FLUKE®

TiS75, TiS65, TiS60, TiS55, TiS50, TiS45, TiS40, TiS20 and TiS10 Infrared Cameras
The Fluke Performance Series
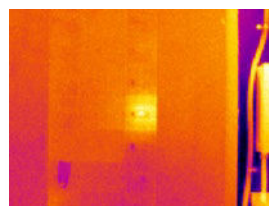
**Fluke Connect®
compatible**

Rugged. Accurate. Built to perform.

- Save time–wirelessly sync images directly from your camera to the Fluke Connect® system, and attach to an asset record or work order. Make faster decisions by accessing inspection measurements from anywhere. Team members can instantly see the same data, at the inspection site and the office.

- Get the context of the visual and infrared details all in one precisely blended or picture-in-picture image with **IR-Fusion® technology**

- Get precisely focused images from as close as 15 cm (6 in) with **manual focus**, or choose **fixed focus** for faster images without the need to focus from 45 cm (1.5 ft) and beyond

- Monitor your battery charge and avoid an unexpected loss of power with the **smart battery** with LED charge indicator

- Get easy access to saved images with a **removable SD card**

- Digitally document critical information such as the location of the equipment or the motor nameplate with the infrared image using **IR-PhotoNotes™** or **voice annotation***
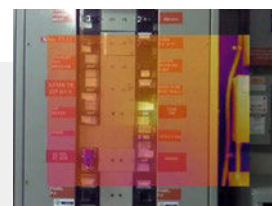
GOOD IMAGE QUALITY WITH UP TO 320 X 240 RESOLUTION

RESOLUTION	FIELD OF VIEW
TiS75	35.7 °H x 26.8 °V
320 x 240	
D:S 514:1	
TiS65/60	
260 x 195	
D:S 417:1	
TiS55/50	
220 x 165	
D:S 353:1	
TiS45/40	
160 x 120	
D:S 257:1	
TiS20	
120 x 90	
D:S 193:1	
TiS10	
80 x 60	
D:S 128:1	

See the problem and location in one image with IR-Fusion® technology.

Full infrared

50% blending, picture-in-picture mode

50% blending

*Varies by model

Detailed specifications

FLUKE ®

	TiS75	TiS65|TiS60	TiS55|TiS50	TiS45|TiS40	TiS20	TiS10
Key features						
IFOV (spatial resolution)	2.0 mRad	2.4 mRad	2.8 mRad	3.9 mRad	5.2 mRad	7.8 mRad
Infrared resolution	320 x 240 (76,800 pixels)	260 x 195 (50,700 pixels)	220 x 165 (36,300 pixels)	160 x 120 (19,200 pixels)	120 x 90 (10,800 pixels)	80 x 60 (4,800 pixels)
Field of view	35.7 °H x 26.8 °V					
Distance to spot	514:1	417:1	353:1	257:1	193:1	128:1
Temperature measurement range (calibrated below –10 °C for MF**)	–20 °C to +550 °C (–4 °F to 1022 °F)	–20 °C to +550 °C (–4 °F to 1022 °F)	–20 °C to +450 °C (–4 °F to 842 °F)	–20 °C to +350 °C (–4 °F to 662 °F)	–20 °C to +350 °C (–4 °F to 662 °F)	–20 °C to +250 °C (–4 °F to 482 °F)
Focus system	Manual focus, minimum focus distance 15 cm (~6 in)	Fixed focus, minimum focus distance 45 cm (~18 in) / Manual focus, minimum focus distance 15 cm (~6 in)	Fixed focus, minimum focus distance 45 cm (~18 in)	Manual focus, minimum focus distance 15 cm (~6 in)	Fixed focus, minimum focus distance 45 cm (~18 in)	
Wireless connectivity	Yes, to PC, iPhone® and iPad® (iOS 4s and later), Android™ 4.3 and up, and WiFi to LAN (where available)					
Fluke Connect® app compatible	Yes*, connect your camera to your smartphone, and images taken automatically upload to the Fluke Connect® app for saving and sharing					
Fluke Connect® Assets optional software	Yes*, assign images to assets and create work orders. Easily compare measurement types–whether mechanical, electrical or infrared images–in one location					
Fluke Connect® Instant Upload	Yes*, connect your camera to your building's WiFi network, and images taken automatically upload to the Fluke Connect® system for viewing on your smartphone or PC					
Fluke Connect® tool compatible	Yes*, connects wirelessly to select Fluke Connect® enabled tools and displays measurements on camera screen. Five simultaneous connections supported					
IR-Fusion® technology	Yes, adds the context of the visible details to your infrared image					–
AutoBlend™ mode	100 %, 75 %, 50 %, 25 % IR plus full visible on camera; continuously variable in software				100 %, 50 % IR and full visible on camera; continuously variable in software	100 % IR and full visible on camera; continuously variable in software
Picture-In-Picture (PIP)	100 %, 75 %, 50 %, 25 % IR; continuously variable in software				Not available on camera; continuously variable in software	
Ruggedized display	3.5 inch (landscape) 320 x 240 LCD					
Rugged, ergonomic design for one-handed use	Yes					
Thermal sensitivity (NETD)	≤ 0.08 °C at 30 °C target temp (80 mK)			≤ 0.09 °C at 30 °C target temp (90 mK)	≤ 0.10 °C at 30 °C target temp (100 mK)	≤ 0.15 °C at 30 °C target temp (150 mK)
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 (4.5 °F)					
Minimum span (in auto mode)	5 °C (9.0 °F)					
Built-in digital camera (visible light)	5MP					
Frame rate	30 Hz or 9 Hz versions	9 Hz	30 Hz or 9 Hz versions	30 Hz or 9 Hz versions	9 Hz	
Laser pointer	Yes				–	
Data storage and image capture						
Extensive memory options	Internal 4GB memory and 4GB micro SD card				Internal 4GB memory (includes slot for optional micro SD card)	
Image capture, review, save mechanism	One-handed image capture, review, and save capability					
Image file formats	Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2); No analysis software required for non-radiometric (.bmp, .jpg) files					
Memory review	–					
Software	Fluke Connect® desktop software—full analysis and reporting software with access to the Fluke Connect system					
Export file formats with software	Bitmap (.bmp), GIF, JPEG, PNG, TIFF					
Voice annotation	60 seconds maximum recording time per image; reviewable playback on camera; Bluetooth headset required (sold separately)				–	
IR-PhotoNotes™	Yes (3 images)		Yes (1 image)		–	
Video recording	Standard and radiometric			–		

*Fluke Connect® analysis and reporting software is available in all countries but Fluke Connect is not. Please check availability with your authorized Fluke distributor.
**MF refers to manual focus

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Detailed specifications

	TiS75	TiS65|TiS60	TiS55|TiS50	TiS45|TiS40	TiS20	TiS10
Video file formats	Non-radiometric (MPEG – encoded .avi) and fully radiometric (.is3)		–			
Streaming video (remote display)	Yes, see the live stream of the camera display on your PC or smartphone. Via USB, WiFi hotspot, or WiFi network to Fluke Connect® desktop software; or via WiFi hotspot to the Fluke Connect® app on a smartphone		–			
Auto capture (temperature and interval)	Yes					
Battery						
Batteries (field-replaceable, rechargeable)	Two lithium ion smart battery pack 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					
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 12v automotive charging adapter sold separately			
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						
Temperature measurement range (not calibrated below 10 °C for FF*)	–20 °C to +550 °C (–4 °F to 1022 °F)	–20 °C to +550 °C (–4 °F to 1022 °F)	–20 °C to +450 °C (–4 °F to 842 °F)	–	–20 °C to +350 °C (–4 °F to 662 °F)	–20 °C to +250 °C (–4 °F to 482 °F)
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	–	Yes	–	Yes	–
Color palettes						
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	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		–			
General specifications						
Color alarms (temperature alarms)	High temperature, low temperature, isotherms (within range)			High temperature, low temperature	–	
Infrared spectral band	7.5 µm to 14 µm					
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					
Center-point temperature measurement	Yes					
Spot temperature	Hot and cold spot markers					
User-definable spot markers	3		2		1	–
Center box	Expandable-contractible measurement box with MIN-MAX-AVG temp display			–		
Safety standards	EN 61010-1: CAT none, pollution degree 2, EN 60825-1: Class 2, EN 60529, EN 62133 (lithium battery)					
Electromagnetic compatibility	EN 61326-1:2006, EN 55011: Class A, EN 61000-4-2, EN 61000-4-3					
C Tick	IEC/EN 61326-1					
US FCC	EN61326-1; FCC Part 5, EN 55011: Class A, EN 61000-4-2					
Vibration and Shock	2G, IEC 68-2-6 and 25G, IEC 68-2-29					
Drop	Engineered to withstand 2 meter (6.5 feet) drop					
Size (H x W x L)	26.7 cm x 10.1 cm x 14.5 cm (10.5 in x 4.0 in x 5.7 in)					
Weight (battery included)	Fixed Focus .72 kg (1.6 lb), Manual focus .77 kg (1.7 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					

*FF refers to fixed focus

Ordering information

FLK-TiS75 30HZ Infrared Camera
FLK-TiS75 9HZ Infrared Camera
FLK-TiS65 30HZ Infrared Camera
FLK-TiS65 9HZ Infrared Camera
FLK-TiS60 9HZ Infrared Camera
FLK-TiS55 30HZ Infrared Camera
FLK-TiS55 9HZ Infrared Camera
FLK-TiS50 9HZ Infrared Camera
FLK-TiS45 30HZ Infrared Camera
FLK-TiS45 9HZ Infrared Camera
FLK-TiS40 9HZ Infrared Camera
FLK-TiS20 9HZ Infrared Camera
FLK-TiS10 9HZ Infrared Camera

Included
Infrared camera; AC power supply (including universal AC adapters); two-bay smart battery charger (TiS75, TiS65, TiS60 only); rugged lithium ion smart battery (TiS75, TiS65/60 include 2 each—other models 1 each); USB cable; 4 GB micro SD card (TiS75, TiS65/60, TiS55/50, TiS45 only); rugged, hard carrying case (TiS75, TiS65/60, TiS55/50; TiS45/40); soft transport bag; adjustable hand strap (TiS75, TiS65/60, TiS55/50, TiS45/40). **Available by free download:** desktop software and user manual.

Optional accessories
FLK-BLUETOOTH Bluetooth Headset
FLK-TI-TRIPOD3 Tripod Mounting Accessory
BOOK-ITP Introduction to Thermography Principles Book
FLK-TI-SBP3 Additional Smart Battery
FLK-TI-SBC3B Smart Battery Charger
TI-CAR CHARGER Car Charger

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-a3003 FC DC Wireless Clamp
FLK-a3004 FC DC Wireless Clamp
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.

Preventive maintenance simplified. Rework eliminated.

Save time and improve the reliability of your maintenance data by wirelessly syncing measurements using the Fluke Connect® system.

- Eliminate data-entry errors by saving measurements directly from the tool and associating them with the work order, report or asset record.
- Maximize uptime and make confident maintenance decisions with data you can trust and trace.
- Move away from clipboards, notebooks and multiple spreadsheets with a wireless one-step measurement transfer.
- Access baseline, historical and current measurements by asset.
- Share your measurement data using ShareLive™ video calls and emails.
- The Fluke Performance Series is part of a growing system of connected test tools and equipment maintenance software. Visit the website to learn more about the Fluke Connect® system.

Find out more at **flukeconnect.com**

All trademarks are the property of their respective owners. WiFi or cellular service required to share data. Smartphone, wireless service and data plan not included with purchase. First 5 GB of storage is free. Phone support details can be viewed at **fluke.com/phones**.

Smart phone wireless service and data plan not included with purchase. Fluke Connect is not available in all countries.

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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Fluke 971
Temperature Humidity Meter

Technical Data

Quickly take accurate humidity and temperature readings in the air. Temperature and humidity are two important factors in maintaining optimal comfort levels and good indoor air quality. The Fluke 971 is invaluable for facility maintenance and utility technicians, HVAC–service contractors, and specialists who assess indoor air quality (IAQ). Lightweight, rugged, and easy to hold, the Fluke 971 is the perfect tool for monitoring problem areas.

The Fluke 971 has:

- Backlit dual display of humidity and temperature
- 99 record storage capacity
- Ergonomic design with belt clip and protective holster
- Quick-response capacitance sensor with protective cover

General Features

- Compact and lightweight (190 g/6.7 oz)
- Temperature range from –20 °C to 60 °C (–4 °F to 140 °F)
- Measures dew point and wet bulb
- Relative humidity from 5 % to 95 %
- Min/Max/Avg data hold
- Low battery indicator

Specifications

Temperature range	–20 °C to 60 °C (–4 °F to 140 °F)
Temperature accuracy	
0 °C to 45 °C	± 0.5 °C
–20 °C to 0 °C and 45 °C to 60 °C	± 1.0 °C
32 °F to 113 °F	± 1.0 °F
–4 °F to 32 °F and 113 °F to 140 °F	± 2.0 °F
Resolution	0.1 °C / 0.1 °F
Temperature update rate	500 ms
Temperature sensor type	NTC
Relative humidity range	5 % to 95 % R.H.
Relative humidity accuracy	
10 % to 90 % R.H. @ 23 °C (73.4 °F)	± 2.5 % R.H.
<10 %, > 90 % R.H. @ 23 °C (73.4 °F)	± 5.0 % R.H.
Resolution	0.1 % R.H.
Response time (humidity)	For 90 % of total range – 60 sec. with 1 m/s air movement
Humidity sensor	Electronic capacitance polymer film sensor
Data storage	99 points

Specifications cont.

Operating temperature	
Temperature	–20 °C to 60 °C (–4 °F to 140 °F)
Humidity	0 °C to 55 °C (32 °F to 131 °F)
Storage temperature	–20 °C to 60 °C (–4 °F to 140 °F) at < 80 % R.H. (with battery removed)
Weight	190 g (6.7 oz)
Dimensions (HxWxD)	194 mm x 60 mm x 34 mm (7.6 in x 2.4 in x 1.3 in)
Battery type	4 AAA alkaline batteries
Battery life	200 Hours
Safety approval	Electromagnetic compatibility: Complies with EN 61326–1
Warranty	12 months

* Humidity sensor hysteresis (excursion of 10 % to 90 % to 10 % R.H.): ± 1 % R.H. with 1 m/s air movement
* Temperature coefficient: 0.1 times the applicable accuracy specification per °C from 0 °C to 18 °C and 28 °C to 50 °C (32 °F to 64 °F and 83 °F to 122 °F)

Other IAQ Tools from Fluke

Fluke 983 Particle Counter

- Simultaneous display of six size channels on a bright, backlit LCD
- 5000 sample record capacity
- Logged samples include date, time, particle counts, sample volume, temperature and relative humidity
- Rechargeable NiMH battery providing up to 8 hours continuous operation
- Selectable sample time, count data, programmable delay
- Built-in relative humidity and temperature sensors

CO-220 Carbon Monoxide Meter

- Standalone CO meter that does not require a digital multimeter
- Large backlit LCD displays CO levels from 0 to 999 ppm.
- Beeper triggers with increasing frequency as CO levels rise.
- MAX hold function stores and displays the maximum CO level.
- Automatic sensor zeroing and self-test upon startup.

CO-205 Aspirator Kit

The CO-205 flue gas sampling accessory kit contains all the components necessary to provide a clean sample for the Fluke family of gas measuring devices. The CO-205 accessory kit includes:

- Stainless steel sampling tube
- Industrial-grade hand operated aspirator to draw flue sample
- Easily replaceable particulate filter
- Specially designed nose cap for connection to the Fluke CO-220.

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

Ordering Information

Fluke-971	Temperature Humidity Meter
Fluke-983	Particle Counter
Fluke-CO-205	Aspirator Kit
Fluke-CO-220	Carbon Monoxide Meter