

Datacenter and Networking Power Solution

Engineered to Empower™ the future of datacenter power

MEGMEET delivers advanced power solutions that span the full spectrum of communications infrastructure high-efficiency modules for networking equipment to fully integrated turnkey datacenter systems. Purpose-built for performance, our products offer exceptional power density, reliability, and energy efficiency to support critical applications across core routers, edge devices, and hyperscale environments. With compact designs and long-term durability, MEGMEET empowers networks and datacenters to achieve superior system performance while minimizing operational costs and environmental impact.



About Us

MEGMEET is a \$1.3B global power and energy company specializing in high-efficiency power solutions for datacenters, e-Mobility, healthcare, industrial automation and renewable energy. With R&D, manufacturing facilities and global operations across North America, India, Thailand, China and Germany, MEGMEET is Engineered to Empower™ the future of AI, Industrial, and e-Mobility Markets.



\$1.3B USD

Revenue 2025



28%

Revenue CAGR
2015-2025



10

R&D Centers



8

Manufacturing
Centers



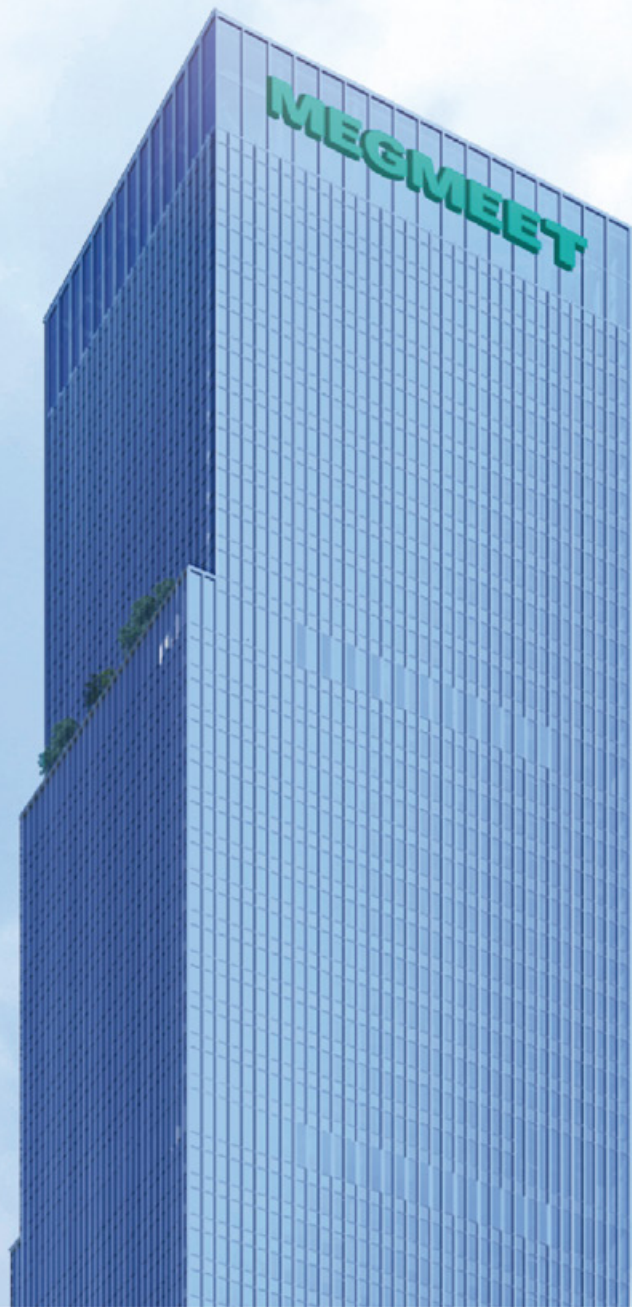
34%

R&D Staff



10K+

Total Employees



ORV3 8 kVA Inverter Shelf

As data centers and AI platforms continue to evolve, rack-level power architectures increasingly adopt high-voltage DC distribution. However, some devices inside server rooms still require AC power. MEGMEET's 8 kVA inverter power shelf converts 50 VDC input into 230 VAC output, enabling localized AC power distribution within the rack. Compared with traditional 230 VAC power supply methods, it reduces AC cabling complexity while improving installation flexibility and power distribution reliability. The shelf integrates DC-to-AC inverter power distribution and four independent protected AC output sockets, allowing stable rack-mounted AC power supply for auxiliary equipment inside AI server racks while improving fault isolation and maintenance convenience.

Key Features

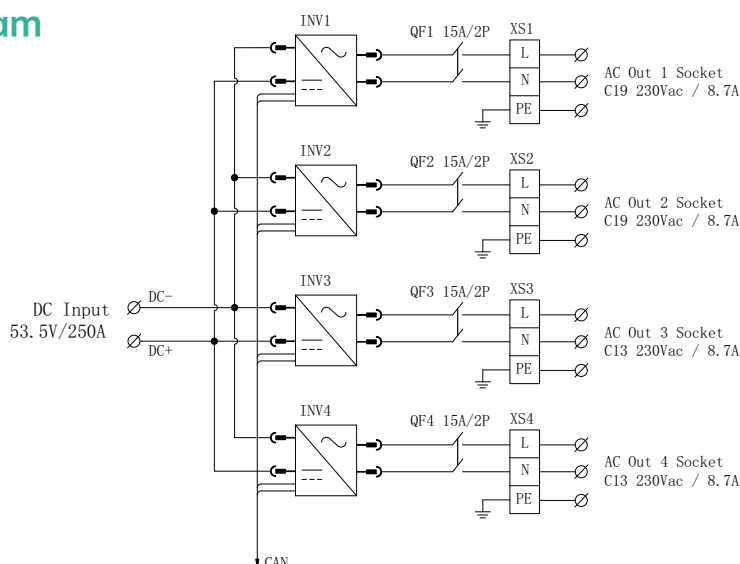
- ORV3 rack-mounted system design
- Maximum system capacity of 8 kVA
- DC input with AC inverter output distribution
- Four independent AC output sockets with individual circuit protection
- Controller monitoring for inverter status and shelf input temperature



CB cULus

IPU8KV-B2A41A

Principle Diagram



Core Module Introduction

Inverter: IPI2302000G2A-DATS

The power module is the core power conversion unit of the 8 kVA Power Shelf. It converts DC input power into stable AC output, supplying auxiliary AC equipment inside AI server cabinets. It supports high efficiency and hot-swap maintenance.



Controller: MPSC6000-PMC-INV

The controller is the power shelf management controller. It monitors and manages power module operation, system status, communication, and protection functions, enabling reliable control, remote monitoring, and easier maintenance of the 8 kVA Power Shelf.



Parameter	ORV3 8 kVA Inverter Shelf (IPU8KV-B2A41A)	
System	Dimension (D x W x H)	788.7 x 537 x 48 (mm)
	Weight	11 to 12 kg (without inverter)
	Cooling mode	Forced air cooling, airflow front to rear
	Installation mode	Installed on 21-inch rack
	Cabling mode	Rear inlet & outlet
	Maintenance mode	Front and Back maintenance
	Protection level	IP20
DC Distribution	Input voltage	50 VDC
	Maximum current	200 A
AC Distribution	Output voltage	230 VAC
	Maximum current	8.7 A
	Output port	4 x C13 IEC outlets
Inverter (IPI2302000G2A-DATS)	Dimension (D x W x H)	291 x 106.4 x 41.5 (mm)
	Weight	<2.0 kg
	DC Input Voltage	42 to 58 VDC; 60 VDC no damage
	Rated input voltage	53.5 VDC
	Max Input current	62.5 A
	Starting impulse current	<45 A
	Output Voltage	220 / 230 VAC, settable
	Output Frequency	50 / 60 Hz, settable; Default 60 Hz
	Peak Efficiency	91.5% with fan
	Operation Temperature	-20 °C to +75 °C
Controller (MPSC6000-PMC-INV)	Communication port	1 * Ethernet, 1 * CAN
	Protocol	Northbound: PMI, Redfish, SNMP; Southbound: PMBus, SMBus
	Display mode	Web GUI
	Dimension (D x W x H)	442.6 x 37.9 x 15.9 (mm)
	Weight	≤ 2 kg
Environment	Operating temperature	-10 °C to +45 °C
	Storage temperature	-40 °C to +75 °C
	Operating humidity	5% to 95% (non-condensing)
	Altitude	0 to 4000 m (if altitude is within 2000 to 4000 m, max operating temp decreases by +1 °C as altitude increases by 200 m)

110 kW AC-52VDC Air-cooled Power Shelf

The IPU4110K-A9636A Power Shelf is a compact, ultra-high-capacity centralized power system designed for next-generation AI GPU servers and the OCP rack ecosystem. It adopts a centralized modular architecture and distributes stable 52 VDC power to rack-mounted compute trays through a common shared bus structure. For high-density racks requiring larger total power budgets, multiple 110 kW / 52 VDC power shelves can operate in parallel. With redundancy and hot-swap capability, the solution enables higher power delivery efficiency and power density.

Key Features

- 110 kW system capacity with N+1 / N+N redundancy
- Six rectifier slots, each supporting an 18.5 kW rectifier module
- Standard 19-inch width, compatible with 21-inch racks via optional brackets
- 3U compact design for high power density
- Supports IPMI, Redfish, and SNMP for flexible networking and remote monitoring
- Hot-pluggable rectifier, controller, and power shelf for quick online maintenance



IPU4110K-A9636A

Industry Trends

As AI platforms drive rapid growth in rack-level power demand, data center power architectures are evolving toward higher power density, modularization, and better O&M visibility. Traditional distributed or non-modular architectures may increase cabling complexity, power distribution difficulty, maintenance workload, and system cost in high-density AI rack deployments. Megmeet's 110 kW Power Shelf adopts a compact 3U design with N+1 redundancy, hot-swappable modules, monitoring and telemetry, and parallel capacity expansion. It improves reliability, serviceability, and power density within the same footprint, meeting the demand for flexible and efficient power delivery in high-density AI racks.

Core Module Introduction

Rectifier: MPS5218K5-AI-AN

The rectifier is the core power conversion module of the 110 kW Power Shelf. It converts input power into tightly regulated DC output to supply large-scale AI server clusters. It supports high-efficiency operation, hot-swap maintenance, in-shelf parallel operation, and redundancy to ensure service continuity and maintainability.



Controller: MPSC6000-PMC-VR

The controller is the power shelf management controller. It monitors and manages rectifier operation, system status, communication, and protection functions, enabling reliable control, remote monitoring, and easier maintenance of the 110 kW Power Shelf.



Parameter	110 kW Power Shelf (IPU4110K-A9636A)	
System	Dimension (D x W x H)	880 x 448 x 131.4±0.5 (mm)
	Weight	25 to 26 kg (without rectifiers)
	Cooling mode	Forced air cooling, airflow front to rear (support reverse air cooling)
	Installation mode	Installed on 19-inch rack, compatible 21-inch rack with optional bracket
	Cabling mode	Rear inlet & outlet
	Maintenance mode	Front maintenance
	Protection level	IP20
AC Distribution	Input mode	3PH+E (415 to 480 VAC)
	Input frequency	47 to 63 Hz, rated value: 50 Hz / 60 Hz
DC Distribution	Output voltage	54 VDC @ 0% load, 52 VDC @ 100% load
	Maximum current	2115.4 A
	Output port	BUS Bar for positive & negative
Rectifier (MPS5218K5-AI-AN)	Input voltage	311 to 528 VAC, rated 415 to 480 VAC
	Efficiency	≥ 95.5% VAC 50 to 100% load
	Rated power	18.5 kW (380 to 480 VAC), 16.5 kW (346 to 380 VAC)
	Hold up time	20 ms @ 100% load
	Working temperature	-5 °C to +40 °C
	Dimension (D x W x H)	710±0.5 x 204±0.5 x 40±0.5 (mm)
	Weight	9 kg
	Cooling mode	Forced air cooling, airflow front to rear
	Power factor	≥ 0.96 @ (415 to 480 VAC) 20 to 50% load, ≥ 0.98 @ (415 to 480 VAC) 50 to 100% load
	iTHD	≤ 10% @ (415 to 480 VAC) 20 to 50% load, ≤ 5% @ (415 to 480 VAC) 50 to 100% load
Controller (MPSC6000-PMC-VR)	Signal input	4*AI (2* Busbar temp, 1*SOC, 1*Ishare), 20* DI (6*PSU_PRESENT, 6*PMALERT, 6*PSU_AC_LOSS, 1*Power Brake, 1*PSKILL)
	Digital output	6 * RESET_LATCH_FAULT_PSU
	Communication port	1 * Ethernet, 1 * CAN, 1 * VCOM, 3 * I2C
	Protocol	Northbound: PMI, Redfish, SNMP; Southbound: PMBus, SMBus
	Display mode	Web GUI
	Dimension (D x W x H)	450±0.5 x 41.9±0.3 x 17.8±0.3 (mm) (without clip and handle)
	Weight	≤ 2 kg
Environment	Operating temperature	-5 °C to +40 °C
	Storage temperature	-40 °C to +60 °C
	Operating humidity	8% to 85% (non-condensing)
	Altitude	0 to 3050 m

33 kW Power Shelf

The IPU433K-NB-AA1616 is a 1U high-density intelligent power shelf designed for AI compute cabinets. It supports GPU clusters based on the latest ultra-high-performance computing architecture and is compatible with both legacy and next-generation data center power systems. With up to 97.5% peak conversion efficiency, N+N redundancy, hot-swap capability, and energy storage buffering, it helps reduce load fluctuations and ensure stable 24/7 operation. Integrated monitoring and remote O&M support simplify deployment, operation, and maintenance for AI supercomputing, large-model training, and high-density GPU clusters.

Key Features

- Standard 19-inch rack design with front network connector, rear power wiring, and parallel machine RJ45 ports; Can be expanded to a standard 21-inch shelf system via an expansion frame;
- 16.5 kW (N+N) Output Power with 6 x 5.5 kW rectifiers, 27.5 kW (N+1) Output Power with 6 x 5.5 kW rectifiers, 33 kW (N+0) Output Power with 6 x 5.5 kW rectifiers;
- Current sharing between multiple shelves with up to 12 parallel power shelves;
- Hot pluggable rectifiers and controller;
- Telemetry and Monitoring over Redfish; Boot loader to field upgrade controller and rectifier firmware.



IPU433K-NB-AA1616

Industry Trends

As AI platforms drive higher rack-level power demand, data center power systems must become more compact, efficient, and scalable. MEGMEET's 33 kW Power Shelf provides a modular power conversion solution for high-density AI server racks, helping reduce cabling complexity, improve reliability, and support flexible power delivery.

Core Module Introduction

Rectifier: IPS495500-AIT-N1BA

This power module is the core power conversion unit for the 33 kW power shelf. With an AC input range of 180 to 305 VAC, it delivers 5,500 W rated output power and provides 50 V and 12 VSB outputs. The rated current is 112.25 A for 50 V and 1.0 A for 12 VSB. Measuring 640 mm × 68 mm × 40 mm, it supports hot-swap maintenance, redundant operation, and front-to-rear air cooling.



Controller: MPSC6000-PMC-3

The controller is the power shelf management controller. It monitors and manages rectifier operation, system status, communication, and protection functions, enabling reliable control, remote monitoring, and easier maintenance of the 33 kW Power Shelf.



Parameter	33 kW Power Shelf (IPU433K-NB-A1616)	
System	Dimension (D x W x H)	809.5 x 448 x 43.6 (mm)
	Weight	≤ 35 kg (without rectifiers)
	Cooling mode	Forced air cooling, airflow front to rear
	Installation mode	Installed on 19-inch rack, compatible 21-inch rack with optional bracket
	Cabling mode	Rear inlet
	Maintenance mode	Front maintenance
	Protection level	IP20
AC Distribution	Input mode	3PH+N+E (346 to 480 VAC)
	Input frequency	45 to 65 Hz, rated value: 50 Hz / 60 Hz
DC Distribution	Output voltage	50 VDC @ 0% load, 49 VDC @ 100% load, 48.5 VDC @ 150% load
	Maximum current	673.5 A
	Output port	BUS Bar for positive & negative
Rectifier (IPS495500-AIT-N1BA)	Input voltage	176 to 305 VAC, rated 200 to 277 VAC
	Efficiency	> 96.5% VAC @ 230 to 277 VAC / 50% load, > 95.5% VAC @ 230 to 277 VAC / 100% load
	Rated power	5.5 kW (180 to 305 VAC)
	Hold up time	23 ms @ 100% load
	Working temperature	-10 °C to +45 °C
	Dimension (D x W x H)	640 x 68 x 40 (mm)
	Weight	< 3.3 kg
	Cooling mode	Forced air cooling, airflow front to rear
	Power factor	≥ 0.95 @ 208 to 277 VAC / 10 to 20% load, ≥ 0.98 @ 208 to 277 VAC / 20 to 100% load
	iTHD	≤ 15% @ 208 to 277 VAC / 5 to 10% load, ≤ 10% @ 208 to 277 VAC / 10 to 30% load ≤ 5% @ 208 to 277 VAC / 30 to 100% load
Controller (MPSC6000-PMC-3)	Signal input	2 * AI (* Bus bar temp.), 1 * Reserved, 1 * DI (* PSU_PRESENT, * PMALERT, * PSU_AC_LOSS)
	Digital output	6 * RESET_LATCH_FAULT_PSU
	Communication port	1 * Ethernet
	Protocol	Northbound: IPMI, Redfish, Https; Southbound: PMBus, CAN
	Display mode	Web GUI, Redfish, IPMI
	Dimension (D x W x H)	15.9 x 37.9 x 450 (mm)
	Weight	0.27 kg
Environment	Operating temperature	-10 °C to +45 °C
	Storage temperature	-40 °C to +60 °C
	Operating humidity	5% to 95% (non-condensing)
	Altitude	0 to 4000 m (if altitude is within 3000 to 4000 m, max operating temp decreases by 1 °C as altitude increases by 200 m)

ORV3 33 kW Power Shelf

The IPU433K-A1616-OL/R is a compact, high-capacity power shelf designed to support the demanding power requirements of AI servers and the open compute ecosystem. It adopts a centralized modular architecture and delivers power to connected devices through a shared bus structure. For racks with higher power demands, multiple power shelves can be deployed in parallel to scale capacity efficiently.

Key Features

- 33 kW system capacity with N+1 / N+N redundancy
- Wide input voltage range of 200 to 277 VAC, with 346 to 480 VAC line-to-line nominal input $\pm 10\%$
- Six rectifier slots, each supporting a 5.5 kW rectifier module
- Current sharing between multiple shelves, supporting up to 12 parallel power shelves
- Standard 21-inch width for wide deployment compatibility
- 1U compact design to save rack space and installation cost
- Supports IPMI, Redfish, and Web UI for flexible networking and remote monitoring
- Hot-pluggable rectifier, controller, and power shelf for quick online maintenance



IPU433K-A1616-OL/R

Industry Trends

As AI platforms drive higher rack-level power demand, data center power systems need to be more compact, efficient, scalable, and serviceable. Traditional power architectures may increase cabling complexity, maintenance effort, and system cost. MEGMEET's 33 kW ORV3 Power Shelf provides a modular power conversion solution for high-density AI server racks. With a 1U design, N+1 redundancy, hot-swappable modules, current sharing, and monitoring support, it improves system reliability, scalability, and serviceability. It is suitable for AI data centers requiring flexible and efficient power delivery.

Core Module Introduction

Rectifiers: IPS495500-AIT-01A

The Rectifiers is the core power conversion module of the 33 kW ORV3 Power Shelf. It converts the input power into stable DC output for AI server power delivery, supporting high efficiency, hot-swap maintenance, and redundant operation within the power shelf system.



Controller: MPSC6000-PMC-O

The Controller is the power shelf management controller. It monitors and manages Rectifiers operation, system status, communication, and protection functions, enabling reliable control, remote monitoring, and easier maintenance of the 33 kW ORV3 Power Shelf.



Parameter	ORV3 33 kW Power Shelf (IPU433K-A1616-OL/R)	
System	Dimension (D x W x H)	537 x 788.7 x 46 (mm)
	Weight	12.85 kg (without rectifiers)
	Cooling mode	Forced air cooling, airflow front to rear (support reverse air cooling)
	Installation mode	Installed on 21-inch rack
	Cabling mode	Rear inlet & outlet
	Maintenance mode	Front maintenance
	Protection level	IP20
AC Distribution	Input mode	3PH+N+E (346 to 480 VAC)
	Input frequency	45 to 65 Hz, rated value: 50 Hz / 60 Hz
DC Distribution	Output voltage	50 VDC @ 0% load, 49 VDC @ 100% load, 48.5 VDC @ 150% load
	Maximum current	673.5 A
	Output port	BUS Bar for positive & negative
Rectifier (IPS495500-AIT-01A)	Input voltage	180 to 305 VAC, rated 200 to 277 VAC
	Efficiency	>96.5% @ 230 to 277 VAC / 50% load, >95.5% @ 230 to 277 VAC / 100% load
	Rated power	5.5 kW (180 to 305 VAC)
	Hold up time	20 ms @ 100% load
	Working temperature	-5 °C to +45 °C
	Dimension (D x W x H)	640 x 73.5x 40 (mm)
	Weight	3.24 kg
	Cooling mode	Forced air cooling, airflow front to rear
	Power factor	≥0.95 @ 208 to 277 VAC / 10 to 20% load, ≥0.98 @ 208 to 277 VAC / 20 to 100% load
	iTHD	≤15% @ 208 to 277 VAC / 5 to 10% load, ≤10% @ 208 to 277 VAC / 10 to 30% load, ≤5% @ 208 to 277 VAC / 30 to 100% load
	Signal input	2 *AI (*Bus bar temp), 18*DI (*Rectifier_PRESENT,*PMALERT,*Rectifier_AC_LOSS), 4 * DI (*ShelfID), 6* DI (Reserved)
Controller (MPSC6000-PMC-O)	Digital output	6 * RESET_LATCH_FAULT_Rectifier
	Communication port	1 * Ethernet
	Protocol	Northbound: IPMI, Redfish, Https; Southbound: PMBus, CAN
	Display mode	Web GUI, Redfish, IPMI
	Dimension (D x W x H)	450 x 48 x 40 (mm)
	Weight	0.36 kg
	Operating temperature	-5 °C to +45 °C
Environment	Storage temperature	-40 °C to +70 °C
	Operating humidity	5% to 85% (non-condensing)
	Altitude	0 to 4000 m (if altitude is within 3000 to 4000 m, max operating temp decreases by 1 °C as altitude increases by 200 m)

40 kW Capacitor Shelf

The IPC4930K is a 40 kW supercapacitor shelf designed for AI servers and data centers. It helps address instantaneous bus voltage drops during the operation of high-power chips such as GPUs. Together with a high-power power shelf, it forms a “primary power + backup power” protection scheme to support stable data center operation.

Key Features



- 53.5 VDC discharge interface voltage with ACLOSS signal
- 51 VDC discharge interface voltage without ACLOSS signal
- Backup time >900 ms, typically 1 s, at 40 kW continuous load
- Standard 19-inch rack design with front network connector, rear power wiring, and RJ45 parallel ports
- Air-cooled design with front-to-back airflow and internally controlled variable-speed fan
- Telemetry and monitoring over Redfish, with bootloader support for capacitor shelf and controller firmware upgrades



IPC4930K

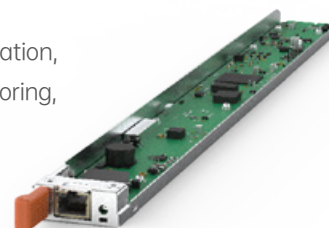
Industry Trends

As GPU power continues to increase, AI server loads experience millisecond-level fluctuations, creating higher requirements for transient voltage stabilization. Traditional uninterruptible power supply systems have slower response and shorter cycle life, making them insufficient for fast bus voltage drop protection. The power supply architecture is evolving toward a three-tier structure: primary power, backup power, and transient voltage stabilization. In this architecture, the power shelf provides the main power supply, the battery backup unit shelf or capacitor backup shelf provides backup power, and the capacitor shelf delivers microsecond-level response to smooth power spikes and support stable GPU operation.

Core Module Introduction

Controller: MPSC6000-PMC-VR-C

The controller is the power shelf management controller. It monitors and manages rectifier operation, system status, communication, and protection functions, enabling reliable control, remote monitoring, and easier maintenance of the 40 kW Capacitor Shelf.



Parameter	40 kW Capacitor Shelf (IPC4930K)	
Shelf	Dimension (D x W x H)	839.5 x 448 x 43.6 (mm)
	Weight	~23 kg
	Cooling mode	Forced air cooling, airflow front to rear
	Installation mode	Installed on 19-inch rack, compatible 21-inch rack with optional bracket
	Cabling mode	Rear inlet & outlet
	Maintenance mode	Rear & Front maintenance
	Protection level	IP20
	Rated power	40 kW
	Efficiency	85% @ charge & 92% @ discharge
	Working temperature	-10 °C to +45 °C
DC Distribution	Input voltage	51.5 to 54.5 V
	Output voltage	With AC_loss Signal: 53.5 VDC @ 100% SOC 52.0 VDC @ 0% SOC Without AC_loss Signal: 51.0 VDC @ 100% SOC 50.6 VDC @ 0% SOC range: 45.0 to 55.5 V
	Maximum current	800 A
	Output port	BUS Bar for positive & negative
Controller (MPSC6000-PMC-VR-C)	Signal input	2 * AI (* Bus bar temp.), 1 * Reserved, 1 * DI (* PSU_PRESENT, * PMALERT, * PSU_AC_LOSS)
	Digital output	6 * RESET_LATCH_FAULT_PSU
	Communication port	1 * Ethernet
	Protocol	Northbound: IPMI, Redfish, Https; Southbound: PMBus, CAN
	Display mode	Web GUI, Redfish, IPMI
	Dimension (D x W x H)	15.9 x 37.9 x 450 (mm)
	Weight	0.27 kg
Environment	Operating temperature	-10 °C to +45 °C
	Storage temperature	-40 °C to +65 °C
	Operating humidity	10% to 90% (non-condensing)
	Altitude	3050 m (10,000 feet)

33 kW Capacitor Shelf

The IPC4930K is a 33 kW supercapacitor shelf designed for AI servers and data centers. It helps address instantaneous bus voltage drops during the operation of high-power chips such as GPUs. Together with a high-power power shelf, it forms a “primary power + backup power” protection scheme to support stable data center operation.

Key Features



- 49.5 VDC discharge interface voltage with ACLOSS signal
- 48.5 VDC discharge interface voltage without ACLOSS signal
- Backup time >1.2 s, typically 1.3 s, at 33 kW continuous load
- Standard 19-inch rack design with front network connector, rear power wiring, and RJ45 parallel ports
- Air-cooled design with front-to-back airflow and internally controlled variable-speed fan
- Telemetry and monitoring over Redfish, with bootloader support for capacitor shelf and controller firmware upgrades



IPC4930K

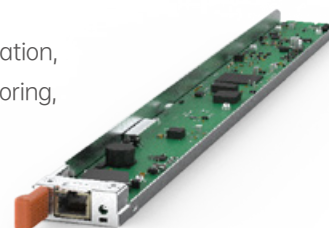
Industry Trends

As GPU power continues to increase, AI server loads experience millisecond-level fluctuations, creating higher requirements for transient voltage stabilization. Traditional uninterruptible power supply systems have slower response and shorter cycle life, making them insufficient for fast bus voltage drop protection. The power supply architecture is evolving toward a three-tier structure: primary power, backup power, and transient voltage stabilization. In this architecture, the power shelf provides the main power supply, the battery backup unit shelf or capacitor backup shelf provides backup power, and the capacitor shelf delivers microsecond-level response to smooth power spikes and support stable GPU operation.

Core Module Introduction

Controller: MPSC6000-PMC-C

The controller is the power shelf management controller. It monitors and manages rectifier operation, system status, communication, and protection functions, enabling reliable control, remote monitoring, and easier maintenance of the 33 kW Capacitor Shelf.



Parameter	33 kW Capacitor Shelf (IPC4930K)	
Shelf	Dimension (D x W x H)	839.5 x 448 x 43.6 (mm)
	Weight	~23 kg
	Cooling mode	Forced air cooling, airflow front to rear
	Installation mode	Installed on 19-inch rack, compatible 21-inch rack with optional bracket
	Cabling mode	Rear inlet & outlet
	Maintenance mode	Rear & Front maintenance
	Protection level	IP20
	Rated power	33 kW
	Efficiency	85% @ charge & 92% @ discharge
	Working temperature	-10 °C to +45 °C
DC Distribution	Input voltage	48.8 to 54.5 V
	Output voltage	With AC_loss Signal: 49.5 VDC @ 100% SOC & 0% Load, 49.2 VDC @ 100% SOC & 100% Load, 49.0 VDC @ 0% SOC & 0% Load, 48.7 VDC @ 0% SOC & 100% Load; Without AC_loss Signal: 48.5 VDC @ 100% SOC & 0% Load, 48.2 VDC @ 100% SOC & 100% Load, 48.3 VDC @ 0% SOC & 0% Load, 48.0 VDC @ 0% SOC & 100% Load; range: 45.0 to 53.0 V
	Maximum current	900 A
	Output port	BUS Bar for positive & negative
Controller (MPSC6000-PMC-C)	Signal input	2 * AI (* Bus bar temp.), 1 * Reserved, 1 * DI (* PSU_PRESENT, * PMALERT, * PSU_AC_LOSS)
	Digital output	6 * RESET_LATCH_FAULT_PSU
	Communication port	1 * Ethernet
	Protocol	Northbound: IPMI, Redfish, Https; Southbound: PMBus, CAN
	Display mode	Web GUI, Redfish, IPMI
	Dimension (D x W x H)	15.9 x 37.9 x 450 (mm)
	Weight	0.27 kg
Environment	Operating temperature	-10 °C to +45 °C
	Storage temperature	-40 °C to +65 °C
	Operating humidity	10% to 90% (non-condensing)
	Altitude	3050 m (10,000 feet)

24 kW Capacitor Shelf

The 24 kW Capacitor Shelf is a high-power supercapacitor backup system designed for AI servers, data center racks, storage equipment, and high-density computing clusters. It uses high-performance electric double-layer capacitors (EDLCs) and an integrated battery management system to provide active cell balancing, multi-loop real-time monitoring, and comprehensive protection against overvoltage, undervoltage, overcurrent, overtemperature, and over-discharge.

A single capacitor shelf supports up to three hot-swappable capacitor backup unit modules. Faulty modules can be replaced online without shutting down the entire system, improving maintainability and reducing downtime. When used with a high-power power shelf, the capacitor backup shelf smooths input current fluctuations and provides millisecond-level backup power during sudden voltage drops or momentary power interruptions.

Key Features

- Hot-swappable modular design for easy online maintenance
- High-performance EDLC supercapacitors with integrated BMS
- Active cell balancing and comprehensive electrical protection
- Millisecond-level seamless power hold-up for data security
- Long cycle life with maintenance-free operation



IPU424K-L53U-CBS

Industry Trends

As AI computing clusters and full-rack data centers expand, server loads increasingly exhibit millisecond-level power fluctuations. Traditional uninterruptible power supply and lead-acid battery solutions may respond too slowly, require frequent maintenance, occupy substantial space, and offer limited cycle life.

Rack-mounted supercapacitor systems are becoming an important part of next-generation data center power architectures. MEGMEET's modular capacitor shelf provides rapid power hold-up, hot-swappable maintenance, active cell balancing, and scalable deployment. It improves system reliability and serviceability while reducing lifecycle maintenance requirements for high-density AI server racks.

Core Module Introduction

Capacitor unit: MPS548000-LI-CBU

The capacitor unit is a hot-swappable EDLC supercapacitor backup module developed for AI servers and high-density data center power systems. It integrates high-power-density EDLC cells, an intelligent capacitor management system, passive cell balancing, real-time monitoring, and protection against overvoltage, undervoltage, overcurrent, overtemperature, and over-discharge.

The module provides millisecond-level power hold-up during input power loss or instantaneous voltage drops. Its modular design supports online replacement and flexible capacity expansion, helping maintain continuous operation while simplifying maintenance.



Parameter	24 kW Capacitor Shelf (IPU424K-L53U-CBS)	
Shelf	Dimension (D x W x H)	900 x 537 x 46.2 (mm)
	Weight	14 kg (without capacitor backup unit)
	Cooling mode	Air-cooled and Front to back airflow with internally controlled variable-speed fan
	Installation mode	Non-standard, customer customized
	Cabling mode	Rear inlet & outlet
	Maintenance mode	Front maintenance
	Protection level	IP20
DC Distribution	Input mode	44.5 to 57.5V VDC
	Input frequency	N/A
	Output voltage	44.5 to 57.5V VDC
	Maximum current	447 A
	Output port	BUS Bar for positive & negative
Capacitor unit (MPS548000-LI-CBU)	Input voltage	44.5 to 57.5V VDC
	Output voltage	44.5 to 57.5V VDC
	Rated power	8000 W
	Output current	148 A
	Efficiency	97% (DC-DC conversion test condition)
	Working temperature	-5 °C to +45 °C
	Dimension (D x W x H)	900 x 537 x 46.2 (mm)
	Cooling mode	Air-cooled, front-to-back airflow with internally controlled variable-speed fan
	Protection	UVP, OVP, OCP, SCP, OTP
	Communication protocol	PMBus 1.2
Environment	Operating temperature	-5 °C to +45 °C
	Storage temperature	-20 °C to +60 °C
	Operating humidity	5% to 95% (non-condensing)
	Altitude	3000 m

15 kW Capacitor Shelf

The MCBS15K-50S is a 15 kW supercapacitor-based power compensation shelf designed for AI servers and data centers. It mitigates instantaneous bus voltage drops and rapid power fluctuations caused by high-power devices such as GPUs. When operating with a high-power power shelf, it provides fast transient power compensation to stabilize the DC bus and support reliable server operation.

Key Features

- 15 kW transient power compensation capability with a 50VDC interface
- Standard 19-inch rack design with front network interface and rear power connections
- Expandable to a standard 21-inch shelf system through an optional expansion frame
- Air-cooled design with front-to-back airflow
- Input and output voltage range of 47.5 to 53.0 VDC
- Telemetry and monitoring through Redfish
- Bootloader-based firmware upgrades for the Capacitor Shelf and controller
- IP20 protection rating

CB cULus CE FCC



MCBS15K-50S

Industry Trends

As GPU power continues to increase, AI server loads exhibit millisecond-level fluctuations, creating greater demand for rapid transient voltage stabilization. Conventional power systems may not respond quickly enough to sudden load changes, resulting in bus voltage drops and reduced system stability. The Capacitor Shelf provides microsecond-level response and short-duration power compensation to smooth power spikes and stabilize the DC bus. Its modular architecture, monitoring capability, and fast response make it suitable for high-density AI server racks requiring reliable transient power support.

Core Module Introduction

Controller: MPSC6000-PMC-C

The controller is the Capacitor Shelf management controller. It monitors and manages system status, communication, protection functions, and shelf operation, enabling reliable control, remote monitoring, firmware management, and easier maintenance of the 15 kW Capacitor Shelf.



Parameter	15 kW Capacitor Shelf (MCBS15K-50S)	
Shelf	Dimension (D x W x H)	839.5 x 448.0 x 43.6 (mm)
	Weight	~23 kg
	Cooling mode	Forced air cooling, airflow front to rear
	Installation mode	Installed on 19-inch rack, compatible 21-inch rack with optional bracket
	Cabling mode	Rear inlet & outlet
	Maintenance mode	Rear & Front maintenance
	Protection level	IP20
	Rated power	15 kW
	Efficiency	85% @ charge & 98% @ discharge
	Working temperature	-5 °C to +45 °C
DC Distribution	Input voltage	48.3 to 53.0 V
	Output voltage	49.9 to 50.1 VDC Discharge voltage @ 0% load 49.45 to 49.55 VDC Discharge voltage @ 50% load 48.9 to 49.1 VDC Discharge voltage @ 100% load
	Maximum current	Input: 300 A max Output: 500 A max
	Output port	BUS Bar for positive & negative
Controller (MPSC6000-PMC-C)	Signal input	2 * AI (* Bus bar temp.), 1 * Reserved, 1 * DI (* PSU_PRESENT, * PMALERT,)
	Digital output	6 * RESET_LATCH_FAULT_PSU
	Communication port	1 * Ethernet
	Protocol	Northbound: IPMI, Redfish, Https; Southbound: PMBus, CAN
	Display mode	Web GUI, Redfish, IPMI
	Dimension (D x W x H)	15.9 x 37.9 x 450 (mm)
	Weight	0.27 kg
Environment	Operating temperature	-10 °C to +45 °C
	Storage temperature	-40 °C to +65 °C
	Operating humidity	10% to 90% (non-condensing)
	Altitude	3050 m (10,000 feet)

Power Distribution Unit



Key Features

- 80 A high-capacity power distribution for high-density racks, available in three-phase and single-phase models
- 24 × C19 output sockets with up to 16 A per outlet
- Full digital monitoring via LCD, Web, SNMP, Modbus TCP / RTU and Telnet
- Per-outlet load monitoring, energy metering and remote output control
- Built-in environment monitoring for temperature, humidity, smoke, water and door status
- Dual RS485 and 100 M Ethernet interfaces for cascading and system integration

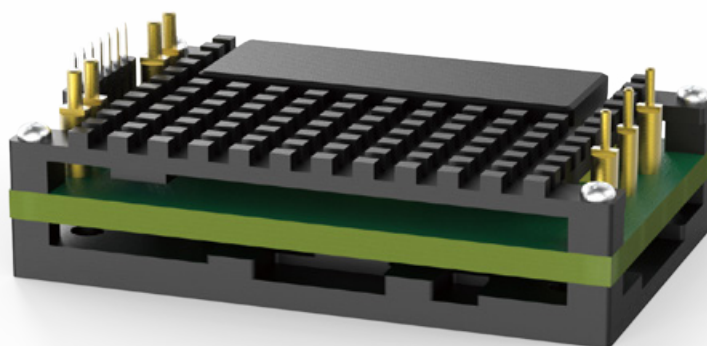
Parameter	Power Distribution Unit
Model	IPUPDU-PA80A (Three-phase) / IPUPDU-PA80B (Single-phase)
Rated Input Voltage	200 to 250 VAC
Maximum Supported Input Current	80 A
Default Input Circuit Breaker	63 A
Input Frequency	50 to 60 Hz
Input Wiring	Air breaker + terminal connection; 5 × 16 mm ² cable
Output Sockets	24 × C19
Max. Output Current per Socket	16 A
Single Relay Module Output Current	80 A Max.
Communication Interfaces	100 M Ethernet × 1, RS485 × 1
Supported Protocols	Web, Telnet, MODBUS TCP / RTU, SNMP V1 / V2c / V3
Monitoring Parameters	Voltage, current, power, energy, frequency, temperature, humidity, etc.
Environment / Alarm Inputs	Door, water, smoke; temperature and humidity monitoring
Dry Contact Output	2 outputs, 30 VDC / 1 A or 60 VDC / 0.5 A
Display	LCD display with 4-button operation
Dimensions (L × W × H)	1600 × 110 × 90 (mm)
Mounting	Vertical rack-mount
Operating Temperature	-20 °C to +55 °C
Storage Temperature	-30 °C to +70 °C
Relative Humidity	10% ~ 80% (non-condensing)
Altitude	≤ 4000 m
Protection Rating	IP20
MTBF	≥ 100,000 hours
Compliance / Standards	CE, RoHS 2.0, EN55032 / GB9254 Class A, IEC 61000-4 series

2000 W Digital Quarter Brick DC/DC Power Module

The power module is a high-power digital DC/DC converter. It achieves peak efficiency of up to 98.3% at 54 V input and 50% load. The module is a non-isolated quarter-brick converter, delivering a fully regulated 12.0 V output with a continuous power rating of 2000 W and a peak power capability of up to 3000 W for a limited duration. It is designed for through-hole mounting using wave soldering or pin-in-paste production processes. The module also incorporates an optimized baseplate design to improve thermal performance while minimizing overall height.

Key Features

- Peak efficiency up to 98.3% at 54 V input
- Fully regulated output voltage
- Comprehensive protection: input UVLO, input OVP, output OVP, OCP, and OTP
- Monotonic startup and pre-biased startup
- No minimum load required
- Parallel operation with direct output connection and active current sharing
- Non-isolated topology



IPM54U120167QPN

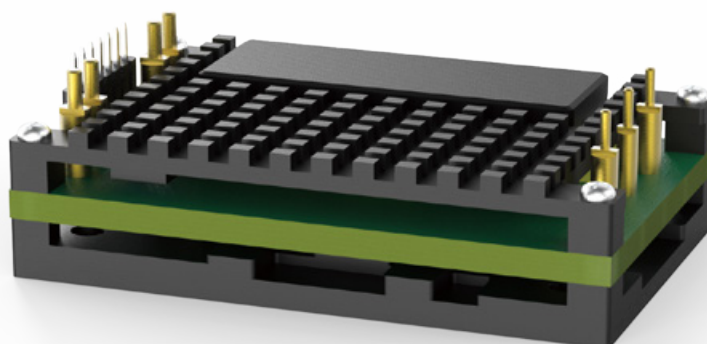
Parameter	2000 W Digital Quarter Brick DC/DC Power Module (IPM54U120167QPN)
Rated Power	2000 W
Peak Power	3000 W
Product series	RBC
Dimension (D x W x H)	58.4 x 36.8 x 15.1 (mm)
Input Voltage	40 to 60 V
Output Voltage	12.0 V
Output Current	167 A
Efficiency	98.3% @ 54Vin 50% load
Cooling Method	Force air cooling / Water cooling
Altitude	3050 m
Ripple & Noise	120 mV (peak-to-peak)
Current Sharing	Tolerance ±5% @ 20%-50% load; Tolerance ±2% @ >50% load
Protection	UVP, OVP, OCP, SCP, OTP
Safety Standard	CB, UL, CE
IEC	62368 / 60950
Communication Protocol	PMBus1.2

1600 W Digital Quarter Brick DC/DC Power Module

The power module is a high-power digital DC/DC converter. It achieves peak efficiency of up to 98.3% at 54 V input and 50% load. The module is a non-isolated quarter-brick converter, delivering a fully regulated 12.0 V output with a continuous power rating of 1600 W and a peak power capability of up to 2400 W for a limited duration. It is designed for through-hole mounting using wave soldering or pin-in-paste production processes. The module also incorporates an optimized baseplate design to improve thermal performance while minimizing overall height.

Key Features

- Peak efficiency up to 98.3% at 54 V input
- Fully regulated output voltage
- Comprehensive protection: input UVLO, input OVP, output OVP, OCP, and OTP
- Monotonic startup and pre-biased startup
- No minimum load required
- Parallel operation with direct output connection and active current sharing
- Non-isolated topology



IPM54U120136QPN

Parameter	1600 W Digital Quarter Brick DC/DC Power Module (IPM54U120136QPN)
Rated Power	1600 W
Peak Power	2400 W
Product series	RBC
Dimension (D x W x H)	58.4 x 36.8 x 15.1 (mm)
Input Voltage	40 to 60 V
Output Voltage	12.0 V
Output Current	167 A
Efficiency	98.3% @ 54Vin 50% load
Cooling Method	Force air cooling / Water cooling
Altitude	3050 m
Ripple & Noise	120 mV (peak-to-peak)
Current Sharing	Tolerance ±5% @ 20%-50% load; Tolerance ±2% @ >50% load
Protection	UVP, OVP, OCP, SCP, OTP
Safety Standard	CB, UL, CE
IEC	62368 / 60950
Communication Protocol	PMBus1.2

110 kW AC-800 VDC Power Shelf

The MPSF110K-818K52 is a high-power 800 VDC power shelf designed for AI data center power infrastructure and high-density server rack applications. It adopts a centralized modular architecture and converts three-phase AC input into regulated 800 VDC output through multiple hot-pluggable rectifier modules. The system integrates PSU modules, PMC monitoring and control, battery backup unit interface support, and communication functions to provide reliable, scalable, and serviceable power delivery for next-generation AI server racks.

Key Features

- 110 kW system capacity with regulated 800 VDC output
- Six rectifier slots, each supporting 18.5 kW PSU modules
- Wide AC input voltage range of 311–528 VAC, rated 415–480 VAC line-to-line
- 3RU power shelf design for high-density AI server rack deployment
- Hot-pluggable PSU and PMC modules with current sharing for online maintenance
- Front-to-back airflow with internally controlled variable-speed fans



MPSF110K-818K52

Industry Trends

As AI server platforms move toward higher rack-level power density, data center power systems require higher output voltage, higher power capacity, better scalability, and easier maintenance. Traditional low-voltage power architectures may increase current stress, cabling complexity, power loss, and system integration difficulty when supporting high-power AI racks. Megmeet's 110 kW 800 VDC Power Shelf provides a centralized high-voltage DC power conversion solution for next-generation AI data center infrastructure. With 800 VDC output, 110 kW shelf-level capacity, hot-pluggable rectifier modules, PMC-based monitoring, battery backup unit interface support, and parallel shelf scalability, it helps improve power delivery efficiency, system reliability, maintainability, and deployment flexibility for high-density AI server racks.

Core Module Introduction

Rectifier: MPS80018K5-AI-AN

The rectifier is the core power conversion module of the 110 kW Power Shelf. Each rectifier supports 18.5 kW output power and converts three-phase AC input into stable 800 VDC output for AI server power delivery. Six rectifier modules can be configured in the shelf to achieve 110 kW output capacity. The rectifier modules support hot swapping, current sharing, front-to-back airflow, and online maintenance.



Controller: MPCS6000-PMC-8A

The controller is the power shelf monitoring and control unit. It monitors and manages overall system status, rectifier operation, communication, protection, and control functions. It supports telemetry and monitoring, bootloader-based firmware upgrades, RJ45 network interface, reset button, LED status indication, and system communication management.



Parameter	110 kW AC-800 VDC Power Shelf (MPSF110K-818K52)	
System	Dimension (D x W x H)	830 x 438 x 131 (mm)
	Height	3RU
	Weight	≤ 38 kg without PSU
	Cooling mode	Front-to-back airflow, internally controlled variable-speed fan
	Installation mode	Power shelf rack installation
	Maintenance mode	Hot-pluggable PSUs and PSC
	Protection level	IP20
	Parallel operation	Current sharing between multiple shelves, up to 6 parallel power shelves
AC Distribution	Rated input voltage range	342 to 480 VAC line-to-line
	Input voltage range	311 to 528 VAC line-to-line
	Input frequency	50 / 60 Hz, operating range 47 to 63 Hz
	Input voltage configuration	3-phase + PE
	Maximum current per input feed phase	100 A × 2
DC Distribution	Output voltage	810 VDC @ no load, 790 VDC @ 100% load
	Rated output power	110 kW @ 415 to 528 VAC; 100 kW @ 311 to 415 VAC
	Output ripple and noise	≤ 8Vp-p
	Voltage regulation accuracy	± 0.25% @ 100% load
	Voltage adjustment rate	± 3%
	Output connector	800 VDC output connector
Rectifier (MPS80018K5-AI-AN)	Rectifier quantity	6 PSU modules
	Single rectifier power	18.5 kW
	Hot plug	Supported
Controller (MPCS6000-PMC-8A)	Controller model	MPCS6000-PMC-8A
	Function	Power shelf monitoring and control
	Communication / network	RJ45 network connector
	Status indication	Green: power supply OK; Yellow: environmental over-temperature warning; Red: environmental over-temperature fault
	Firmware upgrade	Boot loader supports field upgrade for PSC and PSU firmware
Environment	Operating temperature	-5 °C to +45 °C
	Transportation temperature	-40 °C to +60 °C
	Storage temperature	-40 °C to +60 °C
	Operating humidity	8% to 85%, non-condensing
	Storage humidity	5% to 95%, non-condensing
	Altitude	0 to 3050 m (Operation above 3050m need derating guideline)
Reliability	MTBF	≥ 300,000 hours
Certification / Compliance	Safety certification	UL, CE
	Environmental compliance	RoHS

90 kW 800-50 VDC Power Shelf

The IPU490K-H9616A is a high-power-density, high-efficiency 90 kW air-cooled AI server power supply system designed for 800 VDC input platforms. It consists of six 15 kW sub-modules and supports N+1 / N+N redundant design. For higher power requirements, the system supports multi-shelf expansion to provide scalable power capacity for high-density AI server applications.



Key Features

- 90 kW system capacity with N+1 / N+N redundancy
- Six rectifier slots, each supporting a 15 kW sub-module
- Standard 19-inch width, compatible with 21-inch racks via optional brackets
- 1U compact design to save rack space and installation cost
- Supports IPMI, Redfish, and SNMP for flexible networking and remote monitoring
- Hot-pluggable rectifier, controller, and power shelf for quick online maintenance
- 800 VDC input with 52 to 54 VDC output
- Up to 98% peak efficiency



IPU490K-H9616A

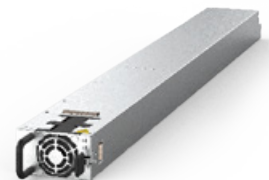
Industry Trends

To meet the growing demand for higher efficiency and greater power density in centralized power supply systems for next-generation data centers, Megmeet has developed an HVDC platform power shelf solution. The 90 kW HVDC 800 VDC to 50 VDC Power Shelf features a high-power-density 19-inch architecture, a sub-module power density of 144 W/in³, and up to 98% peak efficiency, helping address market demand for compact, efficient, and scalable AI server power systems.

Core Module Introduction

Rectifier: MPS5215K-HI-NA

The 90 kW shelf integrates six PSU-MPS5215K-HI-NA sub-modules. Each module provides 52 to 54 VDC output, supports online firmware upgrades, hot swapping, and redundant design, and achieves up to 98% peak efficiency.



Controller: MPSC6000-PMC-H

The controller is the power shelf management controller. It monitors and manages rectifier operation, system status, communication, and protection functions, enabling reliable control, remote monitoring, and easier maintenance of the 90 kW Power Shelf.



Parameter	90 kW 800-50VDC Power Shelf (IPU490K-H9616A)	
System	Dimension (D x W x H)	830 x 438 x 40 (mm)
	Weight	13 to 14 kg (without rectifiers)
	Cooling mode	Forced air cooling, airflow front to rear (support reverse air cooling)
	Installation mode	Installed on 19-inch rack, compatible 21-inch rack with optional bracket
	Cabling mode	Rear inlet & outlet
	Maintenance mode	Front maintenance
	Protection level	IP20
AC Distribution	Input mode	800 VDC ±5%
DC Distribution	Output voltage	54 VDC @ 0% load, 52 VDC @ 100% load, 51 VDC @ 150% load
	Maximum current	1666.7 A
	Output port	BUS Bar for positive & negative
Rectifier (MPS5215K-HI-NA)	Input voltage	800 VDC ±5%
	Efficiency	>98% Peak
	Rated power	15 kW
	Hold up time	4 ms @ 100% load
	Working temperature	-10 °C to +40 °C
	Dimension (D x W x H)	640 x 68 x 40 (mm)
	Weight	<4 kg
Controller (MPSC6000-PMC-H)	Cooling mode	Forced air cooling, airflow front to rear
	Signal input	2 * AI (* Bus bar temp.), 1 * Reserved, 1 * DI (* PSU_PRESENT, * PMALERT, * PSU_DC_LOSS)
	Digital output	6 * RESET_LATCH_FAULT_PSU
	Communication port	1 * Ethernet, 1 * CAN, 1 * VCOM, 3 * I2C
	Protocol	Northbound: PMI, Redfish, SNMP; Southbound: PMBus, SMBus
	Display mode	Web GUI
	Dimension (D x W x H)	442.6 x 37.9 x 15.9 (mm)
	Weight	2 kg
Environment	Operating temperature	-10 °C to +40 °C
	Storage temperature	-40 °C to +75 °C
	Operating humidity	5 to 95% (non-condensing)
	Altitude	0 to 3050 m

Global Infrastructure

MEGMEET's global footprint includes advanced R&D centers, integrated manufacturing, and regional offices enabling fast response, localized support, and efficient deployment worldwide.

MEGMEET's international engineering network supports close customer collaboration, rapid validation, and region-specific adaptation to deliver reliable, high-performance solutions globally.



10 R&D Centers



8 Owned Manufacturing



Power Solutions

- ☐ Telecom Power
- ☐ Medical Power
- ☐ Smart Display Power
- ☐ LED Display Power
- ☐ Industrial enclosed Power
- ☐ Laser Power
- ☐ OA Power
- ☐ Utility Power
- ☒ Datacenter and Networking Power Solutions
- ☐ BESS & EV Charging Solutions
- ☐ Bi-directional Inverters for Portable Power
- ☐ Portable Solar Generator

Industrial Automation

- ☐ Servo System
- ☐ Control System
- ☐ Elevator Controller
- ☐ Linear Motor
- ☐ IoT Solutions
- ☐ Encoder
- ☐ Variable Frequency Drive
- ☐ Internal Gear Pump

e-Mobility & EV Infrastructure

- ☐ Integrated Charging System (OBC & DC-DC)
- ☐ Power Electronic Unit (2-in-1, 3-in-1)
- ☐ E-Compressor
- ☐ TV EDU
- ☐ Inverter
- ☐ Construction Vehicle Controller
- ☐ Intelligent Active Hydraulic Suspension (i-AHS)
- ☐ Railway A/C Controller
- ☐ Railway VFD
- ☐ Thermal Mgmt. System
- ☐ Micro-Mobility Motor, Inverter, and Charging System
- ☐ Oxygen Generator

Intelligent Equipment

- ☐ Intelligent Welding
- ☐ Electric Submersible Progressing Cavity Pump
- ☐ Medium-Voltage Soft Open Point (SOP)
- ☐ Industrial Microwave
- ☐ Polysilicon Water Quenching Equipment
- ☐ Ultraviolet Curing Equipment
- ☐ Automated Car Washing Machine
- ☐ Booster Manipulator
- ☐ High-Precision Positioning Stage

Smart Building

- ☐ Residential A/C Controller
- ☐ Commercial A/C Controller
- ☐ Heat Pump Controller
- ☐ Vehicle A/C Controller
- ☐ Solar A/C Controller
- ☐ Mini Compressor Controller
- ☐ Refrigerator Controller
- ☐ Washer/Dryer Controller
- ☐ Residential Microwave
- ☐ Industrial Microwave
- ☐ Smart Bidet
- ☐ RF Thawing System
- ☐ Fan Heater Controller
- ☐ Oxygen Concentrator

Precision Connection

- ☐ Micro Motor
- ☐ Water Pump Motor
- ☐ Inductor
- ☐ Transformer
- ☐ FFC
- ☐ FPC
- ☐ Coaxial Cable
- ☐ CCS
- ☐ Litz Wire

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