

JUPITER-MM-5000 196W PC/104-Plus DC/DC Power Supply Module Targets Rugged Networked Applications

Mountain View, CA — January 19, 2016 —

Today Diamond Systems Corporation, a leading global supplier of compact, rugged, I/O-rich embedded computing solutions for real-world applications in a broad range of markets, unveiled the Jupiter-MM-5000 high-efficiency, high-precision family of DC/DC power supply modules. These rugged I/O modules offer up to 196W of +5VDC and +12VDC power in either the compact PC/104 form factor or PC/104-Plus form factor.

Jupiter-MM-5000 power supplies consist of a PC/104 form factor module with complete DC-DC voltage regulator circuitry, integrated thermal solution, detachable screw terminal block I/O connections, and PC/104 bus connectors. The wide input voltage range of 7 to 34VDC is compatible with industry standard 12V, 24V, and 28V inputs. The Jupiter-MM-5000 uses a state-of-the-art design with the latest generation high efficiency components. It delivers efficiency as high as 95 percent, reducing input power requirements as well as heat generation.



Technical Specifications

- Four models:
 - +5VDC & +12VDC outputs in a PC/104-Plus module
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 - +5VDC output in a PC/104 module
- Up to 196W total output power at 25°C
- +5VDC at 20A maximum
- +12VDC at 8A maximum
- Optional +3.3VDC at 5A maximum (minimum order quantities apply)
- Extreme load stability: 0.35% maximum output voltage droop at 5V output, 0-20A load, $V_{IN} = 12V$, $T_A = 25^\circ C$
- Extremely low ripple: 12mV peak-to-peak ripple at 5V output, 0-20A load, $V_{IN} = 12V$, $T_A = 25^\circ C$
- High efficiency: 92-94% at 5V output, 0-20A load, $V_{IN} = 12V$, $T_A = 25^\circ C$
- Excellent transient load response: +/-72mV at 5V output, 25-75% load step, 2.5A/usec ramp rate, $V_{IN} = 24V$, $T_A = 25^\circ C$
- Extreme temperature stability: +/-0.5% at 5V output, 10A load, $V_{IN} = 24V$, $T_A = -40^\circ C$ to $+85^\circ C$
- Input protection circuit for over/under voltage, reverse polarity, surges, transients and reflected noise
- Output current limit and short circuit protection
- Wide input voltage range: +7VDC to +34VDC input
- Remote on/off control
- Heat sink or heat spreader cooling solutions
- Dual input option with auto-cutover (minimum order quantities apply)
- PC/104 form factor: 3.55" x 3.775" (90mm x 96mm)
- PC/104 and PC/104-Plus bus connector options
- Extremely rugged -40°C to +85°C operating temperature
- MIL-STD-202G shock and vibration compatible

Jupiter-MM-5000 was engineered for rugged applications such as automotive or on-vehicle. Extended temperature operation of -40°C to +85°C is tested and guaranteed. Low-profile, surface mount components reduce susceptibility to shock and vibration. I/O connections are made with locking screw terminal blocks for the highest degree of ruggedness. The modules are compatible with MIL-STD-202G shock and vibration specifications.

Pricing and Availability

The Jupiter-MM-5000 DC/DC power supply modules are orderable now and shipping in volume in February, 2016. Single unit pricing starts at US\$225 for the +5VDC PC/104 model. Contact Diamond Systems at sales@diamondsystems.com for quantity pricing, customization and special-order options. Additional models with complete software programmability will be available in Q1 2016.

MEDIA RESOURCES

- [Jupiter-MM-5000 Power Supply Module webpage](#)
- [Jupiter-MM-5000 Power Supply Module datasheet](#) (pdf)
- [Jupiter-MM-5000 Power Supply Module photo](#) (jpg)

About Diamond Systems

Founded in 1989 and based in Mountain View, California, Diamond Systems Corporation is a leading global provider of compact, rugged, board- and system-level real world embedded computing solutions to companies in a broad range of markets, including transportation, energy, aerospace, defense, manufacturing, medical, and research. The company is renowned as an innovator of embedded I/O standards and technologies; it originated the FeaturePak I/O modules standard, was an early adopter of PC/104 module technology, and holds a patent for a unique analog I/O autocalibration technique.

Diamond's extensive product line includes compact, highly integrated single-board computers (SBCs); an extensive line of expansion modules for analog and digital I/O, wired and wireless communications, GPS, solid-state disk, and power supply functions; and complete system-level solutions. In support of performance-critical embedded application requirements, these products are engineered to operate reliably over wide operating temperature ranges, such as -40°C to +85°C, and at high levels of shock and vibration. Additionally, the company offers a comprehensive hardware, software, and system integration and customization services.

For further information, please visit www.diamondsystems.com or call +1-800-367-2104 (USA).

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