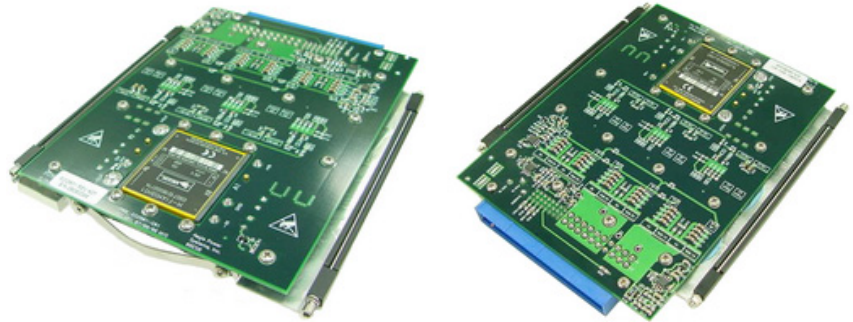


EO2801

VME Power Converter Card

(Document Rev A04 09/17/15)



**28Vdc Input
3 Output, 336W Max Combined Output**

Features

- 28Vdc per MIL-STD-704F *
- 3 Output Voltages, 336W
- MIL-STD-810E Environment *
- MIL-STD-461E EMI *
- Single Slot VME Power Card

* Designed to meet portions of the standard. Contact Aegis Power for details.

Table 1: Maximum Ratings

| Parameter | Rating | Unit | Notes |
|-----------------------|------------|------|------------------------------|
| Vin max range | 22 to 29 | Vdc | |
| Temperature | -40 to +75 | °C | 336W @ Baseplate Wedgelocks |
| Temperature | -40 to +85 | °C | 225W @ Baseplate Wedgelocks |
| Combined output power | 336 | W | +75°C @ Baseplate Wedgelocks |
| Input power | 395 | W | @ 336W out @ 28VDC input |
| Max +5Vdc power (#1) | 112 | W | +75°C @ Baseplate Wedgelocks |
| Max +5Vdc power (#2) | 112 | W | +75°C @ Baseplate Wedgelocks |
| Max +12Vdc power | 112 | W | +75°C @ Baseplate Wedgelocks |

Product Highlights

The EO2801 single slot 4HP wide 150.5mm high filtered 28Vdc input VME dc-dc power converter card has three outputs (two +5Vdc and one +12Vdc) at 336W maximum combined output. This dc-dc power converter card is a military Mil-COTS solution designed to meet portions of MIL-STD-810E vibration and shock requirements and MIL-STD-461E EMI requirements. When compared to VME power supplies using conventional technology, the single-slot EO2801 VME dc-dc power converter card provides users with higher efficiency (85% minimum), lower weight (2 lbs. max.), and higher power (up to 336W).

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom AC-DC Switching Power Supplies and DC-DC Power Converters for defense, military, industrial, telecommunication, aircraft, shipboard and electric powered vehicle applications. Contact Aegis Power Systems for details on Mil-Specs that this product is designed to meet.

SPECIFICATIONS

(Typical at 25°C, nominal line and 100% load, unless otherwise specified.)

| | |
|--------------------------------|---|
| DC input voltage: | Designed to meet Mil-Std-704F Normal Range of 22Vdc to 29Vdc, 28Vdc nominal. 50Vdc 12.5msec transient (shut down longer, automatic restart). Shuts down for abnormal range (automatic restart). |
| DC input line current: | 12.0A Max @ 22Vdc input (225W Output). 9.3A Typical @ 28Vdc input (225W Output). 18.0A Max @ 22Vdc input (336W Output). 13.8A Typical @ 28Vdc input (336W Output). |
| Input power: | 264W Max. (225W Output), 395W Max. (336W Output). |
| Output power: | 225W to 336W Maximum (all outputs combined). 336W up to 75°C, 225W up to 85°C (baseplate temperature at wedgelocks). |
| Output voltages: | See table 2. +5Vdc (#1) 15A, 75W. +5Vdc (#2) 15A, 75W. +12Vdc 6.25A, 75W. |
| Efficiency: | 85% minimum. |
| Start up time: | 500 millisecond maximum. |
| Voltage set point: | +/- 1%. |
| Line Regulation: | +/- 0.1%.- |
| Load regulation: | +/- 1.5%. |
| Temperature regulation: | +/- 0.01% / °C. |
| Output ripple: | +5Vdc max 50mV, +12Vdc max 100mV (pk-pk with 20MHz BW). |
| Current Limit: | Short circuit protected with automatic recovery. |
| Temperature: | -40°C to +75°C (336W) operating baseplate @ Wedgelocks. -40°C to +85°C (225W) operating baseplate @ Wedgelocks. -55°C to +100°C Non-operating. |
| Cooling: | Conduction through wedgelocks attached to customer rack. |
| Package: | Pluggable slide in card. |
| Dimension: | 150.5mm x 4HP x 160mm (see mechanical drawing page). |
| Weight: | 2 lb. maximum. |
| Connector: | 1ea Positronics PCIH47M400A1 or equivalent (see pin assignments page). |
| Shock/Vibration: | Designed to meet MIL-STD-810E, ground mobile equipment (Call for details). |
| Humidity: | 0 – 95% non-condensing. |
| EMI: | Designed to meet MIL-STD-461E (CE102 and CS101). |

Specifications subject to change without notice.

Table 2: Voltage Outputs

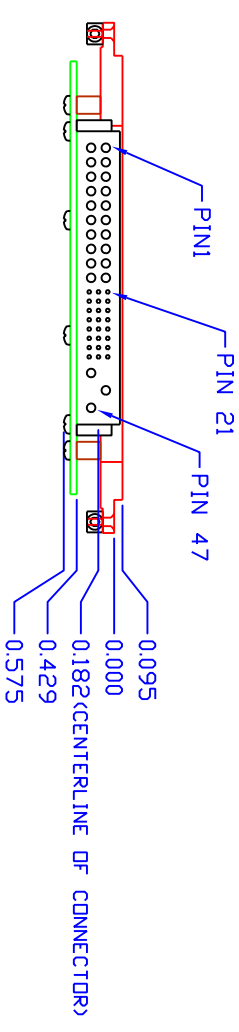
| Maximum individual DC outputs* | V1 | V2 | V3 |
|--|-------|-------|--------|
| | +5Vdc | +5Vdc | +12Vdc |
| | 15A | 15A | 6.25A |
| 85°C baseplate temperature at wedgelocks | 75W | 75W | 75W |
| | 22.4A | 22.4A | 9.3A |
| 75°C baseplate temperature at wedgelocks | 112W | 112W | 112W |
| * Maximum total output power is 336W, all DC outputs combined, at 75°C baseplate temp. Contact AEGIS sales for details. | | | |

Connector Pin Out Assignment

47 Pin Positronic Connector P/N PCIH47M400A1 or Equivalent

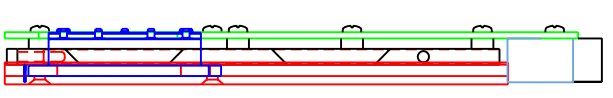
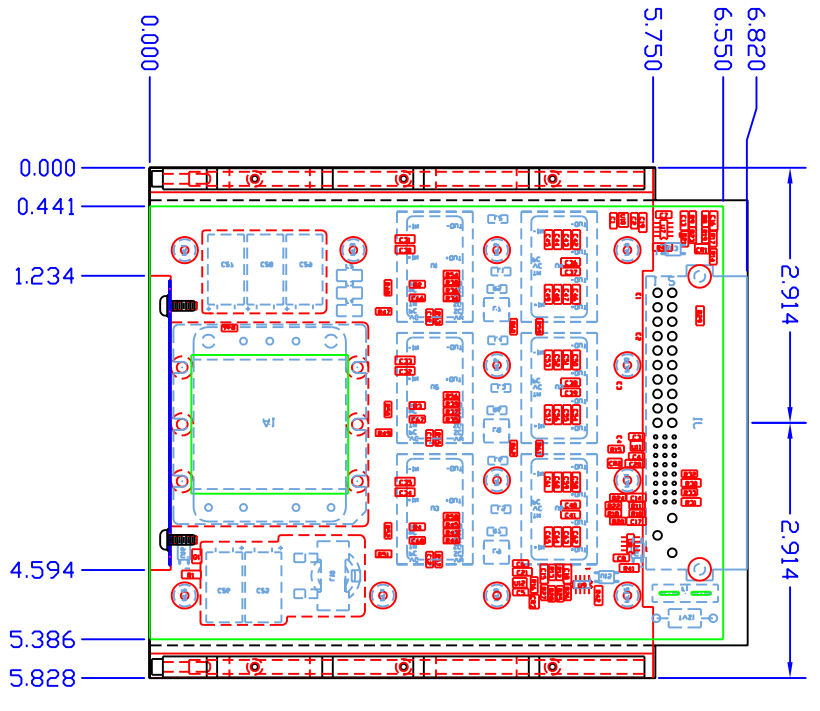
| | |
|--|--|
| Pins 1, 2, 3, Pins 4, 5, 6, | V1 Return (+5Vdc RTN #1) V1 OUT (+5 Vdc #1) |
| Pins 7, 8, 9 Pins 10, 11, 12 | V2 Return (+5V RTN #2) V2 Out (+5 Vdc #2) |
| Pins 13, 14 | NC |
| Pins 15, 16, 17 Pins 18, 19, 20 | V3 Return (+12 Vdc RTN) V3 Out (+12Vdc) |
| Pins 21 - 31 | NC |
| Pin 32 | V1 Power OK (Collector) |
| Pins 33, 34 | NC |
| Pin 35 | V1 Power OK RTN (Emitter) |
| Pins 36, 37 | NC |
| Pin 38 Pin 39 | V2 Power OK (Collector) Inhibit (Connected to Neg Input = Disabled) |
| Pin 40 | NC |
| Pin 41 | V2 Power OK RTN (Emitter) |
| Pin 42 | NC |
| Pin 43 Pin 44 | V3 Power OK RTN (Emitter) V3 Power OK (Collector) |
| Pin 45 Pin 46 Pin 47 | Chassis Ground Positive Input Negative Input |

NOTES: UNLESS OTHERWISE SPECIFIED
 1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
 2. MATERIAL:
 3. FINISH:



CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.

| ZONE | REV | DESCRIPTION | DATE | APPROVED |
|------|-----|-----------------|----------|----------|
| A03 | REV | INITIAL RELEASE | 07/07/08 | MVS |
| | | | | |
| | | | | |



- CONNECTOR POSITRONIC P/N PCIH47M400A1
- PINS 1, 2, 3 - V1 RETURN (+5V RTN #1)
 - PINS 4, 5, 6 - V1 DUT (+5V #1)
 - PINS 7, 8, 9 - V2 RETURN (+5V RTN #2)
 - PINS 10, 11, 12 - V2 DUT (+5V #2)
 - PINS 13, 14 - N/C
 - PINS 15, 16, 17 - V3 RETURN (+12V RTN)
 - PINS 18, 19, 20 - V3 DUT (+12V)
 - PINS 21-31 - N/C
 - PIN 32 - V1 POWER DK (COLLECTOR)
 - PINS 33, 34 - N/C
 - PIN 35 - V1 POWER DK RTN (EMITTER)
 - PINS 36, 37 - N/C
 - PIN 38 - V2 POWER DK (COLLECTOR)
 - PIN 39 - INHIBIT (CONNECTED TO NEG INPUT = DISABLED)
 - PIN 40 - N/C
 - PIN 41 - V2 POWER DK RTN (EMITTER)
 - PIN 42 - N/C
 - PIN 43 - V3 POWER DK RTN (EMITTER)
 - PIN 44 - V3 POWER DK (COLLECTOR)
 - PIN 45 - CHASSIS GND
 - PIN 46 - POSITIVE INPUT
 - PIN 47 - NEGATIVE INPUT

NOTE: ALL PINS LABELED AS N/C MUST HAVE NO CONNECTION ON THE BACKPLANE
 SUPPLY CAN BE CONFIGURED WITH 3 INDEPENDENT POWER DK SIGNALS
 OR WITH 1 COMPOSITE POWER DK SIGNAL USING PIN 32=POWER DK AND PIN 43=RETURN

| | | | |
|-----------------------------|------------|-------------------------|------------|
| LARGEST DIMENSION SPECIFIED | | CONTRACT NO. | |
| DIMENSIONS ARE IN INCHES | | | |
| FRACTIONS DECIMALS | | TOLERANCES ARE DECIMALS | |
| * N/A | xx x .02 | * S | |
| MATERIAL | xxx x .005 | FINISH | SEE NOTE 2 |
| | | SEE NOTE 3 | |
| NEXT ASSY | USED ON | DO NOT SCALE DRAWING | |
| APPLICATION | | | |

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| | | | |
|------------|----------|------------------------|-------|
| APPROVALS | DATE | TITLE | SCALE |
| MVS | 05/08/08 | AEGIS P/N: ED2801 | 1/1 |
| DRAWN | | AEGIS POWER SYSTEMS | |
| MVS | | MURPHY, NORTN CAROLINA | |
| CHECKED | | ED2801 MECH CONCEPT 1 | |
| PROJ. ENG. | | AEGIS P/N: ED2801 | |
| WTG. | | Dwg. No. ED2801-M00 | |
| QUALITY | | REV. A03 | |
| | | SHEET 1 OF 1 | |