

Ref Des	Description	Digi-Key Part #	Mouser Part #
U1	Microcontroller (PIC18F2420)	---	---
ISO1	Opto-Isolator, 6N138	6N138	6N138
D1	Switching diode, 1N4148	1N4148FS	1N4148
X1	6.5 MHz HC-49 Crystal	X415	520-HCU650-20X
R1	220 ohm 1/4 W resistor	220QBK	
R2	1K ohm 1/4 W resistor	1.0KQBK	
R3	4.7K ohm 1/4 W resistor	4.7KQBK	
R4-R6	270 ohm 1/4 W resistor	270QBK	
C1,C2	0.1 uF ceramic cap, 0.1" leads	399-2127 or BC1148CT	
C3,C4	22 pF ceramic cap, 0.1" leads	BC1005CT	
P1	40-pin Aries DIP Header coined posts, 40-600-20 (tin) or 40-500-21 (gold)	---	535-40-600-20
	IC Socket for 28-pin PIC	AE10286	
	IC Socket for Opto		
	5-pin DIN female, panel mount	CP-1250	

Note: R4-R6 are only used to draw an extra ~55 mA to make my circuit closer to the current of the original MCU. This helps to keep the 5V power supply voltage the same as before to preserve calibration. The original MCU draws 150 mA. My circuit draws 50 mA without R4-R5.