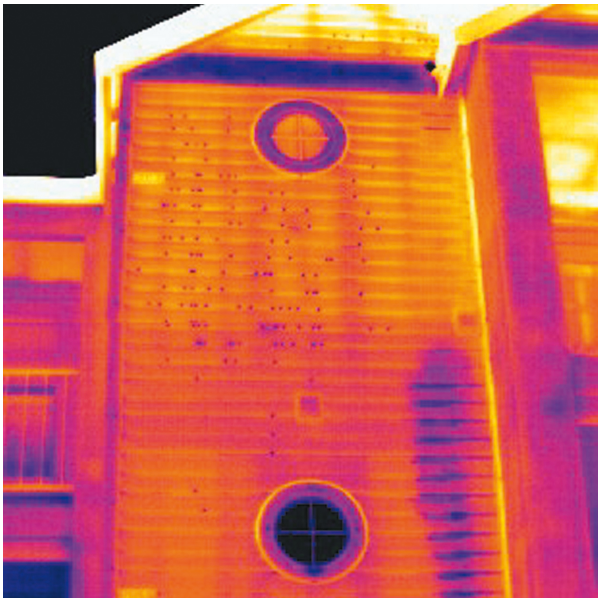
Getting Started Guide
FLIR Txxx series



Flir T420-NIST Thermal Imaging Infrared Camera Thermography
Flir T440-NIST Thermal Imaging Infrared Camera Thermography
Flir T420-KIT-15 Infrared Camera With 15 Degree Lens
Flir T420-KIT-45 Infrared Camera With 45 Degree Lens
Flir T440-KIT-15 Infrared Camera With 15 Degree Lens
Flir T440-KIT-45 Infrared Camera With 45 Degree Lens
Flir T420bx-NIST Thermal Imaging Infrared Camera Thermography
Flir T440bx-NIST Thermal Imaging Infrared Camera Thermography
Flir T420bx-KIT-15 Infrared Camera With 15 Degree Lens
Flir T420bx-KIT-45 Infrared Camera With 45 Degree Lens
Flir T440bx KIT 15 Infrared Camera With 15 Degree Lens
Flir T440bx KIT 45 Infrared Camera With 45 Degree Lens
FLIR T620 Kit 15 Infrared camera With 15 Degree Lens
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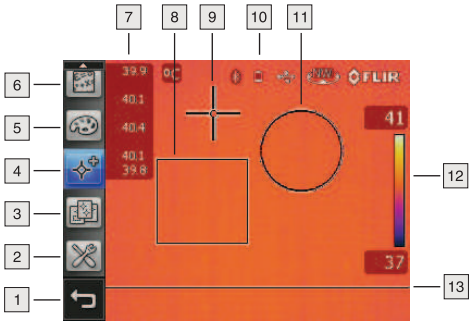
The latest revision of this publication always applies, and can be downloaded from http://support.flir.com.

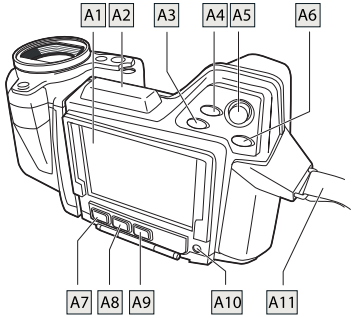
EN-US English

Screen elements



1. Back toolbar button.
2. Mode toolbar button.
3. Presets toolbar button.
4. Tools toolbar button.
5. Palette toolbar button.
6. Parameters toolbar button.
7. Result table.
8. Measurement box.
9. Measurement spotmeter.
10. Various status and mode icons, e.g., Bluetooth, battery, USB, and compass.
11. Measurement circle.
12. Temperature scale.
13. Measurement line.

Rear view



A1 Touch screen LCD.
A2 Antenna for wireless communication.
A3 Digital zoom button.
A4 Programmable button.
A5 Joystick: Move up/down or left/right to navigate on menus, in dialog boxes, and in the image archive. Push to confirm choices.
A6 Menu/Back button: Push to display the menu on the screen, and to go back in dialog boxes.
A7 Mode button: Push to display the mode selector and select a camera mode. The modes that can be selected are:

- **Thermal camera**: Using this mode, the camera captures infrared images.
- **Digital camera**: Using this mode, the camera captures visual images.
- **Thermal fusion**: Using this mode, the camera captures an image where some parts are displayed as an infrared image and some parts as a visual image, depending on the temperature.
- **Picture-in-picture**: Using this mode, the camera captures an image where the middle part is displayed as an infrared image and the outer frame as a visual image.
- **MSX**: Using this mode, the camera captures infrared images where the edges of the objects are enhanced.

A8 A/M button: This button has two main functions:

1. Push to switch between automatic and manual adjustment modes. The manual adjustment modes that can be selected are the following:

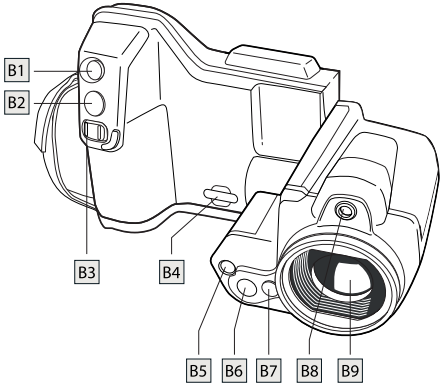
   - **Manual**: Using this mode, the top and bottom temperature levels in the scale can be changed simultaneously, by pushing the joystick up/down. The temperature span can be changed by pushing the joystick left/right.

- **Manual min**: Using this mode, the bottom temperature level in the scale can be changed by pushing the joystick up/down, while the top temperature level remains fixed.
- **Manual max**: Using this mode, the top temperature level in the scale can be changed by pushing the joystick up/down, while the bottom temperature level remains fixed.

2. Push and hold the button until you hear a clicking sound to autoadjust the image.

A9 Archive button: Push to open/close the image gallery.
A10 On/Off button: Push to turn on/turn off the camera. Allow 45 seconds for the start-up sequence.
A11 Hand strap.

Front view

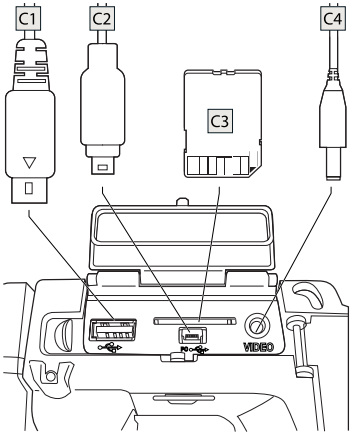


B1 Laser pointer button: Push to activate the laser pointer.
B2 This button has two main functions:

1. Preview/Save: Push the button fully down to save an infrared image and a digital photo simultaneously. **Note:** The behavior of this button can be changed under **Settings** to one of the following:
   - **Preview/Save**.
   - **Save directly** (default).
   - **Always preview**.
2. Autofocus: Push the button halfway down to autofocus the camera.

B3 Focus button: Move left/right to manually focus the camera.
B4 Attachment point for the neck strap.
B5 Video lamp.
B6 Digital camera lens.
B7 Release button for additional infrared lenses.
B8 Laser pointer.
B9 Infrared lens.

Connectors and storage media



C1 To connect an external USB device to the camera, use a USB-A cable and this socket.

C2 To connect a computer to the camera to move images and files to and from the camera, use a USB Mini-B cable and this socket.

C3 To insert an SD memory card, use this card slot.

C4 To connect a video monitor to the camera, use a CVBS (composite video) cable and this socket.

Quick Start Guide

Follow this procedure to get started right away:

1. Charge the battery for 4 hours.
2. Insert the battery into the camera.
3. Insert an SD memory card into the card slot (C3) at the bottom of the camera.
4. Push the On/Off button (A10) to turn on the camera. Allow 45 seconds for the start-up sequence.
5. Aim the camera toward your target of interest.
6. Push the Preview/Save button (B2) halfway down to autofocus the camera.
7. Push the Preview/Save button (B2) fully down to save an image.
8. To move the image to a computer, do one of the following:
   - Remove the SD memory card (C3) and insert it into a card reader connected to a computer.
   - Connect a computer to the camera using a USB Mini-B cable (C2).
9. Move the image from the card or camera using a drag-and-drop operation.

To keep in mind

- Adjust the focus first. When the camera is out of focus, the measurement is wrong.
- By default, the camera adapts the scale automatically. Use this mode first, but do not hesitate to set the scale manually.
- A thermal camera has a resolution limit. This depends on the size of the detector, the lens, and the distance to the target. Use the center of the spot tool as a guide to the minimum possible object size, and get closer if necessary. Make sure to stay away from dangerous areas or live electrical components.
- Be careful when holding the camera perpendicular to the target—you can become a source of infrared radiation through reflection.
- Select a zone of high emissivity, i.e., an area with a matte surface, to perform a measurement.
- Blank objects, i.e., with low emissivities, may appear warm or cold in the camera, as they can cause reflections.
- Avoid direct sunlight on the details that you are inspecting.
- Various types of faults, such as those in a building's construction, may result in the same type of thermal pattern.
- Correctly analyzing an infrared image requires professional knowledge about the application.

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Additional resources

- User documentation CD-ROM (in the transport case):
  - User's manual.
  - Technical data.
  - Application stories.
  - Guidebooks.
  - And more…

- Training by ITC (Infrared Training Center):
  - http://www.infraredtraining.com
  - http://www.irtraining.com
  - http://www.irtraining.eu

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