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Power Supplies



Supermicro's wide range of high efficiency power supplies offer many important features including Platinum/ Gold Level efficiency, digital switching control, super quiet operation, redundancy, DC inputs, FCC Class B certification, EuP standard support, remote monitoring with PMBus, support for GPUs/graphics cards, Supermicro's signature server level quality and reliability; in a variety of form factors (ATX, slim short depth).

Supermicro's power supplies are designed for enterprise level applications where high quality and reliability are critical, and where the highest power efficiencies are required to reduce TCO (Total Cost of Ownership). With strong experience in the server systems market, Supermicro is experienced in testing and validating these power supplies in all relevant enterprise environments under all necessary operating conditions, compiling long operating records for multiple applications.

| [Intro.](#) | [SuperServers](#) | [Chassis](#) | [PSU Matrix](#) | [Power Output Cable Matrix](#) | [BBP®](#) |

Power Supply with Digital Switching Control



PWS-1K28P-SQ

Power Supply with Digital Switching Control & PMBus 1.2 1280W High-Efficiency (95%+) power supply	
AC Input	<ul style="list-style-type: none">1000W Output @ 100-140V, 12-8A, 50-60Hz1280W Output @ 180-240V, 8-6A, 50-60Hz
DC Output	<ul style="list-style-type: none">1000W: +12V/83A; +5Vsb/4A1280W: +12V/106.7A, +5Vsb/4A
Certification	Platinum Certified [Test Report]



PWS-605P-1H

Power Supply with Digital Switching Control & PMBus 1.2 600WAC power supply w/ PFC (24-pin)	
AC Voltage	<ul style="list-style-type: none">100-240 V, 50-60 Hz, 7.5 Amp max
+5V	<ul style="list-style-type: none">18 Amp
+5V standby	<ul style="list-style-type: none">3 Amp
+12V	<ul style="list-style-type: none">49 Amp
-12V	<ul style="list-style-type: none">0.5 Amp
+3.3V	<ul style="list-style-type: none">15 Amp
Certification	Platinum Certified [Test Report]

Digital Switching Power Supply

- Different name referring to the use of digital switching control in power supply: Digital Power Supply, Digital Controlled, DSP Controlled, etc.
- Most server power supplies are designed as switching mode power supplies. There will be power transistors turning on and off harmonically. That on/off signal is driven by PWM signal controller.
- Digital switching is achieved by implementing a micro-controller to generate PWM signal instead of the conventional analogue circuit.

Advantages of Power Supplies with Digital Switching

- Improved overall power efficiency, reduced energy consumption.
- Improved power factor correction, reduced infrastructural cost and VA requirement for the system
- Reduced total harmonic distortion (THD), reduced power transmission loss and prevented equipment damages due to THD.
- Power supply status is more flexibly monitored and controlled in real time.
- Reduced circuit components, enhanced system reliability.

Digital Power vs. Non-Digital Power Performance

- Power Efficiency improved 5% - 10% at lighter load [[chart](#)]
- Power Factor gained 5% - 10% at lighter load [[chart](#)]
- Current THD reduced by 15%, power transmission loss [[chart](#)]
- Real-Time Monitoring & Enhanced System Reliability



SuperCompact Short-depth Power Supply



PWS-406P-1R
Only 8.66" in length!

Power Supply 400W (1+1) Redundant SuperCompact Short-depth AC-DC Gold-level power supply with PMBus and I2C	
AC Input	<ul style="list-style-type: none">400W: 100-240 V, 50-60 Hz, 6-3 Amp
DC Output	<ul style="list-style-type: none">3 Amp
+5V standby	<ul style="list-style-type: none">3 Amp
DC Output	<ul style="list-style-type: none">33 Amp
+12V	<ul style="list-style-type: none">33 Amp
With Power Distributor	<ul style="list-style-type: none">+5V: 25 Amp+3.3V: 25 Amp-12V: 0.6 Amp

Platinum Level PWS



- PWS-3K01-BR (3000W)
[[Test Report](#)]
- PWS-2K53-BR (2500W)
[[Test Report](#)]
- PWS-1K81P-1R (1800W)
[[Test Report](#)]
- PWS-1K62P-1R (1620W)
[[Test Report](#)]
- PWS-1k28P-SQ (1280W)
[[Test Report](#)]
- PWS-1k25P-PQ (1200W)
[[Test Report](#)]
- PWS-920P-SQ (920W)
[[Test Report](#)]
- PWS-920P-1R (920W)
[[Test Report](#)]
- PWS-741P-1R (740W)
[[Test Report](#)]
- PWS-605P-1H (600W)
[[Test Report](#)]
- PWS-504P-1R (500W)
[[Test Report](#)]
- PWS-503P-1R (500W)
[[Test Report](#)]
- PWS-501P-1R (500W)
[[Test Report](#)]

[Full list of Certified Power Supplies by 80Plus](#)



