



# FLIR E4 Thermal Imaging Camera

**Visual image camera lens**

**Thermal camera lens**  
Min. focus distance 0.5m  
The lens has a delicate anti-reflective coating. (don't touch the lens...)

**Camera housing:** The camera has a hard plastic housing with rubber edging to help protect the FRAGILE thermal imaging system. Please treat the camera as a delicate instrument.

**Lens protector (slide)**

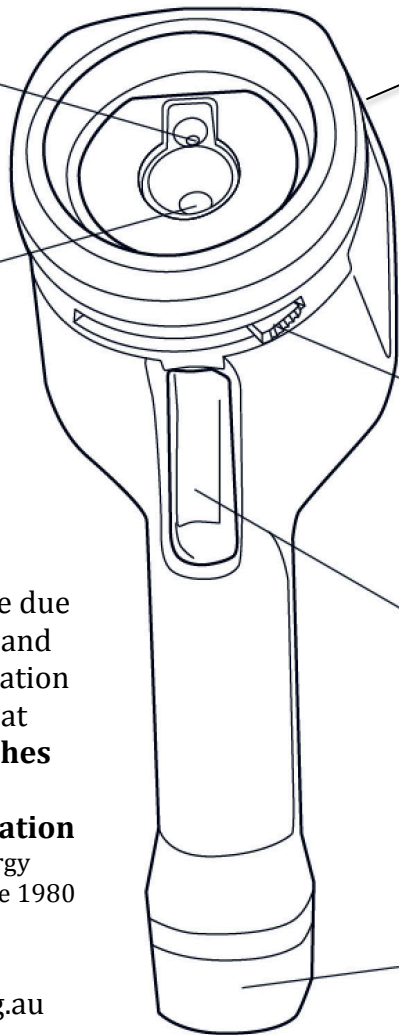
This Thermal Camera is available due to the efforts of the Melbourne and Adelaide branches: More information on ATA branches is available at [community.ata.org.au/branches](http://community.ata.org.au/branches)

## Alternative Technology Association

Promoting Renewable Energy, Energy Efficiency and Water Conservation since 1980  
Level 1, 39 Little Collins St  
Melbourne VIC 3000  
Tel 03 9639 1500, [ata@ata.org.au](mailto:ata@ata.org.au)

**Camera photo trigger**

**Battery:** Do not remove.



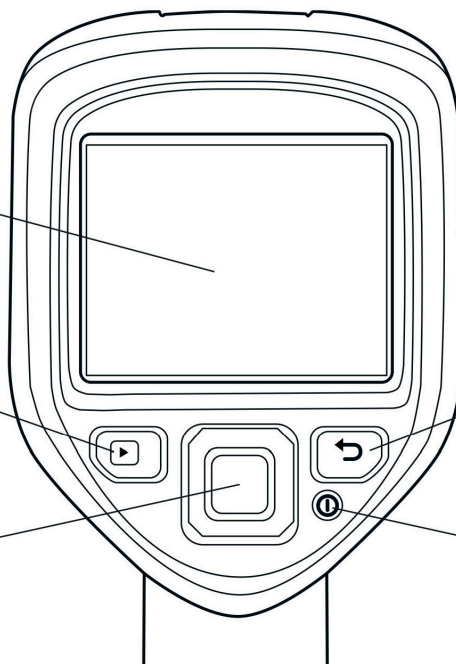
**Camera screen**

**Archive button:** Push to open the image archive.

**Navigation pad:** Push left/right, up/down to navigate in menus. Push the center to confirm choice.

**Cancel button:** Push to cancel a choice or to go back into the menu system.

**Power button:** Push to turn on. Push and hold for more than 1 second to turn off.



## Charging/download:

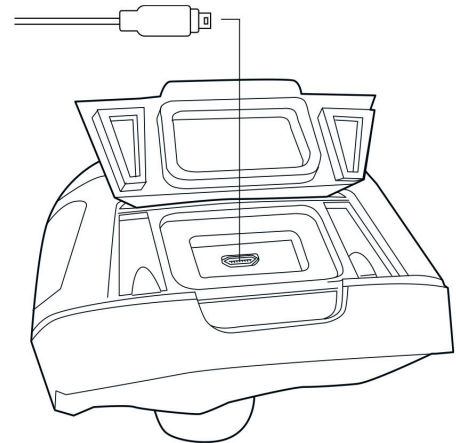
**Note:** Charging the camera using a USB cable connected to a computer takes considerably longer than using the FLIR power supply.

You can connect the camera directly to a computer to download the images as normal JPEG photos.

Alternatively use the enclosed CD to install the FLIR software. This will allow you to perform more detailed analysis of the images. All images will be deleted from the camera when returned at the end of the hire period.

Free FLIR software tools are available at:

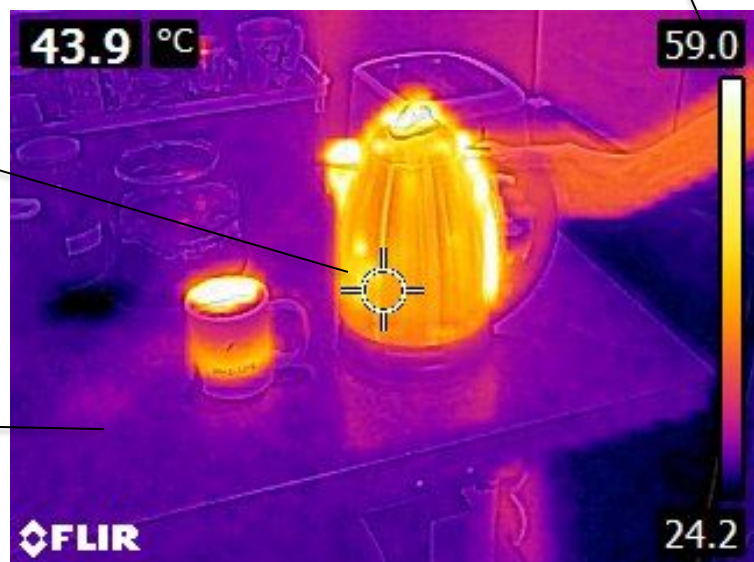
[www.flir.co.uk/instruments/display/?id=55473](http://www.flir.co.uk/instruments/display/?id=55473)



## The Thermal Image:

Maximum temperature in image (°C). The temperature range of the image can be set automatically or manually. Temperature range of sensor is -20°C to +250°C

Spot temperature (°C)



Minimum temperature in image (°C)

**False colour image:** The camera displays the temperature of each point (pixel) in the image according to the selected false colour scale (ie. iron, rainbow, greyscale). The thermal image is 80 × 60 pixels.

### Things to note in this image:

- the reflection in the table surface
- the steam rising from the kettle
- the outside of the full cup slowly warming from the bottom up
- the dark (cold) patch on the left where the milk carton was placed on the table
- the kettle's insulated handle

### **Science Warning!**

Note that shiny surfaces will **reflect** a heat image of other objects and be relatively opaque to emission of their own heat. This makes them appear cooler in an image than they may actually be. Investigate 'emissivity' if you want to adjust for this.

Detailed information as available in Chapters 15, 17 and 19 of the FLIR E4 User Manual.