

# **PX® INTELLIGENT RACK PDUS**

# **SMARTER RACK POWER DISTRIBUTION**

Raritan's PX intelligent rack PDU Series offers more than just power distribution—it's a launch pad for real-time remote power monitoring, environmental sensors, and data center infrastructure management. The PX Series offers hundreds of models with options including outlet switching, individual outlet metering, high power, and 400V three-phase power distribution.

Have certain off-the-shelf models delivered in only a few days, or have PDUs purpose-built to meet the needs of your unique application. See for yourself why 9 of the top 10 Fortune 500 technology companies trust PX intelligent PDUs.

- Most Reliable
- Easiest to Use
- Future Proof

# XERUS™ TECHNOLOGY PLATFORM: RAISING THE BAR

Forming the backbone of all Raritan power products, Xerus comprises an extremely reliable, battle-tested, and ultra-secure hardware and software technology platform that integrates over 30 years of data center management expertise into every PDU.

Developed and maintained by our team of technology experts, Xerus provides an open and flexible architecture collecting data, alarming, and communicating to operators and infrastructure software systems. With plenty of power under the hood, Xerus can uniquely deliver new and advanced capabilities to every Raritan PDU deployed—not only today, but far into your data center's future.

#### **BILLING-GRADE ENERGY METERING**

	1000 Series	2000 Series	4000 Series	5000 Series
Inlet Metering				
Branch Circuit Metering				
Circuit Breaker Alarming				
Outlet Level Metering				
Outlet Level Switching		•		•



# **ENGINEERED FOR UPTIME**

Trusted by the world's largest data center operators, the PX Series benefits from more than 30 years of battle-tested physical engineering. PX PDUs have been perfected by data center experts to ensure uptime and



# INTELLIGENT FIELD REPLACEABLE CONTROLLER

Our flush mount controller offers industrialgrade reliability, configurable firmware, disaster recovery support, and hot swap capability in the event of a malfunction.



# **LOW-PROFILE FLUSH MOUNT CIRCUIT BREAKERS**

Eliminate the need to stock fuses, have licensed electricians change fuses, and reduce the possibility of installing an incorrect fuse compromising safety and voiding product warranties. Rack accessibility is improved by eliminating circuit breaker dog houses.



# **KWH METERING ACCURACY**

Incredible metering accuracy of +1/-1% can be measured across real-world loads and all power load types, not just peak loads. The same measurement quality can be observed on all interfaces and sensing points of the PX to ensure the highest degree of reliability.



# **FULL COLOR CHASSIS**

Available in ten colors. PX PDUs make it easier to identify power feeds, reducing errors, and lowering the risk or unplanned downtime.

# **WORLDWIDE CERTIFICATIONS**

Our PDUs are run through a rigorous set of tests to ensure they are compliant with the most stringent electrical standards including: FCC Part 15, A; UL Listed and cUL, CE, PSE, SAA, RoHS/WEEE, EAC.









# **ROCK SOLID DESIGN**



### **BUILT-IN FAILOVER POWER**

Using the expansion port available on some PX models, maintain network connectivity and power between two connected PDUs. Outage alerts lead to faster remediation, allowing you to maintain full control over the peripherals connected to your PDU and devices cascaded downstream.



#### CIRCUIT BREAKER TRIP ALARMING

Standard on all PX intelligent PDUs, circuit breaker trip alarming enables detailed power management for every branch circuit of your PDU—know which circuit breaker has tripped and why with voltage and current monitoring. While facility branch circuit monitoring won't detect power supply failure on a server, Raritan's circuit breaker trip detection in the cabinet will alert you immediately.



# **ENERGY EFFICIENT LATCHING RELAYS**

PX 5000 Series PDUs are equipped with bi-state latching relays, making outlet switching safer while consuming 70% less energy than conventional alternatives. Sophisticated outlet-sequencing can power on outlets individually or in groups, in a prescribed order, to minimize in-rush current overloading. Alternatively, latching relays can be configured to retain its on/off state permanently—so that critical power is maintained even in the case of PDU failure.



# REMOTE POWER CONTROL / OUTLET LEVEL POWER MANAGEMENT

Easily control what equipment is connected to the PDU, keep outlets switched off to prevent unauthorized access, ensure proper provisioning, and avoid tripped circuit breakers. Remote power controls can be used to reboot hung servers or provision outlets for new devices without ever having to step foot in the facility.



## RESIDUAL CURRENT MONITORING OPTION

By measuring current flowing in the ground wire, the residual current monitoring option reduces the risk of electric shock. Residual currents generate a system alert, keeping technicians safe. By providing automated and remote testing, PDUs equipped with residual current monitoring dramatically reduce the burden of regulatory auditing in many jurisdictions.



# **DUAL NETWORK ACCESS**

Equipped with two Ethernet ports, PDUs with iX7 controllers can be accessed on two separate networks. Infrastructure managers, co-location facility staff, or IT administrators can all see the same critical energy and environmental data provided by your PX, even if they're on different networks or VLANs.

# INDUSTRY-LEADING INNOVATION

Leveraging the open Xerus technology platform, PX intelligent PDUs are developed to be the most user-friendly devices in your power chain. Get seamless, actionable insight into your power data to manage your infrastructure better, smarter, and for less money.



Outlets	1/30
Outlet 1 IEC 60320 C19	0.954 A 🔵
Outlet 2 IEC 60320 C19	0.694 A 🌑
Outlet 3 IEC 60320 C13	0.786 A 🌑
Outlet 4 IEC 60320 C13	0.693 A 🌑
Outlet 5 IEC 60320 C13	1.120 A 🌑
<b>X</b> Back 11:10	) AM Details O

Outlet 1	1/2			
Status:				
On				
Active Power:				
<b>161</b> w				
Apparent Power:	178 VA			
Power Factor:	0.91			
Active Energy:	0 Wh			
<b>X</b> Back 11:11 AM	Switch <b>C</b>			

# **BRIGHT COLOR LCD DISPLAY**

The highest on-board resolution display in the industry (220x176) provides a crystal clear, at-a-glance view of your PDU data and configuration.



#### EASY POWER CAPACITY PLANNING

By leveraging the PX PDU's outlet level power management capabilities into Power IQ DCIM software, users can quickly identify ghost servers and stranded capacity across the data center. Baseline your power utilization to accurately forecast an expansion and optimize the available capacity per rack for reduced costs.









# **REAL-TIME, INTUITIVE USER INTERFACE**

Fast and easy to use, the updated PX web GUI can be accessed on your desktop or from any device or tablet. PX power data is available from anywhere, with color indicators to offer clear updates on the current state of monitoring thresholds.



#### GRANULAR ENVIRONMENTAL MONITORING

Optional plug-and-play environmental sensors for temperature, humidity, airflow, differential air pressure, and leaks connect to a dedicated iPDU port. All sensors are built with field-replaceable heads and will alert you to potential threats that could cause downtime.

## SECURE LOCKING SOLUTIONS

Raritan's intelligent rack PDUs are equipped with SecureLock outlets, preventing SecureLock power cords from coming unplugged due to vibration or human error.



# EASY TO USE, EASY TO DEPLOY

Save costs while commissioning new racks and new equipment, and gain speed and flexibility with the most open connectivity features in any PDU.



# STANDARD GIGABIT ETHERNET PORT

Raritan's iX7 generation controller provides standard gigabit Ethernet for seamless connectivity to modern switching infrastructure. It will ease your PDU's implementation in any data center environment, and allow for future network topologies.



# SIMPLIFIED, FAST DEPLOYMENT

Flexibility is at your fingertips when deploying PX intelligent PDUs. Configure hundreds or thousands of individual PDUs using methods ranging from the simple insertion of standard USB flash drives to sophisticated network-based tools: TFTP, PXE over DHCP, JSON-RPC, and others.



# WIFI CONNECTIVITY

Run out of network drops? No problem. With USB WiFi, Raritan intelligent PDUs can be networked and cascaded without additional expense.



#### **EXTENDED CASCADING**

Using the Ethernet port (on iX7 controllers) or USB ports, PDUs can be easily cascaded to mix and match connections and save money on IP drops, Ethernet ports, and patch ports.



# **DUAL USB PORTS**

Extremely versatile USB ports enable simultaneous connectivity to iPad / iPhone / Android interfaces, rapid configuration of PDUs, mass firmware updates, WiFi connectivity, and built-in webcam security features. Just as importantly, the interfaces will continue to expand the PDU's capabilities well into the future, with regular and free updates to the PDU onboard software. This hardware design enables advanced features while delivering the simplest product to use.

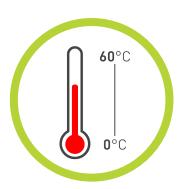
# FOR DENSE, HIGH POWER RACKS

Whether you operate a large, medium, or small data center, it may be time for you to consider deploying high power to at least some of your racks. Good candidates are racks that will be packed with 1U servers, network switches, blade servers, network storage devices, and other high density applications. Consider how Raritan's three phase, high voltage rack PDUs can increase energy savings and increase capacity:



# **400V THREE-PHASE MODELS**

Raritan's broad range of 400V three-phase high power models support up to 55kW per rack PDU. Running higher voltages at lower currents means smaller and fewer cables, less copper, less weight, less space, and lower costs. Plugs and receptacles are also less expensive at higher voltages and lower current ratings, with additional savings achieved by eliminating voltage transformations.



# 60°C (140°F) MAX TEMP

Although many data centers monitor cold aisle temperatures to provide optimal cooling for IT equipment, most rack PDUs are located at the rear of the rack where exhaust temperatures from IT equipment are much higher. Raritan's intelligent PDUs support a maximum operating temperature of up to  $60^{\circ}\text{C}$  /  $140^{\circ}\text{F}$  for reliable performance in dense, high-heat environments. Even in the harshest conditions, PX intelligent PDUs continue to operate reliably.

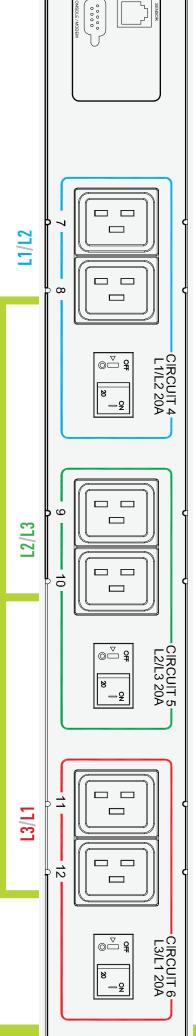


## TERMINAL BLOCK ACCESSIBLE OPTION

PX PDUs with a terminal block accessible option can save operators thousands of dollars by eliminating the need for plugs, connectors, and excess cables. Simply remove the outer cover from your PDU for quick access to the terminal block and wire the unit directly to an existing power whip.

# **ALTERNATE PHASE SEQUENCED OUTLETS**

Certain three-phase models feature phased sequence outlets: a unique wiring scheme that simplifies deployment of IT devices and balances the three lines to get the most power headroom. Power phases are alternated on a per-outlet rather than per-branch basis.



# FUTURE-PROOF YOUR INVESTMENT WITH THE PERFECT FIT FOR YOUR APPLICATION



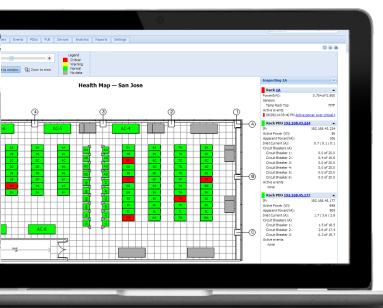
## PERFECT FIT IN THE RACK

Raritan engineers use 3D modeling tools to create the perfect fit for your rack. Space-saving Zero U, 1U, 2U, and 3U form factors provide unobstructed access to your rack for faster service calls, equipment changes, and deployment of newly provisioned equipment.



# XERUS PLATFORM ANTICIPATES THE FUTURE

Xerus—our embedded computing platform integrated across all Raritan power products—ensures a long lifespan for your power infrastructure by delivering extreme amounts of computing power, together with a flexible and extensible software architecture. As your data center changes and grows over time and new feature requirements arise, Xerus will continue to add capabilities to address new application needs, running on top of our secure and reliable technology foundation.



# DCIM MONITORING

Power IQ® DCIM Monitoring software automatically gathers power, energy, and environmental data from your intelligent PDUs and connected devices to help maintain uptime, improve capacity planning, and support energy efficiency initiatives.

# **GUARANTEED INTEROPERABILITY WITH ANY SOFTWARE**

PX intelligent rack PDUs integrate seamlessly into any monitoring architecture. Providing built-in software SDKs and scripting capabilities in SNMP, JSON-RPC, LUA, Java, JavaScript, and Perl, our PDUs can adapt to any environment—not only today, but even if you decide to change DCIM or BMS systems.

# MORE BENEFITS FROM A SINGLE SOLUTION

With Raritan's Custom Engineering, you can find the perfect solution for your specific requirements. We will help you to define your needs and find the appropriate product either from hundreds of catalog models built to order or by engineering a PDU specifically dedicated for your application.

#### RANGE OF OPTIONS

- 100V, 120V, 200V, 208V, 230V, 240V, 400V and 415V Inputs
- Single-Phase and Three-Phase Power
- 12A to 100A Input
- Zero U, 1U, 2U, and 3U Form Factors
- NEMA, IEC, Clipsal® and more
- Plugs and Receptacles
- Mixed Outlet and Voltage Configurations
- FCC Part 15, A, UL and cUL, IEC 60950, CE, EAC, plus PSE for Japan
- ROHS/WEEE Compliant

#### SECURITY PROTOCOLS

- Strong Passwords
- User and User Group Permissions
- Active Directory®, LDAP, LDAP/S
- Up to 256-bit AES Encryption
- SSH, SSL, AND HTTPS

#### **OUTLET CONTROLS**

- Power-on Sequencing with Customizable Delays
- Outlet Grouping Across Multiple PDUs
- PDU-based Load Shedding
- Last Known State Power-on
- Compatible with Raritan KVM
- Remote Outlet and Outlet Group On/Off

#### **ENVIRONMENT SENSORS**

- Temperature Sensor
- Humidity Sensor
- Airflow Sensor
- Differential Air Pressure Sensor
- Water/Fluid Leak Sensor
- Contact Closure Sensors Supported for Use with Third-Party Sensors

#### **POWER METERING**

- Individual Outlet, PDU, and Line
- Branch Circuit, Circuit Breaker Status
- Current (A)
- Voltage (V)
- Power (W. VA)
- Power Factor (PF)
- Energy Usage (kWH)

#### **NETWORK PROTOCOLS**

- Ethernet, GigE Option
- USB-A, USB-B
- Wi-Fi, 802.11 a/b/g/n
- GSM Text, Email, Syslog
- SNMPv2, v3, SETs, GETs, TRAPs
- IPv6/IPv4 Support
- JSON-RPC, Modbus TCP
- Web Browser (HTTP, HTTPS)
- SSH Command Line Interface



Visit www.raritan.com/px or call 1.800.724.8090 for more information