

DC Motor Control

DC motor control is implemented in myCNC software, and it useful for certain hardware such as the affordable THC lifters used on certain systems:



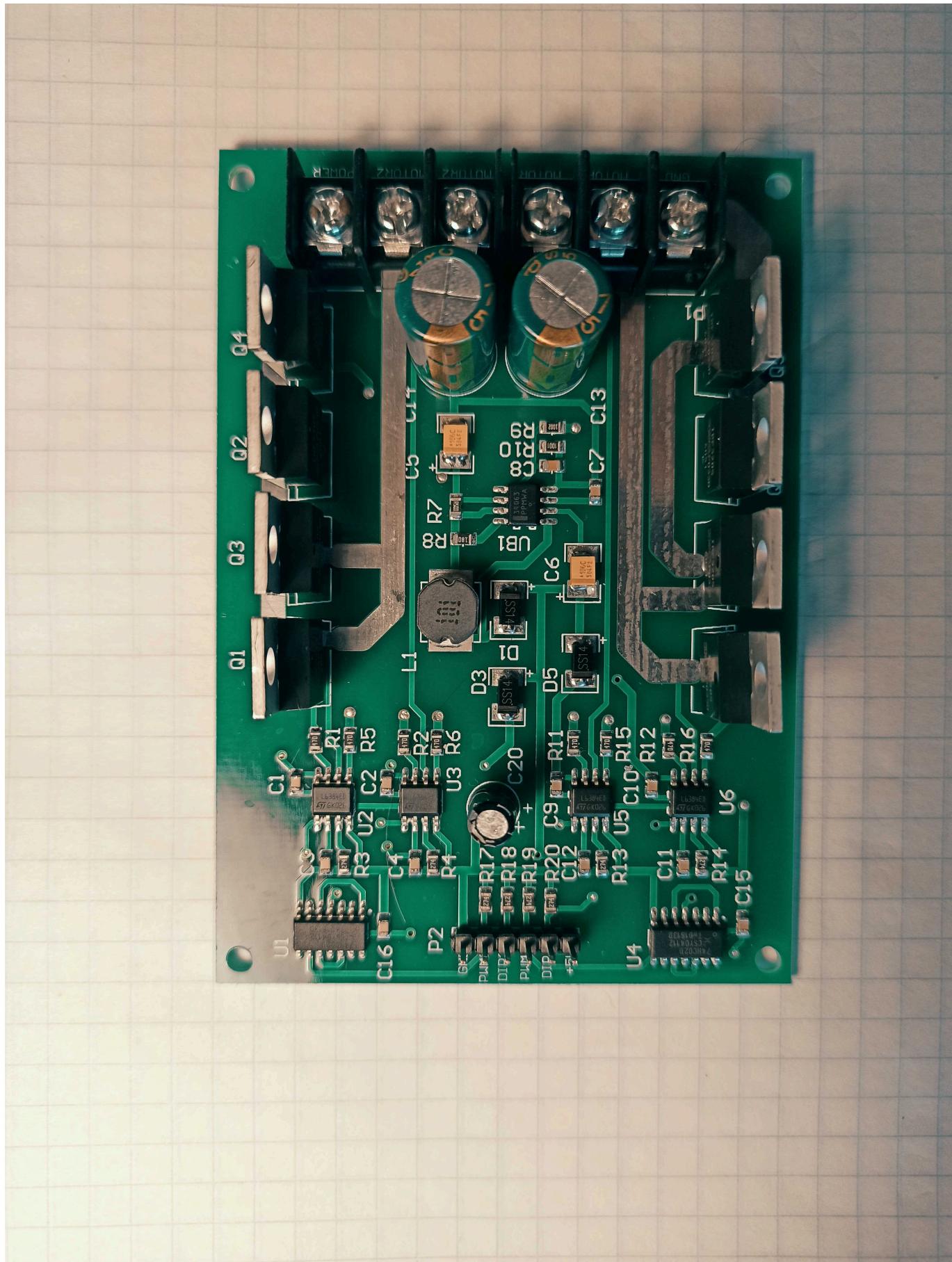
To turn on DC motor control, head into Settings → Config → Technology → THC, and enable the DC Motor Control option:

Screen	THC Small Radius (THC is OFF is radius smaller than)	5
Work Offsets	Alarm Arc Voltage Difference,V (If Differentce between Measured Arc Voltage and Reference is more than given value, THC is suspended for "THC delay")	60
Parking Coordinates	Alarm Arc Voltage Rise, V (If Measured Arc Voltage Rise per 8ms is more than given value, THC is suspended for "THC delay")	30
- Technology	THC start delay,s	1
Plasma Cutting	THC PI-control P ratio	-500
Hypertherm Communication	THC pre-off,s	0
Gas/Oxyfuel	Accept jog while Job is running	<input checked="" type="checkbox"/>
Cutcharts	THC jog Speed Ratio,[%]	50
THC	THC Measure1V Step, [V]	3
Spindle	DC Motor Control	<input type="checkbox"/>
Tools	THC PID dead zone	3
ATC Pots		
Lathe		
Multi Head		
Laser control		
Tangential Knife		
Special Purpose		
Camera		
5 axes RTCP		
Panel/Pendant		

When the checkbox is enabled, the Z+ and Z- buttons send commands to turn on the DC motor instead of controlling the Z axis via pulse-dir. This is also relevant in situations where it appears that

the the pulse-dir Z axis does not move and the coordinates do not change despite pressing the buttons - it is then necessary to check whether this option has been incorrectly left enabled.

Pictured below is the DC motor driver board:



There are two control signals - direction and PWM voltage (speed) reference signal.

Gvariables used for DC control

Name	Global variable	Description
GVAR_SET_THC_PWM	8970	Set a PWM number to work with the DC motor
Value assigned to variable		
0		Disable (switch to regular pulse-dir axis)
1		Enable PWM1
2		Enable PWM2
3		Enable PWM3

Name	Global variable	Description
GVAR_SET_THC_PWM_Dir	8971	Set a DIR signal number

Name	Global variable	Description
GVAR_SET_DC_MOVE	8972	Give a Jog command, with the recorded variable being the movement speed
Value assigned to variable		
Positive value		Movement up
Negative value		Movement down
0		Stop

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