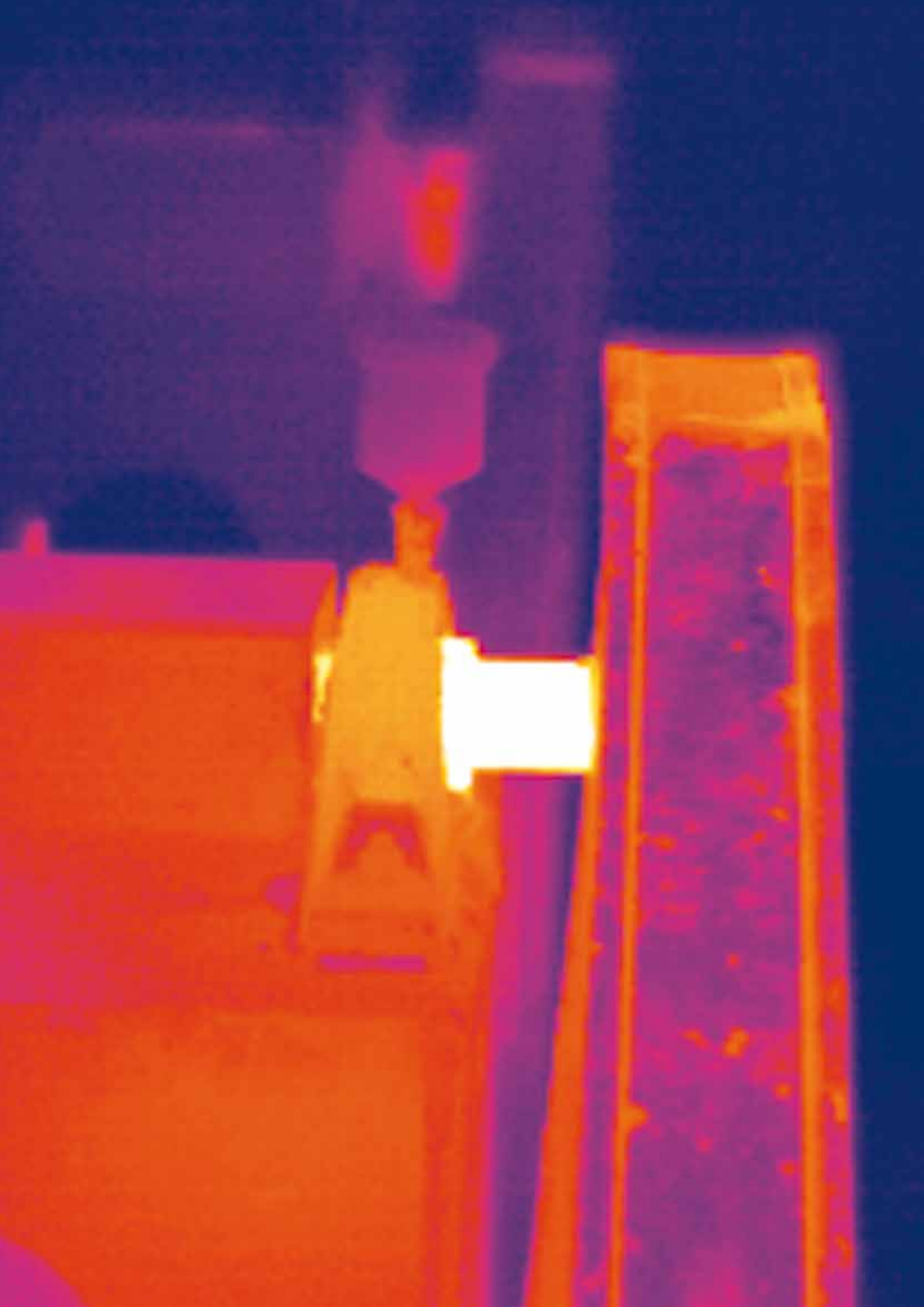
Thermal imaging cameras for Predictive Maintenance

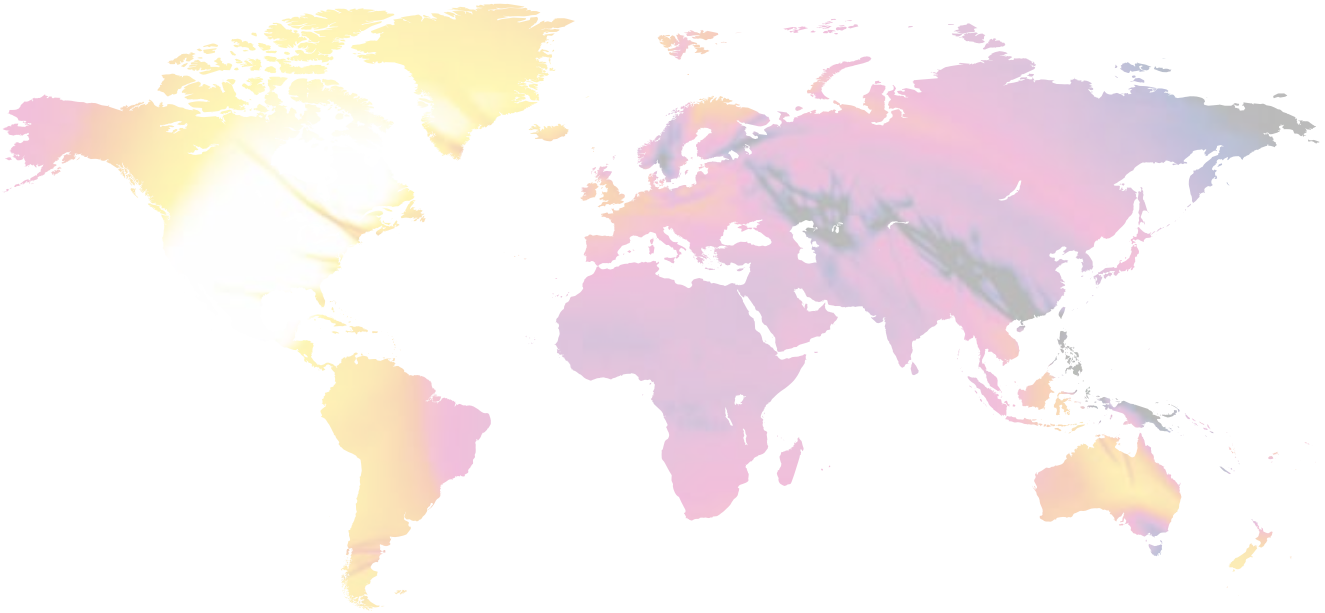
Electrical Maintenance

Mechanical Maintenance

Utilities

Energy Loss





FLIR Systems: the world leader for thermal imaging cameras

FLIR Systems is the world leader in the design, manufacturing and marketing of thermal imaging systems for a wide variety of commercial, industrial and government applications.

FLIR Systems' thermal imaging systems use state-of-the-art infrared imaging technology that detects infrared radiation - or heat. Based on detected temperature differences, thermal imaging cameras can create a crisp image. Complicated algorithms make it also possible to read correct temperature values from this image. We design and manufacture all of the critical technologies inside our products, including detectors, electronics, and special lenses ourselves.

FLIR Systems, Stockholm

FLIR Systems, Portland

FLIR Systems, Boston

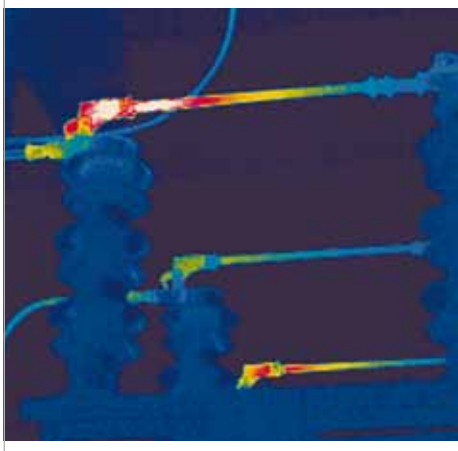
FLIR Systems Santa Barbara

Rapidly emerging markets and organization
Interest for thermal imaging has grown considerably over the last few years in a large variety of markets. To face this increased demand, FLIR Systems has expanded its organization drastically. Today we employ more than 1,900 people. Together, these infrared specialists realize a consolidated annual turnover of more than 1 billion US dollars. This makes FLIR Systems the largest manufacturer of commercial thermal imaging cameras in the world.

Manufacturing capabilities
FLIR Systems currently operates 6 manufacturing plants: three in the USA (Portland, Boston and Santa Barbara, California) one in Stockholm, Sweden, one in Estonia and one in Paris, France.

Thermal imaging: more than building a camera
There is more to the world of thermal imaging than building a camera. FLIR Systems is not only committed to providing you with the best camera, we are also able to offer you the best software, service and training to suit your thermal imaging needs.

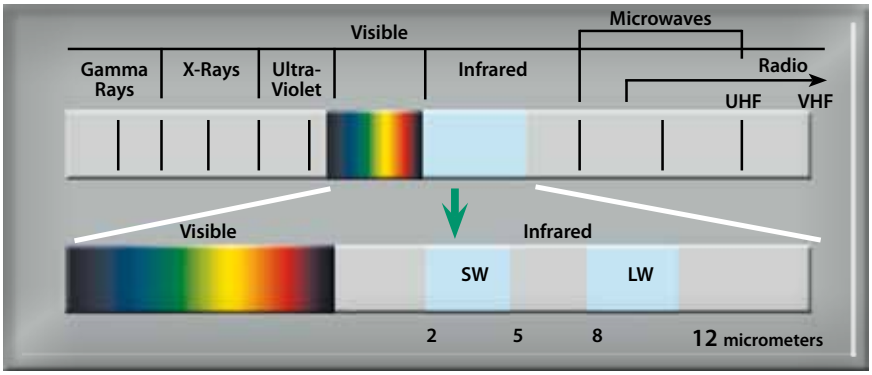
INFRARED:
more than meets the eye



Infrared - part of the electromagnetic spectrum

Our eyes are detectors that are designed to detect visible light (or visible radiation). There are other forms of light (or radiation) that we cannot see. The human eye can only see a very small part of the electromagnetic spectrum. At one end of the spectrum we cannot see ultraviolet light, while at the other end our eyes cannot see infrared. Infrared radiation lies between the visible and microwave portions of the electromagnetic spectrum. The primary source of infrared radiation is heat or thermal radiation.

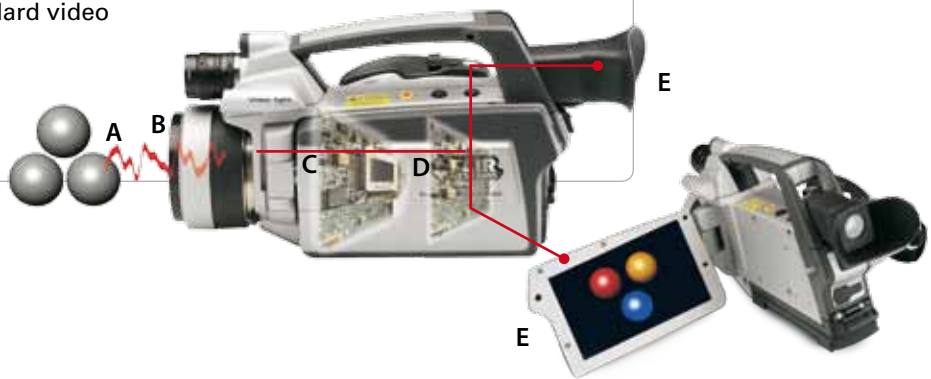
Any object that has a temperature above absolute zero (-273.15 degrees Celsius or 0 Kelvin) emits radiation in the infrared region. Even objects that we think of as being very cold, such as ice cubes, emit infrared radiation. We experience infrared radiation every day. The heat that we feel from sunlight, a fire or a radiator is all infrared. Although our eyes cannot see it, the nerves in our skin can feel it as heat. The warmer the object, the more infrared radiation it emits.



The infrared camera

Infrared energy (A) coming from an object is focused by the optics (B) onto an infrared detector (C). The detector sends the information to sensor electronics (D) for image processing. The electronics translate the data coming from the detector into an image (E) that can be viewed in the viewfinder or on a standard video monitor or LCD screen.

Infrared thermography is the art of transforming an infrared image into a radiometric one, which allows temperature values to be read from the image. In order to do this, complex algorithms are incorporated into the infrared camera.



Why use thermal imaging cameras?

Why would you choose a FLIR thermal imaging camera? There are other technologies available to help you measure temperatures in a non-contact mode. Infrared thermometers for example.

Infrared thermometers vs thermal imaging cameras
Infrared (IR) thermometers are reliable and very useful for single-spot temperature readings, but, for scanning large areas or components, it's easy to miss critical components that may be near failure and need repair.

A FLIR thermal imaging camera can scan entire motors, components, or panels at once - never missing any overheating hazards, no matter how small.

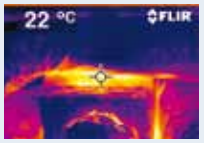
Use thousands of infrared thermometers at the same time
With an infrared thermometer you are able to measure the temperature at one single spot. FLIR thermal imaging cameras can measure temperatures on the entire image. The i5 has an image resolution of 80 x 80 pixels. This means that it is equal to using 6,400 IR thermometers at the same time. If we look at the FLIR P660, our top model, which has an image resolution of 640 x 480 pixels, this means 307,200 pixels or using 307,200 infrared thermometers at the same time.

IR thermometer, temperature measurement in one spot

FLIR i5, temperature in 6,400 spots

Find problems faster and easier with extreme accuracy.
It's easy to miss critical problems with a spot IR thermometer. A FLIR thermal imaging camera scans entire components giving you instant diagnostic insights showing the full extent of problems.

What an IR Thermometer sees.

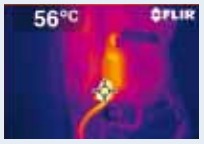


What a thermal imaging camera sees.

What an IR Thermometer sees.

What a thermal imaging camera sees.

What an IR Thermometer sees.



What a thermal imaging camera sees.

Thermal imaging cameras for predictive maintenance applications

Thermal imaging has evolved into one of the most valuable diagnostic tools for Predictive Maintenance. By detecting anomalies often invisible to the naked eye, thermography allows corrective action to be taken before costly system failures occur.

Infrared cameras have become compact systems that look just like a normal video camera/digital camera, are easy to use and generate a real-time high-resolution image. Numerous industries worldwide have discovered the advantage of incorporating infrared cameras in their Predictive Maintenance programs.

Applications

There are an endless number of applications for thermal imaging cameras in the Predictive maintenance area.

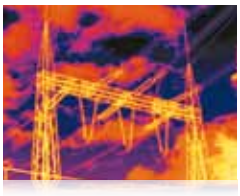
Poor connection and internal damage

Internal fuse damage

Low voltage inspections

Infrared cameras, are commonly used for electrical inspections. As electrical connections become loose, there is a resistance to current that can cause an increase in temperature. This can then cause components to fail, resulting in unplanned outages and injuries. In addition, the efficiency of an electrical grid becomes low prior to failure, thus energy is spent generating heat, causing unnecessary losses.

Incorrectly secured connection

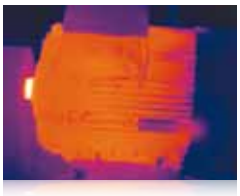


Inspection of high voltage power lines

High voltage inspections

Power transformers are often checked with infrared cameras. Temperatures of the cooling fins and the high voltage connections can be compared so that, if necessary, corrective action can be taken before real problems occur. Other high voltage installations that are checked with an infrared camera include circuit breakers and switchers and high-voltage power lines. Potential problem areas will be clearly shown in the infrared image.

Suspected roller



Overheated motor

Mechanical

In many industries, mechanical systems serve as the backbone of operations. Thermographic data can be an invaluable source of complimentary information to vibration studies in mechanical equipment monitoring.

Thermal imaging cameras:

- Are as easy to use as a camcorder or a digital camera
- Give you a full image of the situation
- Perform inspections when systems are under load
- Identify and locate the problem
- Measure temperatures
- Store information
- Tell you exactly what needs to be fixed
- Find the problems before real problems occur
- Save you valuable time and money

Damaged insulation

Steam trap

Pipework

Infrared thermography is also a great tool for detecting faults in pipes and insulation. Heat exchangers are regularly checked with infrared to detect blocked pipes. An infrared camera can quickly give an overview of the entire installation. There is no need to check each pipe individually.

Refractory insulation defect

Breakdown of refractory on a rotary cement kiln

Refractory

Infrared camera systems provide rapid and accurate diagnoses for furnace maintenance, refractory loss management, condenser fin diagnosis, etc.

A wide range of thermal imaging cameras for predictive maintenance inspections

FLIR Systems markets a full product range of thermal imaging cameras for Predictive Maintenance applications. Whether you are just discovering the benefits that thermal imaging cameras have to offer or if you are an expert thermographer, FLIR Systems offers you the correct tool for the job.

Discover our full product range and find out why FLIR Systems is the world leader for thermal imaging cameras.

FLIR i5 / i7

FLIR i5/i7 is the smallest, lightest and most affordable thermal imaging camera on the market. It is incredibly easy to use and requires no former experience. It really is a matter of "point-shoot-detect" to obtain high-quality thermal images that will immediately give you the thermal information you need.

Outstanding ease-of-use
The camera is extremely easy to understand and operate, designed for entry-level users. The camera is intuitive and comes with a full manual.

Fully automatic
Produces instant, point-and-shoot JPEG thermal imagery that carries all required temperature data and can be stored internally or externally, sent and analyzed.

Focus free
The fixed focus free lens makes using the FLIR i5/i7 a snap.

Compact and lightweight
FLIR i5/i7 weighs only 340 g, and is easy to store in a belt pouch.

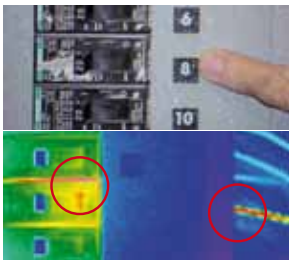
SD card storage
Stores images with unique ID in radiometric JPEG format, containing all temperature data on a standard miniSD card. USB file transfer to PC.

Reporting and analysis software included
FLIR QuickReport software is included and the camera is also compatible with the more powerful FLIR Reporter.

Outstanding measurement/accuracy
High accuracy of ±2°C or ±2% produces sensitive thermal images for general purpose maintenance analysis. Measures temperatures up to +250°C and detects temperature differences as small as 0.10°C.

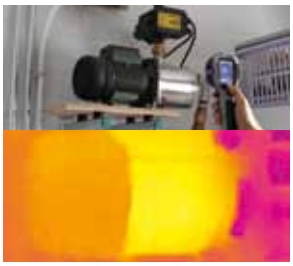
Measurement functions
Spotmeter, box with max./min. temperatures, isotherm above/below (depending on model).

Locate electrical problems

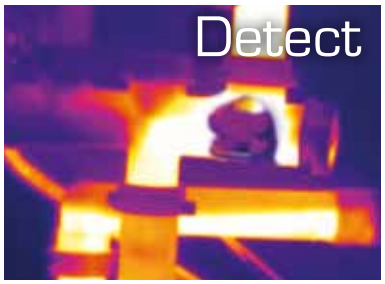


Issues with electrical connections, wiring or other system components are clearly highlighted as "hot spots" with thermal imaging. This makes them easy to locate and repair. You can clearly see the overheated connections on the thermal image.

Check mechanical devices



Inspection of this water pump shows no problem. The thermal image verifies that there is water in the pump cylinder and there is no danger of overheating the pump.



Save time and money in 3 steps:

- Detect hidden problems, make quick damage assessments and perform preventive inspections
- Identify energy losses and poor insulation
- Spot electrical faults before it is too late
- Produce instant thermal images of your findings
- Create reports, analyse and document your findings with the easy-to-use software

FLIR i5 / i7 camera model comparison

FLIR i5	**FLIR i7**
	
Thermal image quality: 80x80 pixels	Thermal image quality: 120x120 pixels
Field of View: 17°(H) x 17°(V)	Field of View: 25°(H) x 25°(V)
Spotmeter only	Spotmeter, area with max./min. temperature, isotherm above/below

FLIR i-Series

Lightweight design, Heavyweight performers

The FLIR i-Series are small and lightweight thermal imaging cameras designed for those needing higher resolution and more features and for whom documentation of findings are important.

The cameras are ideal for predictive maintenance and planned inspection of electrical and mechanical systems to ensure they operate at maximum efficiency and safety with minimal energy consumption.

Up to 180 x 180 pixels resolution
The FLIR i-Series infrared image resolution ranges from 120x120 pixels to 180x180 pixels depending on camera model. Every additional pixel means more valuable temperature information to isolate problem areas.

Small and lightweight
FLIR i-Series models weigh only 600g, easy to store in a belt pouch.

High quality visual camera
2.3 Megapixel (1536 x 1536) visible light camera makes observing and inspecting faster and easier. The FLIR i40 has a visual camera with 0.6 Mp resolution.

Thumbnail image gallery
An easy-to-access thumbnail image gallery helps you to quickly review and find your thermal images.

± 2% accuracy
High accuracy of ± 2% and thermal sensitivity better than 0.1°C.

LCD screen
Large 3.5" LCD color screen.

Built-in LED lights
All FLIR i-Series cameras have built-in LED lamps that ensures quality visual images regardless of job site lighting levels.

Long life battery
With a 5 hour battery life (field replaceable) its easy-to-replace Lithium Ion batteries will keep up with your demanding schedule.

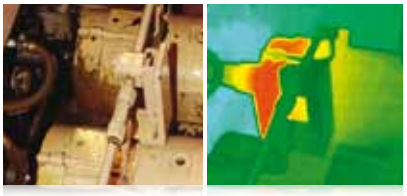
Laser Pointer
A conveniently located button activates the laser pointer that will help you associate the hot or cold spot in the IR image with the real physical target in the field.

Picture-in-Picture (PiP)
A function for overlying the thermal image on the visual image while retaining all measurement data. This feature helps to spot and highlight sensitive or dangerous temperature developments and makes report interpretation easy even for a person unfamiliar with infrared. FLIR i40 has a fixed PiP. FLIR i50 has a 3 step PiP and finally FLIR i60 has a fully scalable PiP.

MeterLink™ (i60)
FLIR MeterLink technology simplifies the work in electrical or building inspections by making it possible to transfer, via Bluetooth®, the data acquired by an Extech clampmeter or multi function moisture meter and psychrometer into the infrared camera. The MeterLink technology saves time and eliminates the risk of erroneous records or notes.

Laser alignment (i60)
Associates hot or cold spot in the IR image with the physical target in the field to ensure that the exact area is being evaluated.

Copy to USB
Upload images and measurement findings directly from the thermal imaging camera to a USB stick.

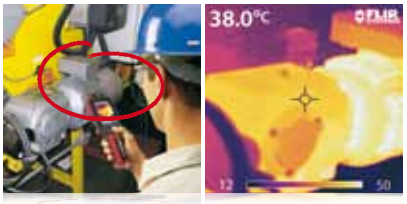


Motor: Bearing Problem.

Motor: Internal Winding Problem.

Damaged insulation.

Inspecting the tranformer using the Fusion Picture-in-Picture function.



Mechanical check-up of an electrical motor using the FLIR i60.

Check-up of an air conditioning installation quick and easy.

FLIR i-Series camera model comparison

FLIR i40	FLIR i50	FLIR i60
		
Thermal image quality: 120x120 pixels	Thermal image quality: 140x140 pixels	Thermal image quality: 180x180 pixels
0.6 megapixel digital camera	2.3 megapixel digital camera	2.3 megapixel digital camera
Fixed Picture-in-Picture	3 step Picture-in-Picture	Scalable Picture-in-Picture
		Radiometric IR video streaming
		Laser alignment
		Voice comments
		MeterLink™

FLIR T-Series

The choice of the professional thermographer

The FLIR T-Series of portable thermal imaging cameras takes ergonomics, weight and ease-of-use to a new level. Usability is key: our engineers have translated user feedback on comfort and clarity into a series of comprehensive and innovative features. Furthermore, the FLIR T-Series has been specifically developed for industrial environments.

Up to 320 x 240 pixel resolution
The T-Series thermal image resolution ranges from 240 x 180 pixels to 320 x 240 pixels depending on camera model.

Camera sensitivity
The thermal sensitivity in the FLIR T-Series ranges from 80 mK to < 50 mK depending on model.

High quality visual camera
All models in the FLIR T-Series have an integrated 3.1 Mpixel digital camera. This makes observing and inspecting faster and easier .

Measurement range
Depending on the model the T-series can measure temperature between -20°C to +1200°C.

Interchangeable infrared lenses
The T-Series features a standard 25° lens and optional 6°, 15°, 45° and 90° lenses.

Flexible interfaces
The T-Series is equipped with standard video, USB outputs as well as a removable SD card.

MPEG-4 video
Create visual and infrared non radiometric MPEG-4 video files.

Thermal Fusion (T365/T425)
Merges visual and infrared images to offer better analysis.

Temperature sound, image alarms (T365/T425)
Make surveying easier and faster.

Picture-in-Picture
Create an infrared overlay on your visual image. Scalable, moveable and resizable depending on model.

Text and voice annotations
Text comments can be made from a pre-defined list or using the touch screen. A headset can be connected to make voice annotations.

Sketch annotations (T250/T365/T425)
Use the touch screen as pen and paper to add sketch annotations.

Image storage
FLIR uses a non proprietary radiometric JPEG image format that allows for post processing and report writing with Microsoft Word® based FLIR software.

Touch screen
3.5" LCD touch screen plus stylus brings interactivity and user comfort to a new level.

Measurement Modes
Measurement spots, area with auto hot/cold spot indication, isotherms, ΔT calculation (depending on model).

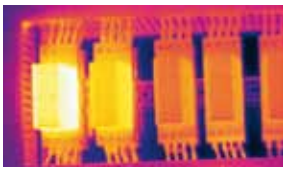
MeterLink™
FLIR MeterLink technology simplifies the work in electrical or building inspections by making it possible to transfer, via Bluetooth®, the data acquired by an Extech clampmeter or multi function moisture meter and psychrometer into the infrared camera. The MeterLink technology saves time and eliminates the risk of erroneous records or notes.

Copy to USB
Transfer on board images or reports directly from the thermal imaging camera to a USB stick.

Instant reports (T365/T425)
Create instant reports directly in camera, easily copy report to USB.

Thermal Fusion

Visual image

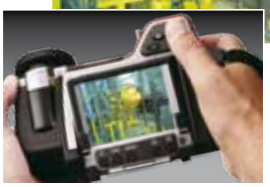


Thermal image

Thermal Fusion image of an overheated circuit breaker

Multifunctional LCD touch screen allows sketching and marking directly on the screen.

Multifunctional LCD touch screen allows quick and easy camera software menu handling.

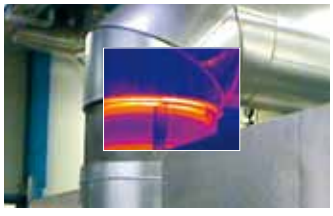


High quality visual images.

FLIR T-Series Camera Model Comparison

FLIR T250	FLIR T335	FLIR T365	FLIR T425
			
Thermal image quality: 240x180 pixels	Thermal image quality: 320x240 pixels	Thermal image quality: 320x240 pixels	Thermal image quality: 320x240 pixels
Temperature range: -20°C to +350°C	Temperature range: -20°C to +650°C	Temperature range: -20°C to +650°C	Temperature range: -20°C to +1200°C
80 mK NETD	< 50 mK NETD	< 50 mK NETD	< 50 mK NETD
2x digital zoom	2x digital zoom	4x digital zoom	8x digital zoom
Picture-in-Picture (scalable)	Picture-in-Picture (scalable)	Picture-in-Picture (resizable/moveable)	Picture-in-Picture (resizable/moveable)
Sketch annotations		Sketch annotations	Sketch annotations
Image marker		Image marker	Image marker
		Thermal Fusion interval	Thermal Fusion interval/ above/below
		DeltaT	DeltaT
		Audible/visible alarms	Audible/visible alarms
		Screening Difference temperature alarm/ audible	Screening Difference temperature alarm/ audible
		Instant reports	Instant reports
			Periodic image storage
			Digital camera video recording

Picture-in-Picture



FLIR P-Series

The FLIR P-Series state-of-the-art thermal imaging cameras are designed for the expert.

A FLIR P-Series camera is the perfect instrument for users who know the advantages that infrared has to offer, and who rely on an infrared camera at work. Whether you are an infrared consultant or a PDM professional in the utilities - or manufacturing industry, the FLIR P-Series infrared cameras will help you trace anomalies invisible to the human eye.

640x480 pixel resolution
The P-Series have a high resolution pixel detector of 640x480 pixels that allows more accuracy and shows more details at a longer distance.

High sensitivity (P660/P640)
< 30 mK thermal sensitivity captures the finest image details and temperature difference information.

High quality visual camera
An integrated 3.2 megapixel visual camera for generating crisp visual images in all conditions.

Contrast Optimizer (P660)
Automatic optimization of brightness and contrast adjustments to make it easier to make thermal analyzes of detailed objects.

Panorama support
Take images in a sequence and automatically combine them to one large image using the FLIR Reporter & FLIR BuildIR software.

Built-in GPS (P660)
GPS allows to georeference infrared images to determine their geographic location.

Laser Pointer
Helps you associate the hot or cold spot in the IR image with the real physical target in the field.

Flexible interfaces
Easy access to composite video connection, USB, FireWire (P640 & P660), and a direct connection to charge the battery inside the camera.

MPEG-4 video (P640/660)
Create visual and infrared non radiometric MPEG-4 video files.

FLIR Thermal Fusion
Merges visual and infrared images to offer better analysis.

Picture-in-picture
Create an infrared overlay on your visual image. Moveable and resizable.

Radiometric JPEG
FLIR uses a non proprietary radiometric JPEG image format that allows for post processing and report writing with Microsoft Word® based FLIR software.

Text and voice annotations
Text comments can be uploaded to the camera through a wireless IrDa interface. A headset can be connected to make voice annotations.

Automatic- and Manual focus, Digital zoom
Focus possibilities include; single shot auto focus, continuous auto focus, laser spot based (660-models) or manual focus.

Tiltable viewfinder
The high-resolution viewfinder is tiltable and can be adapted to the individual user. It is ideal for outdoor use or when the LCD screen is not used.

Large LCD screen
Super size 5.6" foldable high-quality LCD screen allows you to see the smallest details and temperature differences.

Multi-angle handle with integrated direct access buttons
A turnable control grip allows you to use the camera in the most comfortable position. The buttons and joystick to control the camera are integrated in this handle and always stay right underneath your fingertips.

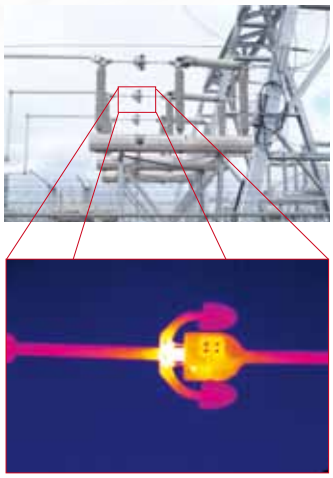
Programmable direct access buttons
For increased flexibility the operator can program buttons located on the top of the camera for direct access to favourite functions.

Contrast optimizer

Basic thermal image.

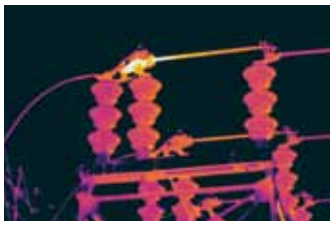
Thermal image enhanced with the Contrast Optimizer function.

High resolution



Infrared image of a high voltage installation taken from a longer distance still allows you to see all details, and therefore increasing worker safety.

Visual image



Infrared image

Thermal Fusion image

Inspections in a substation using infrared technology reveals overheated components.

FLIR P-Series Camera Model Comparison

FLIR P620	FLIR P640	FLIR P660
		
<40 mK sensitivity, accuracy +/- 2%	<30 mK sensitivity, accuracy +/- 2%	<30 mK sensitivity, accuracy +/- 1%
Standard 24° lens	Wide choice of optics	Wide choice of optics
2x digital zoom	8x digital zoom	8x digital zoom
Standard measurement functions	Extended measurement functions	Extended measurement functions
Laser Pointer	Laser Pointer	Advanced Laser Pointer
	Set temperature alarms	Set temperature alarms
USB connection	USB and Firewire connection	USB and Firewire connection
	Radiometric and non-radiometric video recording	Radiometric and non-radiometric video recording
	Sequence recording in camera	Sequence recording in camera
		Built-in GPS
		Contrast Optimizer

Software

Turning tools into solutions

At FLIR Systems, we recognize that our job is to go beyond just producing the best possible infrared camera systems. We are committed to enabling all users of our thermal imaging camera systems to work more efficiently and productively by providing them with the most professional camera-software combination.

Our team of committed specialists are constantly developing new, better and more user-friendly software packages to satisfy the most demanding thermal imaging professionals. All software is Windows-based, allows fast, detailed and accurate analysis and evaluation of thermal inspections.

FLIR Reporter

Creating compelling and professional reports

FLIR Reporter is a powerful software for creating compelling and professional reports with powerful new TripleFusion, Picture-in-Picture, and the latest Microsoft operating system and Word compatibility.

Flexible report design and layout

- Fully integrated with Microsoft Word™
- Powerful temperature analysis
- Wizard-guided report generation
- TripleFusion Picture-in-Picture (movable, sizable, scalable)
- Automatic report generation by drag-and-drop
- Predictive trending functionality
- Automatically adds GPS coordinates to images

TripleFusion Picture-in-Picture capabilities

FLIR Reporter´s Picture-in-Picture (PIP) features to make your reporting easy and efficient. Simply download infrared and visible images to Reporter. Easy-to-use dialog boxes and drag-and-drop features help you superimpose a smaller IR image inside the visible light photo.

Automatic report generation

With FLIR Reporter it´s easy to create customized reports, such as insertion of logos, etc. The ReportWizard guides you step-by-step to make a professional inspection report.

Compatible with GPS

FLIR P660 customers have built-in GPS capability with their cameras. FLIR Reporter automatically adds the GPS coordinates to your report.

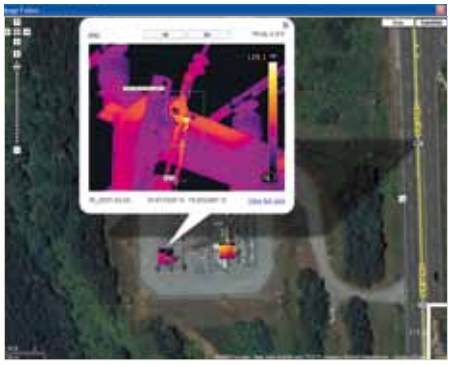
Predictive trending functionality

Trending is a powerful tool to help you track thermal information relating to your IR surveys. Armed with this information you can better determine when maintenance procedures need to be performed.

More advanced features

FLIR Reporter includes numerous advanced features, including: digital zoom, color palette changes, play back of voice comments recorded in the field. Automate calculations with the powerful formula tool and the time-saving one-click ΔT function. Instant report summary creation with the Summary Table tool. Histogram and line profile graph features to facilitate more advanced analysis.

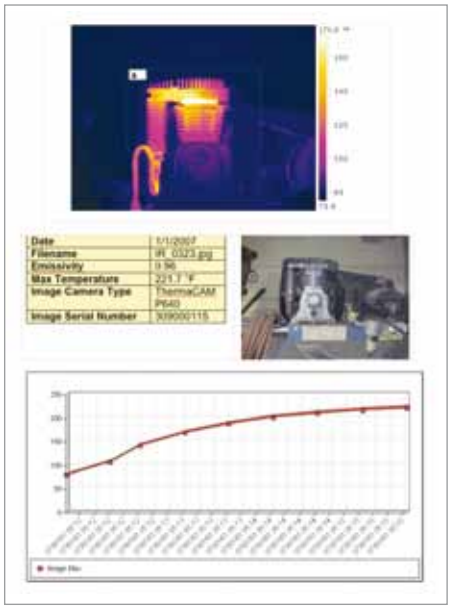
FLIR Reporter allows for fast and easy generation of professional inspection reports.



FLIR P660 users can seamlessly integrate the GPS coordinates into Reporter.

FLIR Reporter Key features:

- Flexible report page design and layout for customized reports
- Use quick insert function to easily create custom report pages
- Fully integrated with standard Microsoft Word
- Generates reports in standard MS Office format and PDF-format
- Powerful temperature analysis
- Triple Fusion Picture-in-Picture (movable, sizable, scalable)
- Rapid report manager supporting automatic report generation by drag-and-drop
- Trending functionality
- Automatic link to Google™ Maps for images with GPS coordinates
- Automatic summary table for the report
- Fine tune images and make full temperature analysis directly in Microsoft Word
- Spell check
- Create your own formulas including measurement values from images
- Play radiometric sequences directly in the report
- Search functionality to quickly find images for your report
- Panorama tool for combining several images to a larger image
- Auto Update function
- Windows 7, 32 and 64-bit
- Support for MeterLink™ data
- *.docx compatibility



Trends: Accurately track thermal performance over time with easy-to-understand charts and graphs.

FLIR QuickReport Software

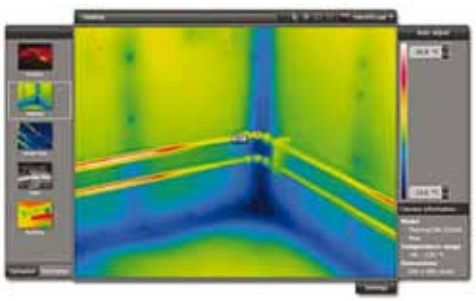
FLIR QuickReport, allows users to organize and analyze the radiometric images from their infrared cameras and present them in a report in just three easy steps.

The software allows the user to adjust the level, span, zoom and pan of the camera. FLIR QuickReport features a choice of ten different color palettes.

FLIR WebViewer

Free online tool to evaluate infrared images

FLIR WebViewer is an intuitive and easy-to-use online tool to analyze and evaluate your infrared images – FREE to use. You can upload images, create, move and delete measurement tools, change palettes, read out camera properties, and more. You can also save the changed images to your Desktop. With FLIR WebViewer you are also able to generate a simple one page report in XPS-format.



ITC

FLIR Infrared Training Center

The Infrared Training Center (ITC) offers the world's leading infrared training and thermographer certification programs.

Although all our cameras are designed for easy installation and operation, there is a lot more to thermal imaging than just knowing how to handle the camera. As the leading company for thermal imaging technology, we like to share our knowledge with our customers and other interested parties.

We therefore organize regular courses and seminars. We also organize in-company training on request, so that you, or your staff, can gain familiarity with thermal imaging and its applications.

The ITC not only welcomes FLIR Systems customers but also users of other brands of cameras. In fact, anyone who wants to learn more about thermal imaging for any applications, before deciding to purchase a camera, is also invited.

The mission of the ITC is to make our customers and partners successful by enhancing their knowledge of IR technology, thermal imaging products, and relevant applications. The ITC offers a portfolio of courses that presents the right mix of theoretical and practical content to help professionals quickly apply thermal imaging technology to real life applications.

All our instructors are experienced thermal imaging specialists. Not only do they have a profound theoretical knowledge but they also have practical experience with numerous applications. For our customers, this means that attending one of the ITC's courses will give them a real hands-on learning experience.

Follow one of our courses and become a thermal imaging expert.

Each ITC course is a perfect combination of theoretical fundamentals and practical excercises. It guarantees participants a real hands-on learning experience.

After Sales

FLIR After Sales

At FLIR Systems, building a relationship with a customer takes more than just selling a thermal imaging camera. After the camera has been delivered, FLIR Systems is there to help meet your needs.

Once purchased, thermal imaging cameras are vital pieces of equipment. To keep them running at all times, we operate a worldwide service network with subsidiaries in Belgium, China, France, Germany, Hong Kong, Italy, the Netherlands, Sweden, United Arab Emirates, the United Kingdom and the USA.

If there should be a problem with one of our camera systems, these local service centers have all the know-how and equipment to solve it within the shortest possible time. Local camera service gives you the assurance that your system will be ready for use again within an extremely short timeframe.

Buying a thermal imaging camera is a long-term investment. You need a reliable supplier who can provide you with support over a long period of time.

Our service personnel regularly follows training programs at our production facilities in Sweden or the USA. Not only to learn about the technical aspects of the products, but also to familiarize themselves with your individual customer requirements and the latest applications.

Different types of maintenance contracts can be offered to make sure that, whatever happens, your thermal imaging camera is always available for use.

CUSTOMER CARE is not just a slogan.
We write it in capital letters at FLIR.

Accessories

Flexible systems that meet your changing needs

In today's fast-changing environment, requirements for purchased capital equipment can change from year to year or from project to project. Things that are vital today can be redundant tomorrow.

That makes it important for the equipment in which you invest to be flexible enough to meet the ever-changing needs of your applications. No other infrared camera manufacturer offers a wider range of accessories than FLIR Systems.

Hundreds of accessories are available to customize our cameras for a wide variety of imaging and measurement applications.

From a comprehensive range of lenses, through LCD screens to remote control devices, everything is available to tailor your camera to your own, specific application.

A wide variety of accessories is available for every FLIR thermal camera

Pouch

Extra Battery

30 mm / 15° lens

10 mm / 45° lens

Car charger

Battery charger

FLIR i5 / i7

Technical specifications

Camera specific

	FLIR i5	FLIR i7
Field of view/min focus distance	17° x 17°/0.6 m	25° x 25°/0.6 m
IR Resolution	80 x 80 pixels	120 x 120 pixels
Measurement modes	Center spot	Center Spot, box with max./min. temp., isotherms abovve/ below selected temperature interval

General

Imaging performance	
Thermal sensitivity (N.E.T.D)	<0.1°C at 25°C
Spectral range	7.5 - 13 µm
Spatial resolution (IFOV)	3.71 mrad
Image Frequency	9 Hz
Focus	Fixed
Focal Plane Array (FPA)	Uncooled microbolometer
Image Presentation	
Display	2.8" color LCD
Measurement	
Object temperature range	-20°C to +250°C
Accuracy	±2 °C or ±2% of reading
Measurement analysis	
Emissivity correction	Variable from 0.1 to 1.0 or selected from list of materials
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
Setup	
Color palettes	Iron, Rainbow and Black/White
Set-up controls	Local adaptation of units, language, date and time formats; automatic shutdown , display intensity
Image Storage	
Type	MiniSD card
File format	Standard JPEG - 14 bit measurement data included
Power	
Battery Type	Li-Ion rechargeable
Battery operating time	5 hours , display shows battery status
Charging system	In camera, AC adaptor; 3 hours to 90% capacity
AC operation	AC adaptor 90-260 VAC input
Power management	Automatic shutdown (user selectable)
Adaptor voltage	5 VDC out
Environmental specificatons	
Operating temperature range	0°C to +50°C
Storage temperature range	-40°C to +70°C
Humidity	Operating and storage IEC 60068-2-30/24 h 95% relative humidity
Shock	25G, IEC 60068-2-29
Vibration	2G, IEC 60068-2-6
Encapsulation	Camera housing and lens: IP43
Physical characteristics	
Dimensions	223 x 79 x 83 mm
Weight	<340g, including battery
Shipping size	120 x 400 x 320 mm
Shipping weight	2.8 kg

Standard package

FLIR i5 or FLIR i7 thermal imaging camera, FLIR QuickReport CD, Printed Getting Started Guide, User documentation CD-ROM, Calibration certificate, Hand strap, Battery (inside camera), Power supply/ charger with EU, UK, US and Australian plugs, USB cable, miniSD card (512 MB), with SD card adaptor

FLIR i-Series

Technical specifications

Camera specific

	FLIR i40	FLIR i50	FLIR i60
Imaging Performance			
IR resolution	120 × 120 pixels	140 × 140 pixels	180 × 180 pixels
Image presentation			
Picture in Picture	IR area on visual image	IR area (in 3 steps) on visual image	Scalable IR area on visual image
Measurement analysis			
Automatic hot/cold detection	N/A	N/A	Auto hot or cold spotmeter markers within area
Image annotations			
Voice	N/A	N/A	60 seconds via Bluetooth®
MeterLink	N/A	N/A	Possible to connect (Bluetooth®): Extech Moisture Meter MO297 or Extech Clamp Meter EX845
Digital camera			
Built-in digital camera	0.6 Mpixels (768 × 768 pixels), and two LED lights	2.3 Mpixels (1536 × 1536 pixels), and two LED lights	2.3 Mpixels (1536 × 1536 pixels), and two LED lights
Laser pointer			
Laser alignment	N/A	N/A	Position is automatic displayed on the IR image
Scope of delivery			
Packaging, contents	Standard	Standard	Standard + Bluetooth® headset , Bluetooth® USM micro-adaptor

General

Imaging Performance	
Field of view (FOV) / Minimum focus distance	25° × 25° / 0.10 m
Spectral range	7.5–13 µm
Spatial resolution IFOV	3.64 mrad for i40, 3.12 mrad for i50 and 2.42 mrad for i60
Thermal sensitivity / NETD	<0.10 °C at +25 °C
Image frequency	9 Hz
Focus	Manual
Focal Plane Array (FPA)	Uncooled microbolometer
Image presentation	
Display	Built-in 3.5 in. LCD, 256k colors, 240 × 320 pixels
Image modes	IR image, visual image, Picture in Picture, thumbnail gallery
Measurement	
Object temperature range	–20 to +120 °C 0 to +350 °C
Accuracy	±2 °C or ±2% of reading
Measurement analysis	
Spotmeter	Center spot
Area	1 box with min./max., i60 1 box/full image with min./max.
Emissivity correction	Variable from 0.1 to 1.0 or selected from list of materials
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
IR window Auto-Correction	Automatic, based on inputs of optics/window transmission and temperature
Set-up	
Image controls	Palettes (Black/White, Iron and Rainbow), image adjustment (auto/manual)
Set-up controls	Local adaptation of units, language, date and time formats; automatic shutdown , display intensity
Image storage	
Type	SD memory card
Format	Standard JPEG - including measurement data
Digital camera	
Built-in digital camera	Yes
Digital camera, focus	Minimum focus distance 0.4 m
Laser pointer	
Laser	Semiconductor AlGaInP diode laser, Class 2
Power	
Battery type	Lithium-Ion (field replaceable)
Battery operating time	5 hours
Charging system	In camera, AC adaptor, 2-bay charger or 12 V from a vehicle
Power management	Automatic shutdown (user selectable)
AC operation	AC adaptor, 90-260 V AC, 50/60 Hz
Adaptor voltage	12 Volt VDC out
Environmental specifications	
Operating temperature range	-15 to +50 °C
Storage temperature range	-40 to +70 °C
Humidity (operating and storage)	IEC 68-2-30/24 h 95% relative humidity +25 °C to +40 °C
Shock	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)
Encapsulation	IP 54 (IEC 60529)
Interfaces	
USB-A	Connect external USB device (copy to memory stick)
USB Mini-B	Data transfer to and from PC / streaming MPEG-4
Physical characteristics	
Camera weight, incl. battery	0.60 kg
Camera size (L × W × H)	235 × 90 × 175 mm
Shipping size	360 x 170 x 310 mm
Shipping weight	3.9 kg

Standard package

FLIR i40, FLIR i50 or FLIR i60: Hard transport case, Infrared camera with lens, Battery, Calibration certificate, FLIR QuickReport™ PC software CD-ROM, Memory card with adaptor, Power supply, Printed Getting Started Guide, USB cable, User documentation CD-ROM, Warranty extension card or Registration card, Bluetooth headset (FLIR i60), Bluetooth USB micro adapter (FLIR i60)

FLIR T-Series

Technical specifications

Camera specific




	FLIR T250	FLIR T335	FLIR T365	FLIR T425
Imaging performance				
Thermal sensitivity/NETD	80 mK at 30°C	50 mK at 30°C	50 mK at 30°C	50 mK at 30°C
IR resolution	240 × 180 pixels	320 × 240 pixels	320 × 240 pixels	320 × 240 pixels
Zoom	1–2× continuous, digital zoom, including panning	1–2× continuous, digital zoom, including panning	1–4× continuous, digital zoom, including panning	1–8× continuous, digital zoom, including panning
Image presentation				
Image modes	General	General	General + Thermal Fusion	General + Thermal Fusion
Thermal Fusion	N/A	N/A	IR image shown within temp interval on visual image	IR image shown above, below or within temp interval on visual image
Picture in Picture	Scalable IR area on visual image	Scalable IR area on visual image	Resizable and movable IR area on visual image	Resizable and movable IR area on visual image
Measurement				
Object temperature range	–20 °C to +350 °C in 2 ranges: -20°C to +120°C or 0°C to +350°C	–20 °C to +650 °C in 3 ranges: -20°C to +120°C or 0°C to +350°C or +200°C to +650°C	–20 °C to +650 °C in 3 ranges: -20°C to +120°C or 0°C to +350°C or +200°C to +650°C	–20 °C to +1200 °C in 3 ranges: -20°C to +120°C or 0°C to +350°C or +200°C to +1200°C
Measurement analysis				
Difference temperature	N/A	N/A	Delta temperature between measurement functions or reference temperature	Delta temperature between measurement functions or reference temperature
Measurement function alarm	N/A	N/A	Audible/visual alarm (above/below) on spotmeter, box or difference temperature	Audible/visual alarm (above/below) on spotmeter, box or difference temperature
Set-up				
Color palettes	General	General	General	General + RainHC, Bluered
Image storage				
Periodic image storage	N/A	N/A	N/A	Every 10 seconds up to 24 hours
Image annotations				
Voice	60 seconds	60 seconds	60 seconds	60 seconds via Bluetooth®
Image marker	On IR or visual image	N/A	4 on IR or visual image	4 on IR or visual image
Sketch	From touch screen	N/A	From touch screen	From touch screen
Digital camera				
Digital camera video recording	N/A	N/A	N/A	Video clip to memory card
Report generation				
Instant report	N/A	N/A	.pdf file in camera including thermal and visual image	.pdf file in camera including thermal and visual image

General

Imaging Performance	
Field of view (FOV) / Minimum focus distance	25° × 19° / 0.4 m
Spectral range	7.5 - 13 µm
Spatial resolution (IFOV)	2.18 mrad for T250 - 1.36 mrad for T335, T365, T425
Image frequency	9 Hz or 30 Hz
Focus	Automatic or manual
Focal Plane Array (FPA)	Uncoooled microbolometer
Image presentation	
Display	Built-in touch screen, 3.5" color LCD, 320 x 240 pixels
Image modes	IR image, Visual image, Picture in Picture, Thumbnail gallery
Measurement	
Accuracy	±2°C or 2% of reading
Measurement analysis	
Spotmeter	5
Area	5 boxes with max./min./average
Isotherm	Detect high/low temperature/interval
Automatic hot / cold detection	Auto hot or cold spotmeter markers within area
Emissivity correction	Variable from 0.01 to 1.0 or selected from list of materials
Measurement corrections	Reflected temperature, optics transmission and atmospheric transmission
External optics/windows correction	Automatic, based on inputs of optics/window transmission and temperature
Setup	
Color palettes	BW, BW inv, Iron, Rain , T425: Rain HC, Bluered
Set-up controls	Local adaptation of units, language, date and time formats; automatic shutdown, display intensity
Image storage	
Type	SD memory card
Format	Standard JPEG - including measurement data
Modes	IR/visual images, simultaneous storage of IR and visual images
Image annotations	
Text	Text from predefined list or soft keyboard on touch screen
MeterLink	Connect Extech Clamp Meter EX845 or Moisture Meter MO297 via Bluetooth
Digital camera	
Built-in digital camera	3.1 Mpixel (2048 × 1536 pixels), and LED lights
Laser Pointer	
Laser	Semiconductor AlGaInP diode laser, Class 2
Laser alignment	Position is displayed automtically on the IR image
Power System	
Battery time	Rechargeable Lithium-ion battery, field replaceable
Battery operating time	4 hours
Charging system	In camera, AC adaptor, 2-bay charger or 12 V from a vehicle
Power management	Automatic shutdown (user selectable)
AC operation	AC adaptor, 100–240 V AC, 50/60 Hz
Adaptor voltage	12 Volt VDC out
Environmental specifications	
Operating temperature range	-15 °C to +50 °C
Storage temperature range	-40 °C to +70 °C
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity +25 °C to +40 °C
Shock	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)
Encapsulation	Camera housing and lens: IP 54 (IEC 60529)
Interfaces	
USB-A	Connect external USB device (copy to memory stick)
USB Mini-B	Data transfer to and from PC/streaming
Composite video	PAL or NTSC
Headset connection	Yes
Physical characteristics	
Camera weight, incl. battery	0.88 kg
Camera size (L × W × H)	106 × 201 × 125 mm
Shipping size	180 x 500 x 360 mm
Shipping weight	5.6 kg

Standard package

FLIR T250, FLIR T335, FLIR T365 or FLIR T425: Hard transport case, Infrared camera with lens, Battery, Battery charger, Bluetooth® USB micro adaptor, Calibration certificate, FLIR QuickReport™ PC software CD-ROM, Headset, Mains cable, Memory card with adaptor, Power supply, Printed Getting Started Guide, Sunshield, USB cable, User documentation CD-ROM, Video cable, Warranty extension card or Registration card

FLIR P-series

Technical specifications

Camera specific

	FLIR P620	FLIR P640	FLIR P660
Imaging performance			
Field of View (FOV) / minimum focus distance	24° x 18° / 0.3 m	24° x 18° / 0.3 m 12° x 9° / 1.2 m 45° x 34° / 0.2 m lens needs to be specified when ordering	24° x 18° / 0.3 m 12° x 9° / 1.2 m 45° x 34° / 0.2 m lens needs to be specified when ordering
Spatial resolution	0.65 mrad for 24° lens	0.65 mrad for 24°lens 0.33 mrad for 12° lens 1.3 mrad for 45° lens	0.65 mrad for 24°lens 0.33 mrad for 12° lens 1.3 mrad for 45° lens
Thermal sensitivity	40 mK at 30°C	30 mK at 30°C	30 mK at 30°C
Electronic zoom	1-2x continuous including pan function	1-8x continuous including pan function	1-8x continuous including pan function
Electric and manual focus with USM technology	Auto and manual	Auto and manual	Auto (follows laser spot) and manual
Image presentation			
Automatic contrast optimization	N/A	N/A	Adjustable DDE
Thermal Fusion	IR image shown above, below or within temperature interval on the visual image (with 24° lens only)	IR image shown above, below or within temperature interval on the visual image (with 24° lens only)	IR image shown above, below or within temperature interval on the visual image (with 24° lens only)
Picture in Picture	Resizeable and moveable IR area on visual image (with 24° lens only)	Resizeable and moveable IR area on visual image (with 24° lens only)	Resizeable and moveable IR area on visual image (with 24° lens only)
Measurement			
Accuracy	± 2 °C or ± 2% of reading	± 2 °C or ± 2% of reading	± 1°C or ± 1% of reading (restricted range) ± 2°C or ± 2% of reading
Measurement analysis			
Spotmeter	3	10	10
Area	3 boxes or circles with Max./Min./Average	5 boxes or circles with Max./Min./Average	5 boxes or circles with Max./Min./Average
Measurement function alarm	N/A	Audible/visual alarms (above/below) on any selected measurement function	Audible/visual alarms (above/below) on any selected measurement function
Profile	N/A	1 live line, horizontal or vertical	1 live line, horizontal or vertical
Image storage			
In-camera storage	N/A	Built-in RAM for burst recording	Built-in RAM for burst recording
Laser pointer			
Laser alignment	N/A	N/A	Position is automatically displayed on IR image
Laser mode	N/A	N/A	Auto-focus / level / spotmeter
Video streaming			
Radiometric IR video recording	N/A	Real-time to built-in RAM, transferrable to memory card	Real-time to built-in RAM, transferrable to memory card
Non-radiometric video recording	N/A	MPEG-4 to memory card	MPEG-4 to memory card
Geographic Information System			
Built-in GPS	N/A	N/A	Location data automatically added to every image for referencing on WEB maps

General

Imaging Performance	
IR resolution	640 x 480 pixels
Spectral range	7.5 - 13 µm
Image frequency	30 Hz
Focus	Automatic or manual
Focal Plane Array (FPA)	Uncoooled microbolometer
Image presentation	
Display	Built-in Widescreen, 5.6" color LCD, 1024 x 600 pixels
Viewfinder	Built-in, tiltable LCD, 800 x 600 pixels
Automatic image adjustments	Continuous/manual; linear or histogram based
Manual image adjustments	Level/span/max./min.
Image modes	IR image, Visual image, Thumbnail gallery, Thermal Fusion, Picture in Picture
Reference image	Shown together with live IR image
Measurement	
Temperature range	-40°C to +500°C (optional up to +2000°C)
Measurement analysis	
Isotherm	2 with above/below interval
Difference temperature	Delta temperature between measurement functions or reference temperature
Automatic hot / cold detection	Max./Min. temp. value and position shown within box, circle or on a line
Reference temperature	Manually set or captured from any measurement function
Emissivity correction	Variable from 0.01 to 1.0 or selected from list of materials
Measurement corrections	Reflected temperature, optics transmission and atmospheric transmission
External optics/windows correction	Automatic, based on inputs of optics/window transmission and temperature
Setup	
Set-up controls	Local adaptation of units, language, date and time formats
Programmable buttons	2
Image storage	
Type	SD memory card
Format	Standard JPEG - including measurement data
Modes	IR/visual images, simultaneous storage of IR and visual images, visual image is automatically associated with corresponding IR image
Periodic image storage	Every 10 seconds up to 24 hours
Panorama	For creating panorama images
Image annotations	
Voice	60 seconds stored with the image
Text	Predefined text or free text from PDA (via IrDA) stored with the image
Image marker	4 on IR or visual image
Digital camera	
Built-in digital camera	3.2 Mpixel auto-focus with video lamp
Laser Pointer	
Laser	Semiconductor AlGaInP diode laser, Class 2
Power System	
Battery time	Rechargeable Lithium-ion battery, field replaceable
Battery operating time	3 hours
Charging system	In camera, AC adaptor, 2-bay charger or 12 V from a vehicle
Power management	Automatic shutdown and sleep mode (user selectable)
AC operation	AC adaptor, 100–240 V AC, 50/60 Hz
Adaptor voltage	12 VDC out
Environmental specifications	
Operating temperature range	-15 °C to +50 °C
Storage temperature range	-40 °C to +70 °C
Humidity (operating and storage)	IEC 68-2-30/24 h 95% relative humidity +25 °C to +40 °C
Shock	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)
Encapsulation	IP 54 (IEC 60529)
Interfaces	
USB-A	Connect external USB device (copy to memory stick)
USB-Mini-B	Data transfer to and from PC / streaming MPEG-4
Composite video	PAL or NTSC
IrDA	For sending text comment files from PDA to camera, wireless transfer of text
WLAN	Optional
Headset connection	Yes
Physical characteristics	
Camera weight, incl. battery	1.8 kg
Camera size (L × W × H)	299 x 144 x 147 mm
Shipping size	520 x 400 x 200 mm
Shipping weight	8.2 kg

Standard package

FLIR P620, FLIR P640 or FLIR P660: Hard transport case, Infrared camera with lens, Battery (2 ea., one inserted in camera, one outside camera), Battery charger, Calibration certificate, FLIR QuickReport™ PC software CD-ROM, FireWire cable, 4/6 (FLIR P640 and P660 only), FireWire cable, 6/6 (FLIR P640 and P660 only), Headset, Lens cap (mounted on lens), Lens cap (2 ea.), Mains cable, Memory card-to-USB adaptor, Memory card with adaptor, Power supply, Printed Getting Started Guide, Shoulder strap, USB cable, User documentation CD-ROM, Video cable, Warranty extension card or Registration card

FLIR i5 / FLIR i7

Accessories

Power

Battery [1950986]
Extra battery that will allow you to spend extra time in the field doing inspections.

Power supply incl. Multi-plugs [T910711]
This power supply is used when powering the camera from the mains supply or to charge the batteries. It comes with different types of plugs.

Storage

Memory card mini-SD with adaptors [T910713]
Capture images on the go with your camera. These small cards are easy to use and can hold a great amount of data.

Accessories

Hard transport case [T197619]
Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

Pouch [T126024]
Soft pouch to protect the camera. Possible to attach to waist belt.

USB cable [1910423]
USB cable to connect the camera.

FLIR i-Series

Accessories

Power

Battery [1196398]
Extra battery that will allow you to spend extra time in the field doing inspections.

Power supply incl. Multi-plugs [T910750]
Combined power supply, including multi plugs and battery charger to charge the battery when it is inside or outside of the camera.

Cigarette lighter adaptor kit, 12 V DC, 1.2 m [1196497]
Can be used to power the camera from the cigarette lighter socket in a car.

2-bay battery charger, incl. power supply with multi-plugs [T197650]
This 2 bay battery charger is used for charging FLIR Systems' camera batteries.

Storage

Memory card micro-SD with adaptors [T910737]
Capture images on the go with your camera. These small cards are easy to use and can hold a great amount of data.

Miscellaneous

Bluetooth USB micro adaptor [T951235]
Can be plugged in the camera to transfer data from selected Extech instruments to the camera and for connecting the Bluetooth headset to the camera.

Bluetooth headset [T197771]
The Bluetooth headset can be used for annotation thermal images with voice messages. There is a wireless connection between the camera and the headset.

Accessories

Hard transport case [T197247]
Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

Pouch [1122000]
Soft pouch, with waist belt, to protect the camera.

USB cable [1910423]
USB cable to connect the camera.

FLIR T-Series

Accessories

Power

Battery [1196398]
Extra battery that will allow you to spend extra time in the field doing inspections.

2-bay battery charger, incl. power supply with multi-plugs [T197650]
This 2 bay battery charger is used for charging FLIR Systems' camera batteries.

Cigarette lighter adaptor kit, 12 V DC, 1.2 m [1196497]
Can be used to power the camera from the cigarette lighter socket in a car.

Power supply incl. Multi-plugs [T910750]
Combined power supply, including multi plugs and battery charger to charge the battery when it is inside or outside of the camera.

Storage

Memory card micro-SD with adaptors [T910737]
Capture images on the go with your camera. These small cards are easy to use and can hold a great amount of data.

Adaptor, SD memory card to USB [1910475]
Allows to transfer the images from the SD card to a PC.

Accessories

Hard transport case [1196895]
Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

Neck strap [1124544]
Ties the camera around your neck so that it is protected against falling.

Pouch [1124545]
Soft pouch to protect the camera.

Sun shield [1123970]
Snap-on sunshield to increase visibility of the LCD display.

Lens cap camera [1196818]
Lens cap to protect the camera.

Lenses

Lens 10 mm, 45° field of view incl. case [1196960]
Sometimes there isn't enough room to step back and see the whole picture. This wide angle lens has a field of view almost double than the one of the standard 25° lens. Perfect for wide or tall targets such as electrical panels or paper machinery.

Lens 30 mm, 15° field of view, incl. case [1196961]
When the target in question is a distance away it may be useful to use a telescope lens. The 15° lens is a popular lens accessory and provides almost 2X magnification compared to the 25° lens. Ideal for small or distant targets such as overhead power lines.

Close-up lens 2x, 50 um, incl. case [T197214]
This macro lens provides resolution of extremely small targets.

Close-up lens 4x, 100 um, incl. case [T197215]
This macro lens provides resolution of extremely small targets.

Lens 76 mm, 6° field of view, incl. case and mounting support [T197408]
For maximum magnification, the 6° lens is the only choice. This optic provides almost 3.5X magnification compared to the 25° lens and is ideally suited for inspection of overhead power lines. Due to the weight of this lens, a tripod is recommended.

Lens 4 mm, 90° field of view, incl. case and mounting support [T197412]
Sometimes there isn't enough room to step back and see the whole picture. This wide angle lens has a field of view almost four times the one of the standard 25° lens. This wide angle lens is perfect for wide or tall targets such as electrical panels or paper machinery.

Cables

Video cable [1910582]
This cable can be used to transfer the images of the T/B-Series thermal imaging cameras to a monitor.

USB cable [1910423]
USB cable to connect the camera with a computer, using the USB protocol.

Extended measurement ranges

High temperature option to +1,200°C [T197000]
Allow to measure temperatures of up to +1,200°C with the camera.

Headsets

Headset [1910489]
Standard headset with 3.5 mm plug, including microphone.

Bluetooth® headset [T197771]
Headset with Bluetooth® for wireless connection with the infrared camera, including microphone.

Bluetooth® USB micro adaptor [T951235]
Bluetooth® USB micro adaptor for wireless connection between the infrared camera and external Bluetooth® equipment.

FLIR P-Series

Accessories

Power

Battery [1196209]
Extra battery that will allow you to spend extra time in the field doing inspections.

Battery charger [T197563]
This 2 bay battery charger is used for charging FLIR Systems' camera batteries.

Cigarette lighter adaptor kit, 12 V DC, 1.2 m [1910490]
Can be used to power the camera from the cigarette lighter socket in a car.

Power supply incl. Multi-plugs [T910814]
This power supply is used when powering the camera from the mains supply or to charge the batteries. It comes with different types of plugs.

Storage

Adaptor, SD memory card to USB [1910475]
Allows to transfer the images from the SD card to a PC.

Memory card micro-SD with adaptors [T910737]
Capture images on the go with your camera. These small cards are easy to use and can hold great amount of data.

Accessories

Hard transport case [T197262]
Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

Extended measurement ranges

High temperature option to +1,500°C [1196744]
Allow to measure temperatures of up to +1,500°C with the camera.

High temperature option to +2,000°C [1196745]
Allow to measure temperatures of up to +2,000°C with the camera.

Miscellaneous

Headset, 3.5 mm plug [1910489]
This head-set is used when annotating thermal images with voice messages. It features an adjustable microphone that can be on the right or on the left side of the head-set. It connects to the head-set connector on the camera.

Remote control unit [T197230]
Can be used to control the camera safely from a remote distance. Extremely useful when the camera needs to look at dangerous processes.

Lenses

Close-up lens 0.5x, f=75mm (fits 24° lens) incl case [1196683]
This close-up optic attaches to the standard 24° lens and provides resolution of very small targets.

Lens 38 mm, 24° field of view, incl. case [T197187]
The 24° lens can be used for daily inspections. Suitable for the majority of applications.

Lens 76 mm, 12° field of view, incl. case [T197188]
When the target in question is a distance away it may be useful to use a telescope lens. The 12° lens is a popular lens accessory and provides 2X magnification compared to the 24° lens. Ideal for small or distant targets such as overhead power lines.

Lens 131 mm, 7° field of view, incl. case [T197190]
For maximum magnification, the 7° lens is the only choice. This optic provides almost 3.5X magnification compared to the 24° lens and is ideally suited for inspection of overhead power lines. Due to the weight of this lens, a tripod is recommended.

Macro lens 1X (25um) with case [T197341]
Provides resolution of extremely small targets. For R&D usage or development purposes.

Protective window (fits 24° lens) with case [T197343]
A protective plastic window: suitable when the camera is used in a dusty environment or when there is a risk of liquids splashing on the lens. The window is made of monocrystalline fluoride.

Lens 19 mm, 45° field of view [T197189]
Sometimes there isn't enough room to step back and see the whole picture. This wide angle lens has a field of view almost double than the one of the standard 24° lens. Perfect for wide or tall targets such as electrical panels or paper machinery.

Cables

FireWire cable 4/6, 2 m [1910483]
This cable is used to connect a thermal imaging camera to a computer using the FireWire protocol.

FireWire cable 6/6, 2 m [1910482]
This cable is used to connect a thermal imaging camera to a computer using the FireWire protocol.

HDMI to DVI cable,1.5 m [T910816]
Can be used to show the high resolution images of the camera on a screen with DVI input.

HDMI to HDMI cable, 1.5 m [T910815]
Can be used to show the high resolution images of the camera on a screen with HDMI input.

USB cable Std-A to Mini-B, 2 m [1910423]
Can be used to transfer images from the camera to a computer using the USB protocol.

Video Cable RCA to RCA [1910484]
This cable can be used to transfer the images of the P-Series thermal imaging cameras to a monitor.

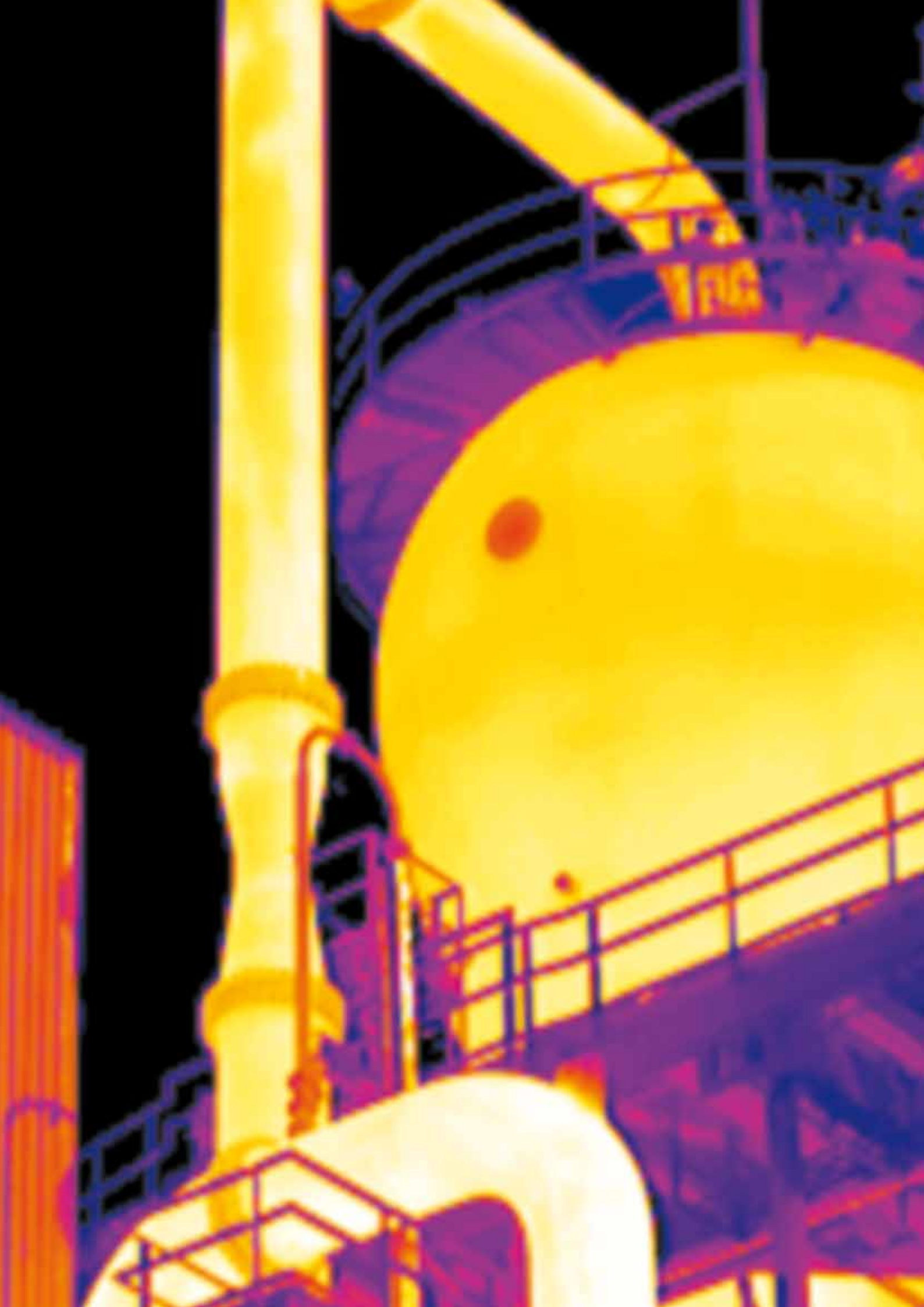
FLIR Systems

Export Licensing

The products described in this publication may require government authorization for export/re-export, or transfer. Contact FLIR Systems for details.

Specifications are subject to change without notice.
Weights and dimensions are indicative.

May 2010. All previous catalogues are obsolete.



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