ASTROSYN
ADVANCING THE DRIVE TOWARDS MOTOR EFFICIENCY

Unipolar Stepper Motor Drive Board
Models XPVP134

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

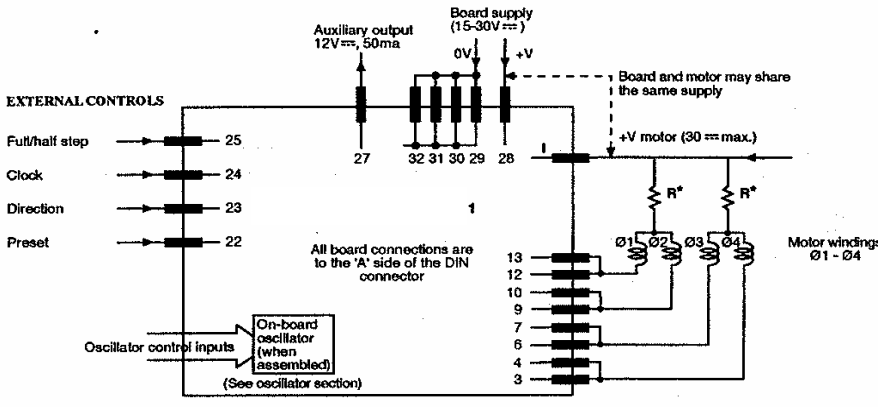
Specification

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).

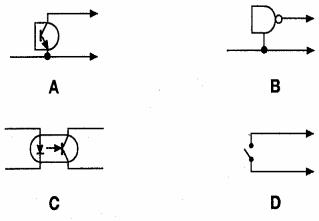
Board Connections

Maximum power dissipated through R=(rated motor current)^2 x 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.



*R = +V Motor - Rated winding voltage / Rated winding current

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.