

TECHNICAL DATA

Ti450 SF6 Gas Leak Detector and Infrared Camera



Infrared mode

Gas detection mode

SUPERIOR IMAGE QUALITY

GAS DETECTION

SF₆ (Sulfur hexafluoride)

THERMAL SENSITIVITY (NETD)

≤ 0.025 °C at 30 °C target temp (25 mK)

RESOLUTION

320 x 240 in both infrared and gas modes
640 x 480 with SuperResolution mode,
only in infrared mode

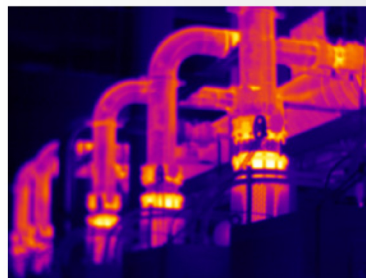


Fluke Connect® compatible

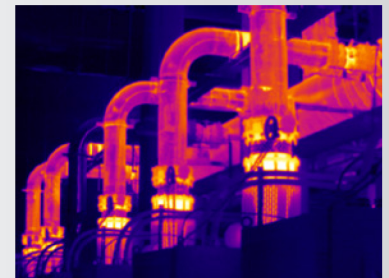
SF₆ gas leak detector combined with Fluke's top performing pistol grip infrared camera

- Detects the location of an SF₆ leak—without shutting down equipment
- 320 x 240 resolution for gas and infrared images; SuperResolution increases to 640 x 480, only in infrared mode
- Get in-focus images in both infrared and gas modes with a touch of a button with LaserSharp® Auto Focus
- Wirelessly connect your camera to the Fluke Connect® system to make faster decisions. Team members can see the same data and collaborate on identifying the problem or authorize work before you've left the inspection site.
- No need for pencil and notebook:
 - IR-PhotoNotes™ annotation system—captures digital images of equipment details, e.g. serial numbers and surrounding area conditions
 - Record any additional notes with voice annotation and save them with the image
- Compatible with smart lenses that require no calibration when swapping them between compatible cameras
- Optimize images, perform analytics, generate quick, customizable reports and export images to the format of your choice with SmartView® desktop software, included with your purchase
- Capture clear, accurate infrared images focused throughout the entire field of view with MultiSharp™ Focus
- Small and lightweight, fits easily into your tool box

100 % Focused—Every object. Near and far. MultiSharp™ Focus.



Manual focus—only front pipe in focus



MultiSharp™ Focus produces an image focused throughout the field of view

Specifications

Ti450 SF6 Gas Leak Detector and Infrared Camera	
Key features	
Detector resolution	320 x 240 (76,800 pixels)
SuperResolution	640 x 480 (307,200 pixels) on infrared mode
SF₆ gas leak detection conditions	
<10 lbs annual gas loss rate	Challenging. Excellent outdoor conditions necessary—largest possible temperature difference between gas and background (e.g. clear blue sky), < 2.5 mph wind, camera on tripod, close to leak and/or 2x telephoto lens
10 to 50 lbs annual gas loss rate	Easier. Need good outdoor conditions—moderate temperature difference between gas and background (e.g. high altitude clouds), < 5 mph wind, camera on tripod
>50 lbs annual gas loss rate	Easiest detection in moderate conditions, temperature differential of 3 °C or greater, < 10 mph wind
IFOV with standard lens (spatial resolution)	1.31 mRad, D:S 753:1
Field of view	24 °H x 17 °V
Minimum focus distance	15 cm (approx. 6 in)
IR Fusion® technology	Yes, on camera—full screen
MultiSharp™ Focus	Yes, focused near and far, throughout the field of view
LaserSharp® Auto Focus	Yes, in-focus images with the touch of a button
Laser distance meter	Yes, calculates distance to the target for precisely focused images and displays distance on screen
Advanced manual focus	Yes
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 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
IR Fusion® technology	Yes, adds the context of the visible details to your infrared image
AutoBlend™ mode	Yes, Min, Mid, Max IR plus full visible on camera; continuously variable in software
Picture-in-picture (PIP)	Yes
IR/Visible Alarm	Yes
Full IR	Yes
Full Visible light	Yes
Ruggedized touchscreen display	3.5 inch (landscape) 640 x 480 LCD
Rugged, ergonomic design for one-handed use	Yes
Thermal sensitivity (NETD)	≤ 0.025 °C at 30 °C target temp (25 mK)
Filter mode (NETD improvement)	Yes
Radiometric level and span (not gas detection mode)	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)	2.0 °C (3.6 °F)
Minimum span (in auto mode)	3.0 °C (5.4 °F)
Built-in digital camera (visible light)	5 megapixel industrial performance
Frame rate	60 Hz
Laser pointer	Yes
LED light (torch)	Yes
Digital zoom	2x and 4x
Data storage and image capture	
Extensive memory options	Removable 4 GB micro SD memory card, 4 GB internal flash memory, save to USB flash drive capability, upload to Fluke Connect® Cloud storage
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 and .avi) files
Memory review	Thumbnail and full screen review
Software	SmartView desktop software—full analysis and reporting software with access to the Fluke Connect system
Export file formats with SmartView® desktop software	Bitmap (.bmp), GIF, JPEG, PNG, TIFF
Voice annotation	Yes
IR PhotoNotes™	Yes (save up to 5 notes per IR image)
Text annotation	Yes
Video recording	Standard and radiometric

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Data storage and image capture (continued)	
File formats video	Non-radiometric (MPEG-encoded .AVI) and fully-radiometric (.IS3)
Remote display viewing	Yes, see the live stream of the camera display on your PC, smartphone, or TV monitor. Via USB, WiFi hotspot, or WiFi network to SmartView software on a PC; via WiFi hotspot to the Fluke Connect® app on a smartphone; or via HDMI to a TV monitor
Remote control operation	Yes, through SmartView® desktop software or Fluke Connect mobile app
Auto capture (temperature and interval)	Yes
Battery	
Batteries (field-replaceable, rechargeable)	3-4 hours per battery (*Actual life varies depending on settings and usage)
Battery charge time	2.5 hours to full charge
Battery charging options	Two-bay battery charger or in-imager charging. 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	
Temperature measurement range (not calibrated below -10° C)	-20 °C to +1200 °C (-4 °F to +2192 °F)
Accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)
On-screen reflected background temperature compensation	Yes
On-screen transmission correction	Yes
Live line marker	Yes
Color palettes	
Standard palettes	8: Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted
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, and isotherms (within range)
Infrared spectral band	7.5 µm to 14 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) 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 user-definable spot markers
Center box	Expandable-contractible measurement box with MIN-MAX-AVG temp display
Safety	IEC 61010-1: Overvoltage category II, Pollution Degree 2
Electromagnetic compatibility	IEC 61326-1: Basic EM environment. CISPR 11: Group 1, Class A
Australian RCM	IEC 61326-1
US FCC	CFR 47, Part 15 Subpart B
Vibration	0.03 g2/Hz (3.8 g), 2.5 g IEC 68-2-6
Shock	25 g, IEC 68-2-29
Drop	Engineered to withstand 2 meter (6.5 feet) drop with standard lens
Size (HxWxL)	27.7 cm x 12.2 cm x 16.7 cm (10.9 in x 4.8 in x 6.5 in)
Weight (battery not included)	1.04 kg (2.3 lb)
Enclosure rating	IEC 60529: 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

*SmartView® analysis and reporting software is available in all countries but Fluke Connect is not. Please check availability with your authorized Fluke distributor.



Ordering information

FLK-Ti450 SF6 60 Hz Gas Detector and Infrared Camera

Included with product

Infrared camera with standard lens, adjustable hand strap, AC power supply and battery pack charger (including universal AC adapters), two rugged lithium ion smart battery packs, USB cable, HDMI video cable, 4 GB micro SD card, HDMI eye piece, 2x Infrared Telephoto lens; tripod holder and rugged-hard carrying case.

Available by free download

SmartView® desktop software and user manual
Software can be downloaded at
www.fluke.com/smartviewdownload

Optional accessories

FLK-LENS/4XTELE2 Infrared Telephoto Lens, (4X magnification)

FLK-LENS/WIDE2 Infrared Wide Angle Lens

TI-CAR-CHARGER Car Charger

FLK-TI-VISOR3 Sun Visor

BOOK-ITP Introduction to Thermography Principles Book

FLK-TI-BLUETOOTH Bluetooth headset

FLK-TI-SBP3 Additional Smart Battery

FLK-TI-SBC3B Additional Smart Battery Charger

Visit your local Fluke website or contact your local Fluke representative for more information.

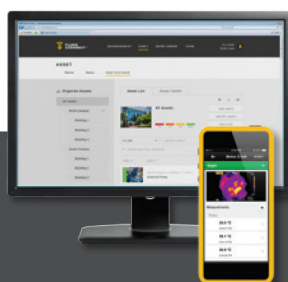


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Preventive maintenance simplified. Rework eliminated.

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

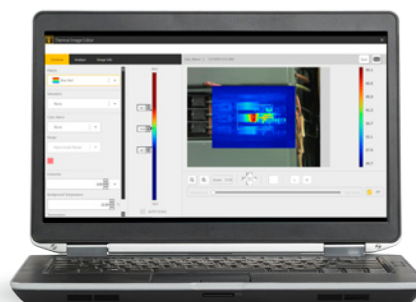
The Ti450 SF6 is part of a growing system of connected test tools and equipment maintenance software.

Find out more at flukeconnect.com



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



Powerful, easy-to-use SmartView® desktop software.

It's easier than ever to optimize thermal images, perform analytics, generate quick, customizable, reports, and export images to the format of your choice.

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

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