

# Power Solutions for Today's Military

Power Systems from **COTS+** Building Blocks

## HDF-AC AC EMI Filter Module

- ◆ Input 85 to 265 VAC 60 Hz (400Hz with reduced specs)
- ◆ Up to 8A
- ◆ Matched to Rantec's HDA PFC Module
- ◆ EMI Compliant  
MIL-STD-461D-E:  
CE101 & CE102
- ◆ Low Input Voltage Drop
- ◆ Isolated Case
- ◆ Low Internal Dissipation
- ◆ Operating temperature range: -55°C to +95°C
- ◆ Conduction Cooled
- ◆ MIL-S-901C Shock
- ◆ MIL-STD-810C
- ◆ MIL-STD-1399 Compliant (with external transorb)
- ◆ Competitively Priced



Rantec's HDF-AC is a complementary building block used to develop performance based "Power System Solutions" in today's military environment. Rantec's HDF-AC EMI filters allow the system designer to develop power systems which comply with the stringent requirements of MIL-STD-461, while employing the cost and schedule philosophies of Commercial Off-The-Shelf (COTS). These filters are specifically designed to interface with Rantec's HDF power factor correction module, and thereby the HDM DC-DC converter line, providing both differential and common mode filtering.

### HDF-AC EMI FILTER MODULE

MODEL	PART NUMBER	INPUT	CURRENT
HDF-AC	PL31503	85 - 265 VAC	8A max

*The System Designer's Choice*

**Rantec Power Team Engineers  
Offer Technical Assistance to:**  
Evaluate Power System Requirements  
Develop Power System Architecture  
Reduce Time to Market



**Rantec Power Systems Inc.**

# HDF-AC

## AC EMI Filter Module

### INPUT

PARAMETER		COMMENTS
<b>Voltage</b>	85-265 VAC	MIL-STD-1399 Compliant (with external transorb)
<b>Current</b>	8A max	
<b>Efficiency</b>	>99%	Power $\geq$ 10W
<b>Power Factor</b>	0.99	Power $\geq$ 50W
<b>Surge Rating</b>	350VAC	Up to 500mSec
<b>Isolation</b>	Input to Output	Not Isolated
	Input & Output to Case	10M $\Omega$ minimum @ 1000VDC
<b>EMI Management</b>		Suppresses conducted emissions from connected HDA/HDM modules operating at maximum power. Specific limits defined by the constraints of MIL-STD-461 D-E, CE101 and CE102.

### MECHANICAL

<b>Construction</b>	Fully shielded
<b>Dimensions</b>	See diagram
<b>Mounting</b>	See diagram
<b>I/O Connection</b>	Solder pins
<b>Weight</b>	13 oz. max.

### ENVIRONMENTAL

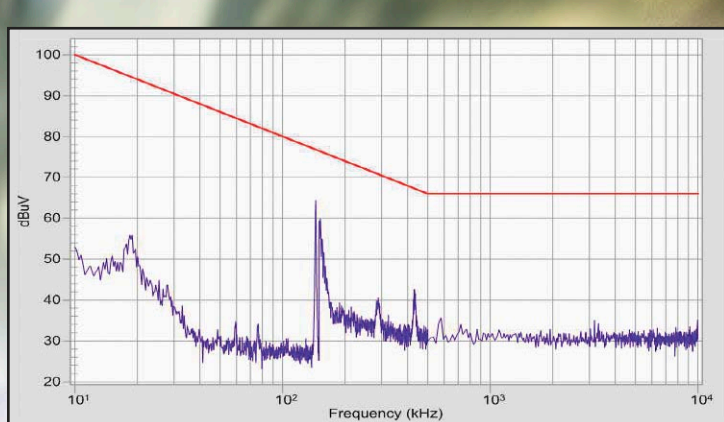
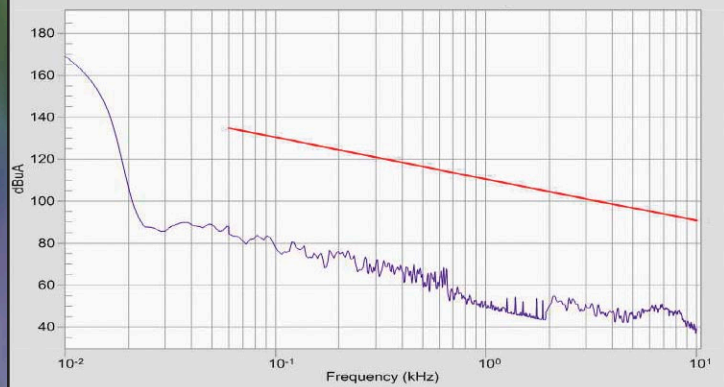
<b>Cooling</b>	Conductively cooled baseplate, +95°C max
<b>Operating Temperature</b>	-55°C to +95°C, baseplate
<b>Storage Temperature</b>	-55°C to +125°C
<b>Humidity</b>	MIL-STD-810C, Method 507.1, Proc. IV
<b>Altitude</b>	up to 70,000 ft
<b>Shock</b>	MIL-S-901C, Grade A, Type A, Class 1 High impact shock
<b>Vibration</b>	MIL-E-5400, Curve IVa, 5 to 2kHz
<b>Salt Spray</b>	MIL-STD-810C, Method 509, Proc 1
<b>MTBF</b>	9,255,851 hours @ 55°C Naval Sheltered per MIL-STD-217F Note 2

Specifications subject to change without notice.  
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 HDF-AC REV 070118

1173 LOS OLIVOS AVE  
 LOS OSOS CA 93402  
 FAX 805 596 6006  
 powersys@rantec.com  
 www.rantec.com  
 805-596-6000

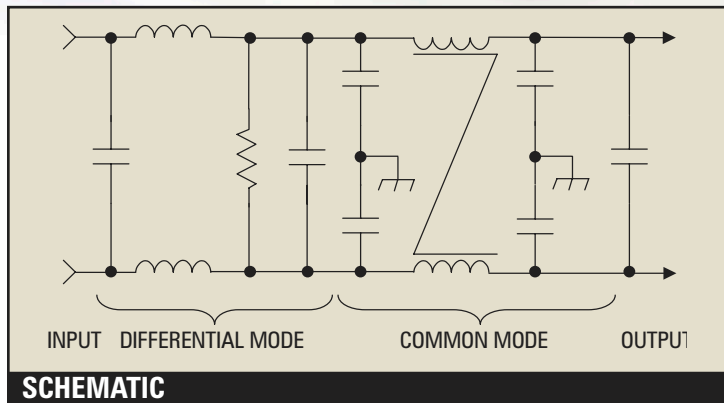
### MIL-STD-461E 115V CE101

HDA-600-31, HDF-AC EMI Filter, 820 $\mu$ f Cap

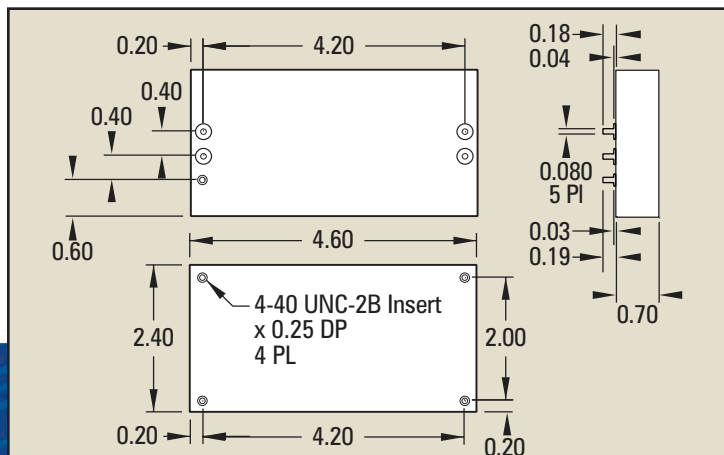


### MIL-STD-461E 115V CE102

HDA-600-31, HDF-AC EMI Filter, 820 $\mu$ f Cap



### SCHEMATIC



### OUTLINE & MOUNTING DIAGRAM

Dimensions are for reference only