

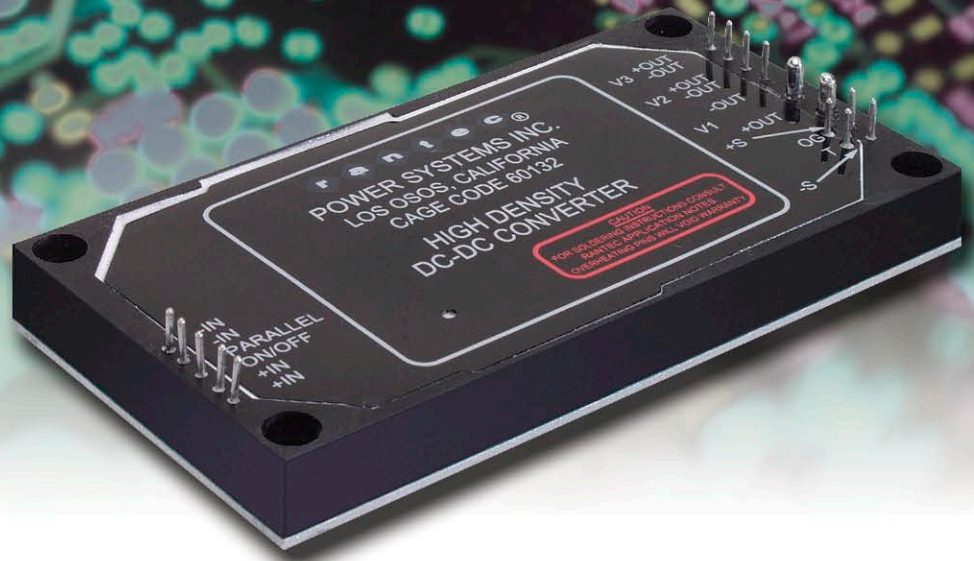
Power Solutions for Today's Military

Power Systems from **COTS+**™ Building Blocks

HDM

Triple Output Series 28V input DC-DC Converter

- ◆ **NEW** - wider input range: 16-33VDC
- ◆ Three regulated outputs
- ◆ Up to 150W
- ◆ Fixed frequency operation
- ◆ Parallel with current sharing (main output)
- ◆ Output good signal
- ◆ External synchronization capability
- ◆ Low input voltage capability
- ◆ Operating temperature range: -55°C to +95°C
- ◆ Logic On/Off
- ◆ Conduction cooled
- ◆ Extremely low thermal resistance
- ◆ Ruggedized, meets MIL-STD-810C
- ◆ MIL-STD-704 Compatible (16V input)



Rantec's 28V HDM triple output series is the basic building block used to develop performance based "Power System Solutions" in today's military environment. Its compact size and high performance 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.

TRIPLE OUTPUT SERIES (150W max.) 28V Input			
	3.3V@30A ±12V@2A	5V@25A ±12V@2A	5V@25A ±15V@2A
MODEL	HDM-1T3-312-01	HDM-1T3-512-01	HDM-1T3-515-01

Rantec Power Team Staff Offers Technical Assistance to:

Define unique module specifications

Match module performance to system requirements



Rantec Power Systems Inc.

HDM

Triple Output Series 28V input DC-DC converter

INPUT POWER			
	UNITS	COMMENTS	
Voltage Nominal	28	VDC	
Voltage Min	16	VDC	
Voltage Max	33	VDC	
OverVoltage Max	50	VDC	Internal shutdown protection above 33VDC
No Load Power	7.5	Watts	
Turn on time	15	mSec	Typical

INPUT CONTROL			
Turn on time, logic	2	mSec	Typical, See HDMA-106*
Logic disabled power in	0.5	watts	See HDMA-106*
Logic disabled current	20	mA	See HDMA-106*

ISOLATION	
Input-Output	10MΩ minimum @ 1000VDC
Input-Case	
Output-Case	10MΩ minimum @ 200VDC

FREQUENCY SYNC (optional)				
	MINIMUM	RECOMMENDED	MAXIMUM	COMMENTS
Frequency	330 KHz	350 KHz	370 KHz	See HDMA-102*
Width	50 ns	100 ns	150 ns	
Amplitude	1.0 V	1.5 V	2.0 V	

POWER RATINGW		EFFICIENCY (typ)			
VDC MAIN	VDC AUX1/AUX2	W MAX	50W	100W	150W
3.3V@30A	-12@2A/+12@2A	150	66%	66%	61%
5V@25A	-12@2A/+12@2A	150	69%	70%	67%

Mechanical	
I/O Connection	Wave solderable or inserted into mated sockets
Weight	9 oz. max.
Construction	Fully encapsulated

Environmental	
Cooling	Conductively cooled baseplate, +95°C max
Operating Temperature	-55°C to +95°C, baseplate
Storage Temperature	-55°C to +125°C
Humidity	MIL-Std-810C, Meth 507.1, Proc IV (Proc I, II, or III w/optional parylene coating.)
Altitude	up to 70,000 ft
Shock	MIL-S-901C, Grade A, Type A, Class 1 High impact shock
Vibration	MIL-E-5400, Curve IVa, 5 to 2kHz
Salt Fog	MIL-STD-810F, Method 509.4
MTBF	975,000 hrs @55°C baseplate, ground benign

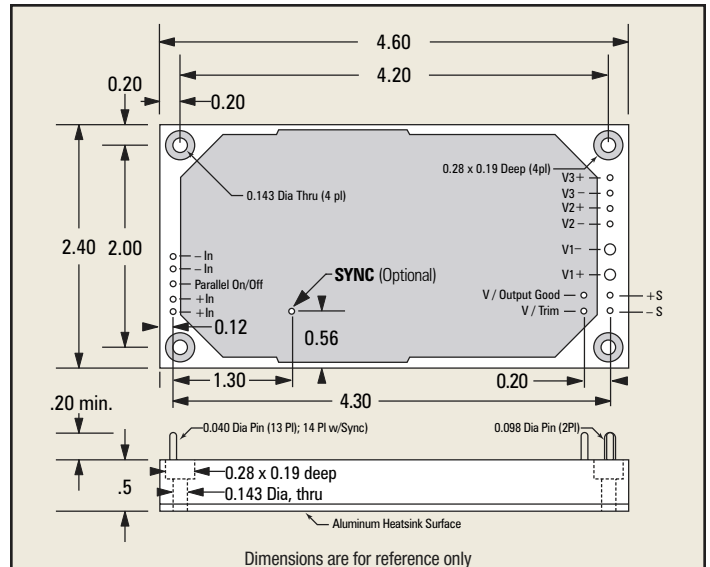
OUTPUT VOLTAGE					
	MIN	TYP	MAX	UNITS	COMMENTS
Set Point		0.50	1.0	± %	Full Load
Set Point - Aux		0.50	1.0	± %	10A Main, Full Load Aux
Trim Adjust - Main		10		± %	See HDMA-104*
Ripple		1	3	% p-p	20mHz bandwidth
Ripple - Aux		0.5	1.0	% p-p	See HDMA-100*

OUTPUT REGULATION					
Line & Load - Main		0.05	0.50	%	See HDMA-105*
Load - Aux		0.20	0.50	%	
Line - Aux		0.01	0.10	%	Load Change 20-80%
Dyn Load - Main			5.00	%	Load Change 20-80%
Dyn Load - Aux			1.00	%	Load Change 20-80%
Dyn Load Recovery			250	uSec.	Triple Main & Aux
Temp Coeff			0.02	%/°C	
Temp Coeff-Aux			0.06	%/°C	

OUTPUT GENERAL					
Operating Freq		300		KHz	Fixed

OUTPUT STATUS					
Output Good Signal		10		±%	Active Low

OUTPUT PROTECTION					
Overvoltage		120		%	Main Output
Current Limit		120		%	Main Output
Current Share		5		±%	Main Output
Auto Temp Shutdown	100	105	110	°C	Auto Recovery



Specifications subject to change without notice. ©2006 Rantec Power Systems Inc. All rights reserved. HDM28T REV 061127

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

rantec
Rantec Power Systems Inc.