

GLV List of Suggested Parts

ECE 492 Spring 2017

This list provides suggested extra parts and materials for the GLV system. This includes GLV Power, Safety Loop Vehicle User Interface, Vehicle Computer Interface, GLV PCB and mechanical parts. See the respective BOMs for information about manufacturers, suppliers, P/Ns, and unit cost. The BOMs are linked here for convenience:

- [GLV Mechanical BOM](#)
- [GLV PCB BOM](#)

System	Part Description	Amount
GLV Power	Lithium Iron Phosphate Rechargeable Lithium Battery	1
	UL Approved Battery Charger	1
Safety Loop	Circuit Breaker (15A)	1
	Circuit Breaker (8A)	1
Vehicle User Interface	22MMHW Series Emergency Stop Switches	2
	Momentary Push Button (Non-Illuminated)	2
	24V Panel Mount Indicator (Green)	3
	24V Panel Mount Indicator (Red)	2
	Tractive System Energized Light	1
	GLV Enclosure Millimeter Display	1
Vehicle Computer Interface	Raspberry Pi 3B	1
	Raspberry Pi Display	1

GLV PCB	Q1: MOSFET P-CH 50V 130MA SOT-23	1
	U2: IC ADC I/O PORT (ADC/DAC & Temperature sensor I2C)	1
	U3: IC LOAD SW HIGH SIDE 6SOT (IC Switch)	1
	U4: IC MONITOR PWR/CURR BIDIR 10MSOP (Current Monitor)	1
	U5: OPTOISO 3.75KV 2CH DARLING 8DIP (Opto-Isolator)	1
	U6: IC OPAMP GP 1MHZ RRO 14DIP (Quad Op-Amp)	1
	C1-C4: CAP CER 0.1uF $\pm 10\%$ 50V X7R 0805	4
	C5: CAP CER 0.1uF $\pm 20\%$ 50V X7R 0805	1
	R1, R4, R5, R11-R19: 10K Ω Resistor	12
	R9, R10: 1K Ω Resistor	2
	R7, R8: 250 Ω Resistor	2
	R20: 200 Ω Resistor	1
	R6: 120 Ω Resistor	1
	R3: .001 Ω Resistor	1
Mechanical	Alloy Steel Socket Head Screws (10-24)	2
	Rack mount screws (10-32)	2
	Press Fit Nuts for sheet metal (10-32)	1
	Press Fit Nuts for sheet metal (2-56)	2
	Nylon unthreaded spacers	4
	Steel Phillips Screws 10-32	2
	Steel Phillips Screws 2-56	2
	M5 by 0.8mm Hex Head Screws	2
	8-32 Steel Phillips Rounded Head Screws	8