	Part	Description	Price	Quantity	OEM	URL 1	URL 2
Electrical				a, a. a. i. i. i	<u> </u>		
	NI cRIO-9024	Real-Time Controller: 800 MHz, 512 MB DRAM, 4 GB Storage	1242	1	http://www.ni.com/	http://sine.ni. com/nips/cds/view/p	N/A
	NI cRIO-9111	4-slot reconfigurable embedded chassis that accepts any CompactRIO I/O module	899.1	1	http://www.ni.com/	http://sine.ni.	N/A
	NI 9870	Includes 10P10C- DE9 Cables (x4) For interfacing with sensors and controlers	596	1	http://www.ni.com/	http://sine.ni.	N/A
	Microstrain 3DM- GX3® -45	3 Axis Gyroscope, 3 Axis Accelorometer, GPS	3795		http://www. microstrain.com/	http://www. microstrain. com/inertial/3dm- gx3-45#?tab=buy	N/A
	RoboteQ HBL2350	Roboteq's is a high-current, dual channel controller for the hall-sensor equipped brushless hubmotors	625	1	http://www. roboteq.com/		http://www. robotmarketplace. com/products/RTQ-
PC	ZyXEL WiFi Router	ZyXEL Wireless N Pocket Travel Router and Access Point (MWR102)	24.71	1	http://www.zyxel.		http://www. newegg. com/Product/Produc
000000000000000000000000000000000000000	Emergency Stop Switch w/ Key	For emergency and lock security	69.95	1	http://www.ia. omron.com/	http://www.digikey. com/product- search/en? mpart=A22E-MK- 02&vendor=236	http://www.omron- ap.co. in/product_info/A22l
	Yellow E-stop box	To mount E-stop	33.43	1	http://www.ia. omron.com/	http://www.digikey. com/catalog/en/part	

1-1

Note	
	8040.35
Use torque control	
setting	
Verry Handy for	
rapid testing and live feeds	
iive ieeus	
Key may be more	
trouble that it's	
worth	

	Part	Description	Price	Quantity	OEM	URL 1	URL 2
						http://www.	
						aliexpress.	
						com/item/ATV-	
						Motorcycle-	
						Motorbike-	
						Normally-Opened-	
						Break-Tether-	
						Emergency-Kill-	
						Stop-Engine-	
						Switch-Push-	
	Tether Emergency					Button-Free-	
A A	Kill Stop	For user kill cord	9	1		shipping/66108375	
P	2.1mm ID, 5.5mm					http://www.digikey.	
-	OD Male Power				http://www.	com/product-	
	Barrel	For IMU	6.67	1	switchcraft.com/	detail/en/767KS12/S	
			0.0.			http://www.digikey.	
						com/product-	
						detail/en/PTK25-	
	12V DC/DC				http://www.cui.	D24-S12-T/102-	
	converter	For IMU	80	1	com/	1161-ND/572990	
615							
				_		http://www.digikey.	
	Solid State Relay	For E-stop	120	1	com/en/	com/scripts/DkSear	com/en/Products/Ca
E. J.						hatter of the manner	hatta ///
		For VCC and VDD			http://www.	http://www.	http://www.
	Diatribution Diagle		20.00	_	http://www.	crutchfield.com/S-	streetwires.
	Distribution Block	rails 36V 500W	29.99		streetwires.com/	IWUSVG90PE0/p_2	com/products/defau
Frank .							
		Hubmotor 16x2.				http://www.	
		125 Front Tire Fork Size 96mm				http://www. aoduomotor.	
					http://www.		
	Llubmostor	Speed 320+-15	100	_		com/products.asp?	
	Hubmotor	RPM	190		aoduomotor.com/	ClassID=54	
					http://www.	http://www.	
A STATE OF THE STA	Donottoble Circuit				http://www.	powerwerx.	
10	Resettable Circuit Breaker	70 Amps	29.99	4	cooperindustries.	com/fuses-circuit-	NI/A
• •	DIEAKEI	70 Amps 1.25 amp battery	29.99	<u> </u>	com	protection/resettable http://www.	http://www.
		chargers to fully				· •	amazon.
450		charge a battery				powerwerx. com/batteries-	com/Battery-
100		and maintain a				chargers/2-bank-	Tender-022-0165-
						international-	DL-WH-12-Volt-
A 11-	Charger	proper storage voltage	85.99	1		charger.html	Management/dp/B0
29 f f	Onarger	voilage	05.99	<u> </u>		Granger.num	management/up/bu

Note	
Had to swap to Normally Closed	
Would get a shorter barrel length	
To protect IMU investment from unregulated power rial	
Would recomend a trigger voltage lower than 24v with current setup	
Great for large gauge cable	

	Part	Description	Price	Quantity	OEM	URL 1	URL 2
Provide	Tysonic Rechargeable Battery	Tysonic Non- Spillable Sealed Lead Acid (SLA/AGM) Rechargeable Battery 12V, 7.5 Ahr, Terminal Type: F2)	21.99		http://www. batteryonestop. com/baotongusa/ind	http://www. powerwerx. com/batteries- chargers/sealed- lead-acid- absorbent-glass-	N/A
Frame							
Components	80x80mm					http://download	
	aluminum	center column	18.9	1	http://www.8020. net/	http://download. 8020. net/2012 Product	
	40x80mm aluminum extrusion	junction joints	6.72	2	http://www.8020.	http://download. 8020. net/2012_Product_0	(
	40x80mm aluminum extrusion	forks	16.8		http://www.8020.	http://download. 8020. net/2012_Product_0	
	extrusion end caps		1.6		http://www.8020.	http://download. 8020. net/2012 Product	
	machining	labor for machinging by 80- 20	87.1		http://www.8020.	http://download. 8020. net/2012 Product	
	self taping cap	screw in the end caps	0.28	16	http://www.8020. net/	http://download. 8020. net/2012_Product_0	
WELLET.	end fasteners	attach joints to column	1.65	8	http://www.8020. net/	http://download. 8020. net/2012_Product_0	
	anchor fastener	attach components to frame	3.25	8	http://www.8020. net/	http://download. 8020. net/2012_Product_0	
	roll in T-nut - M4	attach components to frame	1.6	10	http://www.8020. net/	http://download. 8020. net/2012_Product_0	
VOLORIO	roll in T-nut - M5	attach components to frame	1.6		http://www.8020. net/	http://download. 8020. net/2012_Product_0	
	roll in T-nut - M6	attach components to frame	1.6		http://www.8020. net/	http://download. 8020. net/2012_Product_0	

Note	
part#: 40-8080 - cut to 300mm	
part#: 40-4080 - cut to 160mm	
part#: 40-4080 - cut to 400mm	
part# 40-2045 this was required to use official 80- 20 parts	
part# 40-3267	
part# 40-3891	
part# 40-3897	
part# 13027	
part# 13028	
part# 13031	

Part	Description	Price	Quantity	OEM	URL 1	URL 2
					http://www.	
					amazon.	
					com/Titan-45307-	
	attach components				Metric-Socket-	
bolt assortment	to frame	12.46	1	Titan	Assortment/dp/B009	
Industrial Strength	attach components to frame and other components	27.97	1		http://www.lowes. com/ProductDisplay	

Note	
purchased through amazon from Tool Liquidators part# Titan 45307	
purchased from lowes part# 20048- 90198	