

# Power For The New Technology

## PS2446

Total Power	9000 Watts
Input Voltages	352-528 VAC Line to Line
Outputs	270V @ 33A Max 28V @ 2A Max

### SPECIAL FEATURES

- Power factor >0.98
- 352-528 VAC Line to Line per MIL-STD-1399, Section 300A
- AC input under voltage protection
- Efficiency >80%
- N+1 Redundancy for LRU
- Microcontroller interface
- Primary power limiting for PFC Boost and Down Converters
- Self-restarting type OVP on 400Vdc Bus
- Hold-Up time 100ms
- Elapse Time Meter (0-99999 hrs)

### ENVIRONMENTAL

Ambient Operating Temperature: 0 to +50°C, full rating.  
Humidity: Up to 95% non-condensing  
Temperature coefficient:  $\pm 0.01\%$  / °C  
Storage Temperature: -40° to +70°C  
Cooling: 24V, 60 CFM and 104 CFM fans. Air flow front to back for each LRU.



### ELECTRICAL SPECIFICATIONS

#### Input

Input.....440 VAC per MIL-STD-1399, section 300A, Type I  
58.2 – 61.8Hz; Power Factor 0.98  
Inrush Current .....<86 Amps peak per phase  
Isolation.....4242VDC (Input to Output)

Electromagnetic / Efficiency specifications:  
MIL-STD-461E, CE102, CS101, CS114, CS115, CS 116  
RE101, RE102, RS101, RS103  
DOD-STD-1399, section 70 for DC Magnetics  
Efficiency.....> 80% typical at full load

#### Output

DC Outputs: 270V and 28V, Maximum continuous output power  
>4500W with internal cooling. See Voltage/Current Rating  
Chart.  
Load Regulation..... $\pm 3\%$  for 270V output  
Ripple and Noise < 900mV typical  
Transient Response.....2% Maximum deviation;  
Current Sharing; Droop method

### MECHANICAL

24" L X 12.22" H X 19" W (609.6 mm X 310.3 mm X 482.6 mm)

#### Status signals and indicators

Visual LED indicators identify power supply status.  
The indicators are:  
AC Power Present  
270V Enable/Disable  
Battleshort Activate  
270V Status  
28V Status  
PS Module Fault  
Comm. Activity  
Temp Status  
Elapse Time Meter (0-99999 hrs.)



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## **Output**

Over voltage protection – (Latching)

Over current protection – (Non-Latching)

Over temperature protection – (Non-Latching)

Short Circuit Protection.....Will withstand a continuous short without damage.

Minimum Load Rqmt.....0% of full load for both outputs.

No Load Operation.....No damage to supply when operating at no load.

Hold-Up Time.....100 mSec typical at 4100W total power

OVP.....285V typical for 270V output

## **Voltage/Current Rating Chart**

270V Output	274.6V	270.3V	266.8V
Current	0	18A	33A
28V Output	29.32V	28.85V	28.420
Current	0	1A	2A

## **Topologies**

PFC, boost converter (70 kHz)

Phase shifted, ZVS full bridge (100 kHz)

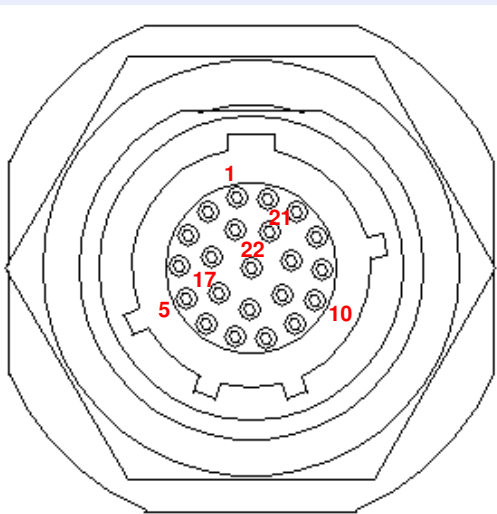


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## PSA Connector PIN Assignment (View from back of PSA)

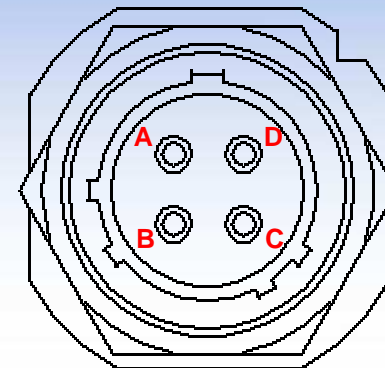
J4

Description	PIN
N.U.	1,2,3,4,5,6
270V Forced Enable RTN	7
270V Forced Enable	8
28VDC RTN	9
28VDC	10
28VDC RTN	11
28VDC	12
28VDC RTN	13
28VDC	14
Crtl-PS Diff Ctrl	15
Crtl-PS Diff Ctrl-N	16
PS-Ctrl Diff Ctrl	17
PS-Ctrl Diff Ctrl-N	18
Crtl-PS Diff Data	19
Crtl-PS Diff Data-N	20
PS-Ctrl Diff Data	21
PS-Ctrl Diff Data-N	22



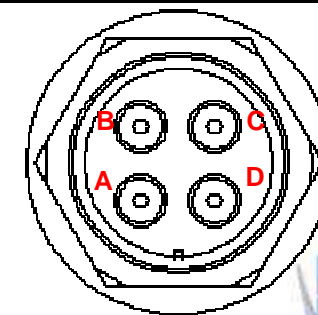
J1 & J2

Description	PIN
270VDC	A
Chassis GND	B
270VDC RTN	C



J7

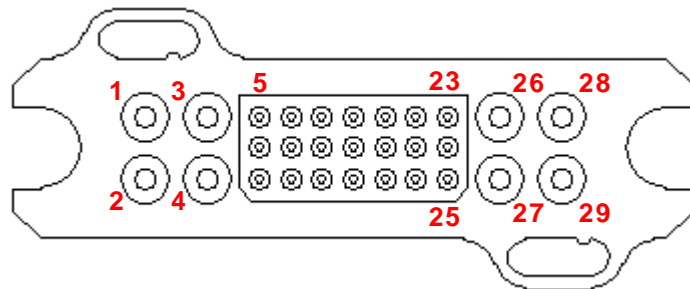
Description	PIN
440V RMS Phase A	A
440V RMS Phase B	B
440V RMS Phase C	C
Safety GND	D



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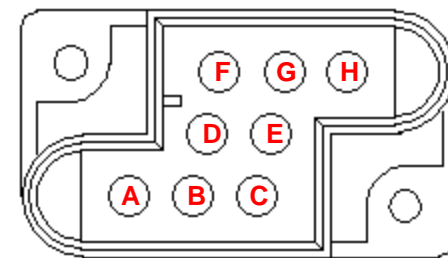
## LRU Output Connector PIN Assignment

Description	PIN
270V	1
270V	2
N.U.	3,4,5,6,9,21,22, 23,24,25,27
Enable	7
Battle Short	8
28V RTN	10
Data 0	11
Data 1	12
SEL 0	13
SEL 1	14
SEL LRU	15
28V RTN	16
Sec GND/ Enable RTN	17
Lamp Test	18
28V	19,20
Chassis GND	26
270V RTN	28
270V RTN	29



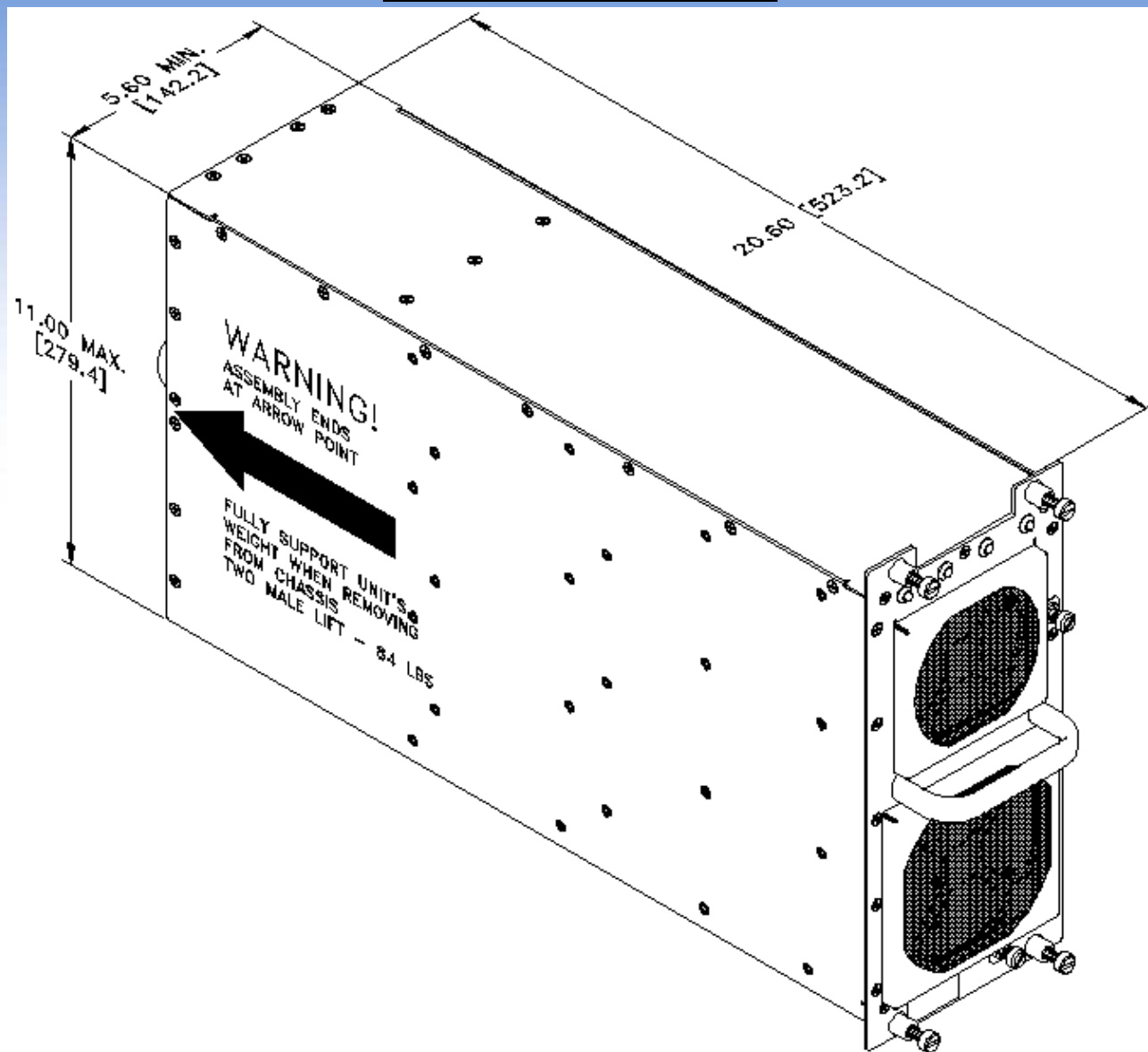
## LRU Input Connector PIN Assignment

Description	PIN
Phase A	A
N.U	B,D,E,F,G
Phase B	C
Phase C	H



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## LRU Mechanical Outline



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## PSA Mechanical Outline

