



Module-X

Not Just a Rack, but
a Platform for Your Growth

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START BUILDING THE FUTURE TODAY

In a world where technology changes faster than you can adopt it, standard equipment becomes a barrier. Module-X transforms your IT infrastructure from an expense into a strategic asset. Our modular architecture is designed to evolve with your business, future-proofing your investments and radically reducing the Total Cost of Ownership (TCO).

We solve the key challenges faced by data centers, cloud providers, and the HPC segment by offering a platform that adapts to the future.

Adaptive Architecture

The core advantage of Module-X is the savings on future upgrades. Instead of replacing expensive equipment entirely, you only swap out the necessary modules.

Example	
Upgrading from air to liquid cooling.	Traditional Approach: Buying a new rack, complete disassembly, and prolonged downtime.
	Module-X Approach: Replacing a single module in a matter of hours.
The Result	
An 80% reduction in equipment downtime.	
Lower capital expenditures (CapEx) by thousands of dollars per rack.	
Minimal labor costs for implementation.	

You get more than just a rack; you get a flexible platform ready for tomorrow's technologies, whether it's AI computing, edge data centers, or hybrid clouds.

Engineering Excellence and Reliability

Every element of Module-X is engineered for maximum performance and to protect your equipment.



Superior Strength

A welded frame made of 14-gauge steel supports a static load of up to 3300 lbs, ensuring reliability for the most high-density environments.



Flexible Configuration

Racks ranging from 42U to 54U in height and up to 55-inch in depth can be adapted for any task with interchangeable modules, from cable organizers to cooling system mounts.



Seismic Stability

Optional NEBS-compliant modules provide robust equipment protection in seismically active zones.



Integration and Security

*The rack is ready for integration with DCIM/BMS systems, IoT monitoring, and is equipped with smart locks for complete access control.

Modular Design Structure

The modular design of server racks for data centers is a flexible solution based on interchangeable components, such as structural modules with smooth surfaces, cable organizers, and specialized units (RDHx, deflectors, Direct-on-Chip liquid cooling modules). It reduces upgrade and operational costs through rapid adaptability without major capital investment, enhances energy efficiency and lowers PUE by optimizing airflow and heat dissipation, supports scalability for increased loads, ensures reliability (up to 55-inch load capacity, seismic resilience) and compliance with future data center standards, while promoting sustainability through reduced energy use and component reusability.



Front Structural Module with Smooth Side Surfaces:

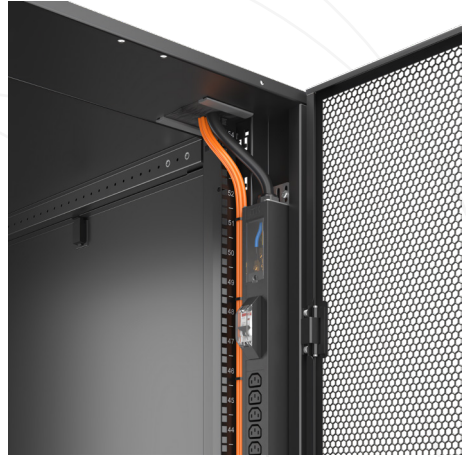


A critical energy efficiency factor is the ratio of the rack's front surface area to the equipment area, which dictates cooling air losses. The SYSMATRIX DC design minimizes gaps between equipment and the enclosure, reducing the Air Bypass Coefficient to below 0.5%, preventing air recirculation and mixing for maximum cooling efficiency. Engineered with aerodynamic principles, the module's smooth, tapered surfaces reduce air resistance by promoting laminar flow, enhancing airflow circulation, improving equipment ventilation and cooling, eliminating stagnant zones, and ensuring uniform airflow distribution.

Structural Module with Vertical Cable Organizer and PDU Niche

The vertical cable organizer consists of a system of guides and fasteners, enabling neat and systematic cable placement along the rack. This design prevents airflow obstruction, eliminates stagnant zones, and ensures unobstructed movement of cooling air, enhancing cooling efficiency and maintaining equipment temperature stability. It also streamlines maintenance by providing quick cable access, reducing diagnostic and replacement time while minimizing the risk of cable damage.

The vertical PDU niche is an ergonomic recess designed for compact and secure placement of power distribution units, integrated within the rack's contour to avoid interfering with airflow. This configuration prevents localized heating and turbulence, optimizing system ventilation, facilitating easy access to power ports, and reducing strain on the cabling infrastructure.



SEISMIC Components



In seismically active regions, ensuring server rack stability against vibrations and mechanical impacts is critical. The SEISMIC modules are designed to enhance structural resilience, protecting equipment from shocks using reinforced anchors and damping systems made of high-strength steel. Compliant with standards like NEBS, these modular components integrate easily into the rack, absorbing vibrational energy to maintain operational integrity and reliability without extensive modifications, thus extending equipment lifespan and minimizing downtime in high-risk environments.

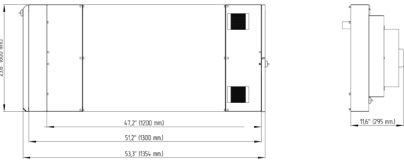
MONITORING AND SECURITY

Module X Server Racks provide efficient system monitoring through an integrated LED indication system on the front door: blue for normal operation, red for critical deviations requiring immediate attention, and white for automatic illumination upon opening to facilitate maintenance. Seamless integration with DCIM (Data Center Information Management) and BMS (Building Management System) enables remote status tracking, enhancing operational efficiency, response time, and data security.



EFFICIENT UTILIZATION OF DATA CENTER SPACE

The modular design of server racks maximizes space efficiency by incorporating a compact design and high-density equipment layout. This setup minimizes the physical footprint, reduces infrastructure expenses, and boosts system performance. Furthermore, the modular design enables effortless upgrades and scalable expansion, ensuring adaptability and cost-efficiency over the long term.



Energy Efficiency and Sustainability (ESG)

Module-X helps you achieve your sustainability goals while cutting operational costs.

- **Optimized Cooling:** The innovative design, featuring smooth surfaces and aerodynamic deflectors, creates laminar airflow and isolates hot and cold aisles. This reduces Power Usage Effectiveness (PUE) by 10-20% and lowers the load on air conditioning systems.
- **Eco-Friendly:** Our manufacturing process is ISO 14001 certified, and the rack itself is 90-95% recyclable and RoHS compliant.

Investment in the Future

You're not just acquiring equipment but a strategic opportunity to adapt to tomorrow's technologies. Our solution provides:

- Long-term protection against obsolescence;
- Infrastructure flexibility for future needs;
- Predictable data center development costs;
- Reduced total cost of ownership.

You're not just getting a rack but a tool for managing future changes. Our architecture enables targeted, cost-effective infrastructure upgrades, eliminating the need for full equipment replacements and providing flexibility to adopt new technologies.

Strategic Partnership

We offer more than just equipment—we guarantee reliability and convenience at every stage.

- Made in the USA: Local manufacturing facilities ensure stable supply with a 3-4 week lead time.
- Comprehensive Support: An SLA with a response time of under 2 hours, certified engineers, marketing materials, and training for your team.
- International Standards: UL/ETL compliance confirms the safety and quality of our solutions.

Partner Program: Growing Together

We have developed a transparent and automated incentive system (for VARs, Dealers, and SIs) to ensure your business grows with ours. Partners gain access to a multi-level loyalty program (Bronze, Silver, Gold), where higher tiers unlock better benefits.

Our program includes:

- Discounts: Direct price reductions on orders to increase your profit margins.
- Credits: Bonuses for future purchases, marketing initiatives, or extended warranties.
- Bonuses: Additional rewards for timely payments, large-scale projects, and the implementation of ESG-focused solutions.

All information is tracked in real-time through a partner portal, ensuring complete partnership transparency.

Start Building the Future Today

Ready to build a flexible and cost-effective infrastructure?

Contact us to get a custom configuration and partnership plan. We will provide all the necessary technical documentation and schedule a 30-minute consultation to discuss your project.



Module-X

www.proton-x.com