How Thermal Imaging Works: A Closer View

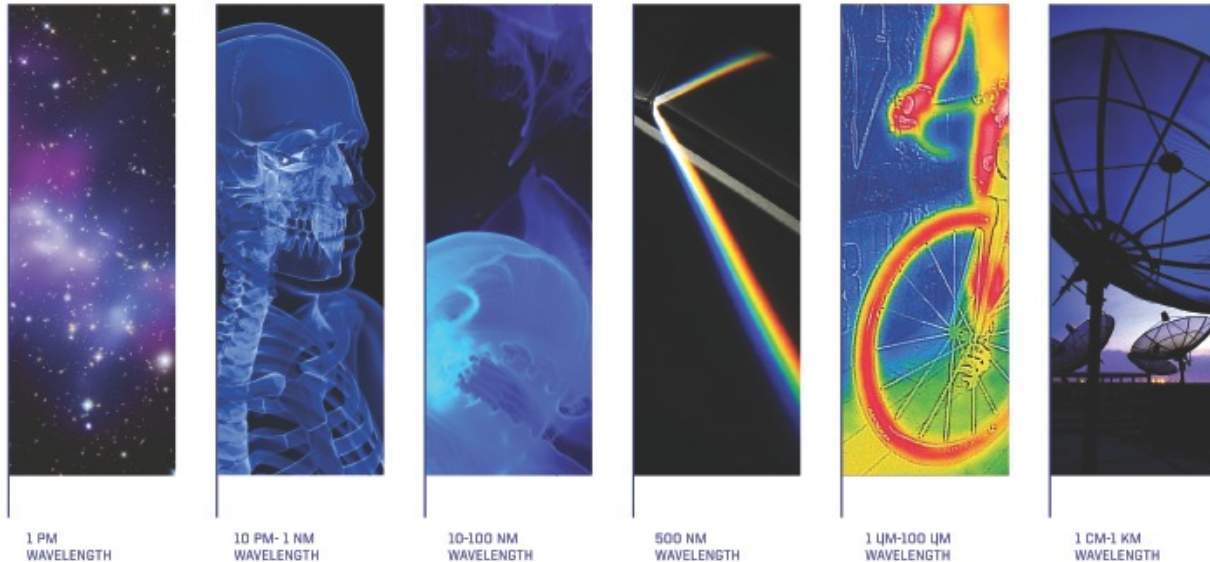| 1 PM WAVELENGTH | 10 PM- 1 NM WAVELENGTH | 10-100 NM WAVELENGTH | 500 NM WAVELENGTH | 1 ΥM-100 ΥM WAVELENGTH | 1 CM-1 KM WAVELENGTH |

Thermal imaging is one of the most powerful technologies ever developed to enhance human vision. With FLIR ONE™, a thermal camera allows us to see things the naked eye could never perceive on its own. But how?

Normally, human vision is limited to a very narrow "visible" band of the electromagnetic spectrum. The infrared spectrum, also called thermal energy, has a longer wavelength than visible light. It is invisible to the naked eye, similar to the wavelengths of a radio or an ultraviolet wave.

With thermal imaging, the portion of the spectrum we perceive is dramatically expanded, helping us to "see" heat even in the absence of light.

Using special sensor technology that was originally developed for military and commercial applications, FLIR ONE converts heat, emitted by objects on earth, into color images. These color images allow users to not only see in the dark, but to also observe differences in temperature to fractions of a degree.

FLIR ONE's powerful capacity to augment human vision opens up a new world of possibilities for consumers. In addition to seeing in the complete darkness and detecting invisible heat sources, the device helps users see through light fog and smoke.

While thermal imaging unlocks new uses and opportunities to consumers, it is not the same as "X-ray vision." FLIR ONE cannot see "through" walls, doors, glass, or clothing; detect buried objects; or accurately gauge the surface temperature of shiny materials, which reflect their surroundings in addition to generating their own heat signature.

See the Heat with FLIR ONE

To see the world in a new light, you don't need any light at all — just FLIR ONE.

The next-generation FLIR ONE places more powerful thermal imaging technology in the hands of anyone with an Android or iOS mobile device. Because it's compatible with a range of mobile devices, this exciting technology is always within reach.

FLIR ONE: A Look at What It Can Do

FLIR's powerful thermal imaging has revolutionized modern military operations, law enforcement, search and rescue, and more. Now, with FLIR ONE, consumers can harness that power for a broad range of practical applications, including:

- **Home improvement:** Homeowners can use the thermal camera to observe slight differences in temperature in buildings and structures that may indicate heat loss and, in turn, make adjustments to optimize energy efficiency. The device can also help locate ceiling joists, wall studs, leaking pipes, differentiate between hot and cold pipes, and spot overloaded circuits. It makes a range of home assessments, improvements, and repairs much easier.

- **Outdoor recreation:** For birders and hunters, this device lets you observe wildlife, day or night, with a low intrusion level. Campers can use it to navigate in the dark, detect when the day's catch is fully cooked, or make sure a campfire is out.

- **Security and surveillance:** With FLIR ONE's ability to see in the dark, people will have a powerful new tool to help them protect their homes and families. If something goes bump in the night, they can use the device to find out if someone's there and see what they're doing.

- **Safety:** FLIR ONE can also help users cope with emergency conditions, giving them a picture of the situation, even in light fog and smoke. If there's a power outage, the device can help them safely find their way in the dark.

- **Creativity:** FLIR ONE's thermal camera lets us see a hidden world of vibrant color and abstract pattern. Creative minds can turn the device's unique perspective into beautiful works of art or use thermal images for inspiration.

- **Games:** For big fun, gather friends for a round of nighttime hide-and-seek or a thermal scavenger hunt.

- **Much more:** These uses are only the beginning. With FLIR ONE, consumers will discover new and innovative ways to use thermal imaging, driving the development of apps that extend the versatility of the personal thermal imager.

For more information on FLIR ONE, please visit FLIR.com/FLIRONE