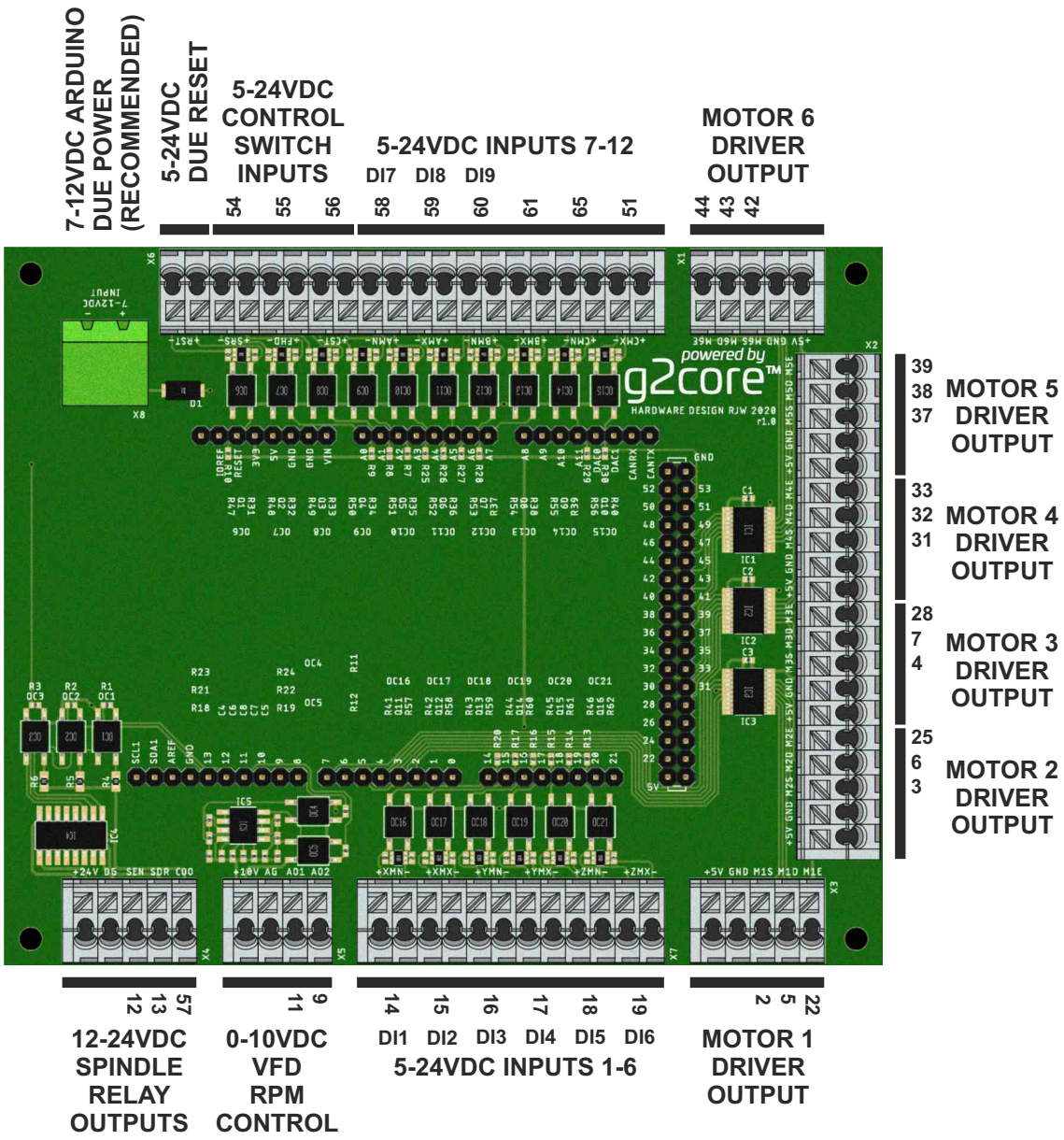
1. BOARD OVERVIEW

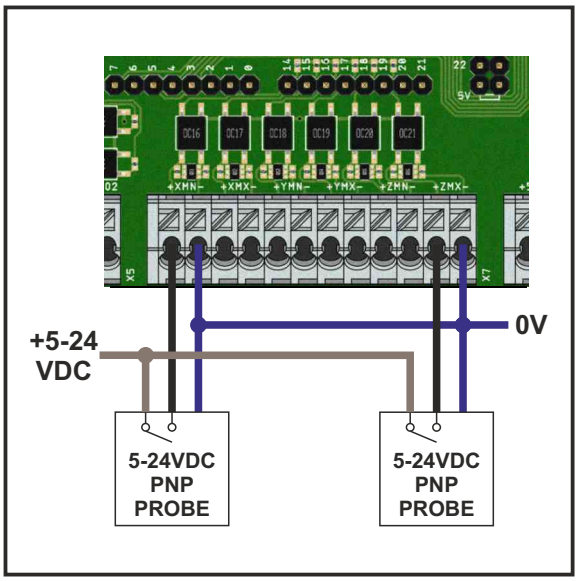


- **6x High speed buffered push-pull 5V outputs for external motor drivers, including individual enable, +5V and GND connections(utilising high speed optoisolation built into driver).**
- **15x Individual optoisolated general purpose 5-24VDC inputs, can be used with PNP and NPN proximity sensors, a mixture of both and/or switches(9 supported by G2Core currently).**
- **1x Individual optoisolated 5-24VDC input for Arduino Due reset.**
- **3x Individual optoisolated general purpose 12-24VDC relay outputs incl. flywheel diodes, for eg. spindle enable/direction and coolant (max 100mA each).**
- **2x Buffered and filtered PWM analog outputs, eg. 0-10V for spindle RPM control(only 1 supported at present by G2Core).**
- **Pluggable screw terminal for 7-12V Arduino Due power, can also be powered via USB.**
- **KF250 3.5mm pitch screwless terminal for all other connections.**

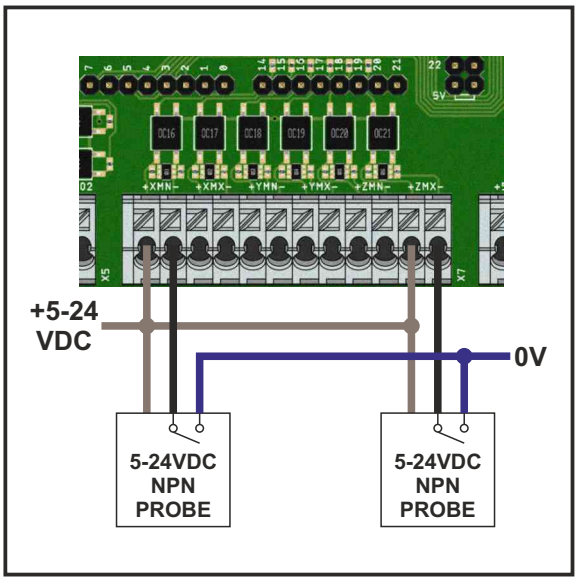
2. INPUT CONNECTIONS (APPLIES TO ALL INPUTS)

ENSURE CORRECT POLARITY AS MARKED ON PCB

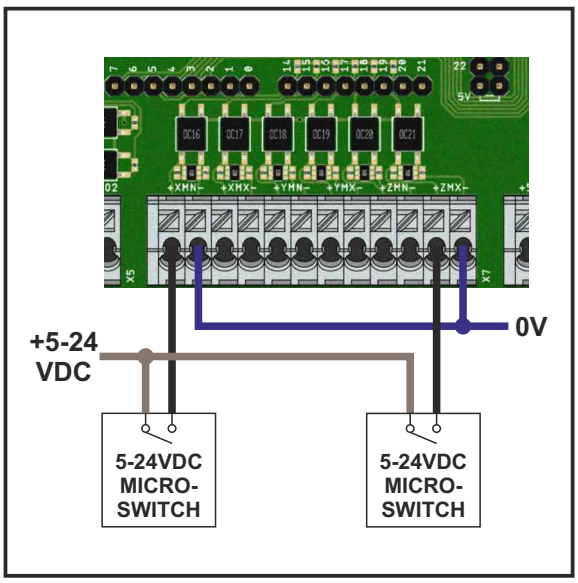
5-24VDC PNP PROBE CONNECTION



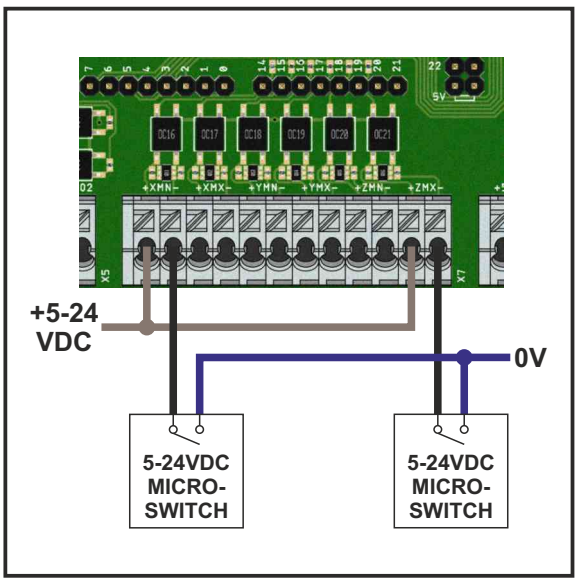
5-24VDC NPN PROBE CONNECTION



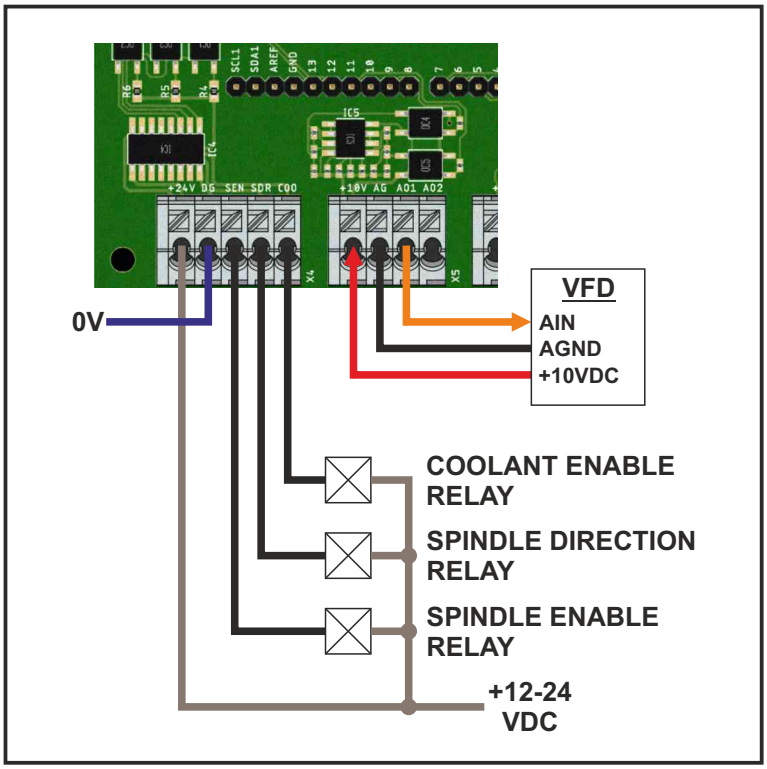
LIMIT SWITCH CC CONNECTION



LIMIT SWITCH CA CONNECTION

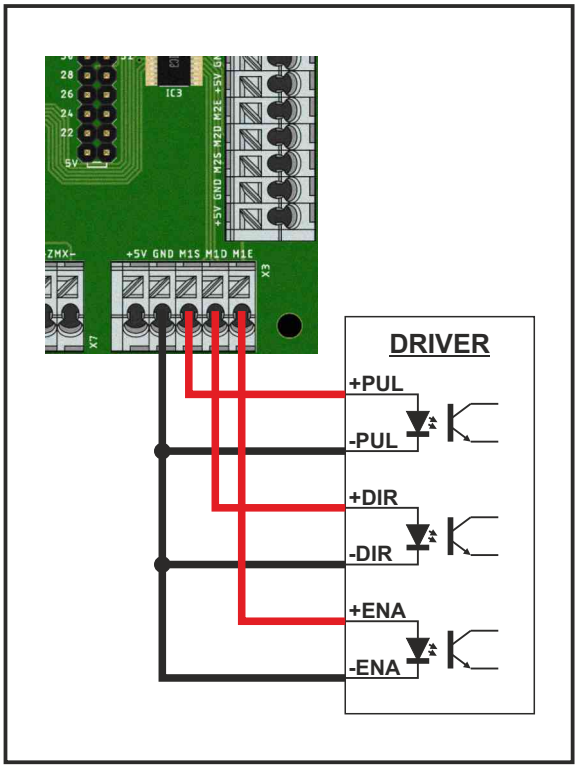


3. SPINDLE/COOLANT ENABLE RELAYS AND VFD CONNECTIONS

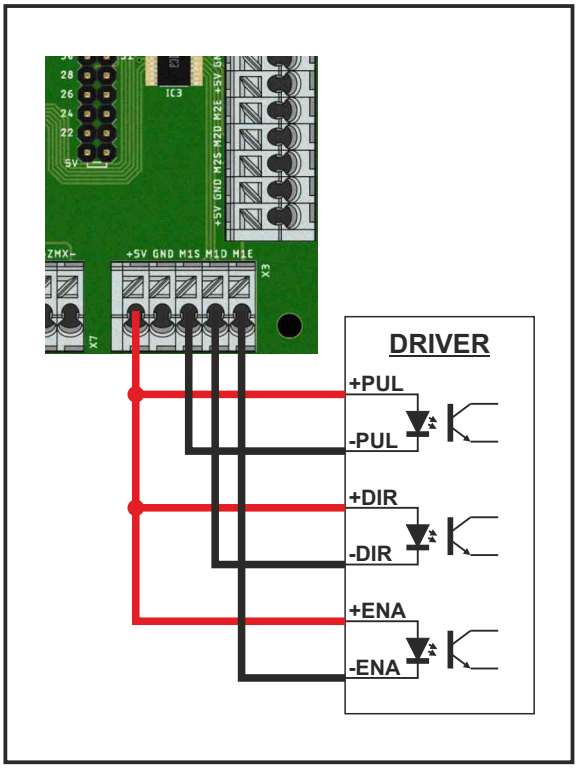


4. STEPPER MOTOR DRIVER CONNECTIONS

COMMON CATHODE CONNECTION



COMMON ANODE CONNECTION



5. SOFTWARE QUICKSTART GUIDE

A quick guide on how to configure/compile/flash can be found at:
https://co.ders.uk/Bozog/

Along with a precompiled binary of edge 101.03:
https://co.ders.uk/Bozog/g2core-Bozogshield-101.03.bin
https://co.ders.uk/Bozog/g2core-Bozogshield-101.03.elf

Some useful commands for testing:

COMMAND	DESCTRIPTION
`$in`	Show inputs status
`$clear`	Clears alarm state
`M3 S90`	Start spindle, clockwise at 90%
`M4 S40`	Start spindle, anticlockwise at 40%
`M5`	Stop spindle
`M7`	Start coolant
`M9`	Stop coolant
`G0X#`	Move X axis to position #