

Standard Product

MDA301

AC-DC Rack Mount Power Supply

(Document Rev A01, 2/24/15)



**115-220Vac/60Hz Input
Multiple DC Outputs, 1100W Max Total**

Market: Industrial

Application: Electronic Equipment Rack

Features

- 115-220Vac/60Hz input.
- Multiple DC Outputs, 1100W.
- I²C/Ethernet interface with GUI interface and remote access
- 1U x 19" rack mount
- Low Ripple DC Outputs (10mV Pk-Pk)

* Contact AEGIS Power Systems for specific details.

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Vin max range	95 to 250	Vac	
Temperature range	0 to +75	°C	@ 600W output power
Output power	1100	W	
Input power	1528	W	
+15Vdc output	1000	W	(10) +15Vdc outputs@100W
+12Vdc output	100	W	(2) +12Vdc outputs@50W

Product Highlights

This standalone AC-DC rack-mounted power converter operates on 115/220Vac input power and has multiple individual DC outputs (12 total outputs). This power converter features a built-in webserver with a configurable IP address that can be remotely accessed. The internal controller monitors the voltage and current of each DC output and displays them in a GUI interface. Additionally, each DC output can be individually enabled/disabled and they will remain in that state even if the unit is powered off. 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 and LED indicators for each DC output. Alternate configurations of DC outputs are available upon request.

MDA301 GUI Interface

The screenshot displays the MDA301 GUI interface. At the top left is the Microchip logo. A red banner at the top right reads "TCP/IP Stack Demo Application". Below this is a header for "AEGIS Power Systems, Inc." with the VICOR logo and the tagline "The Power Behind Performance".

A vertical navigation menu on the left contains the following items: Overview, Power Page, Dynamic Variables, AJAX and jQuery, Form Processing, Authentication, Cookies, File Uploads, Send E-mail, Dynamic DNS, Network Configuration, SNMP Configuration, and Upload Firmware and Web Pages.

The main content area features a table titled "Current Values" with the following data:

Channel	Voltage	Current	Disable	Enable
Channel 1:	Voltage=15.233V	Current=0.023A	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Channel 2:	Voltage=0.005V	Current=0.000A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 3:	Voltage=15.145V	Current=0.022A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 4:	Voltage=0.009V	Current=0.000A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 5:	Voltage=15.149V	Current=0.022A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 6:	Voltage=0.005V	Current=0.000A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 7:	Voltage=15.161V	Current=0.023A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 8:	Voltage=0.009V	Current=0.000A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 9:	Voltage=15.177V	Current=0.024A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 10:	Voltage=0.009V	Current=0.000A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 11:	Voltage=12.201V	Current=0.020A	<input type="checkbox"/>	<input type="checkbox"/>
Channel 12:	Voltage=0.009V	Current=0.000A	<input type="checkbox"/>	<input type="checkbox"/>

Below the table, the temperature is displayed as "Temperature: 26.5Degrees C". At the bottom of the table area are two buttons: "Enable ALL" and "Disable ALL".

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for defense, industry, telecom, 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.)

<u>Input voltage:</u>	115Vac/60Hz - (95Vac - 250VAC, 47Hz - 63Hz)
<u>Input current:</u>	13.29A @ 115Vac, 6.94A @ 220Vac typical.
<u>Input power:</u>	1528W @ 115Vac, typical.
<u>Power Factor:</u>	0.99 typical 47-63Hz.
<u>Output power:</u>	1100W Maximum.
<u>Output voltages:</u>	See table 2 for details.
<u>Efficiency:</u>	70% Min. 72% Typical
<u>Output ripple:</u>	See table 2 for details.
<u>Current Limit:</u>	Short circuit protected with automatic recovery.
<u>Start up time:</u>	500 mSec. Maximum.
<u>Voltage set point:</u>	± 2.5%.
<u>Line regulation:</u>	± 2.5%.
<u>Load regulation:</u>	± 2.5%.
<u>Temperature regulation:</u>	± 0.02% / °C.
<u>Temperature:</u>	0°C to +75°C @ 600W output, -20°C to +100°C Non-Operating.
<u>Cooling:</u>	Internal fans with integrated heatsink
<u>Package:</u>	1U x 19" rack mounted, enclosed metal case.
<u>Dimensions:</u>	1.75"H x 19"W x 16.5" L (see mechanical drawing).
<u>Weight:</u>	18.6lbs. Typical.
<u>Connector:</u>	10ea 15Vdc output conn Lemo ECG.1B.306.CLL 2ea 12Vdc output conn Lemo ECG.0B.304.CLL 1ea 115Vac input conn Amphenol MS3102A14S-7P
<u>Humidity:</u>	0 – 95% non-condensing.

Specifications subject to change without notice.

Table 2: Voltage Outputs

MDA301	V1-V10	V11-V12
Voltage	+15Vdc	+12Vdc
Current	6.7A	4.1A
Power	100W	50W
Ripple	10mVpk-pk	10mVpk-pk
Maximum total output power is 1100W (all DC outputs combined).		

Connector Pin Out Assignment

MDA301 Connector Pin-out – Rev. A01

<u>V1-V10</u>	<u>Pin</u>	<u>Description</u>
	1	+15V OUT
	2	+15V OUT
	3	+15V OUT
	4	DC RTN
	5	DC RTN
	6	DC RTN

<u>V11-V12</u>	<u>Pin</u>	<u>Description</u>
	1	+12V OUT
	2	+12V OUT
	3	DC RTN
	4	DC RTN

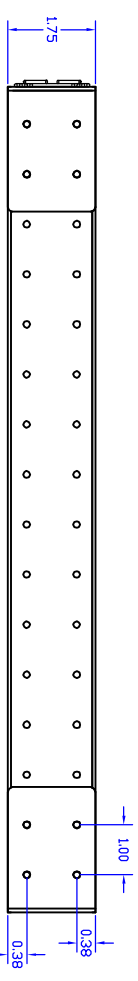
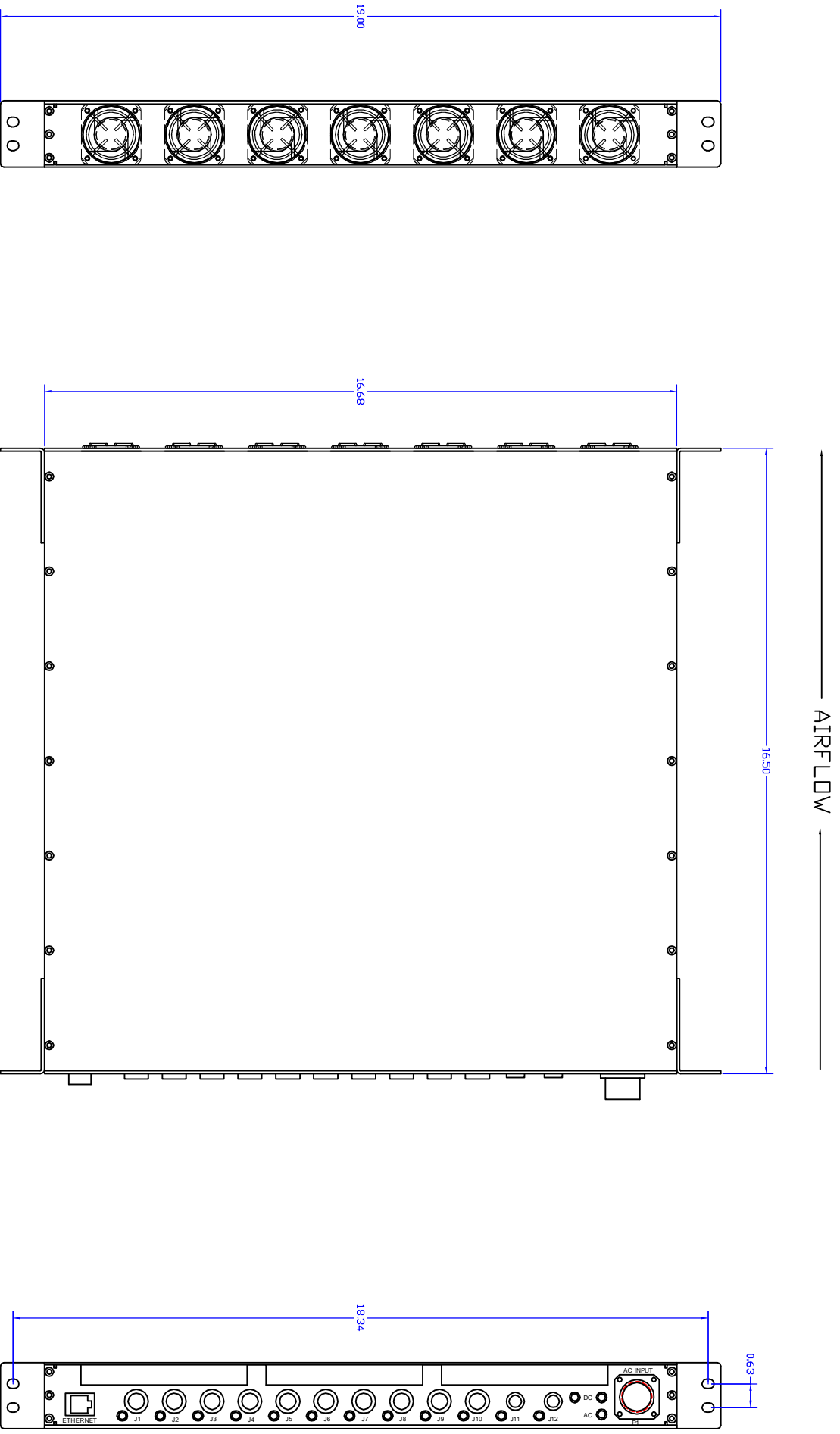
<u>AC INPUT</u>	<u>Pin</u>	<u>Description</u>
	A	LINE
	B	NEUTRAL
	C	CHASSIS GND

REVISIONS			DATE	APPROVED
ZONE	REV	DESCRIPTION		
A01		INITIAL RELEASE	05/07/13	MVS

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:
3. FINISH:



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UNLESS OTHERWISE SPECIFIED, DIMENSIONS IN THIS DRAWING SHALL BE IN DECIMALS AND INCHES		CONTRACT NO.	
FRACTIONS	DECIMALS	INCHES	
* N/A	XX ± .02	* 5	
MATERIAL	XXX ± .005		
SEE NOTE 2			
FINISH	SEE NOTE 3		
DO NOT SCALE DRAWING			
APPROVALS	DATE	TITLE	
DRAWN MVS	05/07/13	MDA301 MECHANICAL CONCEPT	
CHECKED		AEGIS P/N: MDA301	
PROJ. ENG.			
WFLG		SIZE F304 NO.	
QUALITY		D 06ES8	
		DWG NO.	
		MDA301-M01	
		SCALE 1/1	
		SHEET 1 OF 1	
		REV	
		A01	

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