FLUKE®

Fluke Building Diagnostic Thermal Imagers

Models: TiR32, TiR29 and TiR27.
Three models specifically for buildings applications.

Technical Data

P3 Series

Proven
Practical
Performance

The P3 Series: Superior, not Superfluous. Fluke is how other tools are measured.

TiR27
- 240x180 IR resolution
- 43,200 total IR pixels

TiR29
- 280x210 IR resolution
- 58,800 total IR pixels

TiR32
- 320x240 IR resolution
- 76,800 total IR pixels

New

Made in the U.S.A. of U.S. and non U.S. parts

The greatest technological advancement in thermography may be how Fluke has made it so simple to capture images and analyze data right out of the box.

Superior image quality
Industry-leading thermal sensitivity and spatial resolution combined with a high definition display, creates the sharpest images in the industry.

One-handed, easy-to-use interface
With just a push of your thumb, go from one-handed manual smart focus to adding picture-in-picture and even add voice comments.

Torture tested™
Before a Fluke goes into your hands, we drop it from ours. Only Fluke thermal imagers are designed from the inside out to withstand a 6.5 ft drop.

Patented Fluke IR-Fusion®
(Picture-in-picture and auto blending)
Precision visible and IR image alignment allows Fluke to offer the only on-camera blended infrared and visible image to better diagnose issues.

Interchangeable lenses
Interchangeable wide-angle and IR-Fusion compatible telephoto lenses to cover any application.

Fluke. *Not just infrared, infrared you can use.®*

Building Diagnostics
Building problems, defects and general maintenance.

Green Energy
Energy audit, building inspection and weatherization.

Moisture Detection
Restoration, water damage and roofing.

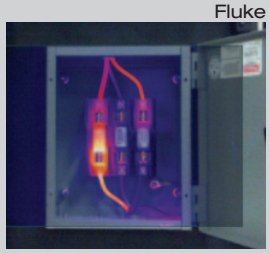
IR-Fusion®

Patented Fluke IR-Fusion® Technology

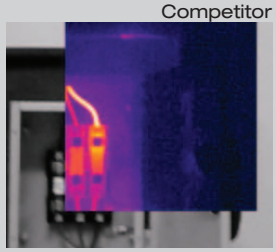
More than picture in picture
Infrared images alone can be difficult to understand, which is why Fluke pioneered IR-Fusion, a revolutionary marriage of visible and infrared images never before seen in commercial or industrial thermal imagers. Automatically capturing a visible image with every infrared image allows to you always know exactly what you're looking at.

Not all fusion is created equal
Don't be fooled by imitators. No other manufacturer can boast on-camera blending. Compare the images. Only Fluke has mastered the ability to create the industry's only transparent, perfectly blended and aligned visible and infrared images.

Fluke



Competitor



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Detailed specifications

	TiR32	TiR29	TiR27
Temperature			
Temperature measurement range (not calibrated below –10 °C)	–20 °C to +150 °C (–4 °F to +302 °F)		
Temperature measurement accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)		
On-screen emissivity correction	Yes		
On-screen reflected background temperature compensation	Yes		
On-screen transmission correction	Yes		
Imaging performance			
Image capture frequency	9 Hz refresh rate or 60 Hz refresh rate depending upon model variation		
Detector type	Focal Plane Array, uncooled microbolometer, 320 x 240 pixels	Focal Plan Array, uncooled microbolometer, 280 x 210 pixels	Focal Plan Array, uncooled microbolometer, 240 x 180 pixels
Thermal sensitivity (NETD)	≤ 0.04 °C at 30 °C target temp. (40 mK)	≤ 0.045 °C at 30 °C target temp. (45 mK)	
Total pixels	76,800	58,800	43,200
Infrared spectral band	7.5 µm to 14 µm (long wave)		
Visual (visible light) camera	Industrial performance 2.0 megapixel		
Minimum focus distance	45 cm (approx. 18 in)		
Standard infrared lens type			
Field of view	23 ° x 17 °		
Spatial resolution (IFOV)	1.25 mRad	1.43 mRad	1.67 mRad
Minimum focus distance	15 cm (approx. 6 in)		
Optional telephoto infrared lens type			
Field of view	11.5 ° x 8.7 °		
Spatial resolution (IFOV)	0.63 mRad	0.72 mRad	0.84 mRad
Minimum focus distance	45 cm (approx. 18 in)		
Optional wide-angle infrared lens type			
Field of view	46 ° x 34 °		
Spatial resolution (IFOV)	2.50 mRad	2.86 mRad	3.34 mRad
Minimum focus distance	7.5 cm (approx. 3 in)		
Focus mechanism	Manual, one-handed Smart Focus capability		
Image presentation			
Palettes			
Standard	Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted		
Ultra Contrast™	Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra		
Level and span	Smooth auto-scaling and manual scaling of level and span		
Fast auto toggle between manual and auto modes	Yes		
Fast auto-rescale in manual mode	Yes		
Minimum span (in manual mode)	2.0 °C (3.6 °F)		
Minimum span (in auto mode)	3.0 °C (5.4 °F)		
IR-Fusion® information			
Automatically aligned (parallax corrected) visual and IR blending	Yes		
Picture-In-Picture (PIP)	Three levels of on-screen IR blending displayed in center of LCD		
Full screen infrared	Three levels of on-screen IR blending displayed on LCD		
Color alarms (temperature alarms)	Dewpoint temperature alarm (user-selectable)		
Voice annotation	60 seconds maximum recording time per image; reviewable playback on imager		
Image capture and data storage			
	The TiR32, TiR29 and Ti27 allows the user to adjust palette, blending, level, span, IR-Fusion® mode, emissivity, and reflected background temperature compensation, and transmission correction on a captured image before it is stored.		
Image capture, review, save mechanism	One-handed image capture, review, and save capability		
Storage medium	SD Memory Card (2 GB memory card will store at least 1200 fully radiometric (.is2) IR and linked visual images each with 60 seconds voice annotations, or 3000 basic bitmap (.bmp) images, or 3000 jpeg (.jpeg) images; transferrable to PC via included multi-format USB card reader		
File formats	Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2)		
	No analysis software required for non-radiometric (.bmp and .jpeg) files		
Export file formats w/SmartView® software	BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF		
Memory review	Thumbnail view navigation and review selection		

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General specifications

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
Display	9.1 cm (3.7 in) diagonal landscape color VGA (640 x 480) LCD with backlight and clear protective cover
Controls and adjustments	User selectable temperature scale (°C/°F) Language selection Time/Date set Emissivity selection Reflected background temperature compensation Transmission correction User selectable hot spot and cold spot, and center point on the image (other custom markers and shapes in SmartView® software) Dewpoint temperature alarm User selectable backlight: "Full Bright" or "Auto" Information display preference
Software	SmartView® full analysis and reporting software included
Batteries	Two lithium ion rechargeable smart battery packs with five-segment LED display to show charge level
Battery life	Four+ hours continuous use per battery pack (assumes 50 % brightness of LCD)
Battery charge time	2.5 hours to full charge
AC battery charging	Two-bay ac battery charger (110 V ac to 220 V ac, 50/60 Hz) (included), or in-imager charging. AC mains adapters included. 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	Sleep mode activated after five minutes of inactivity, automatic power off after 30 minutes of inactivity
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	Meets all applicable requirements in EN61326-1:2006
C Tick	IEC/EN 61326-1
US FCC	CFR 47, Part 15 Class B
Vibration	0.03 g2/Hz (3.8 grms), IEC 68-2-6
Shock	25 g, IEC 68-2-29
Drop	2 meter (6.5 feet) with standard lens
Size (H x W x L)	27.7 cm x 12.2 cm x 17.0 cm (10.9 in x 4.8 in x 6.7 in)
Weight (battery included)	1.05 kg (2.3 lb)
Enclosure rating	IP54 (protected against dust, limited ingress; protection against water spray from all directions)
Warranty	Two-years (standard). Extended warranties also available.
Recommended calibration cycle	Two-years (assumes normal operation and normal aging)
Supported Languages	Czech, English, Finnish, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish

Ordering information

FLK-TiR32 9 Hz Building Diagnostics Thermal Imager, 9 Hz
FLK-TiR32 60 Hz Building Diagnostics Thermal Imager, 60 Hz
FLK-TiR29 9 Hz Building Diagnostics Thermal Imager, 9 Hz
FLK-TiR29 60 Hz Building Diagnostics Thermal Imager, 60 Hz
FLK-TiR27 9 Hz Building Diagnostics Thermal Imager, 9 Hz
FLK-TiR27 60 Hz Building Diagnostics Thermal Imager, 60 Hz

Included
Thermal imager with standard infrared lens; ac power supply and battery pack charger (including mains adapters); two, rugged lithium ion smart battery packs; SD memory card; multi-format USB memory card reader for downloading images into your computer; SmartView® software with free software upgrades for life; rugged, hard carrying case; soft transport bag; adjustable hand strap; printed users manual; warranty registration card.

Optional accessories

FLK-LENS/TELE1 Telephoto Infrared Lens
FLK-LENS/WIDE1 Wide-angle Infrared Lens
TI-CAR-CHARGER Thermal Imager Vehicle Charger
TI-VISOR Thermal Imager Visor
BOOK-ITP Introduction to Thermography Principles Book
TI-TRIPOD Tripod Mounting Base Accessory

Fluke. *Not just infrared. Infrared you can use.™*

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