Pin	Color	Signal
1	GRN	24VDC +
2	BLK	LV RTN

P1 DT06-2S — W1 GLV Power 12/3 Cable — P2 DT06-2S

Pin	Color	Signal
1	GRN	24VDC +
2	BLK	LV RTN

Pin	Color	Signal
1	GRN	5VDC +
2	BLK	LV RTN
3	WHT	CHGND

P1 DT06-3S — W2 GLV Power 12/3 Cable — Crimp Conn.

Pin	Color	Signal
1	GRN	5VDC +
2	BLK	LV RTN
3	WHT	CHGND

Pin	Color	Signal
1	GRN	BRBLS
2	BLK	BRBLS RTN

P1 DT06-2S — W3 BRBLS 12/2 Cable — Crimp Conn.

Pin	Color	Signal
1	GRN	BRBLS
2	BLK	BRBLS RTN

Pin	Color	Signal
1	WHT	SL1
2	BRN	SL2
3	RED	AIRs+
4	BLK	AIRs-
1	Jumper wire	
2	between pins 1&2	
3	AIRs+	
4	AIRs-	

P1 DT06-4S — W6 Safety Loop 16/4 Cable — P2 DT06-4S

P1 DT06-4S — W7 Safety Loop 16/1 Cable

Tractive System HV — W11 — 2/0 Battery Cable — 3/8 Ring Conn. — 3/8 Ring Conn.

Pin	Color	Signal
1	WHT	SL1
2	BRN	SL2
3	RED	AIRs+
4	BLK	AIRs-

Pin	Color	Signal
1	GRN	24VDC +
2	BLK	LV RTN

Pin	Color	Signal
1	RED	TSV HV

Tractive System HV — W12 — 2/0 Battery Cable — 3/8 Ring Conn. — P2 PL28W-301-70

Pin	Color	Signal
1	RED	TSV HV

Pin	Color	Signal
1	RED	TSV HV

Tractive System HV — W13 — 2/0 Battery Cable — 3/8 Ring Conn. — P1 PL28X-301-70

Pin	Color	Signal
1	RED	TSV HV

Pin	Color	Signal
1	RED	TSV HV

P2 PL28X-301-70 — W15 Tractive System HV — 2/0 Battery Cable — P1 3/8 Ring Conn.

Pin	Color	Signal
1	RED	TSV HV

Pin	Color	Signal
1	BLK	ENB
2	WHT	RTN

P1 DT06-2S — W18 TSV power supply enable 16/2 — P2 37-Pin D Conn.

Pin	Color	Signal
26	BLK	ENB
19	WHT	RTN

P1 — W20 USB — P2

Pin	Color	Signal
1		

Pin	Color	Signal
1	RED	TSV HV

Pin	Color	Signal
1	RED	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

Connect: Throttle 5V (1<->15/PNK) 5V+ (1<->26/RED)

P1 DT06-12SA — W21 — 16/8 & 2x16/1 — P2 35-Pin Motor Cont. Conn.

20/2 Can bus

Encoder/Temp.

P3 DT06-6S — 22/6 Cable

Pin	Color	Signal
1	RED	5V +
2	BLK	GND
3	GRN	Encoder B
4	WHT	Encoder A
5	BLU	GND
6	BRN	Motor Temp.

Pin	Color	Signal
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

P1 DT06-12SA — W22 Control System 16/12 Cable — Crimp Conn.

Pin	Color	Signal
15	PNK	Throttle 5V
16	BLK	Throttle
18	BLU	Throttle RTN
22	ORG	FWD Signal
1	BRN	KSI
6	GRN	GIGAVAC Coil
13	WHT	Coil Return
33	PNK/BLK	REV Signal
7	WHT/BLK	I/O Gnd
25	BRN	+12V
23	YEL	CAN H
35	GRN	CAN L
26	RED	5V +
7	BLK	GND
32	GRN	Encoder B
31	WHT	Encoder A
7	BLU	GND
8	BRN	Motor Temp

Pin	Color	Signal
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	TSAL Right
6	BLK	TSAL Right RTN
7	WHT	RTDS
8	BLK	RTDS RTN

P1 DT06-8SA — 4 x 16/2 Cable — Control System — W23 — 8/32 Ring Conn.

These cables come out of the same jack but go to different places

Pin	Color	Signal
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	Spare
12	BLK/WHT	Spare

P1 DT06-12S — W24 Control System 16/12 Cable — Misc. Conn.

Pin	Color	Signal
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

P1 DT06-8S — W25 Control System 16/8 Cable — Crimp Conn.

Pin	Color	Signal
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

Pin	Color	Signal
1	WHT	LV GND
2	BLK	SSOK

P1 DT06-2S — W28 SSOK 16/2 Cable — 8/32 Ring Conn.

Pin	Color	Signal
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

DT06-6S — W31 SCADA 20/3 CanBus Cable — P2 DT06-6S

GLV Power 12/3 Cable

P1 DT06-6S — W32 SCADA

Pin	Color	Signal
1	YEL	CAN H
2	GRN	CAN L
3	BARE	SHIELD
4	GRN	CH
5	WHT	24VDC
6	BLK	24V RTN

1	120 Ohm
2	termination resistor
3	
4	
5	
6	

Pin	Color	Signal
1	WHT	Safety Circuit
2	ORG	Safety Circuit RTN
3	PNK	MRESET
4	GRN	MRESET RTN
5	BLU	TSVMS
6	BLK	TSVMS RTN

P1 DT06-6S — W33 Right side panel 16/6 Cable — Crimp Conn.

Pin	Color	Signal
1	WHT	GLVMS
2	ORG	ESTOP RTN
3	PNK	MRESET
4	GRN	MRESET RTN
5	BLU	TSVMS
6	BLK	TSVMS RTN

Pin	Color	Signal
1	PNK	CHGND

8/32 Ring Conn. — W34 CHGND 12/1 Cable — 8/32 Ring Conn.

Pin	Color	Signal
1	PNK	CHGND

Pin	Color	Signal
1	GRN	TX
2	YEL	RX
3	BARE	REF

P1 DT06-3S — W35 UART 16/3 CanBus Cable — P2 DT06-3S

Note the change of color TXs cable is a crossover

Pin	Color	Signal
1	YEL	TX
2	GRN	RX
3	BARE	REF

Pin	Color	Signal
1	WHT	Tachometer
2	ORG	Strain gauge
3	PNK	Throttle
4	GRN	Throttle RTN
5	BLU	Solenoid
6	BLK	Solenoid RTN

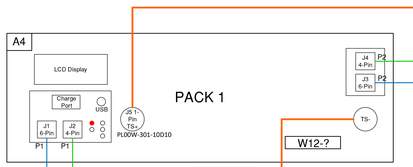
P1 DT06-6S — W36 Motor connector 16/6 Cable — Crimp Conn.

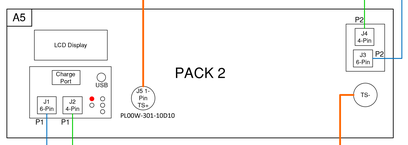
Pin	Color	Signal
1	WHT	Tachometer
2	ORG	Strain gauge
3	PNK	Throttle
4	GRN	Throttle RTN
5	BLU	Solenoid
6	BLK	Solenoid RTN

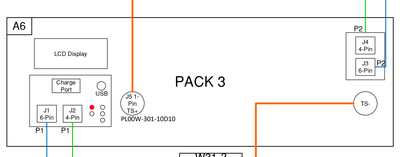
Pin	Color	Signal
1	YEL	24V
2	BLK	24V RTN

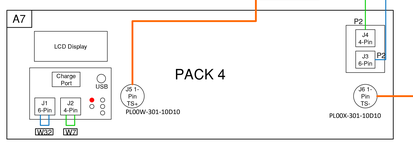
P1 DT06-8S — W38 Pump power 12/2 Cable — P1 39-01-4043

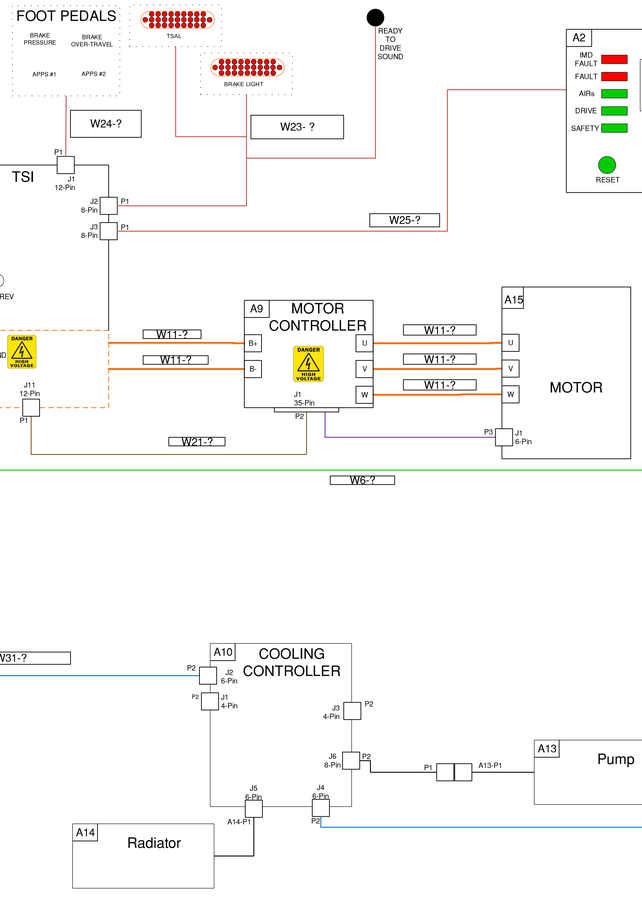
Pin	Color	Signal
1	YEL	24V
2	BLK	24V RTN

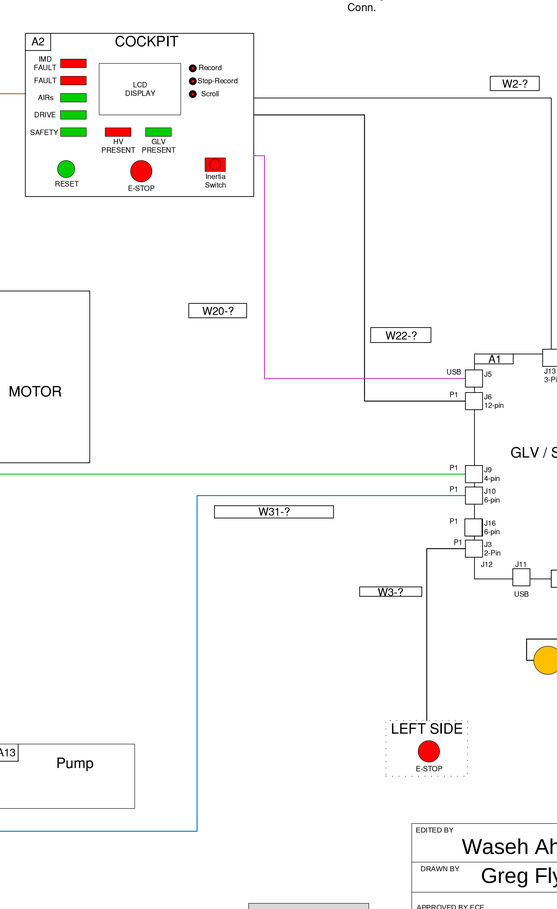












Items for Dyno only

EDITED BY	Waseh Ahmad
DRAWN BY	Greg Flyn
APPROVED BY ECE	
APPROVED BY ME	
DATE	2018 - 03 – 16

LAFAYETTE

Lafayette College
Easton, Pa
ECE Department

TITLE: LFEV CAR ELECTRICAL SYSTEM DIAGRAM

SIZE	DWG NO	ASSIGNMENT	REV
F	TOP LEVEL	SENIOR DESIGN II	1.6

COURSE	SHEET
TOP LEVEL	1 OF 1