

MAINTENANCE NEWS



New FLIR i3



First thermal imaging camera for less



FLIR launches
FLIR E-Series



Thermal imaging helps
the Berlin Water Company
to provide a continuous
service



FLIR Systems, more than
thermal imaging cameras
only



NEW FLIR i3



NEW
FLIR E-Series

FLIR Systems launches FLIR i3 and FLIR E-Series

Supplied by :

Test and Measurement Instruments C.C.
www.instrumentsgroup.co.za



FLIR Systems launches new range of revolutionary thermal imaging cameras

Constantly improving its products. Breaking price barriers. Bringing the power and advantages of thermal imaging cameras to as many users as possible. That is what FLIR Systems stands for.

Today FLIR Systems is proving this again by launching a complete new product portfolio for predictive maintenance inspections.

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Sharing our knowledge



COLOFON

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Working for our customers

Each and every day, more than 2,700 FLIR employees worldwide are working for you, our customer, to make sure you get the best thermal imaging camera at the best price. Whatever your application may be. Millions of customers worldwide have discovered already that FLIR Systems is the leading company in thermal imaging cameras.

A long term investment

Buying a thermal imaging camera is a long term investment. You have to select the correct camera for your applications, but even more important, also the correct supplier. You need a supplier that can offer you not only hardware but software as well. A supplier that can support you with your growing thermal imaging needs. One that has a wide range of accessories such as lenses and one that can upgrade your camera if necessary. You also might need training and local service. FLIR Systems can offer you all this and more.

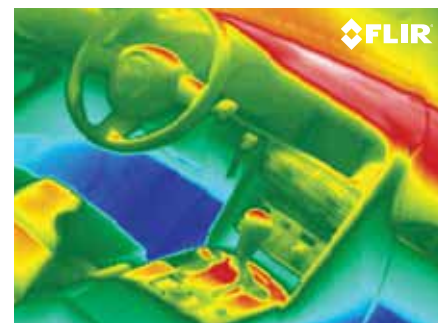
Thermal imaging breakthroughs

"With the FLIR i3 we are breaking the barrier.", explains Guy Pas, Vice-President Sales EMEA.

Price is no longer an objection for using a thermal imaging camera. FLIR has put thermal imaging on the same level as other instruments for electricians and building inspectors."

"The FLIR E-Series is a completely new range of thermal imaging cameras. Excellent image quality, a rich feature set and affordably priced."

"By introducing all these new thermal imaging cameras for predictive maintenance applications FLIR Systems is, once more, clearly showing that it is truly the world leader in thermal imaging cameras. The FLIR i3 and FLIR E-Series are new introductions that will drastically change the thermal imaging camera markets. Again, these major innovations are (de)signed by FLIR Systems."





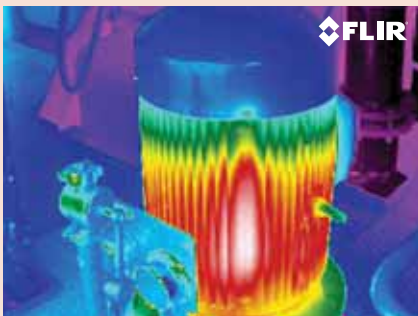
FLIR launches FLIR i3

First thermal imaging camera for predictive maintenance inspections for less

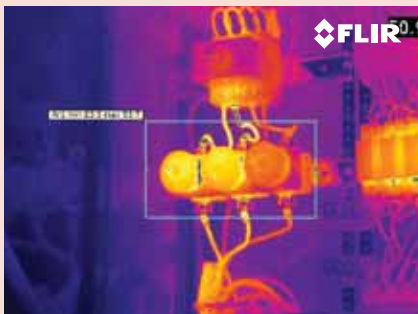
As the world leader in thermal imaging, FLIR Systems considers it its mission not only to produce the best thermal imaging cameras on the market, but also to bring the advantages of thermal imaging cameras to as many users as possible.

Regardless whether you are a big industrial company, an electrician, or even a consumer that wants to inspect its electrical installations or its house, everyone should have access to thermal imaging cameras and price should not be an object.

That is why FLIR Systems is launching the FLIR i3



Overheated motor.



Overheated fuse.



Bad connection in a cable.

Temperature measurement capabilities

The FLIR i3 produces thermal images of 60 x 60 pixels. This image quality is excellent for first-time thermal imaging camera users. The FLIR i3 detects temperature differences as small as 0.15°C.

A spotmeter in the centre of the image allows for reading accurate temperature values from the thermal image.

FLIR i3: an easy-to-use tool to avoid breakdowns and fires and for electrical inspections

The FLIR i3 stores its images on a removable SD card in JPEG format. All temperature data are included in the thermal image. FLIR QuickReport software is included for making fast inspection reports and for analyzing the thermal images. The camera is also compatible with the more powerful FLIR Reporter.

The FLIR i3 is extremely easy to use. Just point the camera, shoot a thermal image and detect electrical anomalies.

Electrical installations become hot before they fail or when they are badly connected. By using a thermal imaging camera like the FLIR i3 it can be checked if electrical installations are functioning properly. This way breakdowns, or even worse fires, can be avoided.

Reaching new users

"The last few years prices of thermal imaging cameras that can be used for electrical inspections have decreased continuously," says Christiaan Maras, Marketing Director EMEA, FLIR Systems. "Thanks to this more and more people have discovered the advantages that thermal imaging cameras have to offer. With this new camera, marketed at an



extremely low price point, FLIR Systems plans to reach even more users. It is time that the power of thermal imaging can be used by every electrician."

The FLIR i3 is the perfect instrument that will help electricians in their everyday jobs.

"FLIR Systems has brought numerous innovations to the world of thermal imaging and by decreasing the price we have brought thermal imaging from an exotic technology to a well known tool for many users.

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FLIR launches FLIR E-Series

Thermal imaging camera for predictive maintenance inspections



Thermal imaging cameras have evolved into a widespread instrument for predictive maintenance inspections. Electrical and mechanical installations, in large facilities, factories and houses, it can all be inspected with a thermal imaging camera.

Since the market has grown considerably in the last couple years and more and more people are using a thermal imaging camera, the demand for higher image quality has gone up drastically. First time users often decide for an entry model and later upgrade to more performing systems.

The FLIR E-Series are rugged, full featured instruments that are available with an image quality of up to 320 x 240 pixels.

Full featured, excellent image quality but low price

"The FLIR E-Series answers a demand from many users that are upgrading their existing camera to a model with better image quality and more features. It is also the perfect entry model for potential customers that not only want more pixels but also require more analysis functions than what FLIR Systems offers in the FLIR i-Series," explains Guy Pas, Vice-President Sales EMEA at FLIR Systems.

"At FLIR Systems we are active in a wide range of markets and have a high degree of vertical integration. This means that we have huge economies of scale. Thanks to this, FLIR Systems is able to market the FLIR E-Series at an extremely affordable price which is lower than the price of other thermal imaging cameras that do not offer the image quality and the features of the FLIR E-Series."



Poor connection and internal damage



Internal fuse damage



Damaged insulation



Steam trap

Different versions available

All versions of the E-Series are equipped with a state-of-the-art uncooled microbolometer detector. According to his needs the user can choose for versions that produces thermal images of 160 x 120, 240 x 180 or 320 x 240 pixels.

More pixels means seeing more detail and more accurate temperature readings so that the smallest of anomalies can be detected.

Accurate temperature readings

Depending on the model FLIR E-Series make temperature differences as small as 0.05°C visible. They can measure temperatures up to +650°C.

Thermal and visual camera, laserpointer

Apart from the FLIR E30, all versions of the FLIR E-Series are equipped with a 3.1 Megapixels digital camera.

All versions are equipped with a laserpointer that helps to associate the hotspot on the thermal image with the real physical target in the field.

Full featured camera

All FLIR E-Series thermal imaging cameras come with a large number of features that are extremely useful for electrical and maintenance inspections.

Analysis tools include spotmeters, automatic hot/cold detection markers, isotherm (above / below / interval), automatic calculation of the temperature difference between 2 user defined points in the image.



Large and bright LCD

Sharp thermal images and easy-to-read temperature values are presented on the touch screen LCD display.



Laserpointer and LED light

Activate the built in laser pointer and associate the hot spot you see on the LCD with the real target in the field. A LED light assures clear visual images that can be taken with the digital camera.

Apart from the FLIR E30 they all have a WIFI interface which allows to transfer images to a smartphone or tablet PC and they are equipped with MeterLink which allows to transfer the data acquired by an Extech clampmeter wirelessly to the FLIR E-Series.

All versions allow for easy transfer of images from the camera to a USB stick or directly to a computer.

Rugged and easy-to-use

All FLIR E-Series can be used in the most harsh environments. Their vital inner core is well protected (IP54 rated).

The FLIR E-Series are equipped with a touchscreen. Control buttons are available in case the touchscreen is not being used.

The large 3.5" display shows clear thermal images.



Most FLIR E-Series also contain the MeterLink feature.

FLIR E30

Thermal image quality:
160x120 pixels
Thermal sensitivity: <0.1°C
Temperature range: 0°C to +250°C
Spotmeter: 1
1 box with min./max./average

FLIR E40

Thermal image quality:
160x120 pixels
Thermal sensitivity: <0.07°C
Temperature range: -20°C to +650°C
Spotmeter: 3
3 boxes with min./max./average
Delta temperature measurement
Built-in 3.1 Mpxels digital camera
Voice / text annotations
MeterLink™
Bluetooth® / WiFi
1-2x continuous digital zoom
IR area on visual image

FLIR E50

Thermal image quality:
240x180 pixels
Thermal sensitivity: <0.05°C
Temperature range: -20°C to +650°C
Spotmeter: 3
3 boxes with min./max./average
Delta temperature measurement
Built-in 3.1 Mpxels digital camera
Voice / text annotations
MeterLink™
Bluetooth® / WiFi
1-4x continuous digital zoom
Scalable IR area on visual image
Thermal Fusion
Non-radiometric video streaming

FLIR E60

Thermal image quality:
320x240 pixels
Thermal sensitivity: <0.05°C
Temperature range: -20°C to +650°C
Spotmeter: 3
3 boxes with min./max./average
Delta temperature measurement
Built-in 3.1 Mpxels digital camera
Voice / text annotations
MeterLink™
Bluetooth® / WiFi
1-4x continuous digital zoom
Scalable IR area on visual image
Thermal Fusion
Non-radiometric video streaming
Instant report
Text and voice annotations





Berliner Wasserbetriebe

Source: BWB archive

Thermal imaging helps the Berlin Water Company to provide a continuous service

'We simply cannot afford down-time'

The Berlin Water Company provides 3.7 million people in Berlin and Brandenburg with clean drinking water. As the continuity of this service is extremely important, the Berlin Water Company uses FLIR thermal imaging cameras to quickly find technical problems and maximize the effectiveness of the maintenance crew.

The maintenance department makes sure that the Berlin Water Company runs smoothly and that the clients can easily dispose of their sewage water and receive clean drinking water in return. To do that they must monitor 7,889 kilometers of clean water pipelines.

Automatic water and sewage systems

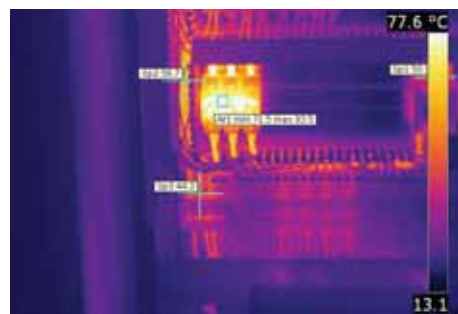
The sewage system is fully automated ever since the highly-developed water

company completed an eight year long automation process in December 2009. Using the latest technology the water and sewage systems are monitored and controlled from two separate control centers. That means that the maintenance crew has a busy schedule, however, for that complex infrastructure has to be carefully monitored. In order to be more efficient, the maintenance department acquired a FLIR thermal imaging camera from FLIR products distributor TOPA. "They offer a wide range of mechanical, electrical and electronic measuring instruments, but above all a very good service", explains maintenance engineer Thorsten Krämer.

"We bought the FLIR P620 thermal imaging camera from them because we simply cannot afford down-time", continues Krämer. "Too many people are depending on our services. So we have



Maintenance engineer Thorsten Krämer uses the FLIR P620 to inspect a fuse cabinet.



The fuses that show up in the thermal image are overloaded and need to be replaced.

to find technical defects before a problem occurs."

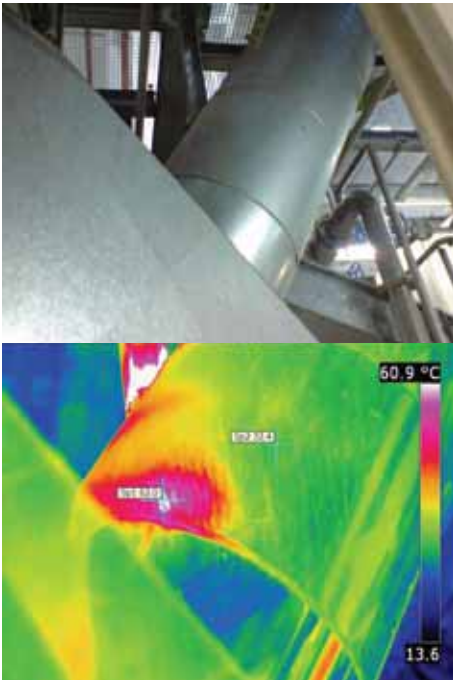
FLIR P-Series: an obvious choice

The choice for the FLIR P620 thermal imaging camera was an obvious one, explains Krämer. "We've compared several thermal imaging cameras and this one was the best option. It's a very good camera and it delivers the best image quality." With its resolution of 640x480 pixels and sensitivity of less than 30 mK, the FLIR P620 provides the best thermal imaging quality that modern technology has to offer."



Source: BWB archive

Some of the Berlin Water Company's facilities seen from the air



The hotspot in the thermal image shows that this hot steam pipe has either a small leak or faulty isolation.



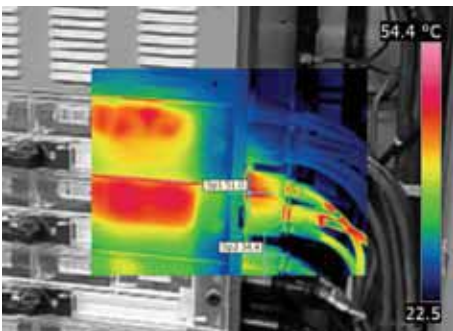
Although these output terminals are definitely hot, the measured temperatures are normal for this kind of load.



This thermal image shows that the work load during operation is not distributed evenly among the fuse boxes.

'A great tool for maintenance'

According to Krämer the FLIR P620 thermal imaging camera is a great tool for maintenance. "The P620 instantly makes hot spots visible on a clear thermal image. You can use it to scan distribution boards, fuse boxes and to survey multiple wires and connections. It provides an instant picture of the thermal differences that indicate an overload or uneven workload distribution. With the P620 we can quickly



Krämer: "Especially the Picture-in-picture feature is useful to show in your report exactly where the object you're measuring is located."

detect where the problem lies so we can repair it before it gets worse. This helps reduce repair costs and minimizing downtime."

Krämer and his colleagues use the FLIR P620 thermal imaging camera mainly to monitor the electronic equipment like switchgears, connectors, transformers, electrical cables, fuse panels and electrical cabinets. "You can immediately spot where the problem is, because faulty electronic equipment shows up very clearly as a hot spot in the thermal image."

More than electrical inspection alone

But the thermal imaging camera can do much more than electrical inspection alone. It can also be used to monitor pumps; check valves for leakage; monitor sludge levels in storage tanks; and scan pipelines for anomalies. "And recently we've also started using it to monitor bearings. They become very hot before they actually break down, so you can predict a bearing failure before it actually occurs."

The importance of training

"It's easy to miss some crucial pieces of information when you're analyzing thermal images; you really need to know what you're doing." That's one of the reasons why the Berlin Water Company chose FLIR. "To be able to accurately use thermal imaging cameras in a professional way you need good training."

FLIR provides training in co-operation with the Infrared Training Center (ITC), the world's leading educational and training resource for thermal imaging professionals. The ITC offers high-quality interactive thermography training from the most qualified international thermography instructors..

The operators in the Berlin Water Company are all at least level 1 certified. They have to be, according to Krämer. "There's so much to take into account, when it comes to the analysis of thermal images."

'FLIR Reporter: effective and easy to use'

To compile their reports they use FLIR Reporter Professional. "The FLIR Reporter software is very easy to use and it does the job very effectively." With FLIR Reporter you can easily create compelling and professional reports. "

Every day the Berlin Water Company maintenance crew ensures the continuity of the company's services to their 3.7 million clients, with the aid of their FLIR P620 thermal imaging camera that helps them spot technical problems that are invisible to the human eye. "This thermal imaging camera really is a great tool", concludes Krämer. "I really don't want go without one now that I have the FLIR P620 thermal imaging camera."



FLIR Systems, your reliable full line thermal imaging supplier

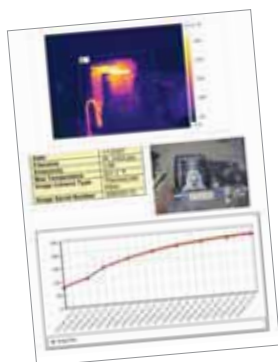
At FLIR Systems we realize that there is more to the world of thermal imaging that just producing and marketing the most technologically advanced thermal imaging cameras. If you want to get the most out of a thermal imaging camera you need the correct software as well. Although a thermal imaging camera is an easy to use tool, there is more to the world of thermal imaging than just handling the camera. Therefore we are offering training courses that will help you to use your camera correctly. We also offer a wide range of accessories so that the camera can grow with your needs. Finally, we operate local service centers so that there is no need to send your camera to the other end of the world should there be a problem.

All this combined makes FLIR System, your reliable full line thermal imaging supplier

Software

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. All our thermal

imaging cameras for predictive maintenance inspections come with FLIR QuickReport. For more extensive reporting needs FLIR Reporter and other software tools are available.



ITC

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 examples and practical content to help professionals quickly apply thermal imaging technology to real life applications.

Accessories

FLIR Systems offers a wide range of lenses and other accessories so that your camera can grow with your needs.

Service

Once purchased a thermal imaging camera is a vital piece of equipment. If there should be a problem with one of our cameras, local service centers have



A wide variety of accessories for every FLIR thermal camera



all the know-how and equipment to help you in the shortest possible time. Buying a thermal imaging camera is a long term investment so you need a reliable supplier that can support you over a long period of time. FLIR Systems is your best choice.

FLIR Systems, a full range of thermal imaging cameras for predictive maintenance inspections

Different users have different needs. That is exactly why FLIR Systems is offering a choice of thermal imaging camera models. No matter if you are an experienced thermal imaging professional or if you are just discovering

the benefits of thermal imaging, FLIR Systems has the perfect model for you. From the extremely affordable FLIR i3 to the full feature FLIR P660 that produces crisp thermal images of 640x480 pixels, at FLIR Systems, you choose !

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