



FLUKE®

Matching infrared lenses to applications

Telephoto

Wide angle

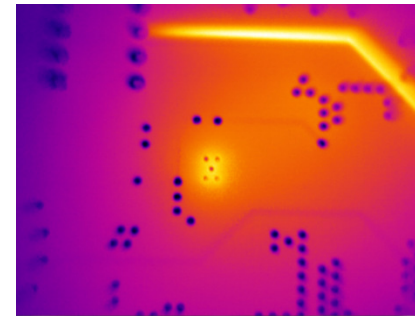
Macro

Available lenses

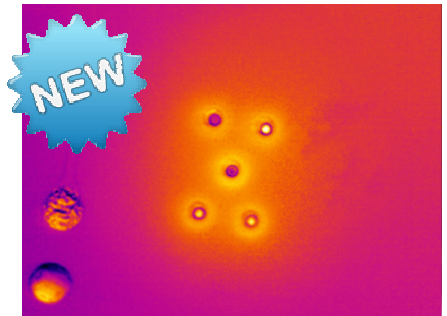
Lens	Lens to camera compatibility				Use for	Target audience
	TiX560/ TiX520	Ti400/ 300/ 200	Ti32/ 29/27	TiX1000/660/ 640		
2x telephoto	TELE2	TELE2	TELE1	XLens/Tele	Small to medium sized target, viewed from a distance	<ul style="list-style-type: none"> • Maintenance, electrical, and process technicians – when equipment is too high, difficult to reach, or unsafe to approach • Building inspection – see fine detail from a distance
4x telephoto	4XTELE2	4XTELE2		XLens/SupTele	Small target, viewed from a great distance	<p>Most relevant to those working in</p> <ul style="list-style-type: none"> • Petrochemical – tall stacks • Power utilities generation and transmission – long distances • Metals refinement – too hot to approach; may have equipment near refinery that needs inspection
Wide angle	WIDE2	WIDE2	WIDE1	<ul style="list-style-type: none"> • XLens/Wide • XLens/SupWide 	Large target, viewed from a relatively close distance	<ul style="list-style-type: none"> • Maintenance, electrical, and process technicians – when working in a tight space or needing to view a large area • Building inspectors – for roofing and industrial building inspections, save time by seeing a much greater area at once
Macro	25MAC2 25 micron			<ul style="list-style-type: none"> • XLens/Macro1 81 micron (TiX1000) or 119 micron (TiX660/640) • XLens/Macro2 32 micron (TiX1000) or 47 micron (TiX660/640) • XLens/Macro3 35 micron (TiX1000) or 50 micron (TiX660/640) 	Tiny to near microscopic target, viewed from extremely close	<p>Engineers and scientists working in</p> <ul style="list-style-type: none"> • Research and development • Electronics design and validation • Microscopic thermography <p>Audience can be found in universities and research organizations, process development, and micro-electronics design companies</p>

Key features

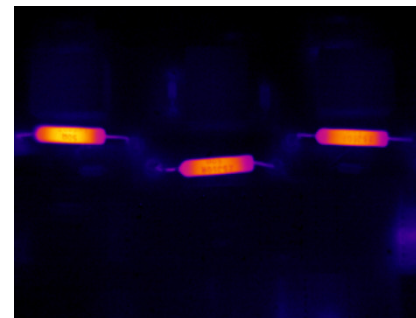
- See the right level of detail in your target from up close to very far
- Smart lenses do not require calibration to a specific camera*
- Interchangeable between compatible cameras*
- Germanium with an engineered coating, the most efficient available material to transmit energy to the detector
- Specifically designed to work with your Fluke camera



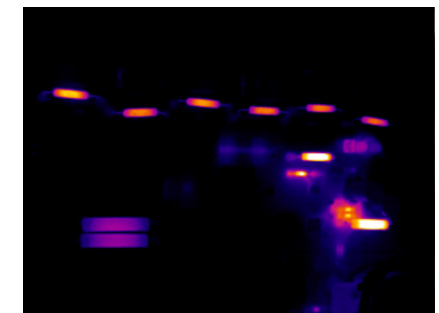
Standard (PCB)



25 Micron macro (PCB)



Standard (IR window)



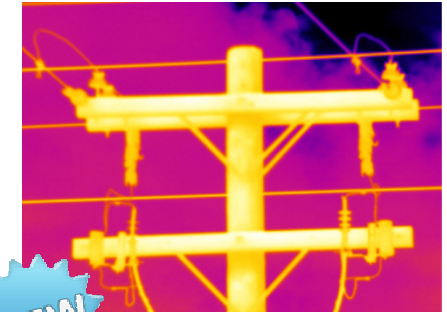
Wide Angle (IR window)



Standard



2X Telephoto



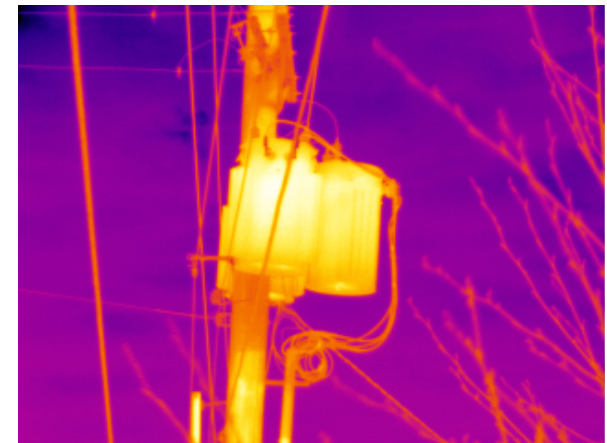
4X Telephoto

*Applies to lenses for TiX560, TiX520, Ti400, Ti300, and Ti200. Lenses for TiX1000, TiX660, and TiX640 require calibration. Lenses for Ti32, Ti29, and Ti27 have calibration files included with the lens, and the customer does not need to send the camera in for calibration.

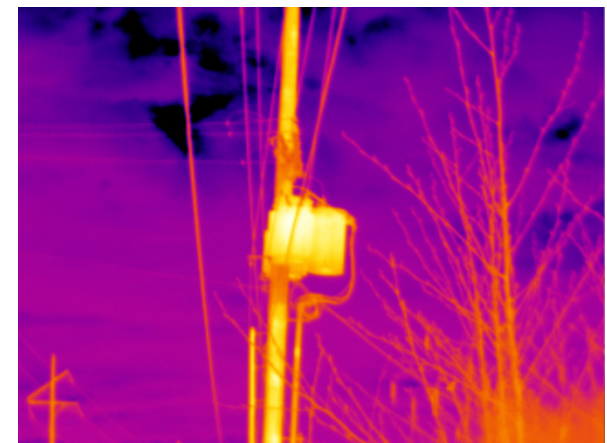
2x Telephoto Lens Overview

Benefits:

- See more detail when you view your target magnified 2 times more than a standard lens
- Reduce the need to enter the danger zone in your plant or to climb a tall ladder to capture the critical infrared details that could indicate your equipment has an issue



2x telephoto lens



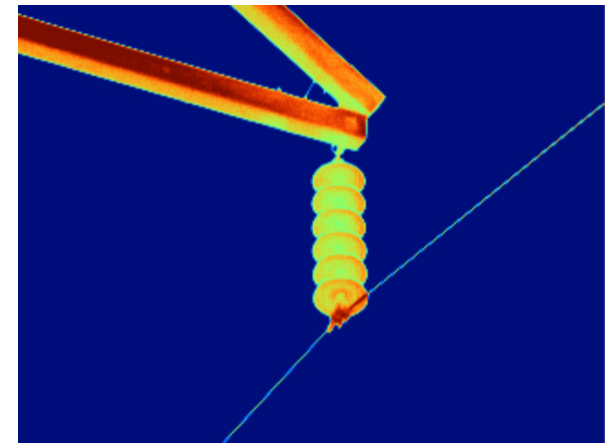
Standard lens

Item Number	Description	What's Included
4335350	FLK-LENS/TELE2, Infrared telephoto smart lens for TiX560, TiX520, Ti400, Ti300, Ti200	2x infrared telephoto lens, protective case

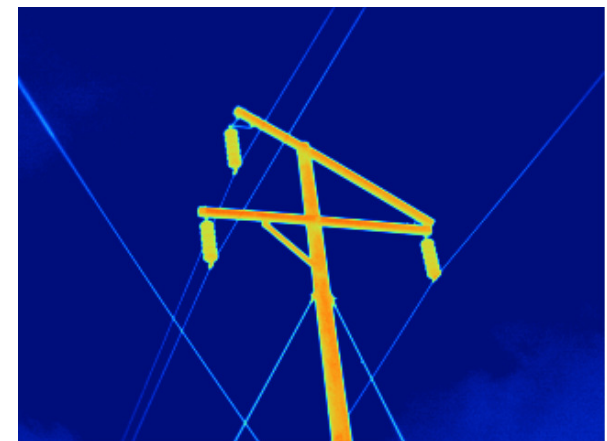
4x Telephoto Lens Overview

Benefits:

- See far more detail when you view your target magnified 4 times more than a standard lens
- Identify a potential issue in your equipment, even when your target is as tiny and distant as a failed splice on a high electrical line or failing refractory on a tall stack
- Benefit from extra stability for your 4x telephoto lens with our patent-pending lens attachment system that holds the lens securely in place.



4x telephoto lens



Standard lens

Item Number	Description	What's Included
4607058	FLK-LENS/4XTELE2, 4X Telephoto IR smart lens for TiX560, TiX520, Ti400, Ti300, Ti200	4x infrared telephoto lens, protective case

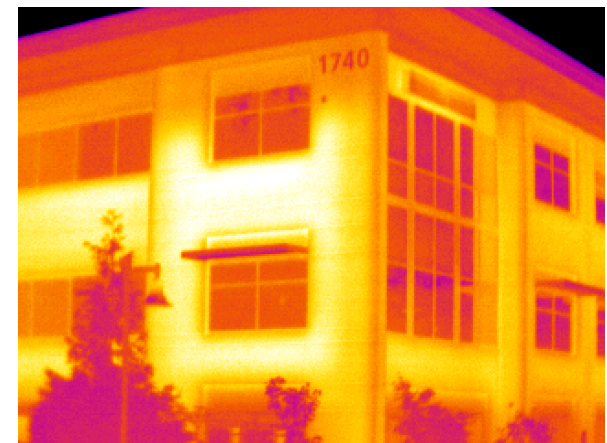
Wide Angle Lens Overview

Benefits:

- When working in a tight space, see a larger target from a close distance
- For building diagnostics, save time with roofing and industrial building inspections by viewing a much larger area at a time
- For electrical inspections, see an entire bank of switchgear cabinets in tight quarters or see a wider view when looking through IR Windows



Wide angle lens (IR window)



Standard lens (IR window) 6

Item Number	Description	What's Included
4335361	FLK-LENS/WIDE2, Infrared wide angle smart lens for TiX560, TiX520, Ti400, Ti300, Ti200	Infrared wide angle lens, protective case

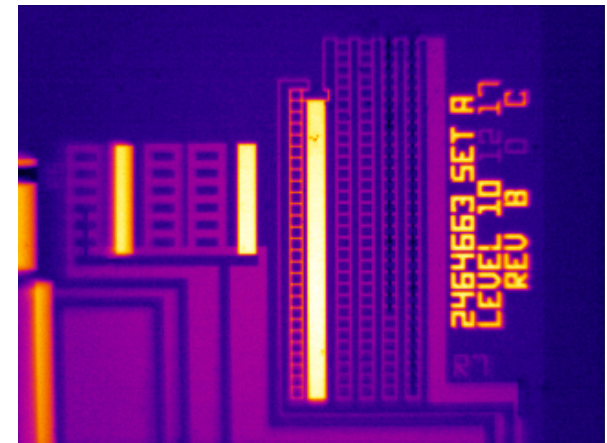
25 Micron Macro Lens Overview

Benefits:

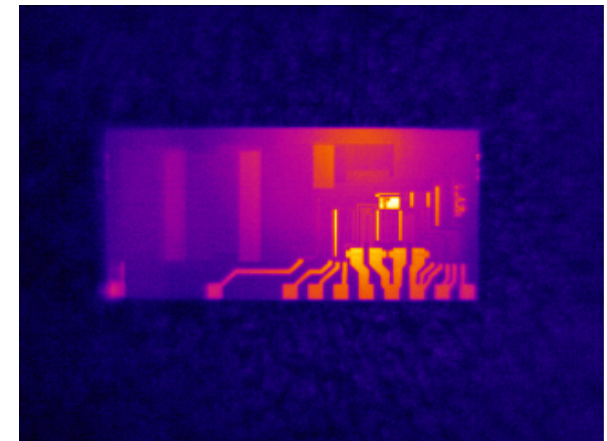
- Get an incredibly detailed image of very small objects
- Gain insight into thermal buildup and dissipation on printed circuit boards, identify a faulty or undersized component, and potentially even pinpoint precise faulty locations on those components
- See details as small as 25 microns, which is smaller than the average human hair.

Tips:

- For best performance, ensure the camera remains stable and motionless while capturing images.
- We recommend you use a bench-top mounting system with the tripod mount thread on the TiX560 and TiX520. The tripod mount accessory available for the Ti400 may not hold the camera still enough, so we don't recommend using the Ti400 with this lens.
- Using remote control to capture images with the TiX560 can make it easier to ensure the camera remains motionless. (Remote control not available with TiX520)



25 Micron macro lens (precise resistance)



Standard lens (precise resistance) 7

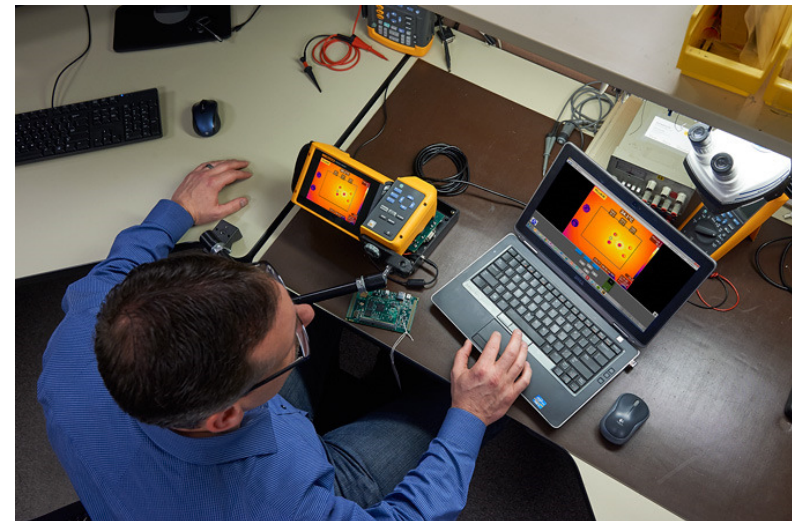
Item Number	Description	What's Included
4607064	FLK-LENS/25MAC2, 25 Micron macro IR smart lens for TiX560, TiX520	25 micron macro IR lens, protective case

Who needs it?

- Industries / Verticals
 - Wide angle – all industries that use infrared cameras
 - 2x telephoto – all industries that use infrared cameras
 - 4x telephoto – petrochemical, power utilities generation and transmission, metallurgy and metals refinement
 - Macro – universities and research organizations, process development, electrical and mechanical engineers

- Who uses it?
 - Wide angle – most TI customers, especially industrial electricians, buildings diagnostics professionals, and roofing inspection professionals
 - 2x telephoto – most TI customers
 - 4x telephoto – maintenance in certain facilities, electrical utilities professionals, 3rd party thermographers
 - Macro – R&D engineer, scientists, technology researchers

- People who buy adjacent products
 - Infrared cameras
 - Macro lens: Scopemeters, high-end digital multimeters, and bench meters (an infrared camera plus macro lens can save time on troubleshooting electrical circuits and components vs a contact measurement tool)



Why do they need it?

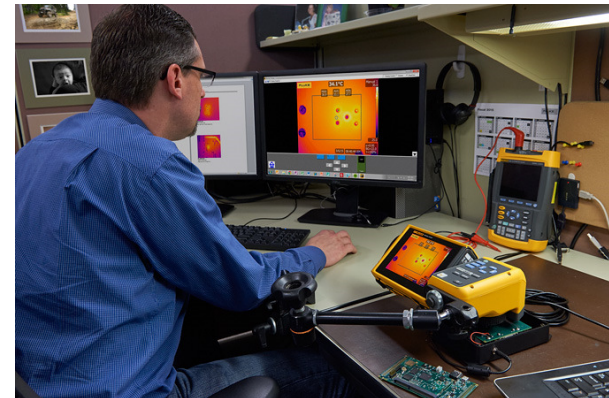
See the right level of detail in your target

- Get a better view of your target
- See detail that would be otherwise extremely difficult or unsafe to view
- Save time when inspecting a large area (wide angle).
- Improve apparent temperature measurement accuracy



Smart lenses*

- Lenses are interchangeable between compatible cameras
- No need to send in the camera and lens to be calibrated to each other



*Lenses for TiX560/X520/400/300/200 only

SAVE TIME