

Item No	Component		Quantity	Unit Cost(GB	Total Cost	Part Number	Brand
1	PIC18F46J50-I/PT	IC1,	3	3.77	11.31	PIC18F46J50-I/PT	Microchip
2	SMD Multilayer Ceramic Capacitor, 0.1 µF, 25 V, 0603 [1608 Metric], -20%, +80%, Y5V	C5,C6,C7,C1,C17,C21,C22,C25,C26,C27,C28,C29,C30,C31,C35,	15	0.024	0.36	06033G104ZAT2A	KYOCERA AVX
3	SMD Multilayer Ceramic Capacitor, 10 µF, 25 V, 1210 [3225 Metric], ± 10%, X5R	C18,C19,C20,C32,C33,C34	6	0.55	3.3	12103D106KAT2A	KYOCERA AVX
4	SMD Chip Resistor, 100 kohm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R12	5	0.05	0.25	RC0603FR-07100KL	YAGEO
5	Fuseholder, 6.3 A, 250 V, PCB, 5 x 20 mm	H1	1	0.2988	0.2988	CFH02	CAMDENBOSS
6	Pin Header, Shrouded, Wire-to-Board, 2.5 mm, 1 Rows, 4 Contacts, Through Hole, XA	J1,J6,J7	3	0.16	0.48	B04B-XASK-1(LF)(SN)	JST
7	EEPROM 16byte 128b 2.5V	IC5	1	0.2	0.2	24LC00-I/SN	Microchip Technology
8	RS-232 Interface IC Dual EIA-232 Driver/ Receiver ALT 595-MAX232IDR	IC23	2	0.67	1.34	MAX232IDR	Texas Instruments
9	Multilayer Ceramic Capacitor, 1 µF, 50 V, ± 20%, Radial Leaded, Y5V, 5.08 mm	C12,C13,C14,C15,C16	10	0.3888	3.888	MCMLR50V105MY5V	MULTICOMP
10	D Sub Connector, W/ Board Lock, DB9, Standard, Plug, 9 Contacts, DE, Solder	J2	1	1.69	1.69	2301843-1	TE CONNECTIVITY
11	Temperature Sensor IC, Thermocouple, Digital, ± 2°C, -200 °C, 1350 °C, NSOIC, 8 Pins	IC7	1	7.61	7.61	MAX31855KASA+	ANALOG DEVICES
12	Wire-To-Board Terminal Block, 3.5 mm, 2 Ways, 24 AWG, 16 AWG, 1.5 mm², Push In	J3,J14,J15,J16	4	1.01	4.04	1825640000	WEIDMULLER
13	SMD Chip Resistor, 240 ohm, ± 5%, 100 mW, 0603 [1608 Metric], Thick Film, Precision	R8,R9,R10	3	0.08	0.24	ERJ3GEYJ241V	PANASONIC
14	LED, Red, Through Hole, T-1 3/4 (5mm), 2 mA, 1.9 V, 629 nm	LED2,LED3	2	0.68	1.36	MP008247	Dialight
15	LED, Green, Through Hole, T-1 3/4 (5mm), 20 mA, 2.1 V, 570 nm	LED1	1	0.22	0.22	C503B-GCN-CYOC0791	Cree LED
16	Temperature Sensor IC, Analogue, ± 0.5°C, 0 °C, 100 °C, TO-92, 3 Pins	IC8	1	1.28	1.28	LM35DZ/NOPB	TEXAS INSTRUMENTS
17	Pin Header, R/A, Board-to-Board, 2.54 mm, 1 Rows, 6 Contacts, Through Hole, MC34	J4	1	0.1056	0.1056	MC34751	MULTICOMP PRO
18	I/O Expander, 16 bit, I2C, Serial, 1.8 V, 5.5 V, DIP, 28 Pins	IC9	1	1.3	1.3	MCP23017-E/SP	MICROCHIP
19	SMD Chip Resistor, 3.3 kohm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R13,R14,R15,R16,R17,R18,R19,R20,R21,R22,R1,R2,R3	13	0.007	0.091	RC0603FR-073K3L	YAGEO
20	Power Load Distribution Switch, Low Side, 1 Output, 35A, 0.023ohm, TO-252-3	IC10,IC11,IC12,IC13,IC14,IC15,IC16,IC17,IC18,IC2,IC3,IC4	13	1.15	14.95	NCV8401BDTRKG	ONSEMI
21	Headers & Wire Housings 10 Position Top Entry Through Hole Shrouded Header	J5	1	0.35	0.35	B10B-XASK-1(LF)(SN)	JST Commercial
22	Crystal, 16.384 MHz, Through Hole, 11.5mm x 5mm, 50 ppm, 18 pF, 20 ppm, ABL	Y1	1	0.32	0.32	ABL-16.384MHZ-B2	ABRACON
23	Multilayer Ceramic Capacitor, 22 pF, 100 V, ± 5%, PC Pin, C0G / NP0, 2.5 mm	C23,C24	2	0.2	0.4	FG18C0G2A220JNT00	TDK
24	Headers & Wire Housings XA Series 6 Position 2.5mm Through Hole Wire to Board Single Row Shrouded Header	J11	1	0.221	0.221	B06B-XASK-1(LF)(SN)	JST Commercial
25	USB Connector, Micro USB Type B, USB 2.0, Receptacle, 5 Ways, Surface Mount, Through Hole Mount	J12	1	0.69	0.69	47642-0001	MOLEX
26	RES 21K OHM 1% 1/8W 0805	R44,R45,R46,R54,R55,R56,R57,R58,R59,R60	10	0.07	0.7	RC0805FR-0721KL	YAGEO
27	RES SMD 13.3KOHM 0.1% 1/10W 0603	R62,R63,R64,R65,R66,R67,R68,R69,R70,R71	10	0.07	0.7	ERA-3AEB1332V	Panasonic Electronic Comp
28	DIODE ZENER 4.3V 500MW SOD123	Z1,Z2,Z3,Z4,Z5,Z6,Z7,Z8,Z9,Z10	10	0.07	0.7	MMSZ5229B-7-F	MMSZ5229B-7-F
29	RES SMD 200K OHM 0.1% 1/10W 0603	R61,R72,R73,R74,R75,R76,R77,R78,R79,R80	10	0.07	0.7	ERA-3AEB204V	Panasonic Electronic Comp

30	CONN HEADER VERT 11POS 2.5MM	J17	1	0.35	0.35	B11B-XASK-1	JST
31	TVS DIODE 24VWM 44VC SOT233	IC21	1	0.29	0.29	NUP2105LT1G	onsemi
32	CAP CER 0402 10NF 50V X7R 10%	C8,C9,C10	3	0.07	0.21	C0402C103J5RECTU	KEMET
33	FERRITE BEAD 470 OHM 0603 1LN	FB1,FB2	2	0.07	0.14	BLM18PG471SN1D	Murata Electronics
34	RES 10K OHM 1% 1/10W 0603	R26,R27,R28,R4,R5,R23,R24,R25,R29,R30,R31	11	0.07	0.77	RC0603FR-0710KL	YAGEO
35	RES 1K OHM 1% 1/2W 1206	R6	1	0.07	0.07	RNCP1206FTD1K00	Stackpole Electronics Inc
36	DIODE SCHOTTKY 40V 5A DO201	D3,D4	4	0.36	1.44	SB540	Diotec Semiconductor
37	CAP ALUM 220UF 20% 25V RADIAL TH	C39,C40	4	0.23	0.92	25YXJ220M6.3X11	Rubycon
38	FIXED IND 33UH 11.7A 13 MOHM TH	L1,L2	4	2.73	10.92	2307-V-RC	Bourns Inc.
39	IC REG BUCK 3.3V 3A TO220-5	IC22	2	4.22	8.44	LM2596T-3.3/NOPB	Texas Instruments
40	CAP ALUM 470UF 20% 50V RADIAL TH	C36,C37	4	0.76	3.04	ECA-1HHG471	Panasonic Electronic Comp
41	HEATSINK TO-220 ALUMINUM	H2,H3	2	0.46	0.92	ALUMINUM HEATSINK TO-220	Olimex LTD
42	LM2596T-5.0_NOPB	IC20	2	4.22	8.44	LM2596T-5.0/NOPB	Texas Instruments
43	CAP CER 0.1UF 50V X8L RADIAL	C38,C42	4	0.37	1.48	RCER71H104K0DBH03A	Murata Electronics
44	Phone Connectors 3.5mm Audio Jack SMT 4 conductor 0 switc	J8,J9,J10	3	0.78	2.34	SJ2-3574A-SMT-TR	Same Sky
45	10pin jst	J5	1	0.35	0.35	B10B-XASK-1	JST Sales America Inc.
46	solder wire		1	5.97	5.97	SMD3SWLT.047 1OZ	
	de solder braid		1	15	15		
				Total:	98.8644	Estimated discount 20%:	79.09152

Website			
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https://uk.farnell.com/camdenboss/cfh02/fuseholder-pcb-5x20mm/dp/3532260?CMP=GRHB-SF-FC			
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https://www.mouser.co.uk/ProductDetail/Texas-Instruments/MAX232IDR?qs=paYhMW8qfitl1Tq02IMHqw%3D%3D			
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https://uk.farnell.com/broadcom-limited/hlmp-3950/led-5mm-green/dp/1003226			
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https://uk.farnell.com/multicomp-pro/mc34751/connector-header-tht-ra-2-54mm/dp/1593430?gross_price=true&CMP=KNC-GUK-GEN-SHOPPING-PLA&gad_source=1&gclid=Cj0KCQiAkoe9BhDYARIsAH85cDPtzdU1cQu0uXCkjbNMVzQNMTgQdhRkHwHoLn56JK7u0KZnKcd7t9MaAiNyEALw_v			
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