

OLED Graphic Displays

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

An OLED graphic display is a small high-contrast screen with individually lit pixels, available in monochrome (0.96 inch 128x64) and colour (1.3-1.5 inch) formats. It draws text, graphs, icons and animations with sharp blacks and wide viewing angles.

Key Features

- 0.96 inch 128x64 monochrome common
- Colour SSD1331 and SH1106 variants
- I2C or SPI interfaces
- No backlight needed - pixels self-emit
- Very low power consumption

Typical Uses in the Workshop

- Draw graphs of sensor data live
- Show menus, icons and animations
- Build compact wearable and meter displays
- Display diagnostics on robot builds

Safe Operation

1. Wire the I2C or SPI pins correctly
2. Install the display library for the controller
3. Initialise and test the display address
4. Draw text, shapes and bitmaps with commands
5. Refresh only changed areas for speed

SAFETY NOTES

- The glass is fragile - do not flex or drop
- Keep away from water and harsh solvents
- Some OLEDs flicker at low refresh - set correctly
- Check the voltage rating before powering
- Do not scratch the active area

Maintenance & Consumables

- Clean with a soft dry cloth
- Check connector and solder joints
- Keep spare displays in antistatic bags
- Verify the address against documentation
- Replace displays that show burn-in

Specification & Buying Notes

Monochrome 0.96 inch I2C OLEDs are cheap and perfect for teaching graphics. Buy a class pack with an address note. Colour versions suit advanced projects but draw more code complexity.