

The diagram shows a circuit with three input terminals on the left: +6V in, Ground, and -6V in. The Ground terminal is connected to a ground symbol. A dashed line encloses the +6V and -6V inputs and the two switches labeled SW₁ and Power Switch. The +6V line passes through SW₁ and the -6V line passes through the Power Switch. After the switches, the lines connect to a central vertical branch containing diode D₁ (pointing up) and a horizontal branch containing diode D₂ (pointing right) in series with diode D₃ (pointing left). The top of this branch is connected to a 6V terminal, and the bottom is connected to a -6V terminal. To the right of this central branch is a parallel combination of a resistor R₁ (1 kΩ) and a red power LED (D₄). The top of this parallel branch is connected to the 6V terminal, and the bottom is connected to the -6V terminal.

The diagram illustrates a motor control system with feedback and protection. It features two operational amplifiers (op-amps) and a bipolar junction transistor (BJT) switch.

Feedback Loop:

- The first op-amp (top) has its non-inverting input (+) connected to the "Motor position sensor" and its inverting input (-) connected to the "Input Position" through a resistor R_8 . It also has a feedback resistor R_{10} from its output to its inverting input.
- The second op-amp (bottom) has its non-inverting input (+) connected to the "Input Position" through a resistor R_6 and its inverting input (-) connected to the "motor disconnect switch" through a resistor R_{11} . It also has a feedback resistor R_{12} from its output to its inverting input.
- The output of the first op-amp is connected to the non-inverting input (+) of the second op-amp through a resistor R_{13} .
- The output of the second op-amp is connected to the base of the BJT switch (TIP31/TIP127) through a resistor R_{14} .
- The BJT switch has its emitter (E) connected to ground and its collector (C) connected to the motor through a resistor R_{16} .
- The motor is connected to ground through a resistor R_{18} .

Protection:

- The motor is protected by a fuse (represented by a circle with a diagonal line) and a diode D_5 connected in parallel with the motor.
- The BJT switch is protected by a diode D_6 connected in parallel with the motor.

Components and Values:

- Resistors: $R_2 = 10\text{ k}\Omega$, $R_3 = 10\text{ k}\Omega$, $R_4 = 10\text{ k}\Omega$, $R_5 = 11\text{ k}\Omega$, $R_6 = 10\text{ k}\Omega$, $R_7 = 11\text{ k}\Omega$, $R_8 = 100\text{ }\Omega$, $R_9 = 10\text{ k}\Omega$, $R_{10} = 3.3\text{ k}\Omega$, $R_{11} = 3.3\text{ k}\Omega$, $R_{12} = 10\text{ k}\Omega$, $R_{13} = 10\text{ k}\Omega$, $R_{14} = 10\text{ k}\Omega$, $R_{15} = 10\text{ k}\Omega$, $R_{16} = 1.6\text{ }\Omega$, $R_{17} = 1.6\text{ }\Omega$, $R_{18} = 390\text{ }\Omega$.
- Capacitors: $C_1 = 10\text{ }\mu\text{F}$, $C_2 = 10\text{ }\mu\text{F}$.
- Diodes: D_5 , D_6 , D_7 .
- Transistors: TIP31, TIP127.
- Switch: motor disconnect switch (SW 2).