

Test Equipment Solutions Datasheet

Test Equipment Solutions Ltd specialise in the second user sale, rental and distribution of quality test & measurement (T&M) equipment. We stock all major equipment types such as spectrum analyzers, signal generators, oscilloscopes, power meters, logic analysers etc from all the major suppliers such as Agilent, Tektronix, Anritsu and Rohde & Schwarz.

We are focused at the professional end of the marketplace, primarily working with customers for whom high performance, quality and service are key, whilst realising the cost savings that second user equipment offers. As such, we fully test & refurbish equipment in our in-house, traceable Lab. Items are supplied with manuals, accessories and typically a full no-quibble 2 year warranty. Our staff have extensive backgrounds in T&M, totalling over 150 years of combined experience, which enables us to deliver industry-leading service and support. We endeavour to be customer focused in every way right down to the detail, such as offering free delivery on sales, covering the cost of warranty returns BOTH ways (plus supplying a loan unit, if available) and supplying a free business tool with every order.

As well as the headline benefit of cost saving, second user offers shorter lead times, higher reliability and multivendor solutions. Rental, of course, is ideal for shorter term needs and offers fast delivery, flexibility, try-before-you-buy, zero capital expenditure, lower risk and off balance sheet accounting. Both second user and rental improve the key business measure of Return On Capital Employed.

We are based near Heathrow Airport in the UK from where we supply test equipment worldwide. Our facility incorporates Sales, Support, Admin, Logistics and our own in-house Lab.

All products supplied by Test Equipment Solutions include:

- No-quibble parts & labour warranty (we provide transport for UK mainland addresses).
- Free loan equipment during warranty repair, if available.
- Full electrical, mechanical and safety refurbishment in our in-house Lab.
- Certificate of Conformance (calibration available on request).
- Manuals and accessories required for normal operation.
- Free insured delivery to your UK mainland address (sales).
- Support from our team of seasoned Test & Measurement engineers.
- ISO9001 quality assurance.

Test equipment Solutions Ltd
Unit 8 Elder Way
Waterside Drive
Langley
Berkshire
SL3 6EP

T: +44 (0)1753 596000
F: +44 (0)1753 596001

Email: info@TestEquipmentHQ.com
Web: www.TestEquipmentHQ.com



Ti125, Ti110, Ti105, Ti100, Ti95, Ti90, TiR125, TiR110 and TiR105 Infrared Cameras

The Fluke Performance Series

Technical Data



Now compatible with Fluke Connect™ Mobile App¹

Fluke Infrared Cameras Experience. Performance. Confidence.

The Fluke Performance Series 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 field¹
- **Precisely blended visual and infrared images** with crucial details to assist in identifying potential problems – IR-Fusion® technology with AutoBlend™ mode²
- **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 mode²
- **Building diagnostic models** – get 20% better thermal sensitivity (80 mK) with a lower temperature range with TiR models (TiR125, TiR110, TiR105) compared to standard Ti125, Ti110 and Ti105 models

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 and wireless SD Card (where available)

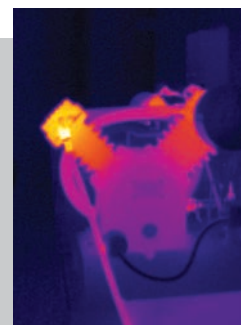
IR-Fusion® Technology with AutoBlend™ Mode



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

¹Within your provider's wireless service area; Fluke Connect™ is not available in all countries.
²Included 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					
Fluke Connect™ app compatible	Yes, with included wireless SD card (where available)					
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)	Ti125: -20 °C to +350 °C (-4 °F to +662 °F) TiR125: -20 °C to +150 °C (-4 °F to +302 °F)	Ti110 and Ti105: -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 and 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™ (where available), 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)					

	Ti125/TiR125	Ti110/TiR110	Ti105/TiR105	Ti100	Ti95	Ti90
Battery						
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	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 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
FLK-TiR125 9HZ Building Diagnostics Thermal Imager
FLK-TiR110 9HZ Building Diagnostics Thermal Imager
FLK-TiR105 9HZ Building Diagnostics 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, Fluke Connect™ wireless SD card (wherever Fluke Connect™ is available), 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-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 Professional Series with LaserSharp® Auto Focus.

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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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