

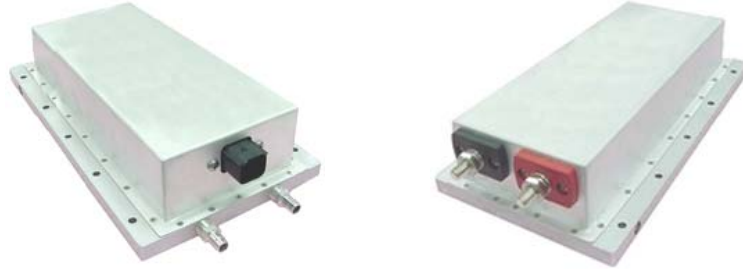
## Aegis Power Solution

### HEV3000

Hybrid Electric Vehicle  
Power Converter

CanBus Option Available

(Rev A02, 12/01/10)



**Specifications: (25°C, nominal line, 100% load unless otherwise specified).**

**DC Input Voltage:** 336Vdc Nominal, 250Vdc to 425Vdc Range.

**DC Input Current:** 14.6 Amps Typical @ 250Vdc.

**Input Power:** 3660W Typical.

**Efficiency:** 82% Typical.

**Startup Time:** 700mS Maximum.

**Output Voltage:** +13.8Vdc (-01), +24Vdc (04), +28Vdc (03) set at factory.

**Output Power:** 2925W Max @ 13.8Vdc Output, 3000W Max @ +24Vdc Output, 3000W Max @ +28Vdc Output.

**Output Current:** 212A Max @ +13.8Vdc Output, 125A Max @ +24Vdc Output, 107A Max @ +28Vdc Output.

**Over Voltage Protection:** Output Voltage typical 115%. Recycle input power to reset (1minute off).

**Regulation:** **Temperature** +/- 0.02% per degree C. **Setpoint/Line/Load** +/-2.5%, 0-100% Load.

**Output Ripple:** 1.5% of Vout Pk-Pk (20Mhz BW).

**Current Limit:** Short Circuit Protected, Auto Restart.

**Temperature:** -40°C to +65°C Operating at base plate with 60°C coolant temp @ 2.5 LPM flow, -40°C to +100°C Non-Operating. Over Temp Thermal Shutdown 90°C +/-2°C on base plate, automatic recovery.

**Cooling:** Aluminum Liquid Cooled Base Plate, ¼" Threaded Inlet/outlet Fittings with ¼" Aluminum Hose Barbs.

**Size:** 7" W, 3" H, 12.6" L (14.5" L with Connectors and Barb Fittings.) (See Attached Drawing.)

**Weight:** 11.25 lb Typical.

**Environmental:** IP67 Metal Enclosure and Connectors.

**Connector:** IP67 6 Pin 6x2 Input Connector, 3/8-16 Threaded Stud Output Connections. See Mech Dwg.

**Shock:** Mil-Std-810F, Method 516.5, Procedure I.

**Vibration:** Mil-Std-810F, Method 514.5, Procedure I.

**Humidity:** 0-95% Non-condensing.

**EMI:** Meets FCC Class "A" Electro-Magnetic Interference.

**Communication Option:** ISO11898, CAN 2.0B, 29 Bit Identifier (125Khz, 250Khz, or 500kHz Can Bus).

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**Ordering Information on Page 2. Connector Information on Page 3. Mechanical Drawing on Page 4.**

## Standard HEV/MEV Part Numbering & Ordering Information

A **Part Number** consists of **14 Characters** (including 2 dashes) which identify the Power Converter's standard parameters and may include an additional optional letter (15<sup>th</sup> Character) to identify a custom feature.

When ordering a converter or creating a part number, the six parameters must be identified as detailed below.

The **C** custom feature (15<sup>th</sup> character) will be added by Aegis Power Systems as required by any custom specifications.

**Format:** **M M M W W W W - V V - M A O C**  
**Model Wattage - Voltage - Monitor Alarms Options Custom**

**M M M** **HEV** (Nominal 336VDC Input, FCC Class A EMI Compliant)  
**MEV** (Nominal 336VDC Input, MIL-STD-461D/E/F EMI Compliant).

**W W W W** **Wattage: 0600, 1200, 1800, 2400, 3000, 3600**

- **Dash**

**V V** **Voltage Out: 01 (13.8 Vdc), 02 (12.8 Vdc), 03 (28.0 Vdc), 04 (24.0 Vdc), or 05 (48.0 Vdc).**

- **Dash**

**M** **Monitoring Selections (In all cases a Monitor selection must be specified, even if **None (0)**.)**

- 0 – No Monitoring** (No Discrete Monitoring, No CAN Bus Monitoring, No Output Trimming.)
- 1 – Can Bus Monitoring** at 125Khz.
- 2 – Can Bus Monitoring** at 250Khz.
- 3 – Can Bus Monitoring** at 500Khz.
- 5 – Can Bus Monitoring** at 125Khz with Output Voltage Trimming.
- 6 – Can Bus Monitoring** at 250Khz with Output Voltage Trimming.
- 7 – Can Bus Monitoring** at 500Khz with Output Voltage Trimming.
- 9 – Discrete Monitor** (Vin, Vout, Iin, Iout, other options provided at the input connector.)

**A** **Alarm Output Selections (In all cases an Alarm selection must be specified, even if **None (0)**.)**

- 0 – No Alarm Options** Installed.
- 1 – Hi Temp Alarm** (85°C), (Provides pre-warning of Hi-Temp Shutdown.)
- 2 – Power O.K.** (Verification that the Output is within voltage specification.)
- 3 – Hi Temp Alarm and Power O.K.**

**O** **Option Selections (In all cases an Option selection must be specified, even if **None (0)**.)**

- 0 – No Options** Installed.
- 1 – Cable Connected Signal** (+5V Signal indicating Power Input Cable is connected.)
- 2 – Current Sharing** (Allows parallel connected supplies to share current.)
- 3 – Cable Connected and Current Sharing.**
- 4 – Output Inhibit** (Disables the power supply output remotely by user.)
- 5 – Cable Connected and Output Inhibit.**
- 6 – Current Sharing and Output Inhibit.**
- 7 – Cable Connected, Current Sharing, and Output Inhibit.**

**C** **Custom Selections (Only required if a custom feature has been added.)**

**Blank - No option, A - Circular Style Input Connector, C - Conformal Coating**

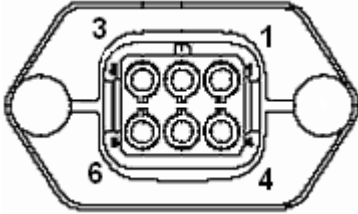
**Consult AEGIS Power Systems for correct part number for your application needs.**

# HEV/MEV Power Converter Connector Information:

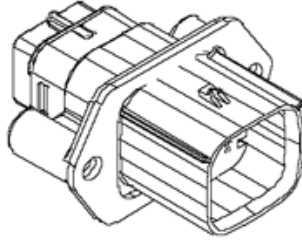
Rev A05 12/01/2010

## Standard Connector (Allows for CAN Bus & One Option or No Can Bus & Two Options)

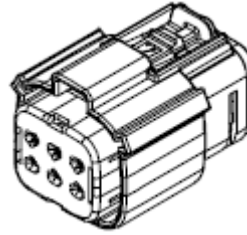
### 6 Pin Molex Input Connector (IP67) (Glass Filled PBT Housing)



Wiring Side (Internal)



Pin Side (External)



Customer Mate

Installed Molex Panel Mount Plug: P/N 019429-0036  
Customer Mating Receptacle Connector, Molex P/N19418-0010

#### Input Connector Pin Out

1. POS VDC IN
2. (CANBus\_Low )
3. RTN VDC IN
4. Option\_Hig h
5. (CANBus\_ High)
6. Option\_Lo w

Pin 4 is POSVDC IN & Pin 6 is RTNVDC in for units above 2400W.  
Pins 2 & 5 used for CanBus or a 2<sup>nd</sup> Option.

### Single Blue Sea 3/8"-16 Threaded Stud (IP67) (Reinforced Thermoplastic Housing) (Tin-Plated Copper Alloy Studs)



Black P/N 2203



Red P/N 2204

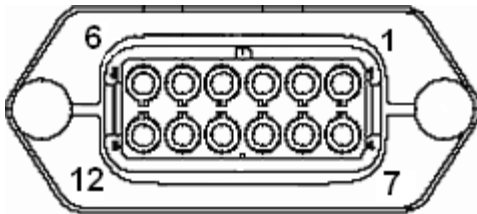
Viewed from External Side of Cover

#### Output Stud Pin Out

- Black Stud:**  
Negative (RTN)
- Red Stud:**  
Positive (POS)

## CAN Bus with additional Options or Discrete Monitored Units

### 12 Pin Molex Input Connector (IP67) (Glass Filled PBT Housing)



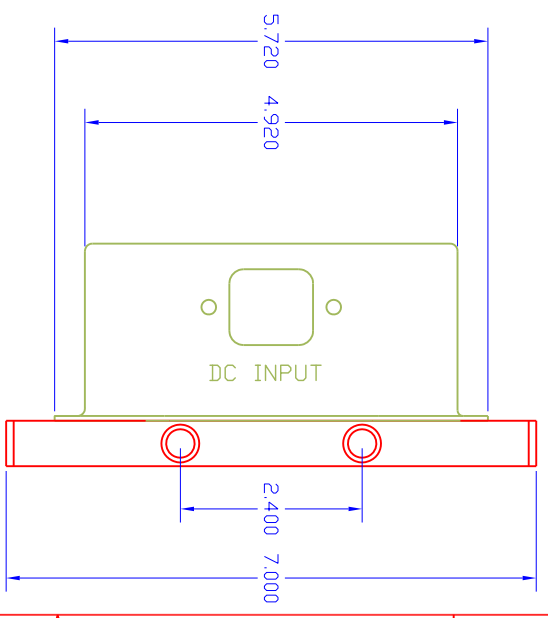
Viewed from Wiring Side (Internal)

Installed Molex Panel Mount Plug: P/N 019429-0039  
Customer Mating Receptacle: P/N19418-0027

#### Input Connector Pin Out

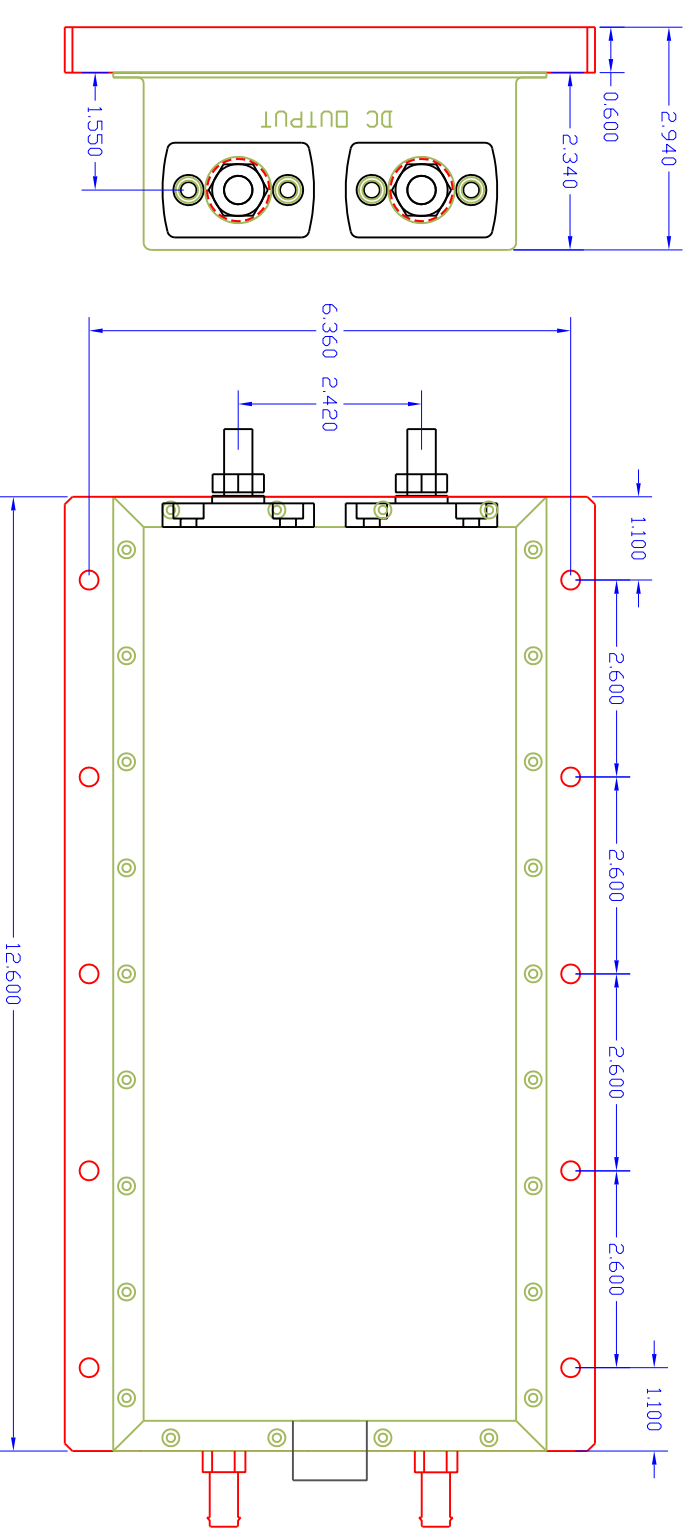
1. POS VDC IN
  2. Analog Monitor Vout or CANBus\_L
  3. Analog Monitor Vin
  4. Analog Monitor Iout
  5. Analog Monitor Iin or CANBus\_H
  6. RTN VDC IN
  7. Option or POS VDC IN units >2.5KW
  8. Option
  9. Option
  10. Option
  11. Option
- Option or RTN VDC IN units >2.5KW

DATE	APPROVED	DESCRIPTION	REV
09/09/09	DSR	INITIAL RELEASE	A01

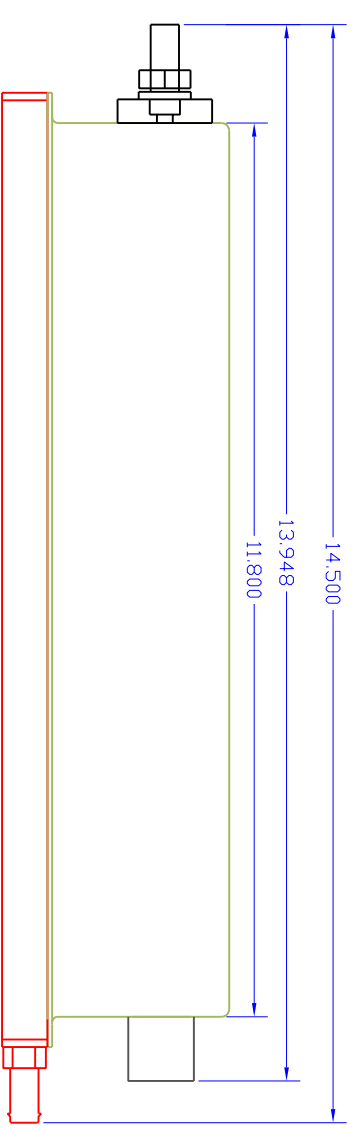


- INPUT CONNECTOR MOLEX 19425-0611  
 CUSTOMER MATE MOLEX 19418-0010  
 VDC INPUT CONNECTOR PINDOUT
1. INPUT POSITIVE
  2. N/C (AVAILABLE FOR OPTION)
  3. INPUT RETURN
  4. INPUT POSITIVE
  5. N/C (AVAILABLE FOR OPTION)
  6. INPUT RETURN

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY



- VDC OUTPUT PANEL MOUNT TERMINALS  
 POSITIVE OUTPUT, P/N BLUE SEA 2204,  
 RED BASE, 3/8" THREADED STUD  
 NEGATIVE OUTPUT, P/N BLUE SEA, 2203,  
 BLACK BASE, 3/8" THREADED STUD



NOTES: (Unless otherwise specified)

1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
2. FINISH - FACE FINISH TO BE 320 GRIT (SMOOTH) PER MIL-C-8541, CLASS 3.
3. JAW MIL-DTL-81706, TYPE II, CLASS 3.
4. HEATING MACHINE AND SAW CUT ANGULARITY TOLERANCE WILL BE +/-1/4°.
5. HEATING MACHINE AND SAW CUT FLATNESS WILL BE 0.001" INCH AND SURFACE ROUGHNESS WILL BE 64 MICRO-INCHES OR BETTER.
6. REMOVE ALL SWAMP FIBERS AND DEBRIS.
7. COVER, ARC VOLT COVER SEAMS CLOSED AND GRIND SMOOTH WITH 0.30" MAX WELD PROTRUSION ALLOWABLE INSIDE CORNERS.
8. UNLESS OTHERWISE SPECIFIED, ALL RADIUS TO BE .03", INSIDE BEND RADIUS .003" MAX.
9. C OF C REQUIRED WITH EACH SHIPMENT

DATE	APPROVED	DESCRIPTION	REV
09/09/09	DSR	INITIAL RELEASE	A01

UNLESS OTHERWISE SPECIFIED, DIMENSIONS AND TOLERANCES ARE IN INCHES.	UNLESS OTHERWISE SPECIFIED, DIMENSIONS AND TOLERANCES ARE IN MILLIMETERS.
1" = 25.4	1" = 25.4
1/16" = 1.5875	1/16" = 1.5875
1/32" = 0.7937	1/32" = 0.7937
3/32" = 0.9375	3/32" = 0.9375
1/8" = 1.5775	1/8" = 1.5775
3/16" = 2.3625	3/16" = 2.3625
1/4" = 3.15	1/4" = 3.15
5/16" = 3.9375	5/16" = 3.9375
3/8" = 4.725	3/8" = 4.725
7/16" = 5.5125	7/16" = 5.5125
1/2" = 6.3025	1/2" = 6.3025
5/8" = 7.0925	5/8" = 7.0925
3/4" = 7.875	3/4" = 7.875
7/8" = 8.6625	7/8" = 8.6625
1" = 9.45	1" = 9.45

DATE	APPROVALS	TITLE
09/09/09	DSR	HEV3000 MECH CONCEPT

DATE	APPROVED	DESCRIPTION	REV
09/09/09	DSR	INITIAL RELEASE	A01

