PICDEM™ Mechatronics Demo Board
Quick Start Guide

The PICDEM Mechatronics Demo Board is programmed at the factory with a demonstration program. The board must be configured as described in this chapter in order to use the demonstration program. Once the board is configured and powered up, the speed of the Brushed DC (BDC) motor on the board may be varied using the potentiometer (POT1). The 8-bit hexadecimal interpretation of the position of POT1 is displayed on the LCD.

Board Setup

Using the provided wire jumpers, screwdriver and shunts (2-pin black hard plastic jumpers), configure the board as shown in the Quick Board Setup Schematic.

1. Attach the leads of the brushed DC motor to Drive 1 and Drive 2 using the screwdriver.
2. Connect POT1 (on J4) to C1- (on J13) using a wire jumper.
3. Connect P1 (on J1) to RD7 (on J10) using a wire jumper.
4. Connect N2 (on J1) to RD2/CCP2 (on J10) using a wire jumper.
5. Connect +5 Vdc to the center pin on JP8 using a shunt.

Board Power-Up

Supply power to the board in one of the following ways:

- Connect a 9-12 Vdc (0.75 amp minimum) supply using J9 (see note below)
- Connect a 9-12 Vdc (0.75 amp minimum) supply to the P21 and P20 screw terminals.
- Connect a 9 Vdc battery to the battery connector.
- Connect a 5 Vdc (1.2 amp minimum) supply to TP2 and TP3.

Demonstration Program

Press CLR FAULT (SW5), which is near the bottom right corner of the board. Turn POT1 clockwise to increase the speed of the motor. Note that the number displayed on the LCD increases as you turn the potentiometer clockwise.

Try experimenting with the other sensors on the board:

- Move the jumper wire on POT1 (J4) to Light (J4). Vary the intensity of light shining on the light sensor located near the top left corner of the board. Notice what happens to the motor.
- Move the same jumper wire to TEMP (J4). Blow on the temperature sensor located on the top left corner of the board. Note what happens to the number displayed on the LCD.
- Move the jumper wire back to POT1. Move the jumper wire from N2 (J1) to D0 (J14). Watch what happens to the intensity of LED D0 as you turn the potentiometer.
Quick Board Setup Schematic