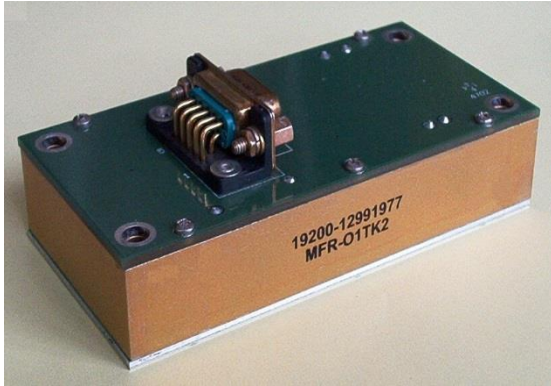




# MB5 SERIES

## 30W TRIPLE OUTPUT DC/DC CONVERTER



- Wide input range 16-40 VDC
- Operates -46°C to +100°C
- Ruggedized for MIL-STD-810 requirements
- MIL-STD-1275 compliant
- Meets MIL-STD-461D requirements
- Over current and voltage protection
- Designed for combat vehicles
- Fixed frequency
- Meets nuclear hardening requirements
- Custom configurations upon request

### DESCRIPTION:

The Modular Block (MB5) Series of triple output DC/DC converters are designed for demanding military and aerospace applications. These DC/DC converters come in two configurations, PCB mount or D-Sub connector. These converters are designed for demanding ground vehicle applications and meet MIL-STD-1275 requirements as well as being able to withstand nuclear environments and operation to +100°C. The converters are a fixed frequency technology and are designed with high reliability in mind.

<b><u>GENERAL SPECIFICATIONS</u></b>	
<b>INPUT VOLTAGE:</b>	16 – 40 VDC (28 VDC Nom.)
<b>FREQUENCY RANGE:</b>	100Khz
<b>OUTPUT POWER:</b>	30W (Total)
<b>OUTPUT VOLTAGE:</b>	5V, ±15V (Configurable)
<b>ISOLATION:</b>	100 VDC Input to output, 50 VDC all pins to case
<b>PHYSICAL SIZE:</b>	4" x 2" x 1"
<b>WEIGHT:</b>	9 oz.
<b>MTBF:</b>	Contact: <a href="mailto:Sales@Prime-Power.com">Sales@Prime-Power.com</a>



# MB5 SERIES

30W TRIPLE OUTPUT DC/DC CONVERTER

<b>ELECTRICAL SPECIFICATIONS</b>	
<b>Set Point Accuracy</b>	±1%
<b>Line Regulation (Lo Line to Hi Line)</b>	0.02%
<b>Load Regulation (1/2-FL W/Sense)</b>	0.02%
<b>PARD (Ripple Noise) DC-20MHZ</b>	1%
<b>O.V.P.</b>	Non-shutdown, auto recovery
<b>Current Limit</b>	110-130%, fold back, auto recovery
<b>Start Up Time</b>	≤ 20mS
<b>Turn-on Overshoot</b>	≤ 0.5V
<b>Efficiency (MIN)</b>	75%
<b>Abnormal Operation</b>	Per MIL-STD--1275, 6 VDC cranking requirement at reduced output loads. Voltage spike to ±250 VDC

Note: All Specifications are typical at 25°C with nominal input voltage under full output load conditions, unless otherwise noted.

<b>ENVIRONMENTAL SPECIFICATIONS</b>		
<b>Pressure-Altitude</b>	MIL-STD-810	Method 500.4
<b>High Temperature</b>	MIL-STD-810	Method 501.4 Procedure 1 & 2
<b>Low Temperature</b>	MIL-STD-810	Method 502.4 Procedure 1 & 2
<b>Humidity</b>	MIL-STD-810	Method 507.4
<b>Fungus</b>	MIL-STD-810	Method 508, Condition A
<b>Salt Fog</b>	MIL-STD-810	Method 509
<b>Sand and Dust</b>	MIL-STD-810	Method 501.4, Procedure 1 & 2
<b>Explosive Atmosphere</b>	MIL-STD-810	Method 511, Condition A
<b>Acceleration</b>	MIL-STD-810	Method 513.5, Procedure 1 & 2
<b>Vibration</b>	MIL-STD-810	Method 514.2, Sine 5g at 15 to 2000Hz. Random 0.1 g <sup>2</sup> /Hz
<b>Shock</b>	MIL-STD-810	Method 516.6, Procedure I, Functional Shock, 40g for 11ms and 18 half-sine shock pulses
<b>EMI/EMC</b>	MIL-STD-461	MIL-STD-461D, CE102-1, 28 volt basic curve. CS101, CS114, CS115, RE102-3
<b>Nuclear Hardening</b>		Contact: <a href="mailto:Sales@Prime-Power.com">Sales@Prime-Power.com</a>



# MB5 SERIES

30W TRIPLE OUTPUT DC/DC CONVERTER

<b>PHYSICAL CHARACTERISTICS</b>	
Maximum Case Size	4 x 2 x 1 (inches)
Cooling Method	Conduction, base plate
Encapsulation	Yes, 2 part silicone
Enclosure Finish	Yellow Chromate
Baseplate Finish	None (upon request)
Input/Output Termination	(7x) 40mil pins or 9 pin D-Sub connector
Mounting Holes/Standard Threaded Baseplate	Mounting holes (4)
Weight	9 oz.

<b>TEMPERATURE SPECIFICATIONS</b>	
Operating; Baseplate Temperature	-40°C to +100°C
Storage Temperature	-55°C to +125°C
Temperature Coefficient	

<b>MODEL SPECIFICATIONS</b> (non-standards upon request)			
PART NUMBER	OUTPUT 1	OUTPUT 2	OUTPUT 3
MB5-30/M4	5V/3A	+15V/.5A	-15V/.5A
MB5-30/M3	5V/3A	+12V/.6A	-12V/.6A

**ORDERING INFORMATION:** For D-Sub connector option add "D" to the end of the part number.

**MECHANICAL DRAWING:**

