

Thermal Imaging Cameras (Handheld)

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Measuring & Inspection



Photo: Jonathan Clemens (Jclemens (talk)) — CC BY-SA 3.0 — via Wikimedia Commons (Thermal_imaging_camera_side.jpg)

A handheld thermal camera shows temperature differences as a colour image, revealing overheated bearings, failing insulation, cold spots and heat loss instantly. It is the visual tool for motor checks, energy surveys and STEM teaching.

Key Features

- Thermal resolutions 80x60 to 640x480
- Temperature ranges to 400+ degrees C
- Visible light camera overlay
- Emissivity adjustment
- Photo and video capture

Typical Uses in the Workshop

- Find overheating motors and gearboxes
- Spot failing electrical connections (trained staff)
- Survey insulation and heat loss
- Demonstrate heat transfer visually

Safe Operation

1. Point the camera at the target
2. Adjust the emissivity for the surface
3. Freeze the image to compare areas
4. Record the hottest and coldest points
5. Save images for the report

SAFETY NOTES

- Do not use thermal cameras for electrical safety decisions without training
- Keep the lens clean
- Do not open electrical panels casually
- Use appropriate PPE in the area
- Store batteries charged and safe

Maintenance & Consumables

- Clean the lens with a soft cloth
- Charge and store batteries properly
- Update firmware as needed
- Check the calibration yearly
- Keep the camera in its case

Specification & Buying Notes

Even an entry 160x120 resolution thermal camera shows motor and building faults clearly for teaching. Quality units calibrate well; cheapspec phones overheat. Buy with a case and charging stand.