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WIRING SCHEMATICS

**FOR SOFTWARE VERSIONS 320.46 AND
HIGHER**

FOR CURTIS 1239 CONTROLLER

MARINE CONVERSION

FOR DUAL MOTOR

APPLICATION

REVISION: A
Date 6/30/15

REVISIONS		
REV	DESCRIPTION	APPROVED
A	Initial Release	10/ 28/ 2014



(*1) Use supplied Contactor (GIGAVAC Part #GV200PA-1). Use only a Contactor WITHOUT PWM AND COIL SUPPRESSION. FAILURE TO DO SO CAN CAUSE CONTROLLER FAILURE AND WILL VOID WARRANTY.

(*2) Use supplied Pre-Charge Resistor and Relay (Tyco Electronics Part # T9AP1D52-12). For Coil connection, connect to small terminals.

(*3) Start switch is required if Idle parameters are enabled. See Programming Instructions. A start switch can be used without idle. See programming instructions for information

(*4) Gives access to Drive System information.

(*5) Forward is CLOCKWISE motor rotation from encoder end view. Depending on Transmission configuration, use white wire for forward rotation and yellow wire for reverse rotation. Use FWD & REV Switch in direct drive applications.

(*6) Use Pack Fuse rated at 400A for Single controller applications. For Dual controller use 800A Pack Fuse.

(*7) Only for Dual motor application. Use Controller Fuse rated at 400A for each controller.

CAD TYPE VISIO	APPLICABLE SOFTWARE	Version 340.46		
UNIT NONE	DRAWING	1010-BOAT-PRI		
DRW SIZE A	TITLE	1239 CONTROLLER MARINE PRIMARY DUAL MOTOR SCHEMATICS		
DATE 10/28/14				
SUPPLIER PART				
SCALE none	SHEET 1 OF 1	REVISION	A	HPEVS

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DUAL MOTOR – 1239 CONTROLLER SECONDARY MOTOR SCHEMATICS

REVISIONS		
REV	DESCRIPTION	APPROVED
A	Initial Release	10/28/2014

NOTES:

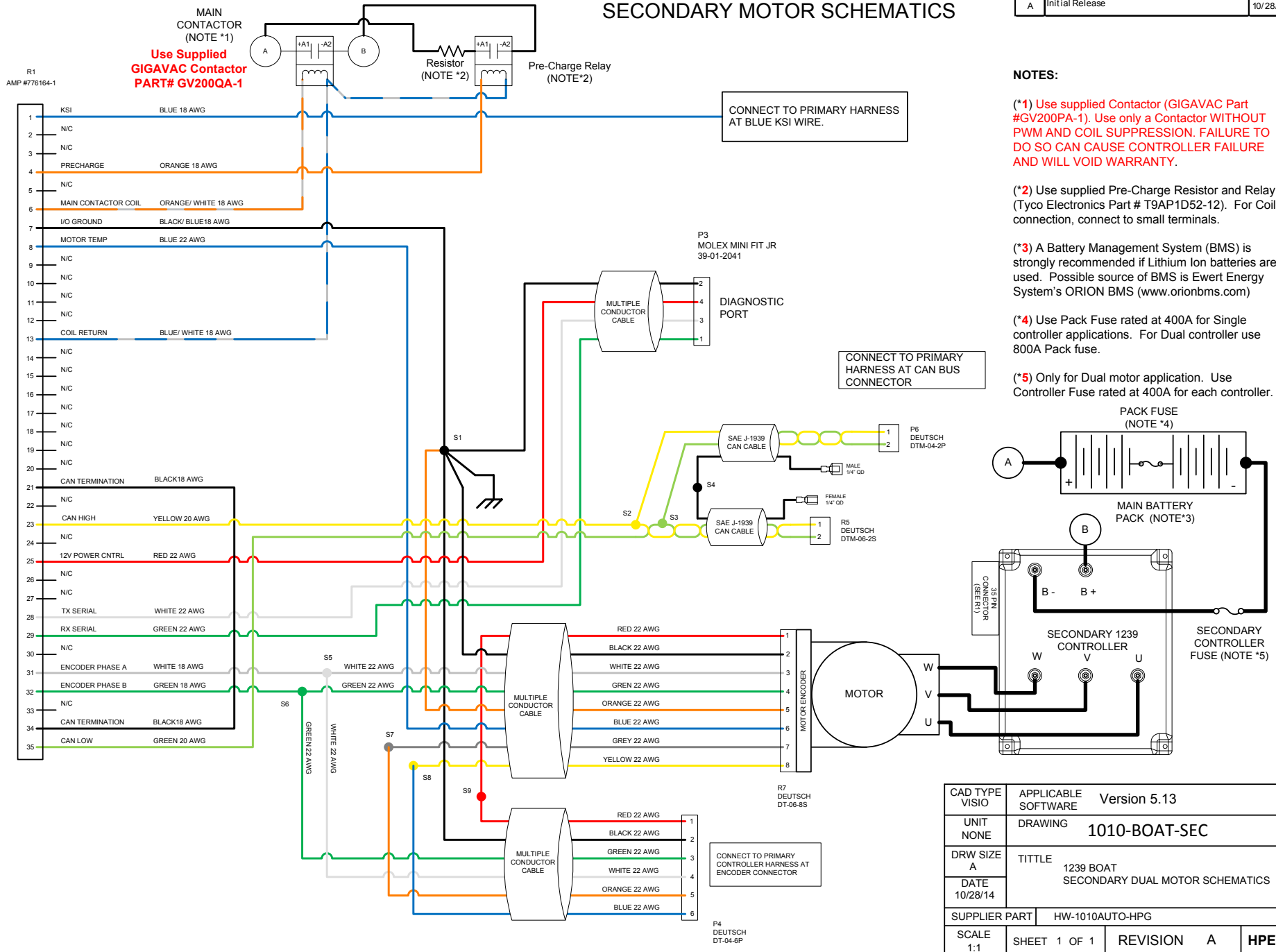
(*1) Use supplied Contactor (GIGAVAC Part #GV200PA-1). Use only a Contactor WITHOUT PWM AND COIL SUPPRESSION. FAILURE TO DO SO CAN CAUSE CONTROLLER FAILURE AND WILL VOID WARRANTY.

(*2) Use supplied Pre-Charge Resistor and Relay (Tyco Electronics Part # T9AP1D52-12). For Coil connection, connect to small terminals.

(*3) A Battery Management System (BMS) is strongly recommended if Lithium Ion batteries are used. Possible source of BMS is Ewert Energy System's ORION BMS (www.orionbms.com)

(*4) Use Pack Fuse rated at 400A for Single controller applications. For Dual controller use 800A Pack fuse.

(*5) Only for Dual motor application. Use Controller Fuse rated at 400A for each controller.

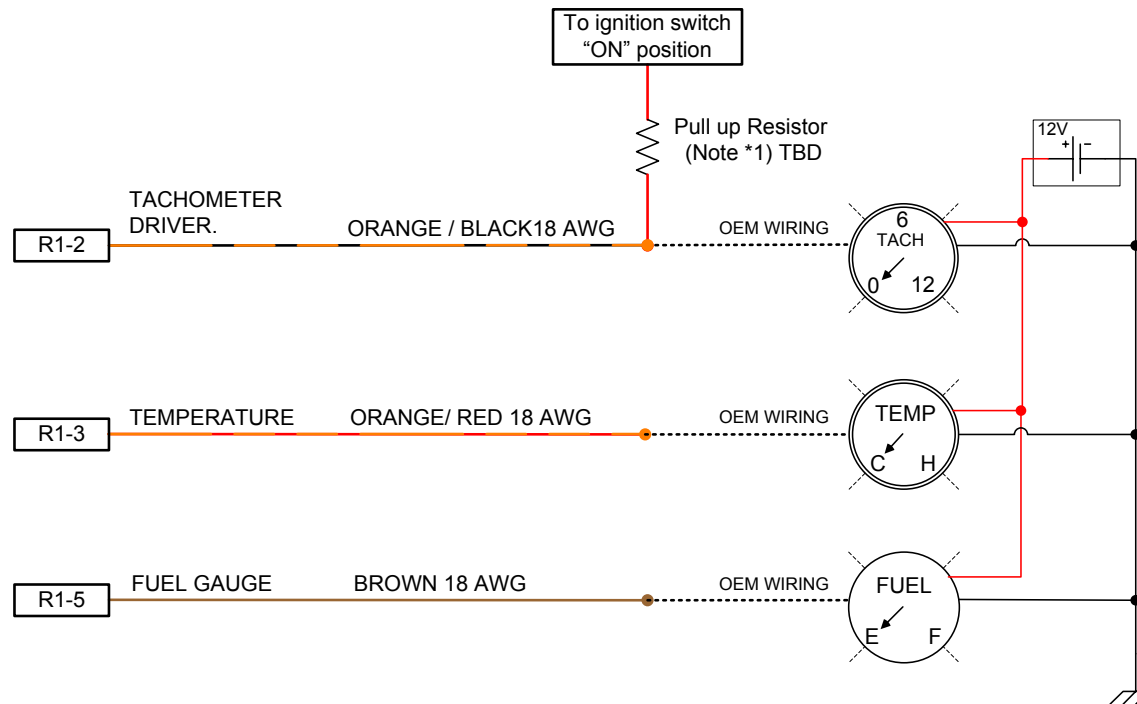


CAD TYPE	VISIO	APPLICABLE SOFTWARE	Version 5.13
UNIT	NONE	DRAWING	1010-BOAT-SEC
DRW SIZE	A	TITLE	1239 BOAT SECONDARY DUAL MOTOR SCHEMATICS
DATE	10/28/14	SUPPLIER PART	HW-1010AUTO-HPG
SCALE	1:1	SHEET	1 OF 1
REVISION	A	HPEVS	

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A	Initial Release	10/28/2014

GAUGE CONNECTION SCHEMATIC



NOTES:

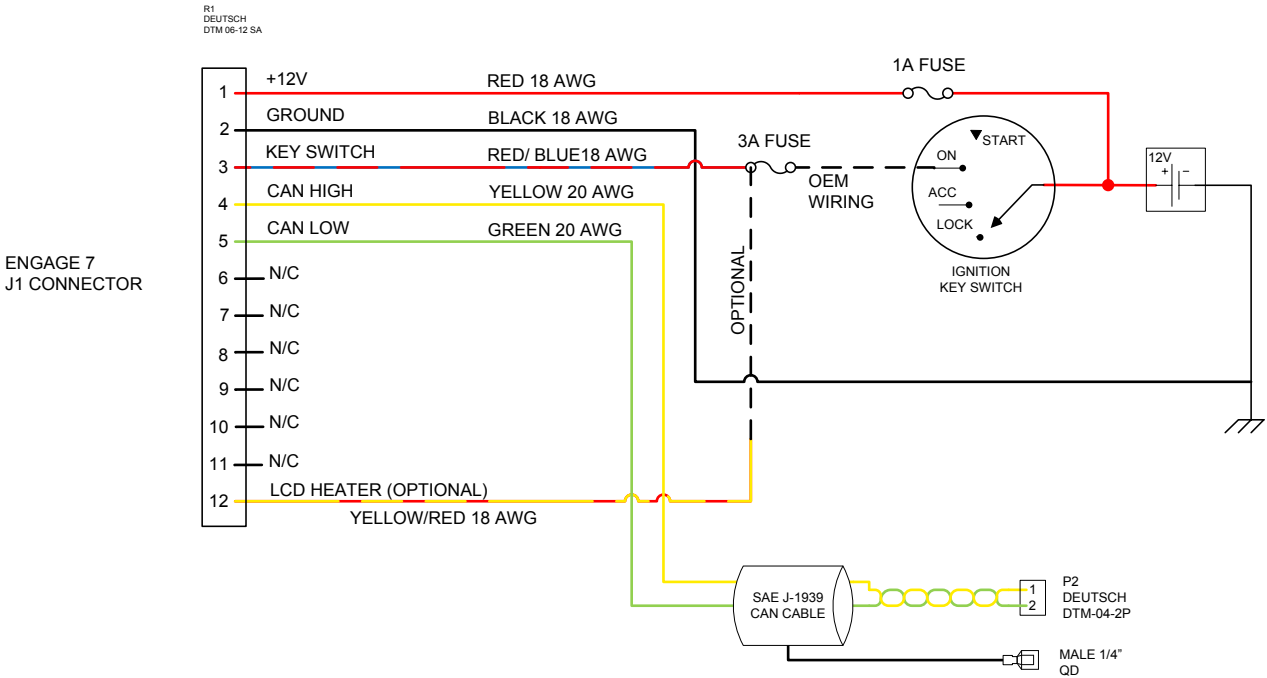
(*1) Tachometers that are designed to Work off of an ignition coil may not f in function in this application. Some Tachometers may need a pull up resistor of 4.7K Ω

CAD TYPE VISIO	APPLICABLE SOFTWARE Version 320.46		
UNIT NONE	DRAWING 1010-BOAT-PRI		
DRW SIZE A	TITLE 1239 CONTROLLER MARINE GAUGES		
DATE 10/28/14			
SUPPLIER PART			
SCALE none	SHEET 1 OF 1	REVISION A	HPEVS

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REV	DESCRIPTION	APPROVED
A	Initial Release	1/5/2015

ENGAGE 7 CONNECTION SCHEMATIC

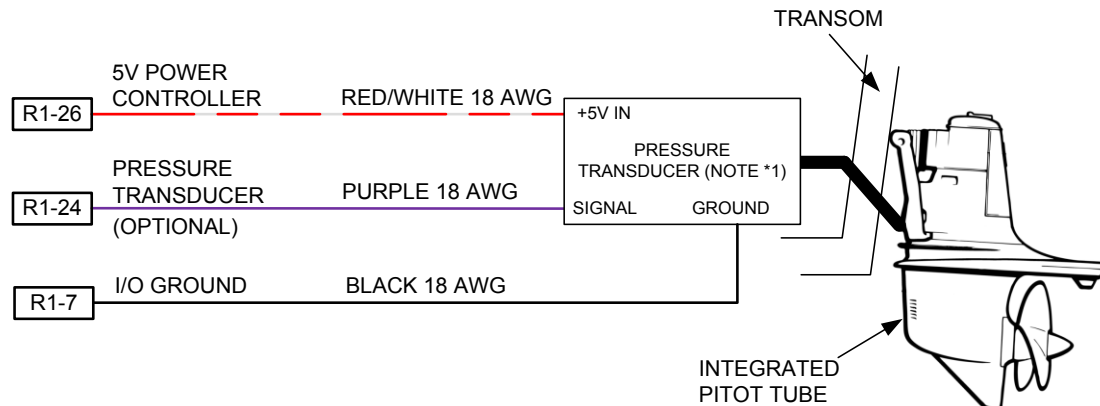


CAD TYPE VISIO	APPLICABLE SOFTWARE			
UNIT NONE	DRAWING 1010-ENGAGE7			
DRW SIZE A	TITLE			
DATE 1/5/15	ENGAGE 7 HARNESS			
SUPPLIER PART				
SCALE none	SHEET 1 OF 1		REVISION A	HPEVS

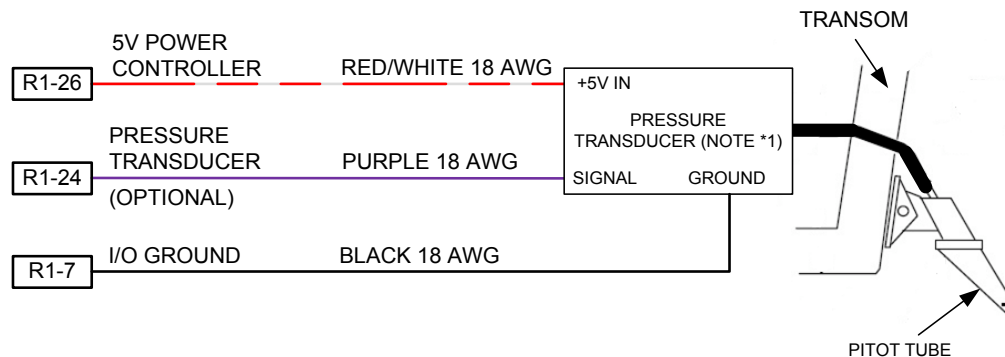
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TRANSDUCER CONNECTION SCHEMATIC



OR



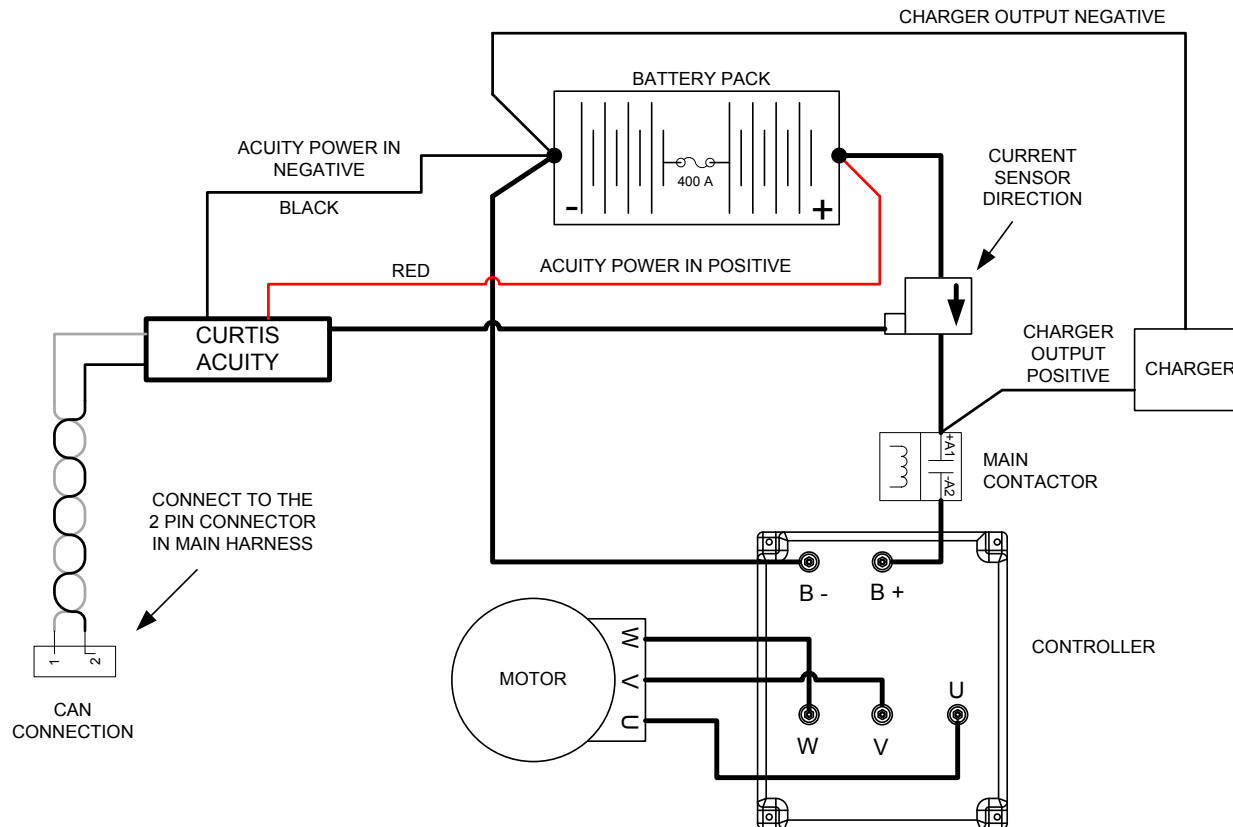
NOTES:

(*1) Recommended Transducer:
Honeywell, Part
PX2EF1XX030PAAAX. Output:
5V; Voltage Input: 4.75- 5.25 V;
Operating Pressure: 30 PSI
Possible Supplier: DIGIKEY
P/N:480-5806-ND

CAD TYPE VISIO	APPLICABLE SOFTWARE Version 320.46		
UNIT NONE	DRAWING 1010-BOAT-PRI		
DRW SIZE A	TITLE 1239 CONTROLLER MARINE TRANSDUCER		
DATE 10/28/14			
SUPPLIER PART			
SCALE none	SHEET 1 OF 1	REVISION A	HPEVS

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A	INITIAL RELEASE	3/12/2013



CAD TYPE VISIO	CAD LOC.	CAD FILE	DRW SIZE A
OPER. NO.	UNIT	DRAWING 1010-ACUITY-INSTALL	
DESIGN	DETAIL	TITLE	
CHECKED	SAFETY	ACUITY INSTALLATION	
SCALE NONE	DATE 3/12/13	REVISION A SHEET 1 OF 1	HPEVS

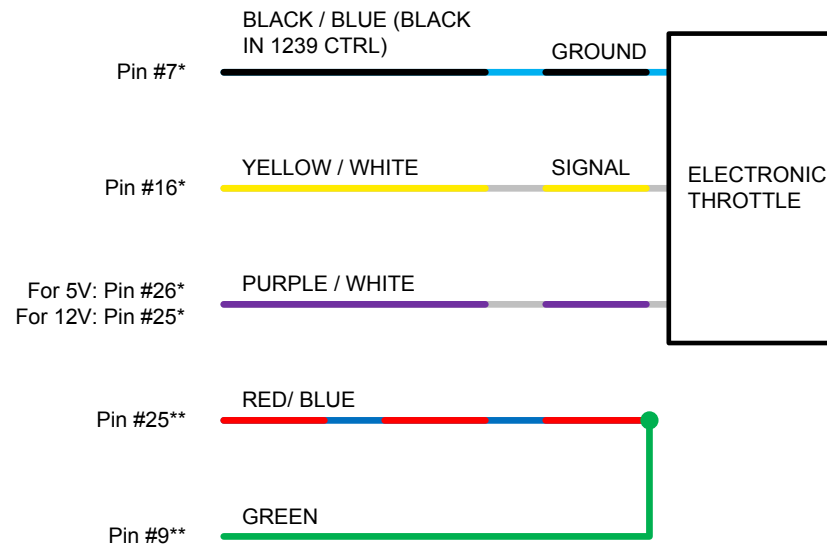
THROTTLE CONFIGURATION

Depending on the type of throttle used for the application, the different types of throttle configurations are listed within the table below. Electrical schematics are also included within the following pages.

THROTTLE CONFIGURATION	TYPE
ELECTRONIC without SWITCH	TYPE 2
2 WIRE with SWITCH 0-5k Ω	TYPE 3
3 WIRE with SWITCH 0-5k Ω	TYPE 2
CURTIS PB8 THROTTLE ASSEMBLY	TYPE 2
WIG WAG 3 WIRE	TYPE 4

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TYPE 2 ELECTRONIC THROTTLE

MARINE APPLICATION

*Typical connection, verify correct voltage and connection in throttle documents or instructions.

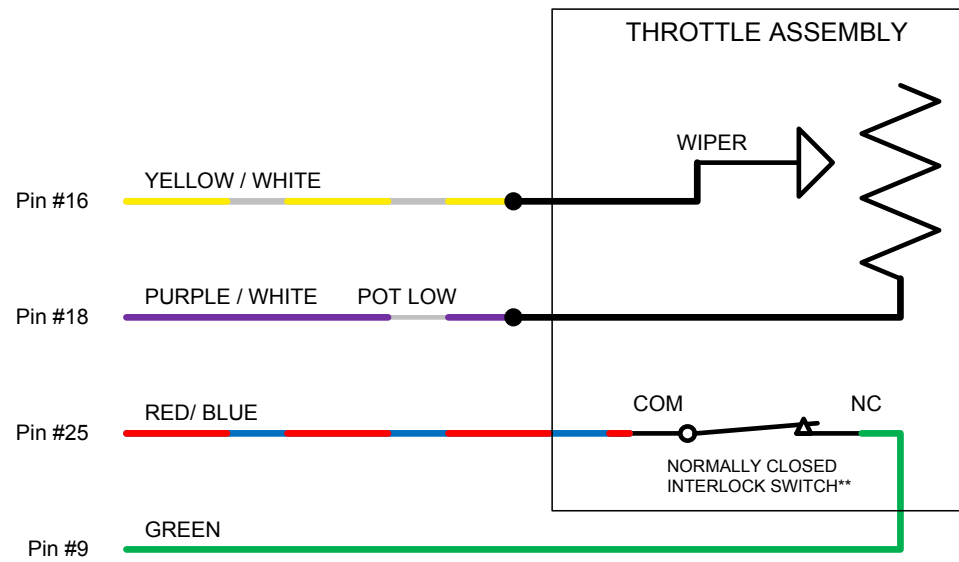
Not all Electronic Throttles supported

** When Electronic pedal is used, the GREEN wire from pedal interlock MUST be connected to the RED/BLUE wire.

CAD TYPE VISIO	APPLICABLE SOFTWARE		
UNIT NONE	DRAWING 1010-THROTTLE-001		
DRW SIZE A	TITLE ELECTRONIC THROTTLE- MARINE APPLICATION		
DATE 2/3/15			
SUPPLIER PART			
SCALE NONE	SHEET 5 OF 8	REVISION A	HPEVS

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2 WIRE TYPE 3
THROTTLE

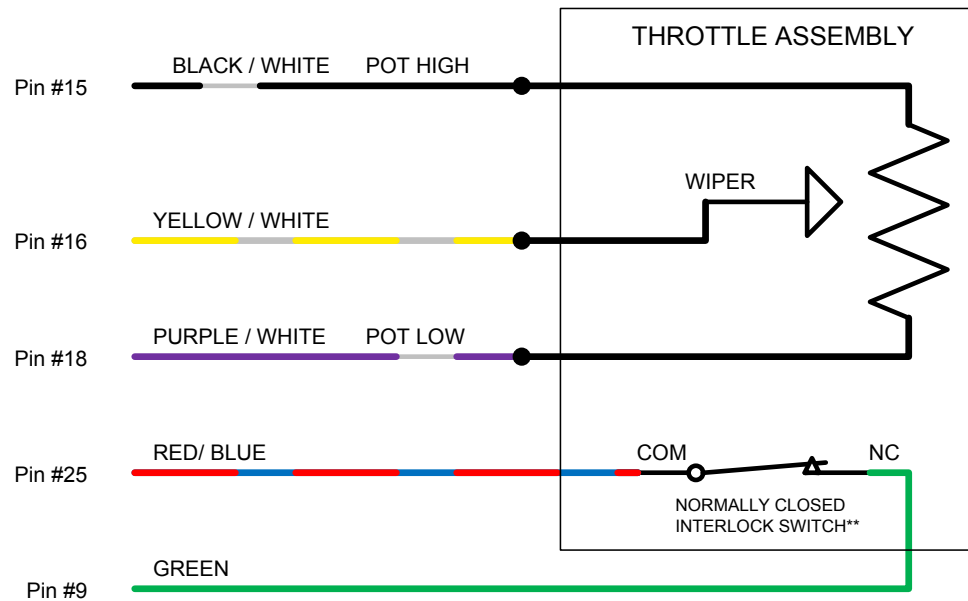
MARINE
APPLICATION

** 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	APPLICABLE SOFTWARE		
UNIT NONE	DRAWING 1010-THROTTLE-001		
DRW SIZE A	TITLE 2 WIRE TYPE 3 THROTTLE – MARINE		
DATE 2/3/15			
SUPPLIER PART			
SCALE NONE	SHEET 6 OF 8	REVISION A	HPEVS

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A	INITIAL RELEASE	2/3/2015



3 WIRE TYPE 2
THROTTLE

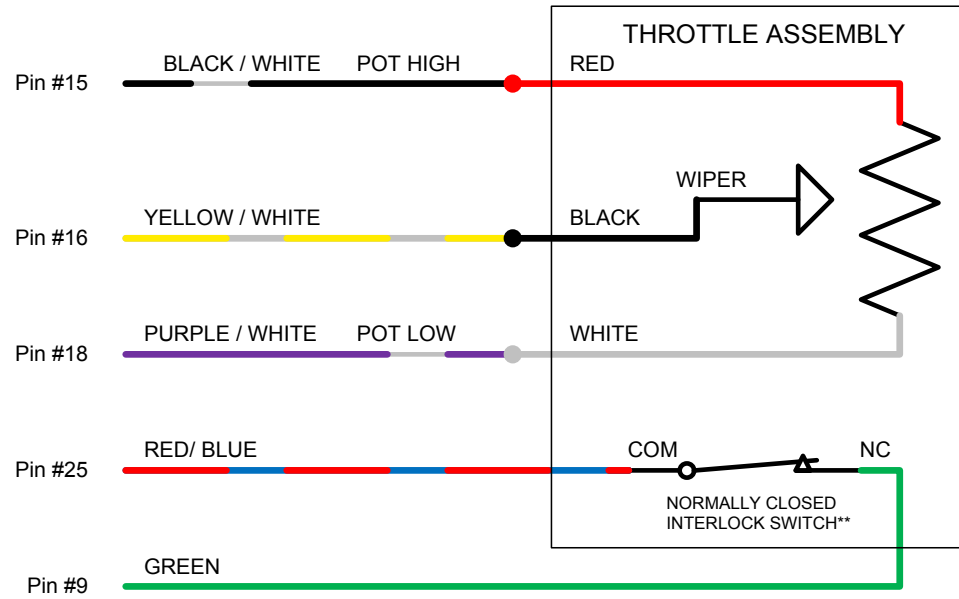
MARINE
APPLICATION

** 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	APPLICABLE SOFTWARE		
UNIT NONE	DRAWING 1010-THROTTLE-001		
DRW SIZE A	TITLE 3 WIRE TYPE 2 THROTTLE- MARINE		
DATE 1/22/13			
SUPPLIER PART			
SCALE NONE	SHEET 7 OF 8	REVISION A	HPEVS

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REV	DESCRIPTION	APPROVED
A	INITIAL RELEASE	11/27/2013



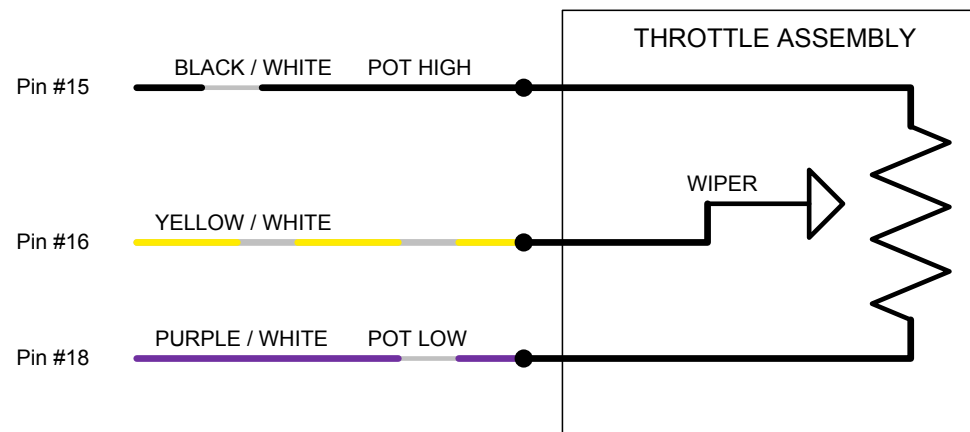
CURTIS PB8 THROTTLE ASSEMBLY

** 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	APPLICABLE SOFTWARE		
UNIT NONE	DRAWING 1010-THROTTLE-001		
DRW SIZE A	TITLE CURTIS PB8 THROTTLE		
DATE 1/22/13			
SUPPLIER PART			
SCALE NONE	SHEET 3 OF 8	REVISION A	HPEVS

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**3 WIRE WIG WAG
TYPE 4
THROTTLE****

**MARINE
APPLICATION**

**** No Forward or Reverse input used. No Interlock Switch used.**

CAD TYPE VISIO	APPLICABLE SOFTWARE		
UNIT NONE	DRAWING 1010-THROTTLE-001		
DRW SIZE A	TITLE 3 WIRE TYPE 4 WIG WAG - MARINE		
DATE 2/3/15			
SUPPLIER PART			
SCALE NONE	SHEET 8 OF 8	REVISION A	HPEVS

THROTTLE INTERLOCK CONNECTION

The throttle interlock connection is required for both 2 and 3 wire throttle pot assemblies. The Green wire is connected to the Normally Closed tab. The red/blue wire is connected to the common tab. See picture below.

NOTE: when the throttle IS ENGAGED 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.

