

Fingerprint Scanner Modules

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Sensors & Modules



Photo: Rachmaninoff — CC BY-SA 3.0 — via Wikimedia Commons (Fingerprint_scanner_identification.jpg)

A fingerprint scanner module enrolls and matches fingerprints, letting projects build biometric access control, attendance systems and security demos. The R307 optical module talks over serial to the microcontroller.

Key Features

- R307 optical scanners
- Serial UART interface
- Enrolment and matching commands
- Store up to hundreds of templates
- Built-in LED indicators

Typical Uses in the Workshop

- Build fingerprint door-lock demos
- Attendance and registration systems
- Access-controlled project boxes
- Teach biometric security concepts

Safe Operation

1. Wire the module to the serial pins
2. Enrol a finger with the library commands
3. Store the template in the module memory
4. Match on the next scan
5. Handle the matched ID in code

SAFETY NOTES

- Keep the scanner lens clean and scratch-free
- Do not use on wet fingers or surfaces
- Check the module voltage before wiring
- Secure the module mounting
- Keep demo scanners away from abuse

Maintenance & Consumables

- Clean the lens with a soft cloth
- Verify enrolment quality
- Check the serial connection
- Keep spare modules in stock
- Document the enrolment capacity

Specification & Buying Notes

R307 modules with a cable and mounting bracket suit school biometric demos. Quality modules match reliably; cheap clones mishandle templates. Buy genuine libraries support.