

**Ti125, Ti110, Ti105, Ti100, Ti95,  
Ti90, TiR125, TiR110 and TiR105  
Thermal Imagers**  
The Fluke Performance Series

**Technical Data**



**Fluke Thermal Imagers  
Experience. Performance. Confidence.**

The Fluke Performance Series Thermal Imagers can save you time and money by finding potential problems before they become costly failures.

- **Precisely blended visual and infrared images** with crucial details to assist in identifying potential problems—IR-Fusion® technology with AutoBlend™ mode<sup>1</sup>
- **Easily see potential problems** with the large 3.5 inch LCD, a full 32% larger than many competitive models.
- **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<sup>1</sup>
- **Building diagnostic models available**—get 20% better thermal sensitivity than standard Ti125, Ti110, and Ti105 models (80 mK) due to a lower temperature range with TiR models (TiR125, TiR110, TiR105)

**SUPERIOR IMAGE QUALITY**

**SPATIAL RESOLUTION**  
**Ti125, Ti110, Ti105, Ti100**  
 3.39 mRad  
**Ti95, 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 SD memory card

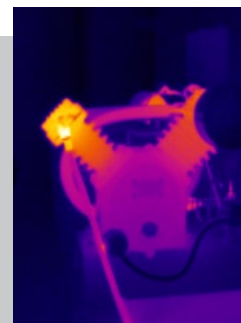
**IR-Fusion® Technology with  
AutoBlend™ Mode**



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

<sup>1</sup>Included features vary by model; see table for model specifications.

|   | Ti125 / TiR125   | Ti110 / TiR110  | Ti105 / TiR105  | Ti100                                   | Ti95   | Ti90                                    |
|---|--|---|---|---|--|---|
| <b>Key features</b>   |  |   |   |   |  |   |
| <b>IFOV (spatial resolution)</b>                            | 3.39 mRad  |   |   | 5.6 mRad                                |  |   |
| Detector resolution   | 160x120 (19,200 pixels)  |   |   | 80x80 (6,400 pixels)                    | 80x60 (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  |   |   |   |  |   |
| CNX™ Wireless System  | Yes (where available)  |   |   | –                                       |  |   |
| <b>IR-Fusion® technology</b>                                |  |   |   |   |  |   |
| AutoBlend™ mode   | Mid IR and Min IR  |   | Mid IR  | –                                       |  |   |
| Picture-In-Picture (PIP)                                    | Max IR PIP, Mid IR PIP, Min IR PIP   |   | Max IR PIP, Mid IR PIP                                | –                                       | Max IR PIP   | –                                       |
| Focus system  | IR-OptiFlex™ focus system<br>Minimum focus distance, 15 cm (6 in)  |   | Fixed focus<br>Minimum focus distance, 122 cm (48 in) |   | Fixed focus<br>Minimum focus distance, 46 cm (18 in) |   |
| Ruggedized display  | 3.5 inch diagonal (portrait format)  |   |   |   |  |   |
| Rugged, ergonomic design for one-handed use                 | Yes  |   |   |   |  |   |
| Thermal sensitivity (NETD)                                  | Standard models: ≤ 0.10 °C at 30 °C target temp (100 mK)<br>TiR models: ≤ 0.08 °C at 30 °C target temp (80 mK)                         |   |   | ≤ 0.10 °C at 30 °C target temp (100 mK) |  | ≤ 0.15 °C at 30 °C target temp (150 mK) |
| Temperature measurement range (not calibrated below -10 °C) | -20 °C to +350 °C (-4 °F to +662 °F)<br>(TiR125: -20 °C to +150 °C (-4 °F to +302 °F))   | -20 °C to +250 °C (-4 °F to +482 °F)<br>(TiR110 and TiR105: -20 °C to +150 °C (-4 °F to +302 °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  | 30 Hz or 9 Hz versions (TiR models: 9 Hz only)   |   |   | 9 Hz only                               |  |   |
| Laser pointer   | Yes  |   |   | –                                       |  |   |
| LED light (torch)   | Yes  |   |   | –                                       |  |   |
| <b>Data storage and image capture</b>                       |  |   |   |   |  |   |
| Extensive SD memory system                                  | Removable SD memory card; 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);<br>No analysis software required for non-radiometric (.bmp, .jpg) files |   |   |   |  |   |
| Memory review   | Thumbnail view navigation and review selection   |   |   |   |  |   |
| Software  | SmartView® software 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  | –   |   |   |  |   |
| File formats video  | Non-radiometric (MPEG - encoded .AVI) and fully-radiometric (.IS3)   | Non-radiometric (MPEG - encoded .AVI)   | –   |   |  |   |
| Streaming video (remote display)                            | Streaming via USB to PC  | –   |   |   |  |   |
| <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 / TiR125  | Ti110 / TiR110  | Ti105 / TiR105   | Ti100                                  | Ti95   | Ti90                            |
|---|---|---|------------------|--|--|---------------------------------|
| <b>Battery</b>  |   |   |                  |  |  |                                 |
| Battery charging system                                 | Two-bay battery charger or in-imager charging. Optional 12 V automotive charging adapter  | In-imager charging. Optional two-bay battery charger or 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   |   |                  |  |  |                                 |
| <b>Temperature measurement</b>                          |   |   |                  |  |  |                                 |
| 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   |   | –                |  |  |                                 |
| <b>Color palettes</b>                                   |   |   |                  |  |  |                                 |
| Standard palettes                                       | 8: Ironbow, Blue-Red, High-Contrast, Amber, Amber Inverted, 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 temperature  | Hot and cold spot markers   | –   |                  |  | 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   |   |                  | –                                      | Fixed-size measurement box with MIN-MAX-AVG temp                 | –                               |
| Safety standards  | CSA: 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)                               | 0.73 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 |   |                  |  |  |                                 |

Note: Specifications are based on models with serial number starting with 1406 or later. Specifications may differ on earlier models.

## Ordering information

**FLK-Ti125 9HZ** Industrial-Commercial Thermal Imager

**FLK-Ti110 9HZ** 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, universal AC adapters, 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, and adjustable hand strap (except Ti90). The users manual and SmartView® software in supported languages are available for free download from Fluke.com. Ti125 models also include a two-bay battery charger and a multi-format USB memory card reader.

### Optional

**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

### CNX wireless modules

**FLK-CNX i3000** iFlex™ AC Current Clamp Module

**FLK-CNX a3000** AC Current Clamp Module

**FLK-CNX v3000** AC Voltage Module

**FLK-CNX t3000** K-Type Temperature Module

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



## The Professional Series

For a high performance, feature rich thermal imager that produces consistently in-focus images with a touch of a button EVERY, SINGLE, TIME, consider the Professional Series with LaserSharp® Auto Focus.

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

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