P.O. Box 429, 805 Greenlawn Road, Murphy, NC 28906 Tel: (828) 837-4029 www.aegispower.com

Aegis Power Solution

MEV3000

Electric Vehicle Power Converter

CanBus Option Available

(Rev A04, 12/02/10)

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

DC Input Voltage:	336Vdc Nominal, 250Vdc to 425Vdc Range.
DC Input Current:	14 Amps Typical @ 250Vdc.
Input Power:	3500W 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:	-40ºC to +65ºC Operating at base plate with 60ºC coolant temp @ 2.5 LPM flow, -40ºC to +100ºC Non-Operating. Over Temp Thermal Shutdown 90ºC +/-2ºC 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 Dwgs.
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 MIL-STD-461D/E/F Electro-Magnetic Interference.
Communication Option:	ISO11898, CAN 2.0B, 29 Bit Identifier (125Khz, 250Khz, or 500kHz Can Bus).

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 (15th 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 Custom feature (15th 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 ***W***attage - ***V***oltage - ***M***onitor ***A***larms ***O***ptions ***C***ustom)

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 (85ºC), (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.

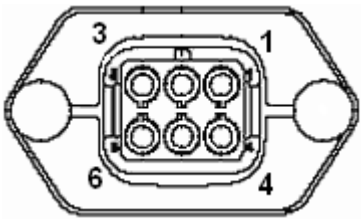
Refer to the following page for examples of Part Numbers.

HEV/MEV Power Converter Connector Information:

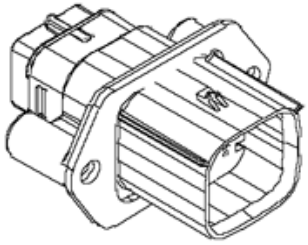
Rev A05 12/01/2010

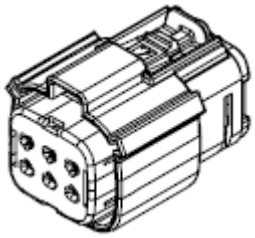
Standard Connector
(Allows for CAN Bus & One Option or No Can Bus & Two Options)

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. **POS VDC IN***
5. **CANBus_High**
6. **RTN VDC IN***

*Pin 4 is POSVDC IN &
*Pin 6 is RTNVDC in for units above 2400W. Pins 2 & 5 used for CanBus or a 2nd 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

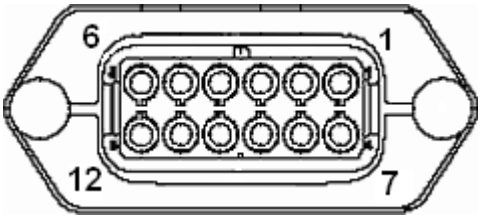
Output Stud Pin Out

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

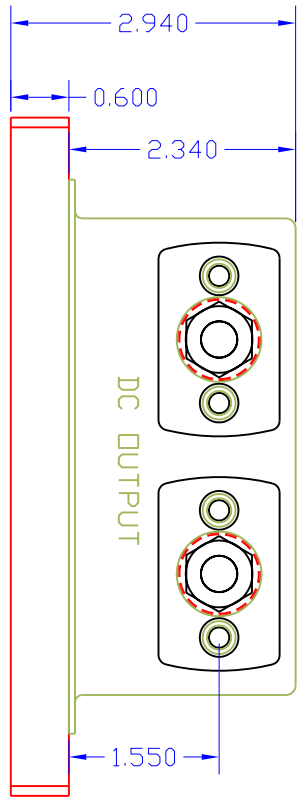
Input Connector Pin Out

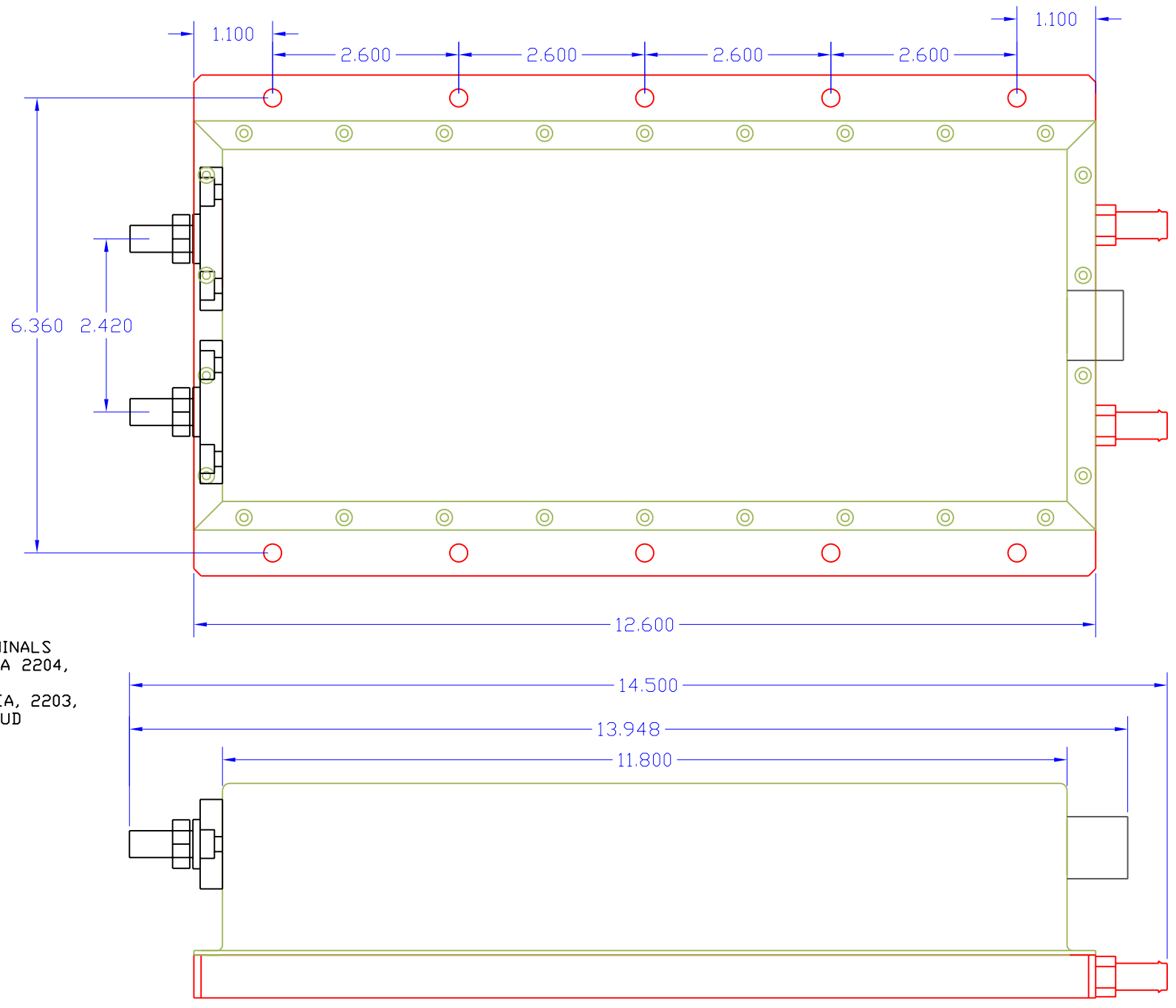
1. **POS VDC IN**
2. Analog Monitor Vout or **CANBus_L**
3. Analog Monitor Vin
4. Analog Monitor Iout
5. Analog Monitor Iin or **CANBus_H**
6. **RTN VDC IN**
7. Option or **POS VDC IN** units >2.5KW
8. Option
9. Option
10. Option or **RTN VDC IN** units >2.5KW

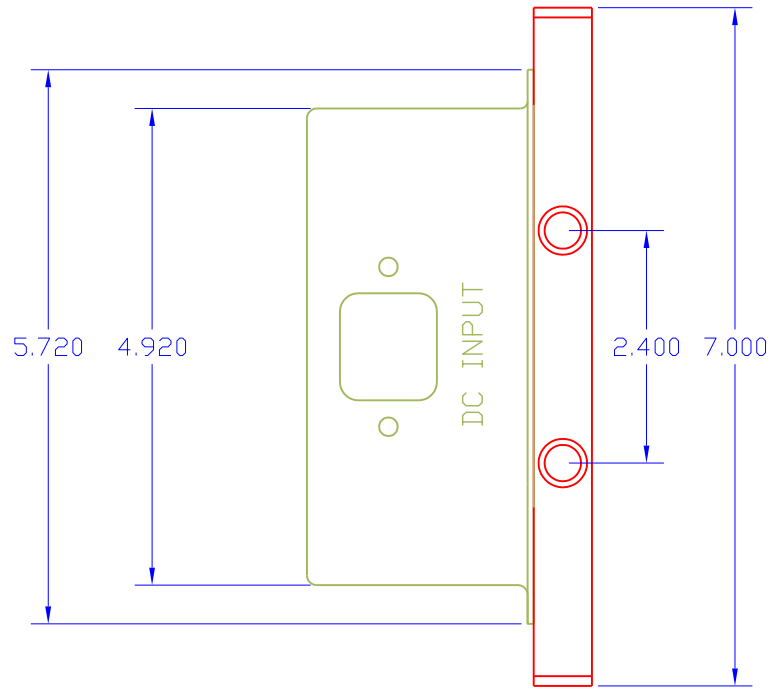
DWG NO.	SH	REV

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A01	INITIAL RELEASE	04/07/07	MVS
	A02	R-THETA AQUASINK BASE PLATE	05/05/09	DSR
	A03	R-THETA EXTENDED BASE PLATE	09/09/09	DSR







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

INPUT CONNECTOR MOLEX 19425-0611
CUSTOMER MATE MOLEX 19418-0010
VDC INPUT CONNECTOR PINOUT
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.

NOTES: (Unless otherwise specified.)

1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
2. MATERIAL: ALUMINUM 6061-T6 OR 6063-T5
3. FINISH: CLEAR CHEMICAL FILM (ROHS COMPLIANT) PER MIL-C-5541, CLASS 3, IAW MIL-DLT-81706, TYPE II, CLASS 3.
4. HEATSINK: MACHINE AND SAW CUT ANGULARITY TOLERANCE WILL BE +/-1/4".
5. HEATSINK MACHINED SURFACE FLATNESS WILL BE 0.001"/INCH AND SURFACE ROUGHNESS WILL BE 64 MICRO-INCHES OR BETTER.
6. REMOVE ALL SHARP EDGES AND DEBUR.
7. COVER: ARC WELD CORNER SEAMS CLOSED AND GRIND SMOOTH WITH 0.30" MAX WELD PROTRUSION ALLOWABLE INSIDE CORNERS.
8. UNLESS OTHERWISE SPECIFIED, ALL RADII TO BE .03", INSIDE BEND RADII 0.03" MAX.
9. C OF C REQUIRED WITH EACH SHIPMENT

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS ± N/A DECIMALS .XX ± .02 .XXX ± .005 DEGREES ± .5

MATERIAL: SEE NOTE 2

FINISH: SEE NOTE 3

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS	DATE
DRAWN DSR	09/09/09
CHECKED	
PROJ. ENG.	
MFG.	
QUALITY	

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE: MEV3000 MECH CONCEPT

SIZE	FSCM NO.	DWG NO.	REV
D	06ES8	MEV3000-M00 CONCEPT REVA03	A03

SCALE 1/1 SHEET 1 OF 1