

Matrix Keypads

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

8 i/o Projected Capacitance diagonal matrix .

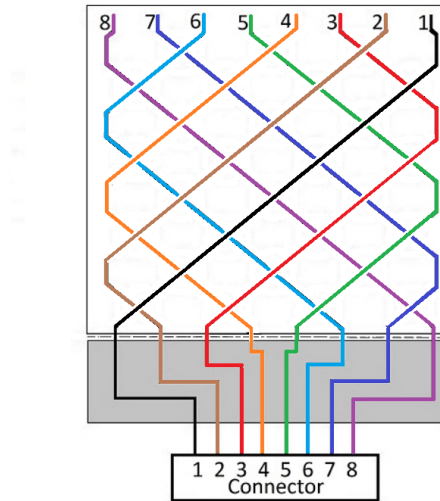


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Matrix keypads are button grids wired in rows and columns to minimise pin use - 4x4 and 3x4 layouts for numeric entry, phone-style dialling and menuing. They are simple input devices for access and control projects.

Key Features

- 4x4 and 3x4 layouts
- Matrix row/column wiring
- Membrane and tactile styles
- Adhesive laminate backs
- Standard header connections

Typical Uses in the Workshop

- Enter PINs and numbers
- Select menu options
- Control robots and games
- Phone-style dialling demos

Safe Operation

1. Wire the row and column pins in order
2. Scan rows and read columns in code
3. Debounce the presses
4. Map the key values
5. Test every key before assembly

SAFETY NOTES

- Do not press with sharp objects
- Keep the keypad away from liquids
- Check the ribbon connector
- Do not bend the membrane sharply
- Keep the surface clean

Maintenance & Consumables

- Wipe the keypad surface
- Check the connector and pins
- Retest keys against a test program
- Keep spares in stock
- Store flat when not used

Specification & Buying Notes

Membrane 4x4 keypads with a ribbon and breakout suit classroom input work. Quality pads have reliable contacts; cheap ones ghost presses.