

Arduino Sensor Modules

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Electronics & Prototyping

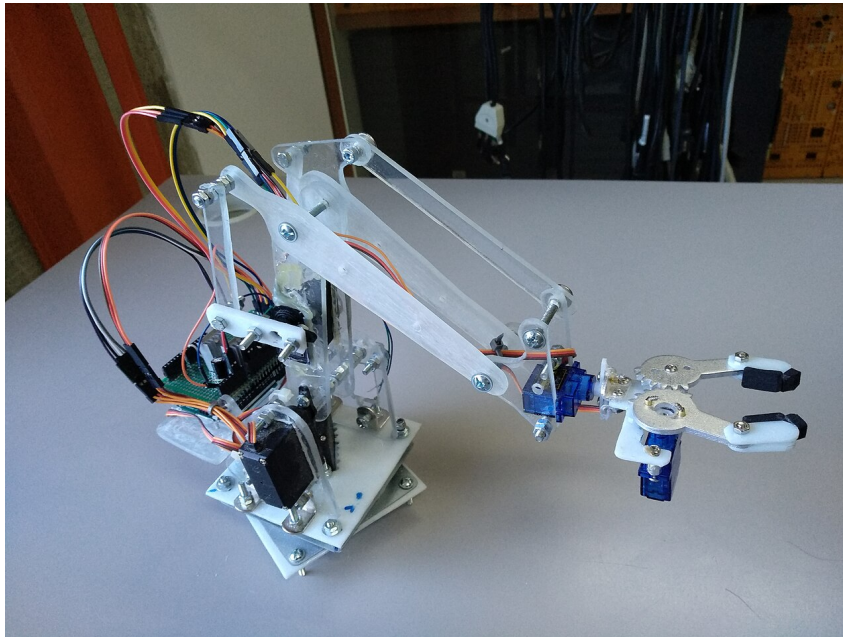


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Arduino sensor modules are small breakout boards that plug Arduino projects with ready-to-use sensors - light, sound, temperature, distance, motion and gas - each with simple three or four pin connections. They let students add real-world inputs to programs without soldering.

Key Features

- 3.3-5 V working voltages
- Analog or digital output pins
- Standard pin headers and labels
- Comprehensive documentation libraries
- GY and HC series common form factors

Typical Uses in the Workshop

- Add light, temperature and distance sensing to robots
- Build alarm and security projects with PIR
- Create environmental monitoring stations
- Learn analog and digital input handling

Safe Operation

1. Match the module voltage to the project power
2. Wire VCC, GND and the signal pin
3. Test with a simple read sketch first
4. Calibrate the readings with the serial monitor
5. Mount the module securely away from interference

SAFETY NOTES

- Do not exceed the module voltage ratings
- Check polarity before connecting
- Keep sensors away from water and heat unless rated
- Remove power when rewiring
- Store modules in antistatic trays

Maintenance & Consumables

- Check pins and headers for damage
- Clean sensor lenses with a soft cloth
- Test modules with a known-good sketch
- Store with labels on
- Replace non-working modules from stock

Specification & Buying Notes

A starter sensor kit with 20-30 modules (ultrasonic, DHT, PIR, LDR, IR, button, joystick) plus a sensor shield covers the curriculum. Buy quality clones with documentation - they work identically.