotoNotes™  | Yes (3 images)  |                                       | —   |                                |   |   |
| Standard video recording                                    | Yes (AVI with MPEG encoding, up to 5 minutes)   |                                       | —   |                                |   |   |
| Radiometric video recording                                 | Yes   |                                       | —   |                                |   |   |
| Streaming video   | Streaming via USB to PC   |                                       | —   |                                |   |   |
| File formats video  | Non-radiometric (MPEG - encoded .AVI) and fully-radiometric (.IS3)  | Non-radiometric (MPEG - encoded .AVI) | —   |                                |   |   |
| <b>Battery</b>  |   |                                       |   |                                |   |   |
| Batteries (field-replaceable, rechargeable)                 | Two lithium ion smart battery packs with five-segment LED display to show charge level  |                                       | One lithium ion smart battery pack with five-segment LED display to show charge level |                                |   |   |
| 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  |                                       |   |                                |   |   |

|   | Ti125   | Ti110  | Ti105   | Ti100  | Ti95   | Ti90                            |
|---|---|--|---|--|--|---------------------------------|
| <b>Battery</b>  |   |  |   |  |  |                                 |
| AC battery charging system                              | Two-bay ac battery charger (110 V AC to 220 V AC, 50/60 Hz) (included), or in-imager charging. AC mains adapters included in 9 Hz versions. Optional 12 V automotive charging adapter     |  | In-imager charging. AC mains adapters included in 9 Hz versions. Optional two-bay ac battery charger (110 V AC to 220 V AC, 50/60 Hz) or optional 12 V automotive charging adapter. |  |  |                                 |
| 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   |  |   |  |  |                                 |
| <b>Temperature measurement</b>                          |   |  |   |  |  |                                 |
| Accuracy  | ± 2 °C or 2 % (at 25 °C nominal, whichever is greater)  |  |   |  |  |                                 |
| On-screen emissivity correction                         | Yes (both number and table)   |  |   |  |  |                                 |
| On-screen reflected background temperature compensation | Yes   |  |   |  |  |                                 |
| On-screen transmission correction                       | Yes   |  | —   |  |  |                                 |
| <b>Color Palettes</b>                                   |   |  |   |  |  |                                 |
| Standard Palettes                                       | 8: Ironbow, Blue-Red, High-Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted  |  | 7: Ironbow, Blue-Red, High-Contrast, Amber, Hot Metal, Grayscale, Grayscale Inverted  | 4: Ironbow, Blue-Red, Amber, Grayscale           | 6: Ironbow, Blue-Red, High-Contrast, Amber, Hot Metal, Grayscale | 3: Ironbow, Blue-Red, Grayscale |
| 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                                      | 3: Ironbow Ultra, Blue-Red Ultra, Grayscale Ultra                  | —   |  |  |                                 |
| <b>General specifications</b>                           |   |  |   |  |  |                                 |
| Color alarms (temperature alarms)                       | High temperature, low temperature, isotherm   | High temperature, low temperature                                  | High temperature  | —  |  |                                 |
| Infrared spectral band                                  | 7.5 µm to 14 µm (long wave)   |  |   |  | 9 µm to 15 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)  |  |   |  |  |                                 |
| Relative humidity                                       | 10 % to 95 %, non-condensing  |  |   |  |  |                                 |
| Center-point temperature measurement                    | Yes   |  |   |  |  |                                 |
| Spot markers  | User selectable hot spot and cold spot markers, 3 user definable spot markers on camera and in Smartview® Software  | 3 user definable spot markers on camera and in Smartview® Software |   | Hot and cold spot markers                        |  | —                               |
| Center box (MIN-MAX-AVG)                                | Expandable-contractable measurement box with MIN-MAX-AVG temp   |  |   | Fixed-size measurement box with MIN-MAX-AVG temp |  | —                               |
| Safety standards  | CSA (US and CAN): C22.2 No. 61010-1-04, UL: UL STD 61010-1 (2nd Edition), ISA: 82.02.01   |  |   |  |  |                                 |
| Electromagnetic compatibility                           | EN 61326-1:2006 IEC 61326-1:2005  |  |   |  |  |                                 |
| C Tick  | IEC/EN 61326-1  |  |   |  |  |                                 |
| US FCC  | EN61326-1; FCC Part 5   |  |   |  |  |                                 |
| Vibration   | 2G, IEC 68-2-6  |  |   |  |  |                                 |
| Shock   | 25G, IEC 68-2-29  |  |   |  |  |                                 |
| Drop  | Engineered to withstand 2 meter (6.5 feet) drop   |  |   |  |  |                                 |
| Size (H x W x L)  | 28.4 cm x 8.6 cm x 13.5 cm (11.2 in x 3.4 in x 5.3 in)  |  |   |  |  |                                 |
| Weight (battery included)                               | 0.726 kg (1.6 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-Ti125 30HZ** Industrial-Commercial Thermal Imager
- FLK-Ti125 9HZ** Industrial-Commercial Thermal Imager
- FLK-Ti110 30HZ** Industrial-Commercial Thermal Imager
- FLK-Ti110 9HZ** Industrial-Commercial Thermal Imager
- FLK-Ti105 30Hz** Industrial-Commercial Thermal Imager
- FLK-Ti105 9HZ** Industrial-Commercial Thermal Imager
- FLK-Ti100 9HZ** General Use Thermal Imager
- FLK-Ti95 9HZ** General Use Thermal Imager
- FLK-Ti90 9HZ** General Use Thermal Imager

**Included with product**

Thermal imagers are shipped with ac power adapter, lithium ion smart battery (Ti125 includes 2 each—other models 1 each), USB cable, SD memory card, hard carrying case (Ti125, Ti110, Ti105, Ti100 only), soft transport bag, adjustable hand strap (except Ti90), printed users manual in English, Spanish, French, German and Simplified Chinese, others on CD, SmartView® software and warranty registration card. Ti125 model also include a two-bay charging base and a multi-format USB memory card reader. Fluke Connect wireless SD card is included with purchase in certain countries, but shipped separately.

**Optional**

- FLK-FC-SD 8GB** Fluke Connect Wireless SD Card
- FLK-TI-VISOR2** Sun Visor
- FLK-TI-TRIPOD2** Tripod Mounting Accessory
- BOOK-ITP** Introduction to Thermography Principles Book
- FLK-TI-SBP3** Additional Smart Battery
- FLK-TI-SBC3** Additional Smart Battery Charger
- TI-CAR CHARGER** Car Charger

**Fluke Connect Kits**

- FLK-TI125 30HZ/FCB** Ti125 Thermal Imager, (3) a3001 FC iFlex Modules, 805 FC
- FLK-TI105 30HZ/FCA** Ti105 Thermal Imager, 3000 FC DMM, a3001 FC iFlex Module
- FLK-TI95 9HZ/FCA** Ti95 Thermal Imager, 3000 FC DMM, a3001 FC iFlex Module
- FLK-TI95 9HZ/FCC** Ti95 Thermal Imager, (1) a3001 FC iFlex Module

**Fluke Connect modules**

- FLK-a3000 FC** AC Current Clamp Module
- FLK-a3001 FC** iFlex™ AC Current Clamp Module
- FLK-a3002 FC** AC/DC Current Module
- FLK-v3000 FC** AC Voltage Module
- FLK-v3001 FC** DC Voltage Module
- FLK-t3000 FC** K-Type Temperature Module

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



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™ (4.3 and up) and iOS (4s and later) 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:**



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



For a high performance, feature rich infrared camera that produces consistently in-focus images with a touch of a button EVERY, SINGLE, TIME, consider the Ti400 series with LaserSharp® Auto Focus.

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

**Fluke Corporation**  
PO Box 9090, Everett, WA 98206 U.S.A.  
**Fluke Europe B.V.**  
PO Box 1186, 5602 BD Eindhoven, The Netherlands

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**For more information call:**  
In the U.S.A. (800) 443-5853 or Fax (425) 446-5116  
In Europe/M-East/Africa +31 (0)40 267 5100 or Fax +31 (0)40 267 5222  
In Canada (800)-36-FLUKE or Fax (905) 890-6866  
From other countries +1 (425) 446-5500 or Fax +1 (425) 446-5116  
Web access: <http://www.fluke.com>

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