



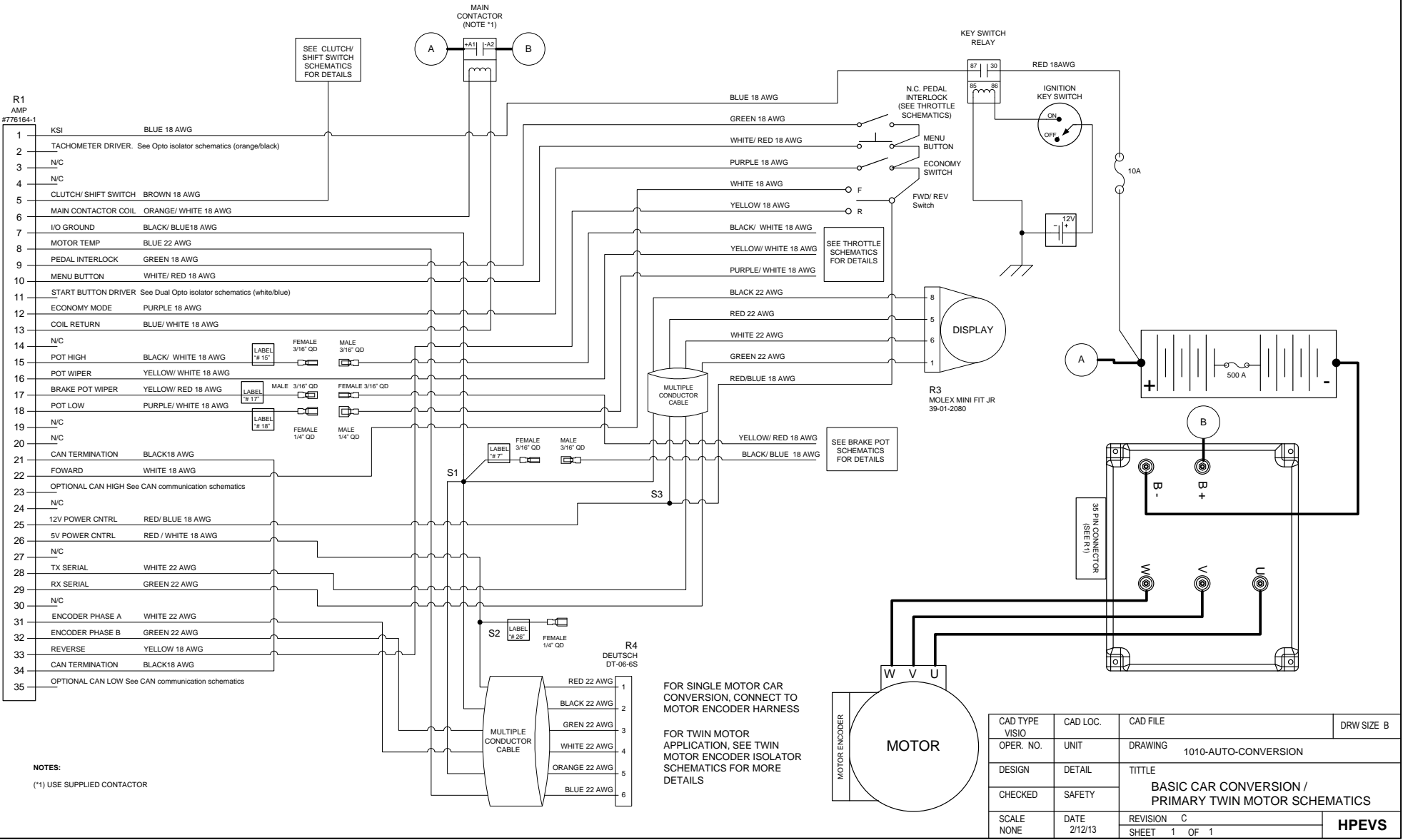
**1551 S. Vineyard Avenue
Ontario, CA 91761
(909) 923-1973**

WIRING SCHEMATICS

BASIC AUTOMOTIVE CONVERSION

**REVISION: C
Date 3/22/2013**

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FOR SINGLE MOTOR CAR
CONVERSION, CONNECT TO
MOTOR ENCODER HARNESS

FOR TWIN MOTOR
APPLICATION, SEE TWIN
MOTOR ENCODER ISOLATOR
SCHEMATICS FOR MORE
DETAILS

CAD TYPE	CAD LOC.	CAD FILE	DRW SIZE
VISO	UNIT	DRAWING	B
OPER. NO.	1010-AUTO-CONVERSION		
DESIGN	DETAIL	TITLE	
CHECKED	SAFETY	BASIC CAR CONVERSION / PRIMARY TWIN MOTOR SCHEMATICS	
SCALE	DATE	REVISION	
NONE	2/12/13	C	
		SHEET	1 OF 1

HPEVS

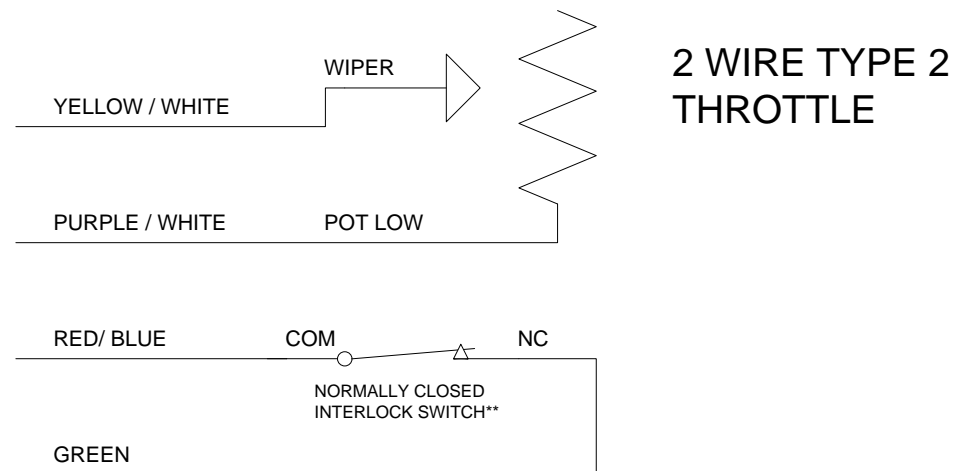
THROTTLE CONFIGURATION

Depending of the type of throttle used for the application, see below table to determine the appropriate connection. Electrical schematics are also included in page 4 through 6.

THROTTLE CONFIGURATION	TYPE	ELECTRICAL CONNECTIONS
2 WIRE with SWITCH 0-5k Ω	TYPE 2	<p>Connect PURPLE / WHITE wire labeled #18 with PURPLE / WHITE wire. Ending connection at throttle pot low.</p> <p>YELLOW / WHITE wire connected to throttle wiper</p>
3 WIRE with SWITCH 0-5k Ω	TYPE 3	<p>Connect BLACK / WHITE wire labeled #15 with BLACK/ WHITE wire. Ending connection at throttle pot high.</p> <p>Connect PURPLE / WHITE wire labeled #18 WITH PURPLE / WHITE wire. Ending connection at throttle pot low.</p> <p>Connect YELLOW / WHITE wire connected to throttle wiper.</p>
ELECTRONIC without SWITCH	TYPE 1	<p>Disconnect any wire connected to BLACK/WHITE wire labeled #15.</p> <p>Disconnect any wire from PURPLE/ WHITE wire labeled #18.</p> <p>Connect BLACK /BLUE WIRE LABELED #7 with BLACK/ BLUE wire. Ending connection at electronic throttle ground.</p> <p>Connect RED/ WHITE wire labeled #26 with PURPLE / WHITE wire. Ending connection at throttle +5V input.</p> <p>Connect YELLOW / WHITE wire to electronic throttle signal.</p>

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REVISIONS		
REV	DESCRIPTION	APPROVED
A	INITIAL RELEASE	1/22/2013

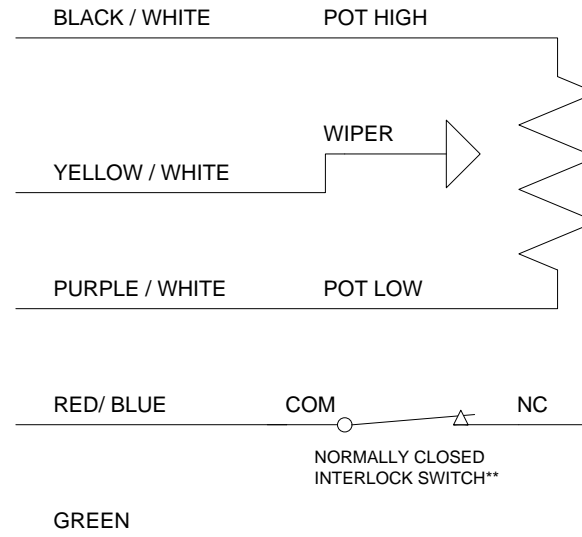


** When accelerator pedal IS PRESSED the interlock switch is released to its NORMAL position (switch not activated) thus completing the circuit since its green wire is connected to the normally closed (NC) connection.

CAD TYPE VISIO	CAD LOC.	CAD FILE	DRW SIZE A
OPER. NO.	UNIT	DRAWING 1010-THROTTLE-001	
DESIGN	DETAIL	TITLE 2 WIRE TYPE 2 THROTTLE	
CHECKED	SAFETY		
SCALE NONE	DATE 1/22/13	REVISION A SHEET 1 OF 3	HPEVS

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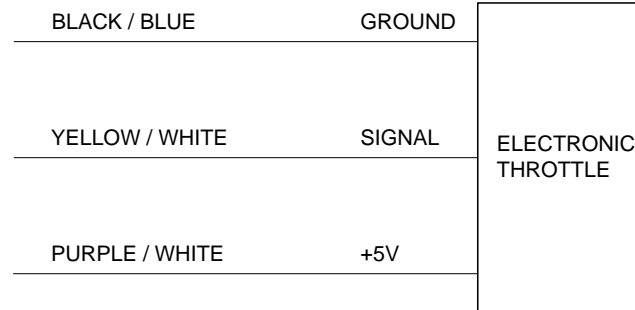
3 WIRE TYPE 3 THROTTLE

****** When accelerator pedal IS PRESSED the interlock switch is released to its NORMAL position (switch not activated) thus completing the circuit since its green wire is connected to the normally closed (NC) connection.

CAD TYPE VISO	CAD LOC.	CAD FILE	DRW SIZE A
OPER. NO.	UNIT	DRAWING 1010-THROTTLE-001	
DESIGN	DETAIL	TITLE	
CHECKED	SAFETY	3 WIRE TYPE 3 THROTTLE	
SCALE NONE	DATE 1/22/13	REVISION A SHEET 2 OF 3	HPEVS

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ELECTRONIC THROTTLE**

** When Electronic pedal is used, the GREEN wire from pedal interlock does not need to be connected

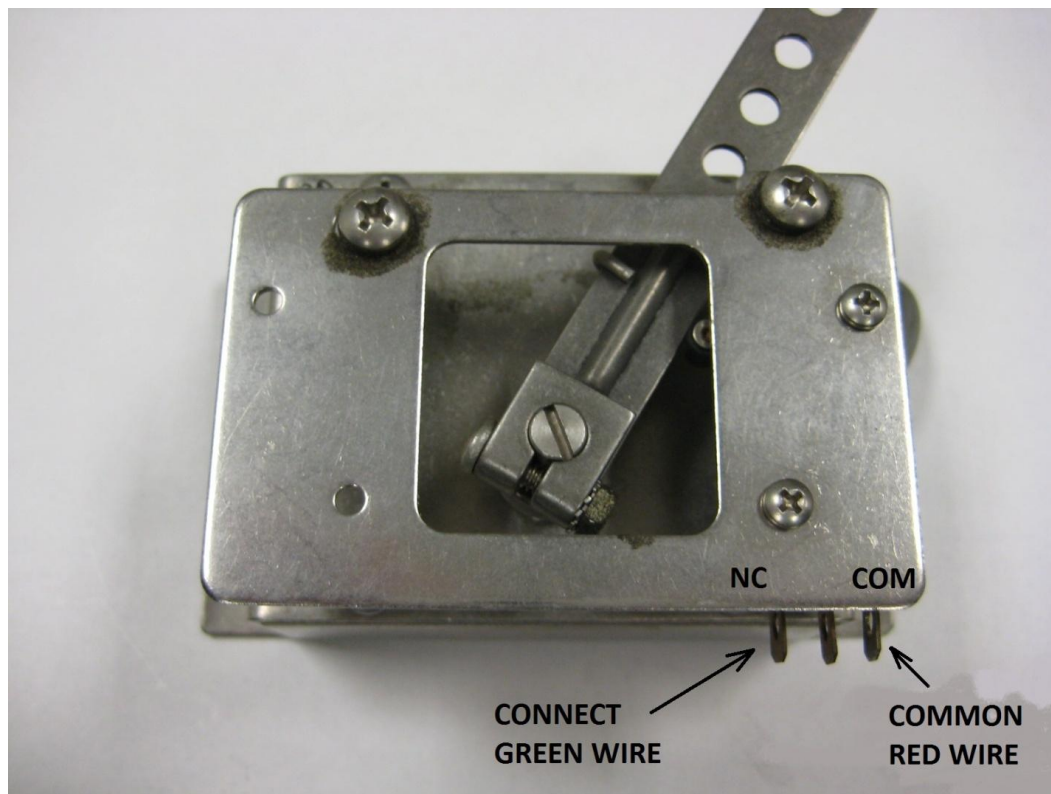
CAD TYPE VISO	CAD LOC.	CAD FILE	DRW SIZE A
OPER. NO.	UNIT	DRAWING 1010-THROTTLE-001	
DESIGN	DETAIL	TITLE	
CHECKED	SAFETY	ELECTRONIC THROTTLE	
SCALE NONE	DATE 1/22/13	REVISION A SHEET 3 OF 3	HPEVS

PEDAL INTERLOCK CONNECTION

The pedal interlock connection is required for both 2 and 3 wire throttle pot assemblies. The Green wire is connected at Normally Closed tab. Red wire is connected at common tab. See below picture.

NOTE, when accelerator pedal IS PRESSED the interlock switch is released to its NORMAL position (switch not activated) thus completing the circuit since its green wire is connected to the normally closed (NC) connection.

Electronic throttles usually do not have an interlock switches. In this application, the Green and Red wires are connected together.



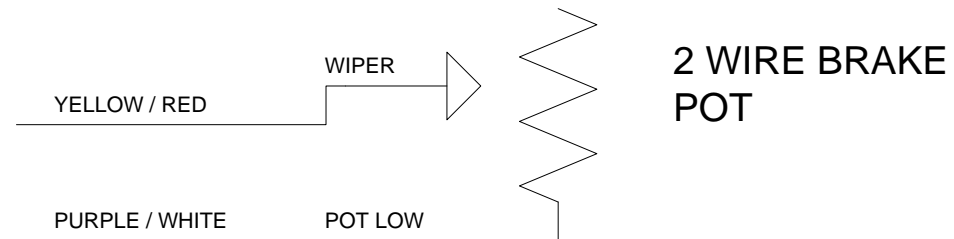
BRAKE POT CONFIGURATION

Depending of the type of brake pot used for the application, see below table to determine the appropriate connection. Electrical schematics are also included in page 9 & 10.

BRAKE POT CONFIGURATION	TYPE	ELECTRICAL CONNECTIONS
2 WIRE with SWITCH 0-5k Ω	TYPE 2	<p>Connect PURPLE / WHITE wire labeled #18 with PURPLE / WHITE wire. Ending connection at brake pot low.</p> <p>Connect YELLOW / RED wire labeled #17 with wire YELLOW/ RED wire. Ending connection at brake wiper.</p>
BRAKE TRANSDUCER	TYPE 1	<p>Connect RED/ BLUE wire to brake transducer +12V input.</p> <p>Connect BLACK/ BLUE wire labeled #7 with Black/BLUE wire. Ending connection at brake transducer ground.</p> <p>Connect YELLOW / RED wire labeled #17 with wire YELLOW/ RED wire. Ending connection at brake transducer output signal.</p>

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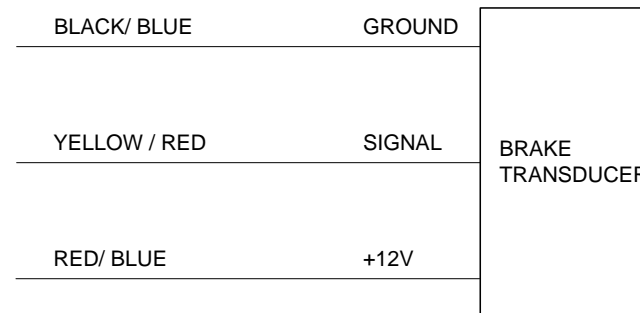
REVISIONS		
REV	DESCRIPTION	APPROVED
A	INITIAL RELEASE	2/19/2013



CAD TYPE VISIO	CAD LOC.	CAD FILE	DRW SIZE A
OPER. NO.	UNIT	DRAWING 1010-BRAKE-001	
DESIGN	DETAIL	TITLE 2 WIRE BRAKE	
CHECKED	SAFETY		
SCALE NONE	DATE 2/19/13	REVISION A SHEET 1 OF 2	HPEVS

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A	INITIAL RELEASE	2/19/2013



**BRAKE
TRANSDUCER**

CAD TYPE VISIO	CAD LOC.	CAD FILE	DRW SIZE A
OPER. NO.	UNIT	DRAWING 1010-BRAKE-001	
DESIGN	DETAIL	TITLE BRAKE TRANSDUCER	
CHECKED	SAFETY		
SCALE NONE	DATE 2/19/13	REVISION A SHEET 2 OF 2	HPEVS

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REV	DESCRIPTION	APPROVED
A	INITIAL RELEASE	2/18/2013

CONTROLLER CONNECTOR (NOTE*1)

Pin	Signal	Wire Color
2	TACHOMETER SIGNAL	ORANGE/ BLACK 18 AWG
5	CLUTCH SWITCH SIGNAL	BROWN 18AWG
7	I/O GROUND	BLACK/ BLUE 18AWG
11	START INPUT	WHITE/ BLUE 18 AWG
25	12V POWER CNTRL	RED/ BLUE 18 AWG

R1 AMP #776164-1

OEM CLUTCH SWITCH, SHIFT SWITCH, OR USER SUPPLIED SWITCH. (*2)

OEM START INPUT (*3)

OEM KEY ON INPUT (*3)

IGNITION KEY SWITCH

12V

TACHOMETER

OEM TACH INPUT

RED 18 AWG

BLUE BLACK 18 AWG

GREEN 18 AWG

BLACK 18 AWG

BLACK 18 AWG

RED/ BLUE 18 AWG

RED/ BLUE

S1

S2

Double Channel I/O Isolator

NOTE:
 (*1) Other electrical connections and system components are not displayed in this page.
 (*2) Switch closed when pedal is pressed or when shifting

IF OEM CLUTCH SWITCH IS USED, THE CIRCUIT MAY NEED TO BE RE-CONNECTED

(*2) Switch closed when pedal is pressed or when shifting switch is pressed with clutch-less setup.
For vehicles equipped with clutch switch, disconnect the OEM wiring and reconnect it per the schematics.

- 1 - CHANNEL 1 CONTROLLER 12V
- 2 - CHANNEL 1 TACHOMETER SIGNAL
- 3 - CHANNEL 1 GROUND
- 4 - CHANNEL 1 VEHICLE 12V
- 5 - CHANNEL 1 OUTPUT TO TACHOMETER
- 6 - CHANNEL 2 IGNITION KEY INPUT
- 7 - CHANNEL 2 GROUND
- 8 - CHANNEL 2 CONTROLLER I/O GROUND
- 9 - CHANNEL 2 CONTROLLER 12V
- 10 - CHANNEL 2 CONTROLLER START INPUT

CAD TYPE VISIO	CAD LOC.	CAD FILE		DRW SIZE B
OPER. NO.	UNIT	DRAWING 1010-clutch-001		
DESIGN	DETAIL	TITLE Clutch schematics		
CHECKED	SAFETY			
SCALE NONE	DATE 2/18/13	REVISION A		HPEVS
		SHEET 1 OF 1		