

**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™ mode¹
- **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 mode¹
- **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

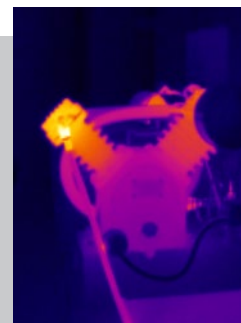
**IR-Fusion® Technology with
AutoBlend™ Mode**



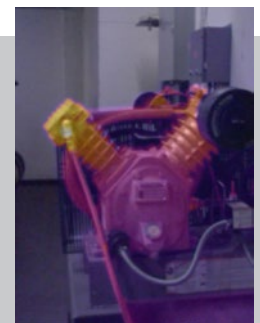
Precisely blended visual and infrared images with crucial details to assist in identifying potential problems.



Air Compressor – Full Visible



Air Compressor – Full Infrared



Air Compressor – AutoBlend™ Mode

¹Included features vary by model; see table for model specifications.

	Ti125 / TiR125	Ti110 / TiR110	Ti105 / TiR105	Ti100	Ti95	Ti90
Key features						
IFOV (spatial resolution)	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
Wireless connectivity	Yes					
CNX™ Wireless System	Yes (where available)				–	
IR-Fusion® technology						
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 Minimum focus distance, 15 cm (6 in)		Fixed focus Minimum focus distance, 122 cm (48 in)		Fixed focus 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) 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) (TiR125: -20 °C to +150 °C (-4 °F to +302 °F))	-20 °C to +250 °C (-4 °F to +482 °F) (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				–	
Data storage and image capture						
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); 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	–				
Battery						
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
Battery						
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					
Temperature measurement						
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	—				
Color palettes						
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	—			
General specifications						
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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