

Unipolar Stepper Motor Drive Board Models XPVP134



- Low cost 4-phase 2A unipolar Eurocard drive
- Full and half stepping capability
- Input frequency to 30kHz

Specification

Electrical

Card: Standard Eurocard (168x100) with 32-way DIN 41612 edge connector

Board and motor supply: 15-30V dc + 10% maximum, unregulated smoothed

Current drawn: XPVP134 board: 60mA Motor winding : up to 2A/phase

On-board auxiliary output: 12V dc, 50mA maximum regulated output

Switching logic control: CMOS and open collector TTL compatible; level '0' : 0V, level '1' : 12V

Inputs: Full step (level '1') or half step mode (level '0')

Clock frequency from 1Hz-30kHz, 10µs minimum pulse width, negative edge triggered

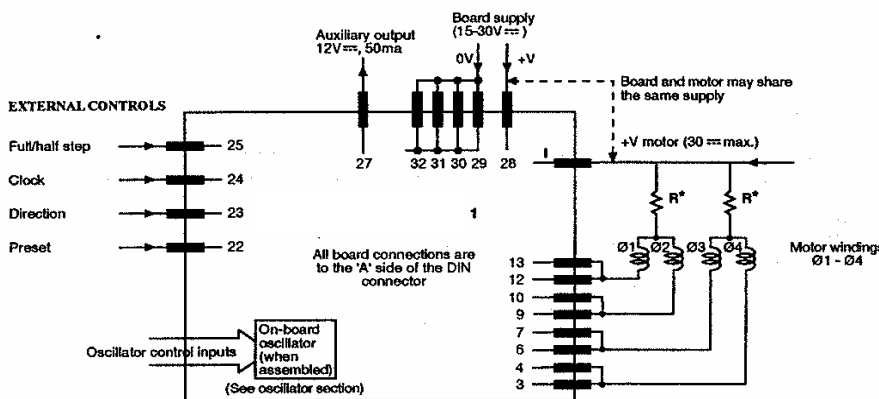
Direction

Preset input: Active level '0' sets motor drive states to φ1, φ3 off; φ2, φ4 on (full step mode) and φ1, φ2, φ3 off; φ4 on (half step mode).

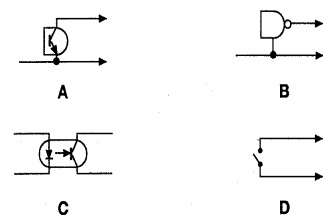
Board Connections

Maximum power dissipated through $R = (\text{rated motor current})^2 \times R$. If the power dissipation is high it is advisable to achieve the required value of R by using a network of series or parallel resistors. (Higher wattage resistors and heat sinks may be required).

Maximum current consumption (motor + board) = 2 x current per phase + 60mA. Power supply cables require adequate rating.



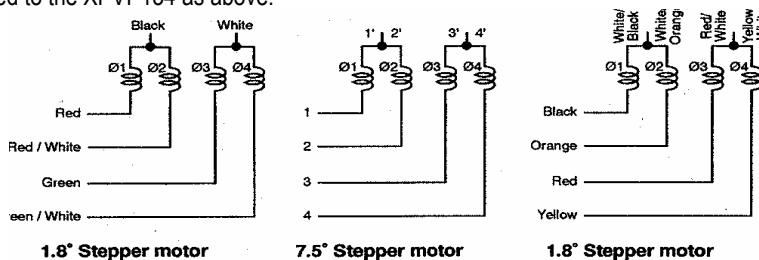
External control signals, e.g., full/half step mode, direction, oscillator stop/run signal, can be applied to the circuit as per methods A-D.



- A. Open collector T.T.L.
- B. C.M.O.S. (Operating @ +12V)
- C. Opto-coupler
- D. Simple switch

Connection to Stepper Motors

When the windings of stepper motors are as shown below, the phases φ1-φ4 should be connected to the XPVP134 as above.



1.8° Stepper motor

7.5° Stepper motor

1.8° Stepper motor

$$*R = \frac{+V \text{ Motor} - \text{Rated winding voltage}}{\text{Rated winding current}}$$