

JUPITER-MM-7000 PC/104 Power Supplies for Military / Rugged Applications



PC104



JMM-7000 full-featured model with isolation and filtering (heat spreader removed)



JMM-7000 showing integrated heat spreader mounting plate

FEATURES

Cost-effective, highly flexible power solution

Multiple output options:

12VDC output, 40W, 500VDC

isolation

5VDC output, 25W,

EMI compatibility to MIL-STD-461C/D/E/F and DO-160C/D/E/F/G requirements

Input immunity per MIL-STD704A/D/E/F, MIL-STD-1275A/B, and DO-160 cat A, B, and Z

Transient protection: 100VDC / 50ms, 600VDC / 20us spikes

Brownout protection: 6VDC / 1 sec

Reverse polarity protection

Designed to meet MIL-STD-810G shock/vibration specifications

Optional UPS backup system using plug-on high-efficiency supercapacitor energy packs

Built-in microcontroller provides real-time status of power supply and backup energy bank

9-36VDC input, 2A max

3.55 x 3.775" (90 x 96mm) PC/104 form factor

-40 to +85°C operating temperature

◆ Description

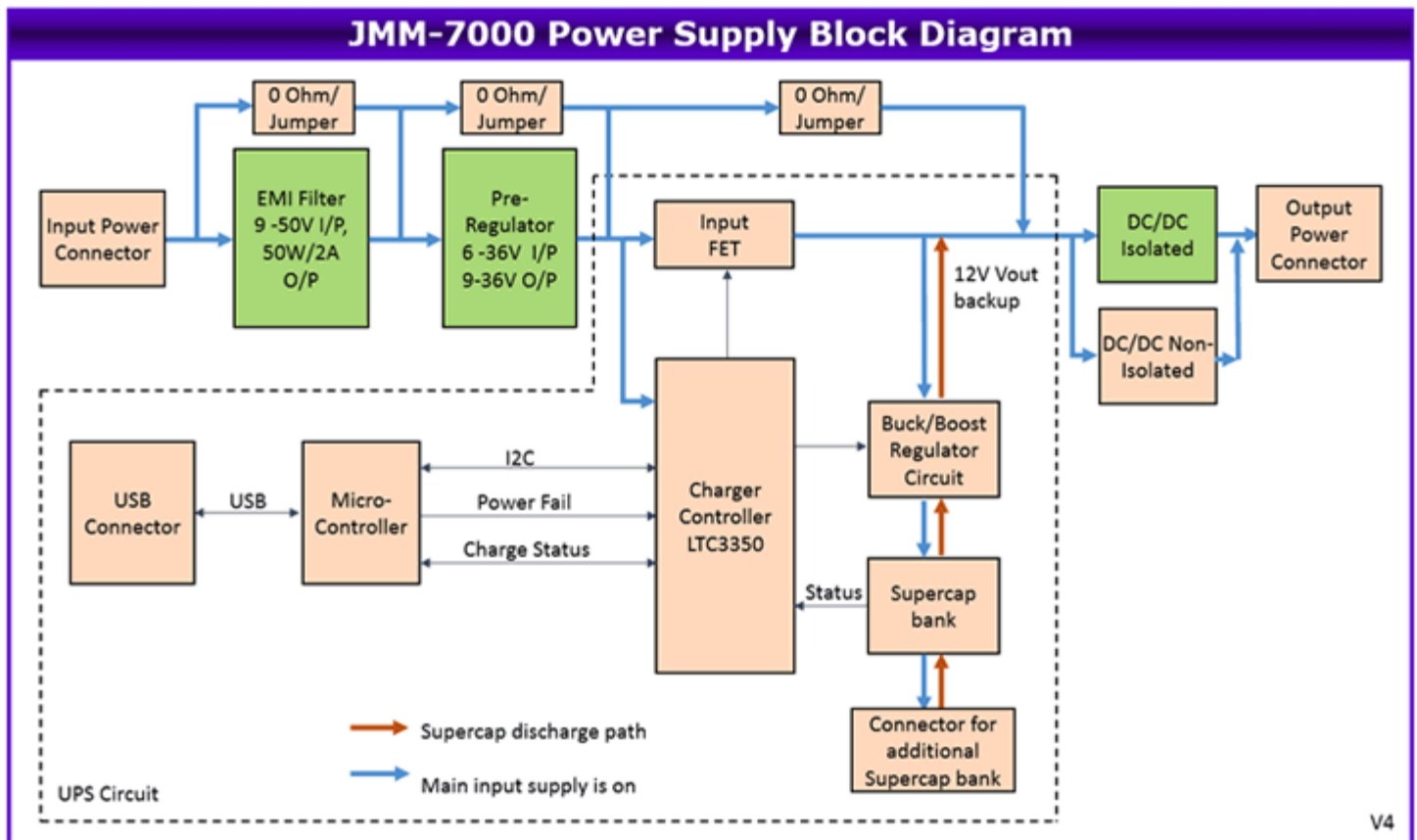
The JMM-7000 family provides compact, rugged, MIL-compliant DC power in the popular PC/104 form factor (3.6 x 3.8"/90 x 96 mm). JMM-7000 models offer compliance to a range of standards, including MIL-STD-461, MIL-STD-704, MIL-STD-1275, MIL-STD-810G, and DO-160. Optional 500V isolation, brownout protection, and supercapacitor-based UPS enhance these supplies' utility in compact airborne, land, and sea vehicle electronic systems.

The JMM 7300 series provides full MIL standards compliance The depopulated JMM 7000 series are intended for use in commercial industrial applications where backup power or isolated power is required

◆ Available Models

Model	461 Filter	704 / 1275	UPS	Vout	Power	Isolated	Description
JMM-7312-ISO-UPS	■	■	■	12V	40W	■	Full feature 12V
JMM-7305-ISO-UPS	■	■	■	5V	40W	■	Full feature 5V
JMM-7312-UPS	■	■	■	12V	40W		Full feature 12V without isolation
JMM-7305-UPS	■	■	■	5V	25W		Full feature 5V without isolation
JMM-7312	■	■		12V	40W		MIL compliant non-isolated 12V
JMM-7305	■	■		5V	25W		MIL compliant non-isolated 5V
JMM-7012-ISO				12V	40W	■	Basic isolated 12V power
JMM-7005-ISO				5V	40W	■	Basic isolated 5V power
JMM-7012-UPS			■	12V	40W		Basic 12V power with UPS
JMM-7005-UPS			■	5V	25W		Basic 5V power with UPS

◆ Block Diagram



◆ SuperCapacitor Backup

The **SEP-7000** series of PC/104-sized supercapacitor energy packs is designed for use with the JMM-7000 power supplies with **UPS** option. These packs provide up to 3300 joules (wattsec) of backup energy to maintain stable system operation in case of power interruption. The charge / backup controller on the JMM-7000 utilizes a new supercapacitor charging technology that automatically controls the charging current and voltage of each capacitor bank in the pack to avoid overcharging or other potentially damaging fault conditions. Charge / discharge status and other control functions are available via LEDs on the JMM-7000 and via USB connection to the host CPU.

SEP-7000 energy packs are available in two capacities and two configurations. A plug-on configuration mounts directly to the bottom side of the JMM-7000 to eliminate cables and create the most compact, rugged solution. A cable-connected configuration allows the energy packs to be positioned at a remote location to fit varying application requirements.

Model	Energy Storage	Description
SEP-7001-CC	1700J	Cable connection
SEP-7001-SH	1700J	Plug-on direct mount
SEP-7002-CC	3300J	Cable connection
SEP-7002-SH	3300J	Plug-on direct mount

Application	Power Requirement	Holdup Time (SEP-7002)
Ethernet switch or low-power SBC	10W	300 sec
Core i7 SBC with peripherals	20W	150 sec
High performance system with heavy I/O	40W	75 sec

or communications content		
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SEP-7002-CC (left), SEP-7001-CC (right)

◆ Ordering Information

◆ Models and Accessories

Jupiter-MM-7000

available models:

JMM-7312-ISO-UPS	Full feature 12V	Available
JMM-7305-ISO-UPS	Full feature 5V	Available
JMM-7312-UPS	Full feature 12V without isolation	Available
JMM-7305-UPS	Full feature 5V without isolation	Available
JMM-7012-UPS	Basic 12V power with UPS	Available
JMM-7005-UPS	Basic 5V power with UPS	Available
SEP-7001-CC	Cable connection	EOL
SEP-7001-SH	Plug-on direct mount	EOL
SEP-7002-CC	Cable connection	EOL
SEP-7002-SH	Plug-on direct mount	EOL

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