

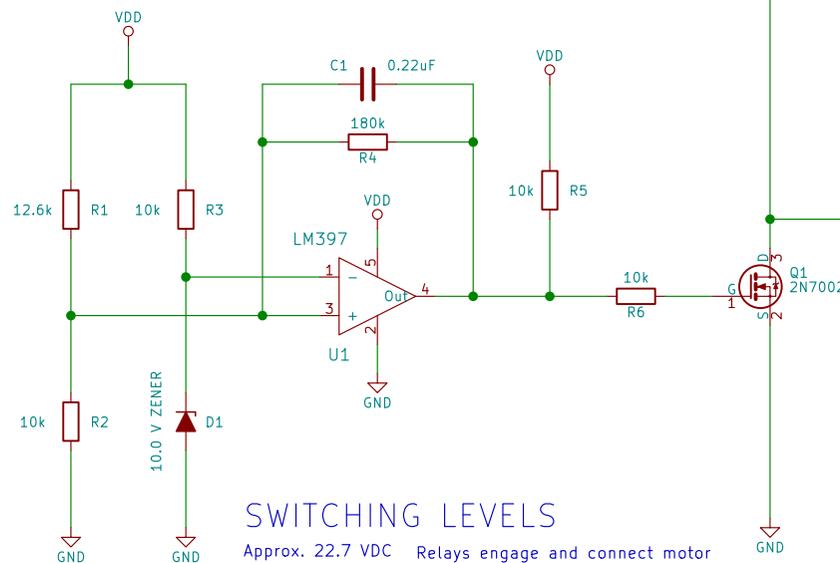
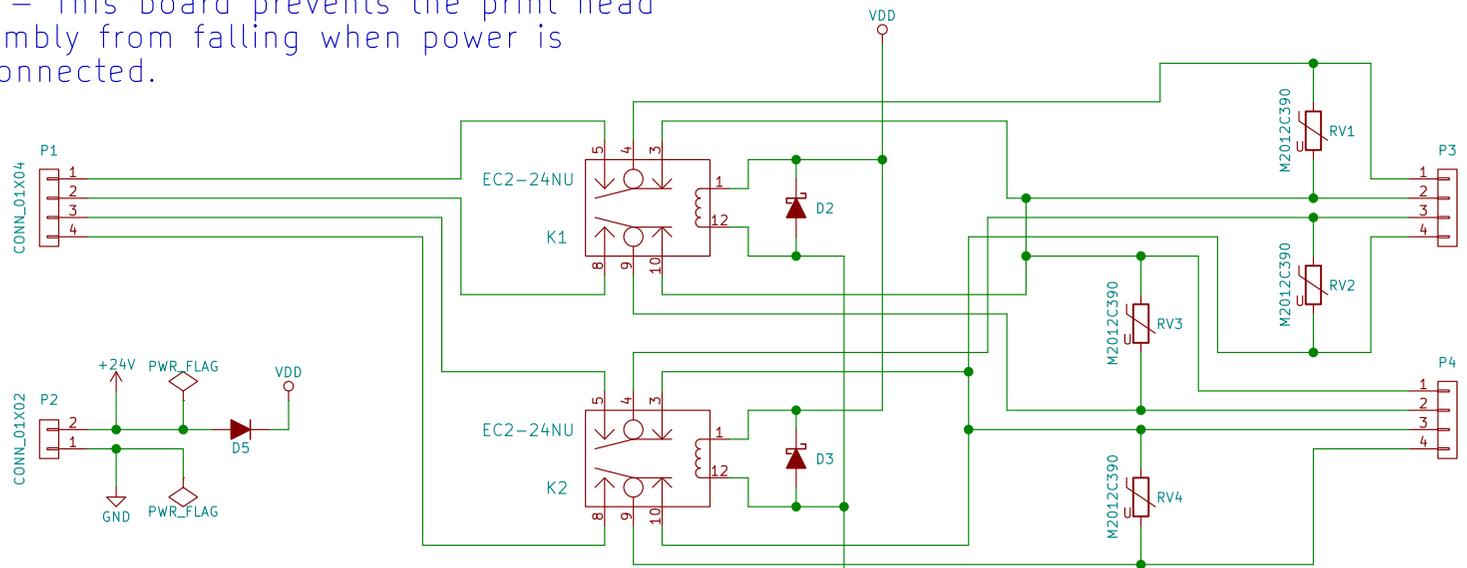
USE – This board prevents the print head assembly from falling when power is disconnected.

REVISION HISTORY

REV. A Original Design

REV. B Relays moved on PCB design to allow space for 4-Pin motor connectors.

REV. C Varistors added to motor winding connectors to suppress voltage spikes when relays disconnect motor windings. PCB changed to add varistors.



SWITCHING LEVELS

Approx. 22.7 VDC Relays engage and connect motor windings to control board.

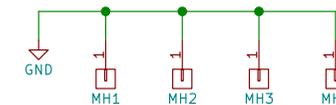
Approx. 21.3 VDC Relays disengage motor windings from control board and short motor windings.

Positive feedback in the comparator circuit allows a gap between the turn-on and turn-off voltages. This prevents the relays from chattering about the switching points.

Theory of Operation

The board directly monitors the 24 VDC supply of the printer. In normal operation, the relays connect the motor driver of the control board to the windings of the two Z motors. The A and B windings of each Z motor are connected in series, respectively, so that both motors are driven by a single motor driver.

When the printer is turned off and the supply voltage drops to about 21.3 VDC or less, the relays disconnect the motor controller and short out the motor windings. This creates an electrical "brake" for the motors.



Z-BRAKE BOARD

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