



Pin	Color	Signal
1	GRN	24VDC +
2	BLK	LV RTN
1	GRN	5VDC +
2	BLK	LV RTN
3	WHT	CHGND
1	GRN	BRBLS
2	BLK	BRBLS RTN
1	WHT	SL1
2	BRN	SL2
3	RED	AIRs+
4	BLK	AIRs-
1	Jumper wire	between pins 1&2
2	AIRs+	
4	AIRs-	
1	ORG	TSV HV

Pin	Color	Signal
1	PNK	Throttle 5V
2	BLK	Throttle
3	BLU	Throttle RTN
4	ORG	FWD Signal
5	BRN	KSI
6	GRN	GIGAVAC Coil
7	WHT	Coil Return
8	PNK/BLK	REV Signal
9	WHT/BLK	I/O Gnd
10	BRN	+12V
11	YEL	CAN H
12	GRN	CAN L
1	RED	5V +
2	BLK	GND
3	GRN	Encoder B
4	WHT	Encoder A
5	BLU	GND
6	BRN	Motor Temp.
1	RED	+12V
2	BLK	I/O GND
3	GRN	RX Serial (MC)
4	WHITE	TX Serial (MC)
1	PNK	Select button
2	BLK	Scroll button
3	BLU	Cruise button
4	ORG	BRB
5	WHT	BRB RTN
6	GRN	CPR
7	WHT/BLK	CPR RTN
8	PNK/BLK	GLV Present LED
9	GRN/BLK	SL LED
10	ORG/BLK	Fault LED
11	BLU/BLK	AIRs LED
12	BLK/WHT	GLV RTN

Pin	Color	Signal
1	WHT	Brake Light
2	BLK	Brake Light RTN
3	WHT	TSAL Left
4	BLK	TSAL Left RTN
5	WHT	SPARE
6	BLK	SPARE
7	WHT	RTDS
8	BLK	RTDS RTN
1	PNK	Brake 24VDC +
2	BLK	Brake 24VDC +
3	BLU	Brake Pressure
4	ORG	Brake Over-Travel
5	WHT	APPS 1 10VDC +
6	GRN	APPS 1 Signal
7	WHT/BLK	APPS 1 RTN
8	PNK/BLK	APPS 2 5VDC +
9	GRN/BLK	APPS 2 Signal
10	ORG/BLK	RTN GLV
11	BLU/BLK	BOT RTN
12	BLK/WHT	Spare
1	BLK	LV GND
2	PNK	IMD Fault LED
3	BLU	+5LV (Spare)
4	ORG	From Drive Button
5	WHT	Drive LED
6	GRN	HV Present LED
7	PNK/BLK	Cruise LED
8	WHT/BLK	HVPL_RTN
1	WHT	LV GND
2	BLK	SSOK

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1	WHT	Brake Light
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3	WHT	TSAL Left
4	BLK	TSAL Left RTN
5	WHT	SPARE
6	BLK	SPARE
7	WHT	RTDS
8	BLK	RTDS RTN
1	PNK	Brake 24VDC +
2	BLK	Brake 24VDC +
3	BLU	Brake Pressure
4	ORG	Brake Over-Travel
5	WHT	APPS 1 10VDC +
6	GRN	APPS 1 Signal
7	WHT/BLK	APPS 1 RTN
8	PNK/BLK	APPS 2 5VDC +
9	GRN/BLK	APPS 2 Signal
10	ORG/BLK	RTN GLV
11	BLU/BLK	BOT RTN
12	BLK/WHT	Spare
1	BLK	LV GND
2	PNK	IMD Fault LED
3	BLU	+5LV (Spare)
4	ORG	From Drive Button
5	WHT	Drive LED
6	GRN	HV Present LED
7	PNK/BLK	Cruise LED
8	WHT/BLK	HVPL_RTN
1	WHT	LV GND
2	BLK	SSOK

Pin	Color	Signal
1	YEL	CAN H
2	GRN	CAN L
3	BARE	SHIELD
4	GRN	CHGND
5	WHT	24VDC
6	BLK	24V RTN
1	120 Ohm	termination resistor
1	WHT	Safety Circuit
2	ORG	Safety Circuit RTN
3	PNK	MRESET
4	GRN	MRESET RTN
5	BLU	TSVMS
6	BLK	TSVMS RTN
1	PNK	CHGND
1	GRN	TX
2	YEL	RX
3	BARE	REF
1	WHT	Tachometer
2	ORG	Strain gauge
3	PNK	Throttle
4	GRN	Throttle RTN
5	BLU	Solenoid
6	BLK	Solenoid RTN
1	YEL	24V
2	BLK	24V RTN

- Color Codes**
- HV shielded battery
 - Six pin CAN and ground
 - Safety Loop
 - 16/10 & 20/2 CanBus
 - USB to Micro USB
 - HDMI
 - Water Tube
 - 16/8 with tab connection

Items for Dyno only

EDITED BY Drew Carleton	LAFAYETTE Lafayette College Easton, Pa ECE Department
DRAWN BY Greg Flynn	
APPROVED BY ECE	TITLE LFEV CAR ELECTRICAL SYSTEM DIAGRAM
APPROVED BY ME	SIZE DWG NO ASSIGNMENT REV F TOP LEVEL SENIOR DESIGN II 3.0.2
DATE 2018 - 10 - 02	COURSE SHEET TOP LEVEL 1 OF 1