

DC/STEPPER MOTOR CONTROL PLD Users Manual

This PLD is designed to drive a Unipolar Stepper Motor **OR** a DC motor using input from a computer or microcontroller to select the various options.

Connections: The PLD will be connected as follows:

STEPLOCK	x---	1	24	---x	Vcc
PWMSIGNAL	x---	2	23	---x	M3
DCMOTOR	x---	3	22	---x	M2
INEQOUT	x---	4	21	---x	M1
DIRECTION	x---	5	20	---x	M0
ON	x---	6	19	---x	
HIGHTORQUE	x---	7	18	---x	
SINGLESTEP	x---	8	17	---x	Q3
	x---	9	16	---x	Q2
	x---	10	15	---x	Q1
	x---	11	14	---x	Q0
GND	x---	12	13	---x	

Where:

Pin #	Name	Pin Description
1	CLOCK	Stepper motor clock
2	PWMSIGNAL	Input pin for PWM signal
3	DCMOTOR	When high output will be those needed for a dc motor h-bridge with PWM/ON/OFF control
4	INEQOUT	Input equals output (M3 = DIRECTION, M2 = ON, M1 = HIGHTORQUE, M0 = SINGLESTEP)
5	DIRECTION	Forward / reverse input
6	ON	In Stepper Motor Mode: Coils on/off In DC Motor Mode: DC Motor on/off
7	HIGHTORQUE*	When high the step sequence will be the High Torque sequence
8	SINGLESTEP*	When high the step sequence will be the Single Step sequence
9	NC	No Connection
10	NC	No Connection
11	NC	No Connection
12	GND	Ground
13	NC	
14	Q0	Intermediate output (Not Connected)
15	Q1	Intermediate output (Not Connected)
16	Q2	Intermediate output (Not Connected)
17	Q3	Intermediate output (Not Connected)
18	NC	No Connection
19	NC	No Connection
20	M0	Output to transistor
21	M1	Output to transistor
22	M2	Output to transistor
23	M3	Output to transistor
24	Vcc	+5 Volts in

* With both SINGLESTEP AND TORQUE set low, step sequence will follow half step sequence