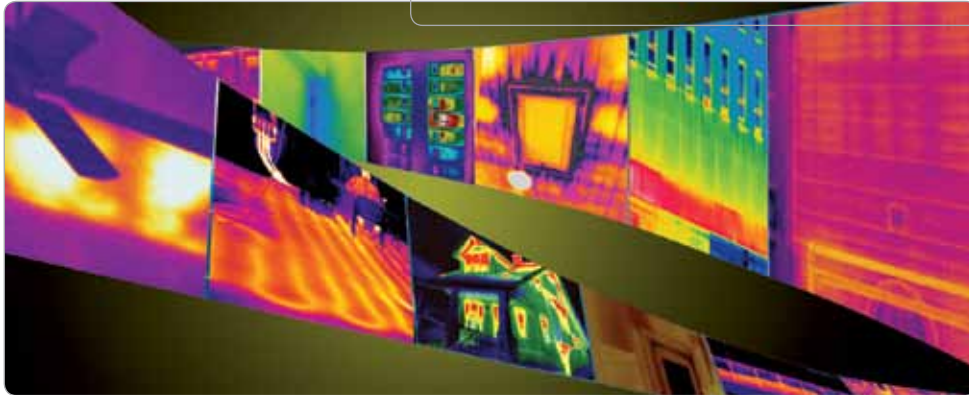


# Infrared Cameras for Building Diagnostics



Home Inspection

Energy Auditing

Insulation Inspections

Water Damage/Restoration

Air Infiltration

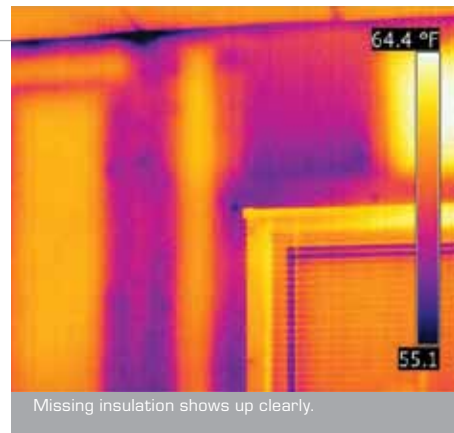
Leak Detection

Commercial Building Diagnostics

HVAC

FLIR infrared cameras give you the power to see the invisible. With a FLIR camera, you can see and document the telltale temperature differences that show moisture damage, missing insulation, air infiltration, and many other building problems faster than any other technology.

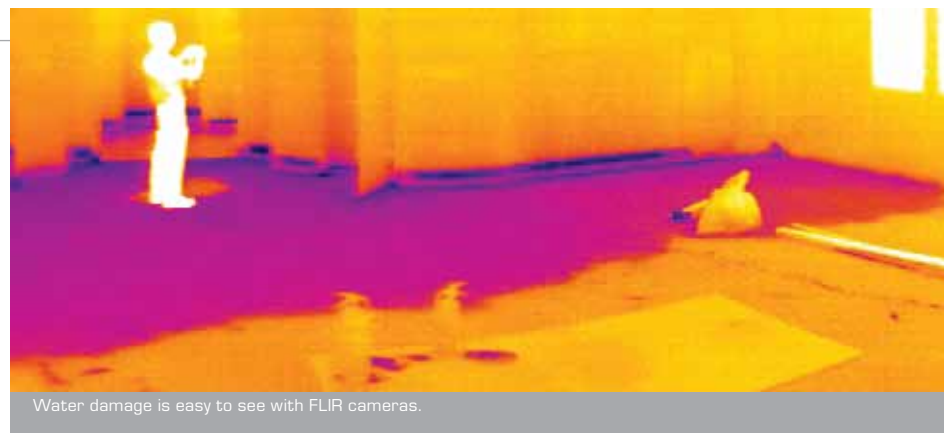
You can even create customized reports for customers and insurance companies to justify your repairs and validate the quality of your work.



Missing insulation shows up clearly.

#### Missing Insulation

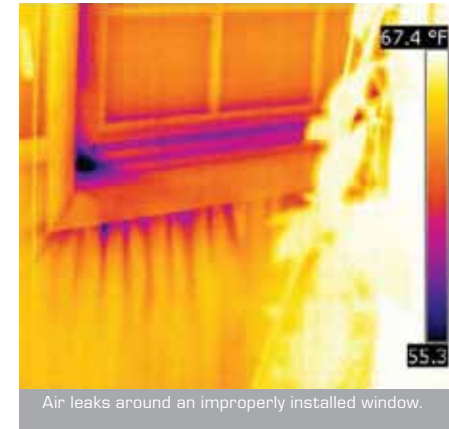
Find areas with missing or damaged insulation quickly by detecting the temperature differences compared to surrounding areas.



Water damage is easy to see with FLIR cameras.

#### Water Damage

Locate and repair hidden water damage quickly before small problems become big, expensive ones, and provide documented proof of your repairs.



Air leaks around an improperly installed window.

#### Air Infiltration

Detect air leaks around windows, doors, and other structures. Repairing air leaks saves energy and money.



Overloaded circuit in breaker panel.

#### Electrical Problems

Finding hidden electrical problems is easy with a FLIR camera, enabling you to make timely, efficient repairs.



A malfunctioning section of radiant flooring.

#### HVAC Problems

Discover heating and cooling duct leaks, problems with air conditioners and heaters, and troubleshoot radiant flooring components to maximize energy efficiency.



An undetected shower leak causes mold.

#### Mold and Rot

Expose the hidden water leaks that can lead to extensive – and expensive – mold and rot damage by seeing hidden temperature differences.



With a wide selection of infrared cameras that cover every application and every budget, FLIR makes sure that you hit the job site with the latest features and capabilities available to today's Building Inspection professional.

## i5 & i7

Compact, lightweight, and affordable, FLIR's i5 and i7 thermal cameras are easy to use and provide precise on-screen temperature measurement. If you are starting a new infrared inspection program or thinking about equipping several technicians with thermal cameras, the i5 or i7 might be right for you.

**Accurate Results** – FLIR's outstanding sensitivity and precise temperature measurement give you results you can trust

**Rugged, Lightweight Design** – Easy to carry, easy to use, and tough enough to toss in with the rest of your tools, you'll never be without your FLIR

**Fully Radiometric JPEG Images** – JPEG image files with all of your temperature measurements get saved right in the camera so you can download them to your computer to create custom reports

**Battery Convenience** – Interchangeable, rechargeable battery packs make sure that you can keep working all day without worrying about running out of power



## Point and Shoot b-Series

With all of the base features found in the i5 and i7, plus the expanded features and improved resolution that restoration contractors and building weatherization professionals demand, b-Series thermal cameras provide the durability, sensitivity, and performance you need at an affordable price.

**Sensitivity and Resolution** – b-Series cameras provide improved sensitivity so you can detect those hard-to-find problems, and larger resolution sensors for even better image quality

**Integrated Visible-Light Camera** – Document problems in both thermal and visible-light spectrums for easy location and effective reporting; built-in LED lamps make it easy to use your visible-light camera, even in dark places

**Image Fusion** – Overlay your thermal and visible-light images for complete reporting and accurate problem diagnosis

**Laser Spot** – The built-in laser pointer puts a laser spot right on the problem so you can locate areas in need of repair quickly and accurately

**Reporting Flexibility** – Advanced reporting features let you move temperature measurement spots around, automatically flag hot and cold spots, and much more so that your custom reports will document everything needed for insurance companies and repair crews

**Unbeatable Features** – MeterLink and Save-to-USB functionality help you do your job more efficiently than ever before: watch the enclosed video to learn more



## Professional B-Series

FLIR's professional-grade B-Series infrared cameras are packed with features that give you the accurate information you need to work quickly and effectively, making them the right choice for the building inspector, energy auditor, or restoration contractor who does lots of thermal inspections.

**Powerful Analysis Tools** – The Delta T function, multiple spot measurements, and the new MeterLink feature are "must have" tools for accurate, comprehensive infrared inspections

**Advanced Ergonomics** – B-Series cameras have tiltable lenses that let you see into hard-to-reach areas, and document problems that could go undiscovered with fixed-lens cameras

**Interchangeable Lenses** – With seven interchangeable lenses, from wide-angle to telephoto, B-series will always be able to give you the view you need to find and fix building problems

**Picture-in-Picture** – B-Series' high-quality 3.1 megapixel visible-light camera lets you see things in visible and thermal wavelengths, overlay the thermal and visible-light images, and resize the images in customized reports so you'll never have any problems telling crews where the problems are

**Voice, Text, or Sketch** – Annotate your images with voice comments, use preset text or simply sketch your notes on the touch screen

**InstantReport** – Create a professional PDF report in your camera without an external computer, and hand it off to other crew members on a USB thumb drive; complete the job before you leave the site

**Panoramic Images** – Select B-Series cameras let you stitch a collection of images together to get the whole picture of the space you're working in



## MeterLink™

Moisture data and thermal images combined

Thermal imagers help you find moisture damage, energy loss, and insulation problems quickly and easily, but in many cases you'll need to quantify the severity of the damage on the thermal images you provide to customers or insurance companies. MeterLink puts it all together.

FLIR's revolutionary MeterLink wirelessly transmits vital moisture data from MeterLink-enabled moisture meters directly to the camera, annotating the thermal image with the information needed to help document your findings. This adds credibility to your findings, both before and after repairs.



# Imaging Specifications



Specifications	Point and Shoot					Professional			
	i5	i7	b40	b50	b60	B200	B300	B360	B400
<b>Model Number</b>									
<b>Imaging Specifications</b>									
Resolution	80 x 80	120 x 120	120 x 120	140 x 140	180 x 180	240 x 180	320 x 240	320 x 240	320 x 240
Total Pixels	6,400	14,400	14,400	19,600	32,400	43,200	76,800	76,800	76,800
Thermal Sensitivity	<0.1°C	<0.1°C	<0.1°C	<0.09°C	<0.07°C	<0.07°C	<0.05°C	<0.05°C	<0.05°C
Uncooled Microbolometer (made in USA)	x	x	x	x	x	x	x	x	x
Accuracy	+/-2% or 2°C	+/-2% or 2°C	+/-2% or 2°C	+/-2% or 2°C	+/-2% or 2°C	+/-2% or 2°C	+/-2% or 2°C	+/-2% or 2°C	+/-2% or 2°C
Object Temperature Range	-4°F to 482°F (-20°C to 250°C)	-4°F to 482°F (-20°C to 250°C)	-4°F to 248°F (-20°C to 120°C)	-4°F to 248°F (-20°C to 120°C)	-4°F to 248°F (-20°C to 120°C)	-4°F to 248°F (-20°C to 120°C)	-4°F to 248°F (-20°C to 120°C)	-4°F to 248°F (-20°C to 120°C)	-4°F to 248°F (-20°C to 120°C)
High Temp Settings						32°F to 662°F (0°C to 350°C) Option	32°F to 662°F (0°C to 350°C) Option	32°F to 662°F (0°C to 350°C) Option	32°F to 662°F (0°C to 350°C) Standard
Lens Options	17° x 17°	25° x 25°	25° x 25°	25° x 25°	25° x 25°	Standard: 25° x 19°; Optional: 90°, 45°, 15°, 6°; Close-up: 100μ, 50μ			
Zoom						1-2x Continuous Digital	1-2x Continuous Digital	1-4x Continuous Digital	1-8x Continuous Digital
Focus	Focus Free	Focus Free	Manual	Manual	Manual	Auto & Manual	Auto & Manual	Auto & Manual	Auto & Manual
Color LCD	2.8"	2.8"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"
Video Camera w/ Lamp			0.6 MP	2.3 MP	2.3 MP	3.1 MP	3.1 MP	3.1 MP	3.1 MP
Fusion			Fixed PIP	PIP 3 Size Steps	PIP Scalable	PIP Scalable	PIP Scalable	PIP Scalable & Moveable	PIP Scalable & Moveable
On-Screen Laser Spot			x	x	x	x	x	x	x
Video Out			Streaming MPEG-4 to PC	Streaming MPEG-4 to PC	Streaming MPEG-4 to PC	Composite Video Streaming MPEG-4 to PC	Composite Video Streaming MPEG-4 to PC	Composite Video Streaming MPEG-4 to PC	Composite Video Streaming MPEG-4 to PC
<b>Analysis</b>									
Spotmeter	Center Spot	Center Spot	Center Spot	Center Spot	Center Spot	Five	Five	Five	Five
Area		One Box w/ Min./Max.	One Box w/ Min./Max.	One Box w/ Min./Max.	One Box w/ Min./Max.	Five Boxes w/ Min./Max.	Five Boxes w/ Min./Max.	Five Boxes w/ Min./Max.	Five Boxes w/ Min./Max.
Auto Temp Detection					Auto Hot/Cold w/in Areas	Auto Hot/Cold w/in Areas	Auto Hot/Cold w/in Areas	Auto Hot/Cold w/in Areas	Auto Hot/Cold w/in Areas
Isotherm		Above/Below	Above/Below	Above/Below	Above/Below	Detect High/Low Temp/Interval	Detect High/Low Temp/Interval	Detect High/Low Temp/Interval	Detect High/Low Temp/Interval
Emissivity Correction	Variable 0.1 to 1.0	Variable 0.1 to 1.0	Variable 0.1 to 1.0	Variable 0.1 to 1.0	Variable 0.1 to 1.0	Variable 0.1 to 1.0	Variable 0.1 to 1.0	Variable 0.1 to 1.0	Variable 0.1 to 1.0
Reflection Correction	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Alarms			Dew Point & Insulation	Dew Point & Insulation	Dew Point & Insulation	Dew Point & Insulation	Dew Point & Insulation	Dew Point & Insulation	Dew Point & Insulation
Auto Calculation						Delta T	Delta T	Delta T	Delta T
<b>Annotation</b>									
Voice (60 seconds)					x	x	x	x	x
Text								x	x
Sketch								x	x
<b>File Storage</b>									
Radiometric JPG	x	x	x	x	x	x	x	x	x
MPEG Video Recording									x
<b>Other</b>									
Instant Report								x	x
MeterLink					x	x	x	x	x
ThermaTrak	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional



## Reporting Software

From moisture damage to mold, missing insulation to leaky windows, electrical faults to HVAC problems, FLIR infrared cameras are powerful tools for finding a variety of problems in all kinds of buildings. But your ability to document and report your findings is just as important as your ability to discover potential problems in the first place.

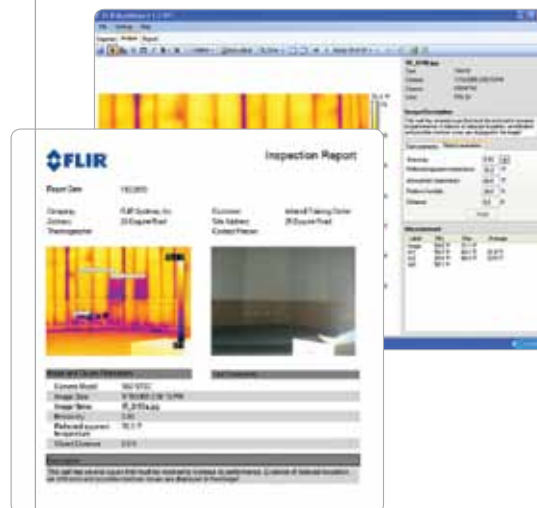
Your reports need to be easily customized for any situation and customer requirement. They need to reflect your professionalism and the quality of your work. Your recommendations for action need to be clear and well documented in order for others to complete repairs.

## QuickReport

All FLIR cameras come with the powerful QuickReport analysis and reporting software that allows you to import your infrared and visible-light images into an easy-to-read report.

### Key Features

- Adjust level, span, and color palette
- Change isotherm and temperature levels
- E-mail images and reports in PDF format
- Alter parameters for dew point and insulation alarms
- Drag-and-drop images and preview report pages
- Digitally zoom and pan up to 8 times
- Manipulate Fusion images



## BuildIR

FLIR's BuildIR software gives you everything you need to create customized building inspection reports for customers and insurance adjusters alike. Templates for building envelope, insulation, air tightness, and humidity reports are already designed allowing you to drag-and-drop your images onto the template and generate your customized, multi-page report automatically.

### Key Features

- Flexible report design and layout
- Fully integrated with Microsoft Word
- Use Humidity and Insulation alarms for quantitative building analysis
- Stitch multiple images together, creating a high-resolution radiometric panorama
- Energy Cost Savings reports let you estimate the money customers will save by making the repairs you recommend

Visit [www.flir.com](http://www.flir.com) to download trial versions of our powerful software tools.

## Infrared Training Center

Make the most of your investment in FLIR technology, and advance your career

Your professionalism drives you to know everything you can about your business; that's why you'll want to get the most of your thermal camera.

FLIR cameras are easy to use and intuitive, but only expert training will give you the knowledge and skills to wring every last bit of capability from your investment. Professional photographers get extensive training, and it shows in their work. The same is true for your craft as a thermographer, and we can help: an Infrared Training Center certificate is proof of your expertise in operating your camera and interpreting the thermal information it provides.

The Infrared Training Center, the premier educational and training resource for infrared camera application professionals, offers a wide variety of infrared courses from entry level to advanced thermography infrared training.

### ITC courses provide:

- Industry-leading, high-quality interactive instruction
- Most qualified international instructors
- Most extensive hands-on laboratories
- ISO 9001 registered
- On-line training courses are also available

### Infrared courses include:

- Level I, Level II, and Level III
- Building Diagnostics
- Building Science certificate
- Weatherization & Energy Audits
- Commercial Roof IR Inspections
- Commercial Electrical IR Inspections

Come to classes at our training center, locally at one of our regional classes, or in your facility with our on-site service.

For full course descriptions, updated schedules, and more information, visit the ITC website at [www.infraredtraining.com](http://www.infraredtraining.com) or call 1.866.872.4647.



## Try them first!

Not sure which FLIR is right for you? Rent or lease the model you think fits your needs first and take it for a test drive!

### Rent

FLIR's rental program is a great way to make sure you are getting the model, performance, and features you need. Our rental department has all the current models in stock, and we are ready to help.

### Lease

Leasing is a great way to minimize your initial expense, and there may be tax advantages for you to lease. FLIR has several options for those interested in starting or upgrading your program. Give us a call and we can help.



## About FLIR

All infrared cameras are not created equal, because infrared camera manufacturers are not all the same. FLIR stands above the rest.

The largest commercial infrared company in the world, FLIR has nearly 50 years of experience building and integrating high-performance infrared cameras, giving us a command of these specialized technologies that no one else can touch.

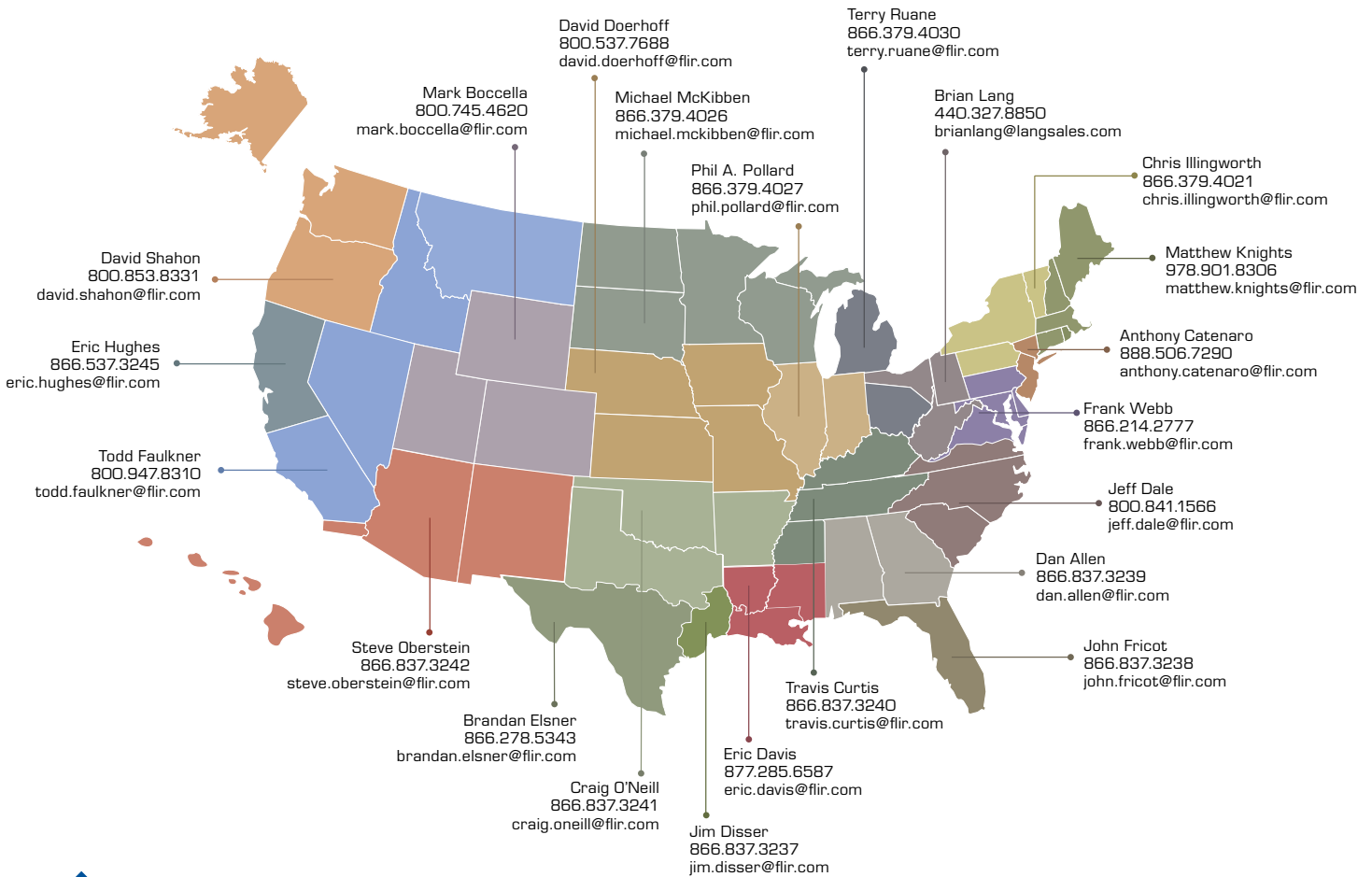
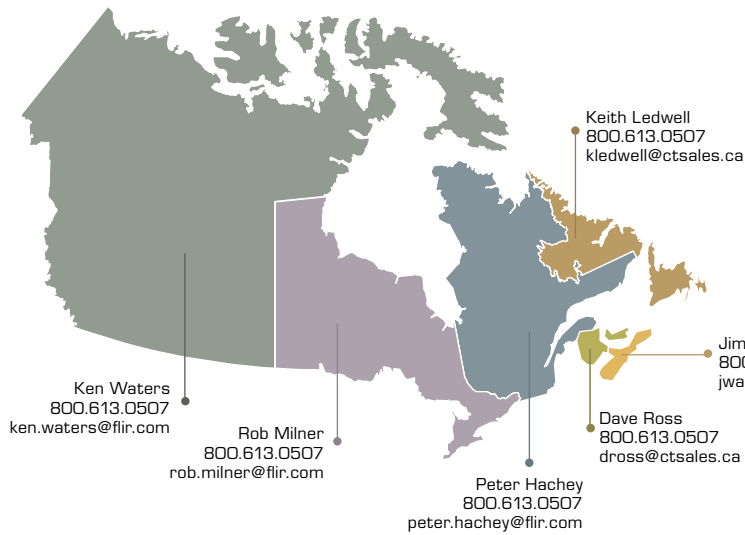
FLIR's products are at work every day saving lives, protecting our troops overseas, and helping to keep borders and facilities safe.

Now, FLIR's cameras are available for your personal use, too. You can have a FLIR on your boat, your car, or even as a home security camera. The same FLIR technology in your maintenance camera is in Audi and BMW cars as a pedestrian detection system. And if you enjoy hunting and outdoor activities, there's an inexpensive FLIR for you too. You might not know FLIR by name, but you have been seeing our products at work since the 1960's.

**If you are looking for infrared camera products, you've come to the right place.**

## 12 things to consider when selecting an infrared camera:

- 1 *Not all infrared cameras offer the same measurement accuracy: Select the camera that delivers accurate and repeatable results.*
- 2 *Most infrared cameras have fewer pixels than visible-light cameras, so pay close attention to detector resolution: Higher resolution infrared cameras can measure smaller targets from farther away.*
- 3 *Many infrared cameras store images in a proprietary format, making it a hassle to share them with others: Choose a camera that stores JPEG images for easy sharing and analysis.*
- 4 *If you need to report your findings to others, be sure to buy a system with a built-in visible-light camera with illuminator lamps to help you document problems in dark areas.*
- 5 *A built-in laser pointer helps you to visually pinpoint your hot spots for photos.*
- 6 *Consider the camera's design ergonomics and the types of inspections you will likely perform, as some cameras are hard to use when imaging in hard-to-reach areas.*
- 7 *Be sure you can replace batteries in the field, and that the battery technology is Lithium Ion (or newer) so you get maximum battery life.*
- 8 *An Image Fusion feature blends the thermal and visible-light images, providing reports that are easy to understand.*
- 9 *Not all reporting software products are created equal: Be sure to try out the product first to find the one that's right for you.*
- 10 *Choose a camera with a wide temperature range so you measure ambient and high temp spots in the same image.*
- 11 *Camera upgrade potential gives you the freedom to upgrade your camera features/functions as your IR program grows, instead of buying a new camera.*
- 12 *Make sure your investment in an infrared camera is backed by a strong manufacturer who provides ongoing technical support and training.*



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