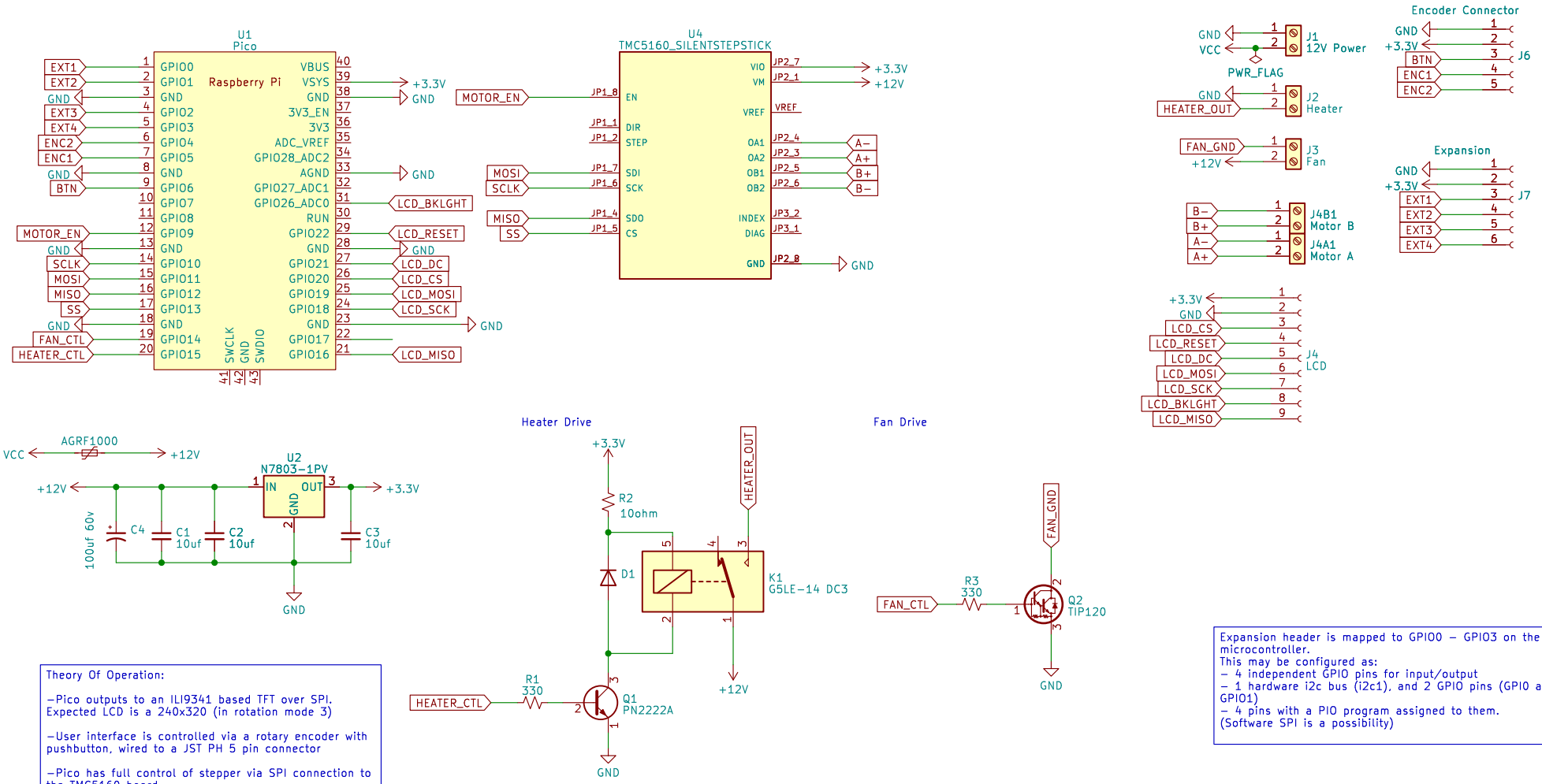

Theory Of Operation:

−Pico outputs to an ILI9341 based TFT over SPI. Expected LCD is a 240x320 (in rotation mode 3)

−User interface is controlled via a rotary encoder with pushbutton, wired to a JST PH 5 pin connector

−Pico has full control of stepper via SPI connection to the TMC5160 board.

−Pico can enable / disable the drive output via MOTOR_EN (Active Low)

−Pico can activate the Heater by pulling HEATER_CTL High, switching on the relay (3.3v coil).

−Pico can activate the fan by pulling FAN_CTL high, fan current conducted by the TIP120

−3.3v power provided by a drop in switching powersupply module for simplicity.

− All power connectors are Phoenix LPT lever connectors. These support 12awg − 24awg up to a max of 24A. Can substitute in SPT or any other phoenix connector with the same 5mm pin spacing

Expansion header is mapped to GPIO0 − GPIO3 on the microcontroller.
This may be configured as:
− 4 independent GPIO pins for input/output
− 1 hardware i2c bus (i2c1), and 2 GPIO pins (GPIO and GPIO1)
− 4 pins with a PIO program assigned to them. (Software SPI is a possibility)

KiwiBoard

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