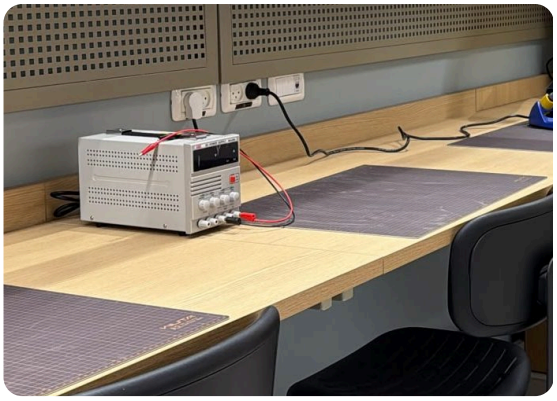
Bench power supplies and meters

Electronics bench



The electronics bench



A bench power supply

Safety glasses when you power a new circuit **Nothing connected to mains voltage**

These benches are for low-voltage work only. Nothing that plugs into the wall is opened, probed or repaired here.

The hazards

- **Heat and fire.** Low voltage rarely gives a shock, but a few amps through the wrong part makes it hot enough to burn skin or start a fire.
- **Short circuits.** A slipped probe or a stray wire can put the full current of the supply through a thin track.
- **Reversed polarity.** Parts connected backwards overheat. Electrolytic capacitors can burst.
- **Batteries.** Lithium cells can catch fire if they are charged or shorted carelessly.

Always

- Set the voltage and the current limit before you connect your circuit
- Start with a low current limit and raise it only if you need to
- Check the polarity twice: red is plus, black is minus
- Switch the supply off before you change any wiring
- Keep the bench clear of loose wire ends and metal tools
- Feel for hot parts with the back of a finger, and trust your nose

Never

- Exceed the voltage or current rating of your parts
- Leave a powered circuit unattended
- Charge batteries from a bench supply without asking Nitai
- Connect two supplies together without asking
- Measure resistance or continuity on a powered circuit
- Leave the meter’s red lead in the current socket

If something goes wrong

- Smoke, a hot smell or a part glowing: switch the supply off first.
- Let hot parts cool before you touch them. Burn: hold it under cool running water for 20 minutes. Don’t use ice. Tell Nitai.
- A battery that swells, hisses or smokes: leave it, move people away and get help.