

Bill of Materials
Control System for Electric Motorcycle
Cole Fuerth

<u>Description</u>	<u>Qty</u>	<u>Price per unit</u>	<u>Subtotal</u>	<u>Supplier</u>
YZ125 Dirtbike (Used)	1	\$ 360.00	\$ 360.00	Facebook Marketplace
324 18650 batteries, 4s packs	1	\$ 200.00	\$ 200.00	Facebook Marketplace
15kW 100kV Brushless Motor	1	\$ 560.00	\$ 560.00	Alien Power Systems
9kW 60V EV Controller	1	\$ 550.00	\$ 550.00	Alien Power Systems
Hall Effect Throttle	1	\$ 10.00	\$ 10.00	Alien Power Systems
150A shunt	1	\$ 30.00	\$ 30.00	Digikey
Handlebar Controls (L&R)	1	\$ 23.54	\$ 23.54	AliExpress
Fog Lights (2)	2	\$ 22.66	\$ 45.32	AliExpress
Turn Signals (4)	2	\$ 7.98	\$ 15.96	AliExpress
Arduino Mega	2	\$ 8.32	\$ 16.64	AliExpress
Nextion 3.2"	1	\$ 46.99	\$ 46.99	AliExpress
RTC	2	\$ 0.93	\$ 1.86	AliExpress
12V-5V 3A regulator	2	\$ 1.44	\$ 2.88	AliExpress
15A Shunt	1	\$ 3.02	\$ 3.02	AliExpress
18AWG Assorted Wire	1	\$ 15.20	\$ 15.20	AliExpress
sdcard reader	1	\$ 0.74	\$ 0.74	AliExpress
Arduino Mega Screw Terminal Shield	1	\$ 14.00	\$ 14.00	AliExpress
M3 Hardware Kit	1		\$ -	AliExpress
10x xt60 connectors	1	\$ 2.54	\$ 2.54	AliExpress
8CH 12V to 5V OPTO Board	2	\$ 14.59	\$ 29.18	Banggood
30pcs PCB Screw Terminals	1	\$ 6.43	\$ 6.43	Banggood
inductive proximity sensor	3	\$ 3.00	\$ 9.00	Banggood
INA126P Instrumentation Amp	8	\$ 4.80	\$ 38.40	Digikey
CA3140 Opamp	6	\$ 3.82	\$ 22.92	Digikey
Fast blow Fuse Kit	1	\$ 13.98	\$ 13.98	Amazon
6pcs Solderable 1/2 Breadboard	1	\$ 16.99	\$ 16.99	Amazon
RJ45 Jack/Breakout Board	13	\$ 2.86	\$ 37.18	Digikey
2N4424 NPN Transistor	4	\$ 0.56	\$ 2.24	Digikey
5*12 Pos terminal blocks	1	\$ 10.50	\$ 10.50	Amazon
50 ft 18awg blue wire	1	\$ 21.31	\$ 21.31	Amazon
RJ45 Screw Terminal	1	\$ 12.99	\$ 12.99	Amazon
22AWG Assorted Wire	1	\$ 21.00	\$ 21.00	Amazon
HC-05 Bluetooth serial device	1	\$ 10.99	\$ 10.99	Amazon
20ft 10AWG red/blk wire	1	\$ 21.97	\$ 21.97	Amazon
10 pair XT90	1	\$ 26.12	\$ 26.12	Amazon
800pcs Assorted Heatshrink	1	\$ 16.99	\$ 16.99	Amazon
12V horn	1	\$ 10.10	\$ 10.10	Amazon
10 pair XT60	1	\$ 23.10	\$ 23.10	Amazon
10ft 12 awg wire red/blk	1	\$ 11.97	\$ 11.97	Amazon

12V 500A Solenoid	1	\$	36.99	\$	36.99	Amazon
10' door stop foam tape	2	\$	10.82	\$	21.64	Amazon
18AWG Assorted Wire	1	\$	23.88	\$	23.88	Amazon
12/24VDC to 5V 10A converter	1	\$	22.99	\$	22.99	Amazon
8 Channel relay	8	\$	12.86	\$	102.88	Amazon
10x xt30 connectors	1	\$	11.19	\$	11.19	Amazon
Arduino Mega 16u2 interface	2	\$	10.60	\$	21.20	Banggood
Arduino Nano	3	\$	2.24	\$	6.72	Banggood
2x replacement turn signals	1	\$	13.80	\$	13.80	Banggood
Taillight	1	\$	11.92	\$	11.92	Banggood
Headlight	1	\$	40.21	\$	40.21	Banggood
65ft Cat5	2	\$	6.89	\$	13.78	Banggood
50x RJ45 rubber boots	1	\$	7.60	\$	7.60	Banggood
50x RJ45 Plug	1	\$	4.52	\$	4.52	Banggood
4-pin CB connector pair	8	\$	2.31	\$	18.48	Banggood
RJ45 Screw Terminal Male	2	\$	5.89	\$	11.78	Banggood
Cat5 Crimp tool	1	\$	16.08	\$	16.08	Banggood
Subtotal of Bike Components				\$	1,680.00	
Subtotal of Capstone Components				\$	967.71	
Grand Total				\$	2,647.71	