

**TECHNICAL DATA**

# Fluke TiR27 Infrared Camera



## Key features

### Superior image quality

- Delivers the clear, crisp images needed to find problems fast with its 240 x 180 infrared resolution.
- Identify even the smallest temperature differences that could indicate problems with thermal sensitivity (NETD).
- Automatic alignment (parallax correction) of visual and infrared images with Fluke patented IR-Fusion®
- Optional telephoto and wide angle lenses available for added versatility and special applications (easily installable in the field).

### Easy to use

- Field replaceable batteries give you maximum flexibility no matter where your work takes you.
- Intuitive, three-button menu is easy to use—simply navigate with the push of a thumb.
- No need to carry pen and paper—record findings by speaking into the imager. Voice annotations can be recorded with every image you take. Voice comments are saved along with individual images for future reference.
- One-handed focus capability, emissivity correction, reflected background temperature compensation, and transmission correction increase the accuracy of measurements in most situations.
- Adjustable hand strap for left-or right-handed use.
- Everything needed to get started is included.

### Rugged

- Optimized for field use in challenging work environments.
- Engineered and tested to withstand a 2 m drop for the ultimate peace of mind - When was the last time you dropped a tool or piece of equipment?

- Withstands dust and water—tested to an IP54 rating.

## Product overview: Fluke TiR27 Infrared Camera

### When You Need to See the Smallest Visual and Thermal Details from Short or Long Distance

The TiR27, a thermal imaging camera offers 240 x 180 resolution with IR-Fusion® Technology – the blending of digital and infrared images into a single image and delivers crisp quality images. The TiR27 also produces partially transparent images that help identify issues and report findings easier (AutoBlend™). With thermal sensitivity of  $\leq 0.045$  °C at 30 °C (50 mK) and a temperature range from -20 ° to 150 °C (-4 ° to 302 °F) the TiR27 is ideal for inspectors, energy auditors, restoration and remediation professionals and weatherization experts who need to see the most challenging infrared details.

### Take the Guesswork Out of Infrared Troubleshooting

Whether you are searching for energy waste, leaky roofs or moisture problems, the TiR27 takes the guesswork out of finding problems. Field installable telephoto and wide angle lenses are available for added versatility for special applications and voice annotation makes pen and paper no longer necessary. With its rugged body, integrated lens cover, protected display and 2 meter drop test, the TiR27 is designed to handle the harshest environments. Make no mistake on your next building inspection with the TiR27.

For applications that require a high temperature range and low thermal sensitivity (NETD), the Fluke Ti200 is an alternative choice. It features wireless connectivity for quick and easy sharing of images, LaserSharp® Auto Focus for consistently in-focus images – every, single, time and a ruggedized high resolution 640 x 480 capacitive touch screen for quick menu navigation.

As always, Fluke SmartView® Software is included at no additional charge.

## Specifications: Fluke TiR27 Infrared Camera

Temperature	
Temperature measurement range (not calibrated below -10°C)	-20°C to +150°C (-4°F to +302°F)
Temperature measurement accuracy	$\pm 2$ °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	
Detector type	Focal Plane Array, uncooled microbolometer, 240 x 180 pixels
Total pixels	43,200
Thermal sensitivity (NETD)	$\leq 0.045$ °C at 30°C target temp. (45 mK)
Infrared spectral band	7.5 $\mu$ m to 14 $\mu$ m (long wave)
Visual (visible light) camera	Industrial performance 2.0 megapixel
Minimum focus distance	46 cm (approx. 18 in)

Standard infrared lens type	<b>Field of view</b>	23° x 17°
	Spatial resolution(IFOV)	1.67 mRad
	Minimum focus distance	15 cm (approx. 6 in)
Optional telephoto infrared lens type	<b>Field of view</b>	11.5° x 8.7°
	Spatial resolution(IFOV)	0.84 mRad
	Minimum focus distance	45 cm (approx. 18 in)
Optional wide-angle infrared lens type	<b>Field of view</b>	46° x 34°
	Spatial resolution(IFOV)	3.34 mRad
	Minimum focus distance	7.5 cm (approx. 3 in)
Focus mechanism	Manual, one-handed Smart Focus capability	
<b>Image Presentation</b>		
Palettes	<b>Standard</b>	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) 3°C (5.4°F)	
<b>IR-Fusion® Information</b>		
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 in center of LCD	
Color alarms (temperature alarms)	Dewpoint temperature color alarm (user-selectable)	
<b>Image Capture and Data Storage</b>		
Voice annotation	60 seconds maximum recording time per image; reviewable playback on imager	
	The TiR27 allows 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	JPEG, JPG, JPE, JFIF, BMP, GIF, DIB, PNG, TIF, and TIFF
Memory review	Thumbnail view navigation and review selection
<b>General Specifications</b>	
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 (3.6 in) diagonal landscape color VGA (640 x 480) LCD with backlight (selectable bright or auto)
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 (low temperature) color 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 g <sup>2</sup> /Hz (3.8 grms), IEC 68-2-6
Shock	25 g, IEC 68-2-29
Drop	2 m (6.5 ft) with standard lens
Dimensions (H x W x L)	27.7 x 12.2 x 17.0 cm (10.9 x 4.8 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)
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



### **Fluke TiR27**

Fluke TiR27 Infrared Camera

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Includes:

- Building Diagnostic Thermal Imaging camera 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
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