

What to look for in a professional grade pocket-sized thermal imager

Thermal imaging has become so broadly accepted for troubleshooting and maintenance that, in addition to a huge choice of features, there are several form factors to choose from, including one that fits in your pocket.



If you're wondering how much functionality and durability could fit into an imager that's about the size of a smartphone, you may be surprised. Electronics continue to shrink in size, which makes it possible to include an increasing amount of functionality into a smaller space. So now you can get a professional grade, thermal imager in a pocket size.

A thermal imager of this size is ideal for first line troubleshooting. Use it to quickly scan electrical equipment, pumps, motors, building systems, HVAC, and process control equipment for hot spots and cold spots that can indicate early signs of trouble. Pocket-sized infrared cameras easily fit in a shirt or pants pocket so it's easy to carry. And they're typically affordable enough to make it practical for each technician to have one.

You should select a pocket size thermal imager carefully because, just as with full sized imagers, there can be significant differences in resolution, durability, and capabilities. The following are some key criteria to use when evaluating pocket size thermal imagers.

1. Ruggedness

Just like your cell phone, a pocket-sized thermal imager needs to stand up to a lot of abuse. It needs to survive rugged use in harsh environments and even an accidental drop. Ruggedness in a pocket-sized thermal imager means more than just whether the unit works after being dropped on the floor. In an industrial environment tools need to stand up to dust, oil and water. The build quality is important, down to very small details. Does the battery door snap closed easily and stay closed? How well does the touchscreen display stand up to constant use and being stored in your pocket? Consider the manufacturer's reputation for quality construction with similar products. For example, Fluke has long been known for its rugged and reliable handheld test tools. It recently extended that rugged performance to the PTi120 Pocket Thermal Imager that includes many professional grade features.

2. Asset tagging and wireless image upload

The ability to quickly upload the images you collect and link those files to individual assets can save time and ensure the images are stored with the correct asset. The Fluke PTi120 also includes Fluke Connect® Asset Tagging that allows you to scan a asset's bar code or QR code and then wirelessly transmit images to the correct asset file on a computer or in the cloud. This provides one cohesive asset history that you can quickly and easily access, analyze, and use for comparison from anywhere to improve asset management workflow and save time.

3. Resolution

Infrared camera resolution determines the quality of the image and the accuracy of the temperature information you collect. Every pixel in an infrared image represents a temperature measurement. The higher the resolution, the easier it will be for you

to determine the criticality of problems you find during inspections. Detector resolution is specified in detector pixels—the higher the number the higher the resolution. Typically, the more detector pixels focused on the target, the more accurate your measurement. You need to look for a pocket-sized thermal imager with enough resolution to accurately identify hot and cold spots and give you a base level of diagnostic information that allows you to find early indications of mission critical problems.

4. IR Fusion®

Blended visible light and infrared images. Many of today's infrared cameras combine visible light and infrared images together in a single display. You should look for that same capability in a pocket-sized thermal imager. A blended image helps you find thermal anomalies because when you see a problem in the infrared image you can view that blended with the visible light image to quickly and precisely locate the area of concern on the actual piece of equipment. The PTi120 includes the same patented IR Fusion® technology available in other Fluke infrared cameras. IR Fusion automatically captures a digital visible light image simultaneously with an infrared image and lets you view the result with varying degrees of blending—from full infrared to full visible light.

5. Sharing images with remote team members

The ability to share thermal images from your camera with others on a smartphone or computer can help accelerate or escalate problem solving. You can instantly show potential issues to clients or co-workers in real time to expedite decisions on what to do next. Using the Fluke Connect mobile app you can share images from the Fluke Pocket Thermal Imager across the internet with remote team members. Once saved to the Fluke Cloud, thermal images are permanently accessible to you and other authorized users on your team. You can also create nearly instant, professional reports to present to managers or clients.

6. Battery life

The amount of time that you can use a pocket-sized thermal imager between charges varies by the level of features and the power management system of your device. You should expect at least two hours of use between charges. Rechargeable lithium ion batteries (similar to those used in mobile phones) provide high energy density and are slow to self-discharge. In addition, this lithium technology typically delivers a five-year operating life, and often can be recycled. To maximize the life of the lithium-ion battery it's



a good rule of thumb to use them to full discharge and then fully recharge them the first 5-10 times.

7. Robust memory

As anyone with a regular digital camera knows, images can use up memory in a hurry. That is even more true for infrared images. So when considering a pocket-sized imager look for enough onboard memory for your needs. A good starting point is about 4 gigabytes, which would allow you to store approximately 500 images. Saving images in the .is2 format allows you to perform further image processing and analysis, and export the images into many commonly used file formats. Having enough memory will allow you to maintain a database of thermal images right in your pocket that can be used for comparisons at any time.

8. Ergonomics

The small size and light weight would seem to automatically make a pocket-size thermal imager easier to handle but don't forget to consider details. Does it fit comfortably in your hand? How accessible is the power button and the controls? Does the device have a strap to make it easier to carry and hang on to?

The Fluke PTi120 pocket imager at a glance

This professional-grade thermal imager can help you quickly and easily find, assess and solve mission-critical problems.

Key features

- 120 x 90 resolution
- Asset Tagging through bar code or QR scanning
- IR Fusion IR and visible light image blending
- Rugged to withstand 1-meter drop
- IP54-rated

Industries

- Process manufacturing
- Discrete manufacturing

Applications

- Electrical pumps
- Motors process
- Control building systems
- HVAC



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Printed in U.S.A. 2/2019 6012004a-en

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