

MD2901

DC-DC Power Supply

(Document Rev A03 09/29/15)



**48Vdc Input
Multiple DC Outputs, 1400W Max Total**

Market: Industrial

Application: Electronic Equipment Rack

Features

- 48Vdc input.
- Multiple DC Outputs, 1400W.

* Contact AEGIS Power Systems for specific details.

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Vin max range	43 to 53	Vdc	
Temperature range	-40 to +75	°C	
Output power	1400	W	
Input power	1608	W	
+15Vdc output	1000	W	(10) +15Vdc outputs@100W
+24Vdc output	200	W	(2) +24Vdc outputs@100W
+12Vdc output	200	W	(2) +12Vdc outputs@100W

Product Highlights

This standalone DC-DC power converter operates on 48Vdc input power and has multiple individual DC outputs (14 total outputs). Each DC output can be individually enabled or disabled or all DC outputs can be enabled or disabled via a master enable input. The converter has internal fans and requires no additional external cooling. It also features an input power monitor circuit with LED indicators that indicate when the input power is within normal operating limits. Each connector can also be uniquely keyed to avoid misconnection. Alternate configurations of DC outputs are available upon request.

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for defense, industry, telecomm, aircraft, shipboard, rack mount, electric powered vehicle, and Mil-Cots military power supply applications. Contact Aegis for specific details on what can be designed for your particular military power supply application and what portions of a particular military standard can be offered for that power supply.

SPECIFICATIONS

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

Input voltage:	48Vdc
Input current:	33.5A @ 48Vdc, typical.
Input power:	1608W @ 48Vdc, typical.
Output power:	1400W Maximum.
Output voltages:	See table 2 for details.
Efficiency:	87% Typical
Output ripple:	See table 2 for details.
Current Limit:	Short circuit protected with automatic recovery.
Start up time:	500 mSec. Maximum.
Voltage set point:	± 2.5%.
Line regulation:	± 2.5%.
Load regulation:	± 2.5%.
Temperature regulation:	± 0.02% / °C.
Temperature:	-40°C to +75°C Operating. -20°C to +100°C Non-Operating.
Cooling:	Internal fans with integrated heatsink
Package:	Chassis mounted enclosed metal case.
Dimensions:	3.21"H x 5.71"W x 8.42" L (see mechanical drawing).
Weight:	8.43 lbs. Typical.
Connector:	2ea Positronics PCIH47M400A1 or equivalent (see pin assignment page).
Humidity:	0 – 95% non-condensing.

Specifications subject to change without notice.

Table 2: Voltage Outputs

MD2901	V1-V10	V11-V12	V13-V14
Voltage	+15Vdc	+24Vdc	+12Vdc
Current	6.7A	4.1A	8.3A
Power	100W	100W	100W
Ripple	100mVpk-pk	66mVpk-pk	240mVpk-pk

Maximum total output power is 1400W (all DC outputs combined).

Connector Pin Out Assignment

MD2901 Backplane Connector Pin-out – Rev. B01

PIN Description

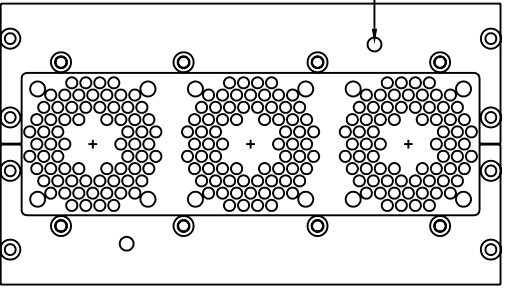
1	+15V OUT (V1)
2	+15V RTN (V1)
3	+15V OUT (V2)
4	+15V RTN (V2)
5	+15V OUT (V3)
6	+15V RTN (V3)
7	+15V OUT (V4)
8	+15V RTN (V4)
9	+15V OUT (V5)
10	+15V RTN (V5)
11	N/C
12	N/C
13	N/C
14	N/C
15	+24V OUT (V6)
16	+24V RTN (V6)
17	+12V OUT (V7)
18	+12V RTN (V7)
19	+12V OUT (V7)
20	+12V RTN (V7)
21	V1 INHIBIT (OPEN=ENABLED)
22	(AEGIS reserved – no connection on backplane)
23	(AEGIS reserved – no connection on backplane)
24	V2 INHIBIT (OPEN=ENABLED)
25	(AEGIS reserved – no connection on backplane)
26	(AEGIS reserved – no connection on backplane)
27	V3 INHIBIT (OPEN=ENABLED)
28	(AEGIS reserved – no connection on backplane)
29	(AEGIS reserved – no connection on backplane)
30	V4 INHIBIT (OPEN=ENABLED)
31	(AEGIS reserved – no connection on backplane)
32	(AEGIS reserved – no connection on backplane)
33	V5 INHIBIT (OPEN=ENABLED)
34	(AEGIS reserved – no connection on backplane)
35	(AEGIS reserved – no connection on backplane)
36	V6 INHIBIT (OPEN=ENABLED)
37	(AEGIS reserved – no connection on backplane)
38	(AEGIS reserved – no connection on backplane)

39 V7 INHIBIT (OPEN=ENABLED)
40 (AEGIS reserved – no connection on backplane)
41 (AEGIS reserved – no connection on backplane)
42 Master Inhibit/Enable
43 (AEGIS reserved – no connection on backplane)
44 NEGATIVE INPUT
45 CHASSIS GROUND
46 POSITIVE INPUT
47 NEGATIVE INPUT

ZONE	REV	DESCRIPTION	DATE	APPROVED
A01		INITIAL RELEASE	3/24/10	MVS
B01		REDUCED HEIGHT FROM 3.220 to 3.210 REDUCED WIDTH FROM 5.730 to 5.710	10/01/11	MVS

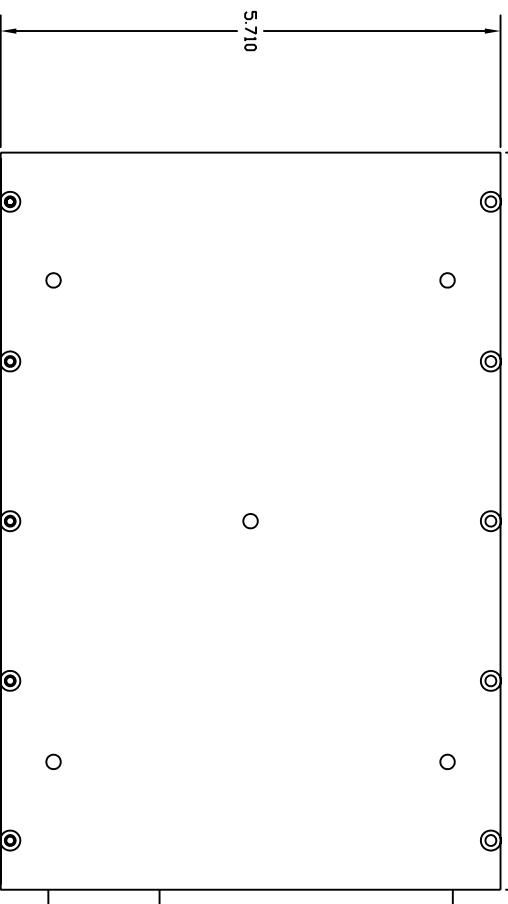
AIRFLOW DIRECTION

Input Power
DK LED (x2)

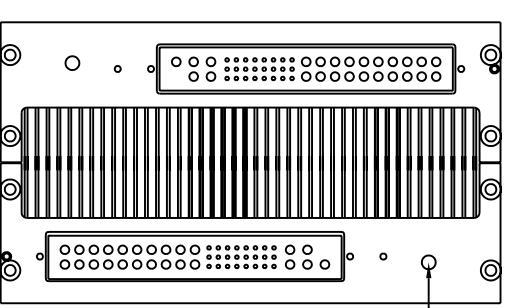


5.710

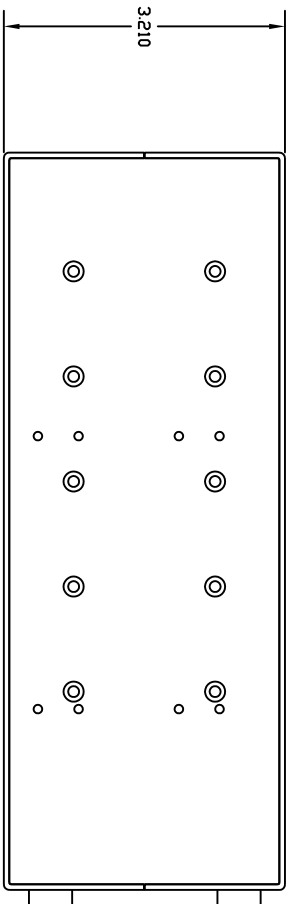
8.420



Input Power
DK LED (x2)

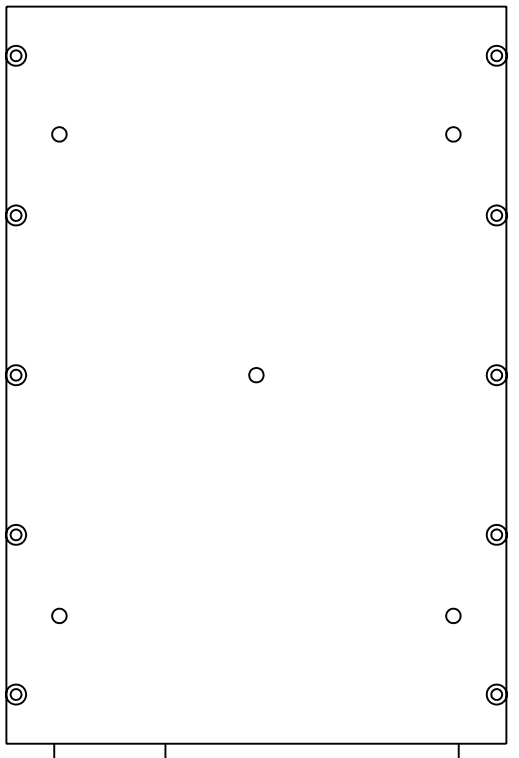


3.210



Bank "A" (P1) - Key in
pin 48

Bank "B" (P2) - Key in
pin 49



CAD MAINTAINED. CHANGES SHALL BE
INCORPORATED BY THE DESIGN ACTIVITY

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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES FRACTIONS IN DECIMALS TOLERANCES ARE: ± N/A .XX ± .02 .5 XXX ± .005 .5		CONTRACT NO.	
MATERIAL	FINISH	APPROVALS	DATE
SEE NOTE 2	SEE NOTE 3	MVS	07/03/07
SEE NOTE 3	DO NOT SCALE DRAWING	TITLE	
APPLICATION	USED ON	MD2901 MECHANICAL LAYOUT	
		AEGIS P/N: MD2901	
		SIZE FROM NO.	DWG NO.
		D 06ES8	MD2901-M00
		SCALE 1/1	SHEET 1 OF 1
			REV
			B01

8 7 6 5 4 3 2 1

A

B

C

D

A

B

C

D