WIRING SCHEMATIC

FOR SOFTWARE VERSIONS 320.46 AND HIGHER

FOR CURTIS 1239 CONTROLLER

MARINE CONVERSION

FOR DUAL MOTOR APPLICATION

REVISION: A
Date 6/30/15
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NOTES:

(*) Use supplied Contactor (GIGAVAC Part #GV200QA-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 #79AP1D52-12). For Coil connection, connect to small terminals.

(*) 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.
NOTES:

(*1) Tachometers that are designed to Work off of an ignition coil may not function in this application. Some Tachometers may need a pull up resistor of 4.7K Ω.
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ENGAGE 7 CONNECTION SCHEMATIC

+12V RED 18 AWG
GROUND BLACK 18 AWG
KEY SWITCH RED/BLUE 18 AWG
CAN HIGH YELLOW 20 AWG
CAN LOW GREEN 20 AWG
N/C
N/C
N/C
N/C
N/C
N/C
N/C
N/C
LCD HEATER (OPTIONAL)

YELLOW/RED 18 AWG

SAE J-1939 CAN CABLE

DEUTSCH DTM-04-2P
MALE 1/4” QD

IGNITION KEY SWITCH

ON START
OEM WIRING

1A FUSE

3A FUSE

J1 CONNECTOR

1 2 3 4 5 6 7 8 9 10 11 12

PROUD: 5/15/15

INITIAL RELEASE

1/5/15

REVISION A

HPEVS

1010-ENGAGE7

DRAWING

TITLE

ENGAGE 7 HARNESS

UNIT

NONE

DATE

5/15/15

SUPPLIER PART

SCALE

none

2 Sheet 1 of 1

APPLICABLE
SOFTWARE

1010-ENGAGE7

DRAWING

TITLE

ENGAGE 7 HARNESS

UNIT

NONE

DATE

5/15/15

SUPPLIER PART

SCALE

none

2 Sheet 1 of 1

APPLICABLE
SOFTWARE
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
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Curtis Acuity

Connect to the 2 pin connector in main harness

Motor

Controller

Can connection

Battery Pack

Charger Output Negative

Current sensor direction

Charger Output Positive

Main Contactor

B +

B -

W

V

U

ACuity Power in Positive

Red

ACuity Power in Negative

Black

ACuity Power in Negative

Black

Charger

Charger Output Negative

ACuity Installation
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.

<table>
<thead>
<tr>
<th>THROTTLE CONFIGURATION</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECTRONIC without SWITCH</td>
<td>TYPE 2</td>
</tr>
<tr>
<td>2 WIRE with SWITCH 0-5k Ω</td>
<td>TYPE 3</td>
</tr>
<tr>
<td>3 WIRE with SWITCH 0-5k Ω</td>
<td>TYPE 2</td>
</tr>
<tr>
<td>CURTIS PB8 THROTTLE ASSEMBLY</td>
<td>TYPE 2</td>
</tr>
<tr>
<td>WIG WAG 3 WIRE</td>
<td>TYPE 4</td>
</tr>
</tbody>
</table>
**When Electronic pedal is used, the GREEN wire from pedal interlock MUST be connected to the RED/BLUE wire.**

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

**Not all Electronic Throttles supported**

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**REVISIONS**

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<th>REV</th>
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<td>INITIAL RELEASE</td>
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**TYPE 2 ELECTRONIC THROTTLE**

**MARINE APPLICATION**

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** REV DESCRIPTION APPROVED **

A INITIAL RELEASE 2/3/2015

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** 2 WIRE TYPE 3 THROTTLE **

MARINE APPLICATION

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** 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. **

---

Pin #16

YELLOW / WHITE

---

Pin #18

PURPLE / WHITE POT LOW

---

Pin #25

RED/ BLUE

---

Pin #9

GREEN

---

NORMALLY CLOSED INTERLOCK SWITCH**

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COM NC

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THROTTLE ASSEMBLY
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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.

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**3 WIRE TYPE 2 THROTTLE**

**MARINE APPLICATION**

**THROTTLE ASSEMBLY**

- Pin #15: BLACK / WHITE - POT HIGH
- Pin #16: YELLOW / WHITE
- Pin #18: PURPLE / WHITE - POT LOW
- Pin #25: RED / BLUE
- Pin #9: GREEN

**COM**

**NC**

**NORMAL CLOSED INTERLOCK SWITCH**

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**REVISIONS**

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

3 WIRE WIG WAG TYPE 4 THROTTLE**
MARINE APPLICATION

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** CAD TYPE VISIO  APPLICABLE SOFTWARE
UNIT NONE  DRAWING 1010-THROTTLE-001
DRAW SIZE A  TITLE 3 WIRE TYPE 4 WIG WAG - MARINE
DATE 23/15  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.