

Bill of Materials

Designation	Part	Quantity, 2-phase	Quantity, 3 phase
	Arduino UNO	1	1
P1	PCB	1	2
U1	OPA2134	1	2
	DIL socket, 8-pin	1 *	2 *
R1, R2, R12	10k Ω	3	5
R3, R4	12k Ω	2	3
R5, R6	3.3k Ω	2	3
R7, R8	1k Ω	2	3
R9, R10	220k Ω	2	3
R11	4.7k Ω	1	1
R13	470 Ω (1)	1	1
C1	10 μ F, electrolytic, 6.3v+, 0.1" spacing	1	2
C2, C3, C7, C8	100nF, 0.2" spacing	4	6
C4, C5	4.7 μ F, electrolytic, 6.3v+, 0.1" spacing	2	3
C6	0.1 μ F, decoupling, 0.2" spacing	1	2
KEY1	miniature momentary push switch	1	1
J7	miniature SPDT slide switch	1	1
LED	LED	1 *	1 *
H2	4-pin header, female	1 (2)	-
	0.1" header strip, male (3)		
	0.1" stacking headers, 6 + 8 + 8 + 10 pins	-	1
	screw terminal, 5mm, 4 way	1 *	1 *
	screw terminal, 5mm, 2 way	-	1 *

* optional

(1) choose for desired LED brightness

(2) for removable mounting of BT module on top of board; alternatively mount permanently underneath

(3) sufficient for PCB-Arduino, tachometer + button headers