

# KL4030 Based 3 & 4 Axis CNC Packages

## Simplified Wiring Diagram

### Parallel Port IO

This can be very system specific, but for a common 3-axis parallel port controlled CNC device, the following chart can be a starting point.

| Pin | Direction | Purpose               |
|-----|-----------|-----------------------|
| 1   | Output    | Spindle Control Relay |
| 2   | Output    | X Direction           |
| 3   | Output    | X Step                |
| 4   | Output    | Y Direction           |
| 5   | Output    | Y Step                |
| 6   | Output    | Z Direction           |
| 7   | Output    | Z Step                |
| 8   | Output    |                       |
| 9   | Output    |                       |
| 10  | Input     | E-Stop                |
| 11  |           |                       |
| 12  | Input     | Limit X               |
| 13  | Input     | Limit Y               |
| 14  | Input     | Limit Z               |

### C10 Breakout Board Jumpers

JP1 selects the direction for parallel port pins 2 through 9. This is useful when using multiple breakout boards and parallel ports.

### EU AC Wire Colors

Ground, or Earth is always Green/Yellow  
 Live is Always Brown  
 Neutral is Blue

### US AC Wire Colors

Ground, or Earth is Usually Green  
 Live is usually Black  
 Neutral is usually White

### Wiring Hints

#### Common isn't always Ground!

In this case we are wiring 'active low'. That means the driver board steps when it senses a pin pulled low, you will notice that the power setting on the breakout board is set for common +5v, which is provided to the CW+ and CP+ terminals on the 4030 driver module.

#### C10 Breakout board power source

The buffer chips on the C10 require +5vdc for operation, hence the additional power supply. A voltage regulator circuit such as a 7805 can be used instead. Additionally, the C10 requires +5v on the enable input, otherwise the buffer ICs will not pass data from the PC.

#### E-Stop: Normally closed?

If possible, a normally closed button pulling an input high should be used for an E-stop. This way, if the power to the machine fails, the PC will see the input pin go low and report an emergency stop.

