

Test Equipment Depot - 800.517.8431 - 99 Washington Street Melrose, MA 02176 - TestEquipmentDepot.com

Policies/Notifications

Effective Date: March 12, 2020

Number: 0064

Subject: FLIR Thermal Camera and non-contact thermometers FAQ for Elevated Body Temperature Screening

Q: Can FLIR products be used to detect the coronavirus?

No, thermal imaging cameras cannot be used to detect or diagnose an infection. However, FLIR thermal cameras are being today used in public spaces such as airports, train terminals, and concerts as an effective tool for measuring skin surface temperature and identifying individuals with Elevated Body Temperature (EBT). Used at points of entry including airports and buildings, FLIR thermal cameras enable the screening of people with EBT that might indicate illness. People who are indemnified with EBT must then be screened by medical professionals for diagnosis of any medical condition.

Q: How does thermal imaging technology work in detecting EBT?

FLIR thermal cameras detect heat radiation and can be used to identify the surface temperature of objects and people. With this capability, FLIR thermal cameras are commonly used as a non-contact screening tool to detect differences in skin surface temperatures and pattern changes. In fact, FLIR has received US FDA approval for using a variety of its thermal products to screen high traffic public places like airports, train stations and subway stations.

Q: How should operators use thermal cameras for EBT screening at a location?

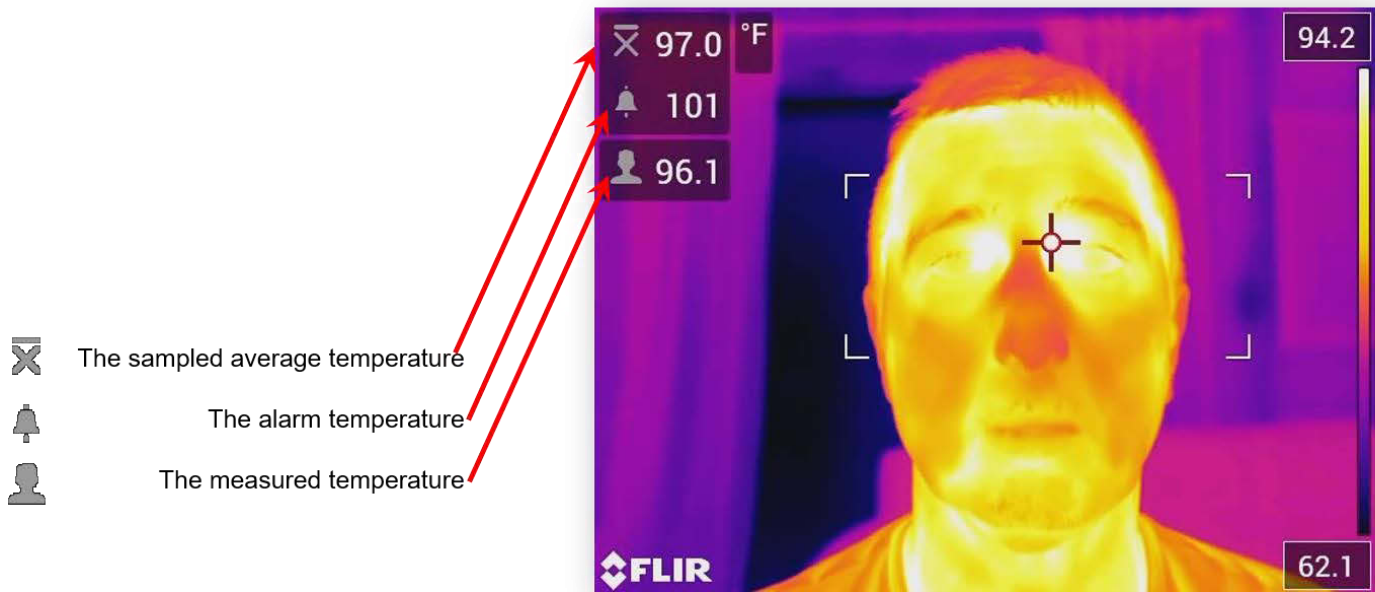
- FLIR handheld cameras mounted on tripods or FLIR fixed-mounted cameras, positioned at entrances, can be used as a non-contact screening tool to detect differences in skin surface temperatures.
- Camera operators should screen people one at a time to look for temperature anomalies.
- Camera operators should measure temperature in the corner of the eye as this location provides the most accurate correlation to human body temperature.
- A camera operator who detects elevated temperature in a person being screened should request that such individual be screened using approved medical devices.

Q: Explain the Screening mode available in the FLIR FDA-certified cameras?

Certain FLIR cameras include a Screening mode that provides an alarm when an object or person is detected to have an elevated temperature. Activating the Screening mode will turn on a measurement box and screening data on the camera's screen that includes:

- Sampled average temperature
- Alarm temperature
- Measured temperature

The alarm will trigger when the measurement box measures a temperature higher than the alarm temperature. The alarm temperature is, in turn, the sum of a specified allowed deviation and a sampled average value.



Q: Which cameras include the screening mode?

The FLIR E53, E95, E85, E75, T530, T540, T620, T640, T840, T860, T1020, T1040, A320 TempScreen

Q: How close do you need to be to detect someone with an elevated temperature?

In order to obtain a good temperature reading, it is recommended that the intended target be as close to the camera as possible. The location of the camera may require a different lens. For instance, if the operator wanted to place the camera at a significant distance, FLIR may recommend a telephoto lens. Therefore, distance to the target is an important consideration, as is focus.

It is important that the application be set up so that all intended targets are in focus during the screening process, thereby creating a good image. In addition to focus, a good image is dependent on several additional functions and settings, with certain functions and settings affecting the image more than others. Functions and settings that the operator needs to set and/or adjust include the following:

- Adjust the infrared camera focus
- Adjust the infrared image (automatically or manually)
- Select a suitable temperature range
- Select a suitable color palette
- Change the measurement parameters
- Perform a non-uniformity correction (NUC)
- For the FLIR non-contact thermometer (see section below regarding non-contact thermometers), the optimal measurement distance of 5 cm to 15 cm (1.9 in to 5.9 in)

Q: How accurate are the thermal cameras?

FLIR’s thermal cameras “see” or detect the temperature differences with temperature measurements between -20 °C to 2,000 °C (-4 °F to 3,632 °F). FLIR’s standard product accuracy specification of +/- 2 °C or 2% of the temperature reading at 30 °C ambient environment is for all temperature ranges it measures and for the multiple applications for which it can be used. FLIR uses calibration standards established under NIST (National Institute of Standards and Technology) traceable black body reference sources.

FLIR’s thermal camera with EBT Screening mode can achieve accuracies better than +/-0.5°C (0.9°F) at 37 °C (98.6 °F). This is achieved by using the camera in a stable ambient environment, only looking at humans and updating the reference samples according to the population being screened.

Note, there are many contributing factors that affect accuracy. For instance, focus and distance can affect accuracy. Other factors, such as the emissivity of the target, ambient environment, and speed at which the temperatures are acquired all play a pivotal role in accuracy. A target’s emissivity is its ability to emit thermal radiation. For example, ceramic mugs, clothing, and even human skin have high emissivity, while polished metals have low emissivity.

Q: Do people using your cameras need to be certified/trained to understand how to interpret the images and data?

FLIR recommends that thermal camera operators obtain at a minimum Level 1 thermal imaging certification through certified thermography courses such as the Infrared Training Center. This is not a medical training or medical certification, but it provides a baseline understanding in thermography. The Infrared Training Center offers more advanced training.

Q: What products do you sell for EBT screening?

All FLIR thermal cameras and non-contact thermometers below are certified by the US Food and Drug Administration for EBT screening:

Thermal Cameras (US FDA Certified)			IR-Thermometer
Handhelds	Handheld/Tripod Mounted	Fixed-Mounted	Handheld
E53	T1020	A320 Tempscreen	Extech IR200
E95	T530, T540		
E85	T840, T860		
E75			

FLIR also sells radiometric thermal camera modules as an OEM for other companies to integrate into their thermal camera solutions.

Q: Can you name some companies, organizations, and airports that have purchased your products?

While we cannot name specific customers or comment on current sales, we can say that our thermal cameras are used by customers at ports of entries and high-traffic locations in several countries, including the US, China, Hong Kong, Taiwan, Singapore, South Korea, Thailand, Philippines, and Malaysia.

Q: How long has FLIR been selling thermal cameras and non-contact thermometers for EBT screening?

FLIR noted an increase during the first potential epidemic with SARS in 2003 and then in 2009 with the H1N1 outbreak.

Q: How do you use non-contact thermometers for elevated body temperature screening?

FLIR sells an IR non-contact handheld thermometer under our Extech brand. Non-contact thermometers are primarily used in a handheld fashion to screen a person's forehead. The operator of the non-contact device will point the device at a recommended distance of 5 to 15 cm (1.9 in to 5.9 in) and be able to measure temperatures from 32 °C to 42.5 °C (89.6 °F to 108.5 °F).

Q: What are the minimum specifications for the non-contact thermometer?

- Non-contact infrared thermometer/gun type - human body measurement
- Product must be CE marked or USFDA 510k
- Product must be produced in accordance to ISO 13485 or equivalent
- Production must be in accordance to EU standards, ISO 9001 or equivalent

For FLIR non-contact thermometers, an adjustable alarm alerts the user either visually or audibly, when the temperature exceeds the programmed limit. The non-contact thermometer has a large backlit LCD display to display temperatures.

The recommended FLIR non-contact thermometer has been calibrated to an accuracy to 0.3 °C (0.5 °F) with 0.1 °C/°F resolution.