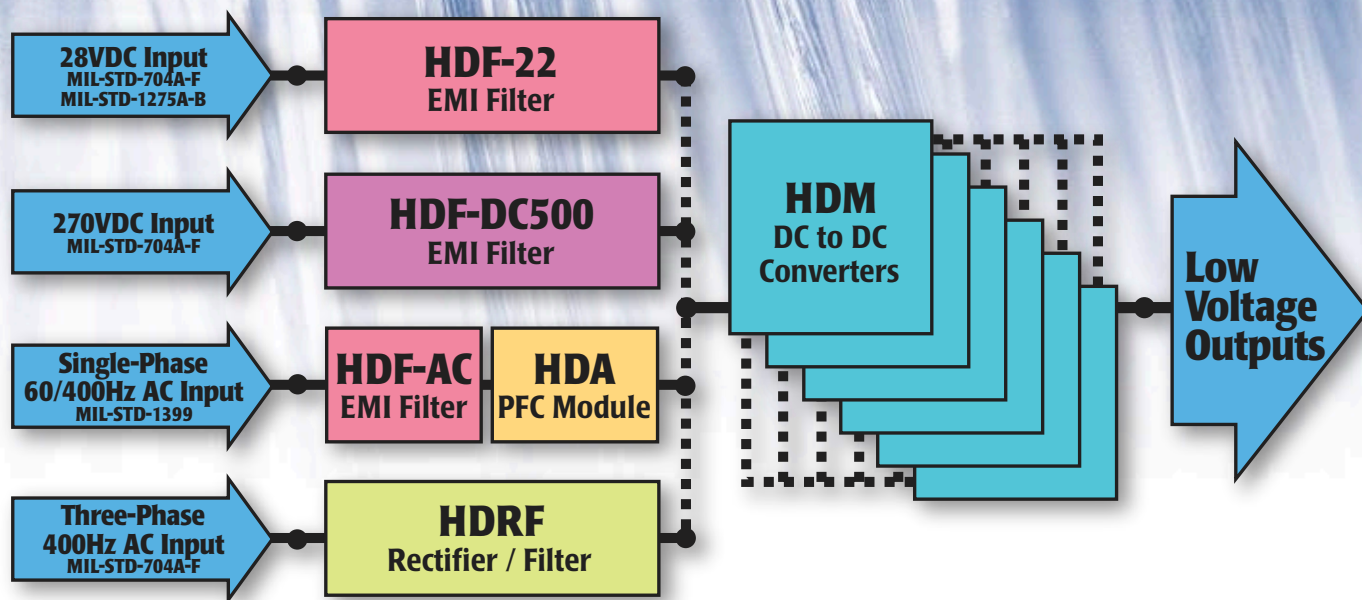


*Power Solutions  
for Today's Military*

# Low Voltage Power Supplies from **COTST+** Building Blocks



*Short Form Brochure*

*Rantec Power Team Engineers  
Offer Technical Assistance to:  
Evaluate Power System Requirements,  
Develop Power System Concepts  
and Requirements.*



**Rantec Power Systems Inc.**

# Low Voltage Power Systems ...

## Input Conditioning

1-Phase AC



270 VDC



### HDF EMI Filters

- MIL-STD-461C-E

28 VDC

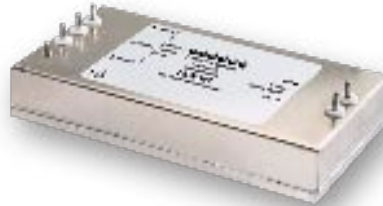


### HDA PFC Modules

- Input: 1-Phase 85 to 265 VAC, 60 / 400 Hz
- Low Harmonic Distortion
- Overvoltage and Overcurrent Protection
- Outputs: 300 / 380 VDC

### HDM-BT Boost Converter

- 50 or 65 VDC Output
- Upto 185 W Output
- MIL-STD-704A-F
- MIL-STD-1275A-B



### HDRF Rectifier / Filter

- Input: 3-Phase 400 Hz
- MIL-STD-704A-F
- MIL-STD-461C-E

## HDM Series

## High Density DC-DC Converters



### HDM-LLP

- 270 Vin
- Single Output 1.2 to 100 VDC
- Secondary side control
- Up to 25 W
- 2.3 x 1.43 x 0.50 inches
- Mu Metal Shield

### HDM-200

- 270 Vin
- Single Output 1.2 to 100 VDC
- Secondary side control
- Up to 200 W
- 2.4 x 2.3 x 0.5 inches
- Mu Metal Shield

### HDM/HDM+

- 24 / 48 / 270 Vin
- Single Output 1.2 to 100 VDC
- Up to 335 W
- 2.4 x 3.6 x 0.5 inches

### HDM Triple

- 28 / 270 Vin
- Triple Output
- 3.3 or 5 w/  $\pm 12$  or 15 VDC
- Up to 185 W
- 2.4 x 4.6 x 0.5 inches

- Ruggedized MIL-STD-810C-D, MIL-S-901D
- Wide operating temperature: -55°C to +95°C
- External synchronization capability
- Parallel with current sharing
- Fixed frequency operation
- Logic On/Off
- Output good / BIT signals

- Remote sense
- Conduction cooled
- No aluminum electrolytics
- Unique output voltages
- Fixed frequency operation
- Isolated

Rantec's HDM series is the basic building block used to develop performance based "Power System Solutions" for today's military environment. Its compact size, low weight and ruggedness make it an ideal element for a distributed power system. Modules can also be configured in series or parallel combinations to develop custom solutions. Using fixed frequency switching technology, HDM series converters incorporate power MOSFETs, planar magnetics, and surface mount technology onto a metal clad PC board. The forward converter topology employs fewer components, which translates into enhanced reliability.



# ...from **COTS+** Building Blocks

**VME / ATR Series**

**6U Format**

**Ask about  
our new  
28VDC  
Series**



- Inputs: 28VDC, 270VDC, or 3 $\phi$ /400Hz MIL-STD-704A-F / MIL-STD-1275A
- Multiple outputs (up to 5)
- 680 watts maximum
- Output ripple <50mV<sub>p,p</sub>
- Conduction or convection cooled
- Rugged MIL-STD810C-D, MIL-S-901D
- EMI MIL-STD-461C-E
- 6U x 220 mm VME format

<b>Efficiency</b>	75-80% Typical
<b>V/A/Regulation</b>	Refer to HDM
<b>Noise/Ripple</b>	<50mV p-p
<b>Overvoltage Protection</b>	120% Nominal
<b>Current Limiting</b>	120% Typical
<b>Power Factor</b>	> .90
<b>Switching Frequency</b>	Fixed @ 300Khz
<b>Temperature</b>	Wide MIL Range
<b>Cooling</b>	Conduction or Convection
<b>Altitude</b>	Up to 70,000 feet
<b>Humidity</b>	100% Condensing
<b>EMI</b>	MIL-STD-461C-E
<b>Isolation</b>	Inputs to Outputs to Chassis
<b>Weight - Conduction</b>	3.2 lbs. max
<b>Weight - Convection</b>	5.0 lbs max



The VME / ATR Series of high-power, multiple-output power supplies addresses the needs of today's military for plug-in LRU applications. Our multiple output power supplies are proven COTS products for the most demanding military airborne, shipboard and vetronics system applications. Model specific features include independently regulated, isolated outputs, temperature/voltage/current protection, BIT status reporting and LED indicators, and are designed to NAVSO P-3641 derating guidelines.

Airborne models operating on 3-phase/400Hz 200 VACL-L or 270 VDC aircraft power can provide up to 5 independently regulated outputs and generate up to 680 watts. Rantec has produced a number of standard and custom models, offering a mix of up to five output

voltages from 1.2 to 40 volts in either conduction or convection cooled configurations. Customization is achieved through the use of Rantec's COTS+ HDM DC-DC converter modules.

For vetronics applications, the VME28M high performance, multiple-output military power supply addresses the needs of today's military for IEEE Std. 1101.2-1998 and VME64 compliant, plug-in LRU applications. Operating from MIL-STD-704A-F / MIL-STD-1275A-B 28 VDC input power, the units provide 4 outputs, generate up to 200 watts, and comply with MIL-STD-461C-E EMI requirements. Features include independently regulated isolated outputs, ACFAIL, SYSRESET, SYSFAIL, remote on/off, and remote sense.



# Low Voltage Power Systems ...

**Custom**

**Power Supply Solutions**

Custom, cost-effective power supply solutions based on HDM DC-DC converter building blocks provide the necessary functions for unique tactical military applications.



#### INPUT OPTIONS

- MIL-STD-461A-F
- MIL-STD-704A-E
- MIL-STD-1275A
- MIL-STD-1399

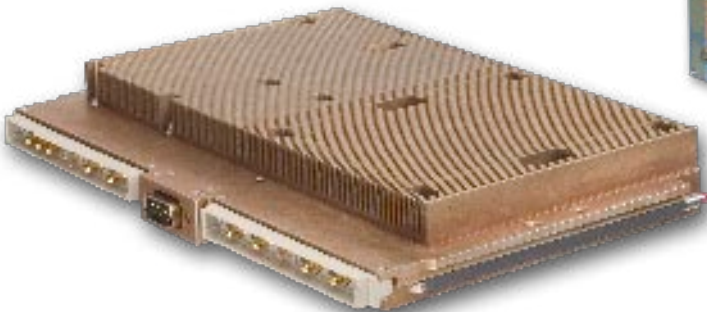
#### OUTPUT OPTIONS

- Custom voltage/current
- Isolated outputs
- Low noise
- Remote sense
- Hold-up

#### OTHER OPTIONS

- Custom packaging
- Nuclear event detection
- MIL-STD-810
- MIL-STD-901

For over 30 years, Rantec has been a leading designer and manufacturer of custom low voltage power supplies for avionics, shipboard, and vetronics applications. Our focus is high performance military power supplies, designed using Rantec's line of DC-to-DC converters, EMI filters, and input conditioning modules. We have considerable knowledge of the module's characteristics and have developed the techniques and supporting analysis for modifications and use in unique military requirements. Rantec engineers have extensive expertise in meeting military input conditions, EMI, status and control, mechanical and environment applications, while maintaining cost and schedule objectives. We provide the 'best value' in military power systems solutions.



It is Rantec's policy to improve products as new techniques and components become available. Specification subject to change without notice. ©2007 Rantec Power Systems Inc. All rights reserved. LVSBF REV 071101



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