

PX4 RACK PDUS

THE POWER OF FORWARD THINKING

Trusted by the world's largest data center operators, Raritan intelligent PDUs benefit from 30+ years of battle-tested engineering and have been perfected by our data center experts to ensure uptime and availability.

The new PX4 builds the Xerus™ Technology Platform by adding industry-proven outlet technology and a set of groundbreaking intelligence features. This combination delivers unsurpassed outlet and power density, flexibility, reliability, security, and accurate data collection.

Discover how the innovations in the PX4 intelligent PDU can help you to Outpace, Outthink, and Outperform.

BENEFITS

- Real-time visibility, reporting, and alerting of power metrics and event
- Best-in-class flexibility to meet and anticipate future requirements
- Engineered for mission-critical uptime
- Unsurpassed outlet and power density
- Easy data collection and export to manage energy utilization
- Secure encrypted communication, by default, for all PDU data

OUTPACE

- High Density Outlet Technology
- C13 and C19 all-in-one outlets
- Alternating branch power distribution
- Outlet and cable locking
- 45-degree angled infeed

OUTTHINK

- Power quality monitoring
- $\pm 0.5\%$ metering accuracy
- Circuit Breaker Trip Forensics with Waveform Capture
- Fully hot-swappable onboard iX9™ Controller

OUTPERFORM

- Xerus Technology Platform
- Unsurpassed security suite
- Redfish® RESTful API
- Hundreds of cataloged and customization options

OUTPACE

The Intersection of Innovation and Proven Performance

The PX4 continues the Raritan legacy of delivering best-in-class intelligence while introducing a set of industry-proven hardware and outlet technology. This unmatched feature-set delivers density, flexibility, and reliability to drive operational excellence.

HDOT OUTLETS

Our patented High Density Outlet Technology (HDOT®) removes unnecessary outlet molding to provide the most outlets per PDU form factor to support high-density rack requirements.



HDOT Cx OUTLETS

A hybrid of IEC C13 and C19 outlets, the HDOT Cx® outlet accommodates both C20 and C14 power cables in a single outlet. It reduces complexity, increases flexibility, and simplifies the PDU selection process.



RAMLOCK LOCKING TECHNOLOGY

A rugged and intuitive outlet and power cord locking system secures power cords to the PX4 PDU. Its auto-lock and manual release lever allows unplugging with a one-handed "squeeze and pull" action.



ALTERNATING BRANCH OUTLETS

Groups outlets into branches on a repeating and distinguishable pattern over the length of the PDU. This simplifies load balancing and device installation while keeping patch cables shorter and away from the airflow path. It also lessens out-of-balance loads that can cause heating in the neutral current line.



45-DEGREE ANGLED INFEED

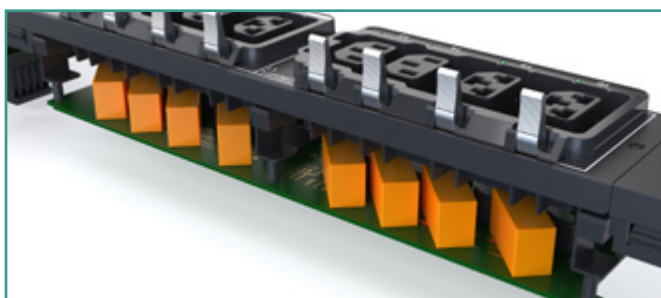
A flexible infeed cord design that reduces the number of PDU configurations needed. Bottom or front entries are now supported in this one-size-fits-all feature that saves money and time. The bend radius is suitable for cords rated up to 60A 3-Phase without degrading performance.

R/G/B LED OUTLET INDICATORS

Quickly and easily see the health status of the PDU. Color LED indicators show the following conditions: outlet on/off, outlet's power above/below a threshold, circuit breaker on/off, circuit breaker above/below a threshold, and a suspect outlet that tripped the circuit breaker.

BI-STABLE LATCHING RELAYS

Latching relays make outlet switching safer while consuming less energy and minimizing inrush current overloads. Configure relays to retain their on/off state so critical power is maintained even in the rare case of a PDU failure.



COLOR OPTIONS

Ten color chassis options: black (standard), red, blue, green, violet, orange, yellow, white, brown, and gray, as well as colored labels in six color options: blue, green, white, red, yellow, and black (standard) make it easy to identify power feeds, reduce provisioning errors, and lower the risk of unplanned downtime.

INDUSTRIAL GRADE MECHANICAL DESIGN

The PX4 is built with a 60°C (140°F) standard temperature rating for reliable performance in dense, high-heat environments. Even in the harshest conditions, the PX4 operates safely and reliably.



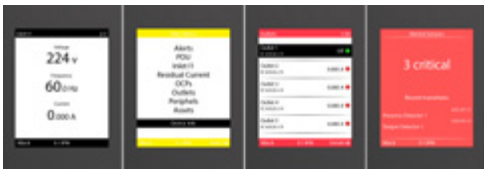
OUTTHINK

Breaking Boundaries in Hardware & Intelligence

THE IX9 CONTROLLER is the PX4's center of intelligence that houses high compute power, display, and multiple connectivity ports. It offers industrial-grade reliability, user-configurable firmware, multilayer redundancy for failover support, and hot-swappable capability for maintenance or replacement without powering down connected equipment. Its future-proof design helps manage operations more efficiently and at lower costs.

MULTI-COLOR LCD

Provides information on power usage, outlet status, and critical alerts.



DUAL NETWORK GIGABIT 10/100/1000 ETHERNET PORTS

Enables connectivity to network infrastructure. Physically cascade 32 PDUs under one ethernet port using bridging mode, or additionally, save IP addresses using a single IP address with port forwarding. For more efficient management and control of your devices, use the Link feature for logical connectivity of up to 8 PDUs.

SENSOR PORT

Allows plug-and-play deployment of Legrand® SmartSensors™—up to 32 sensor functions or up to 12 sensor packages supported.

DUAL USB-A PORTS & SINGLE USB-B PORT

USB-A enables simultaneous connectivity to mobile interfaces, rapid PDU configurations, mass firmware updates, and serial console access. USB-B generates diagnostic logs.

PDU LINK PORTS

Allows the linking of 2 PDUs where the Primary unit has the power information from the Link units. Ensures redundant power for the main Controller for both units, even if the Primary unit loses power.



ADVANCED POWER QUALITY MONITORING AND METRICS

The PX4 gives real-time insight into critical power quality, energy efficiency, and equipment health. With the most complete and accurate power quality monitoring and metrics, you can confidently address capacity planning, environmental optimization, failover planning, and troubleshooting.

±0.5% METERING ACCURACY

- The PDU's inlet and outlets capture minimum, maximum, and average measurements following IEC 62053-21 and IEC 61557-12 standards

CIRCUIT BREAKER TRIP FORENSICS

- Identify the exact outlet that caused a circuit breaker to trip
- Use with Outlet Power-On Prevention to restore power to other devices while isolating defective equipment for future maintenance

PEAK & MIN/MAX VALUES FOR POWER MEASUREMENTS

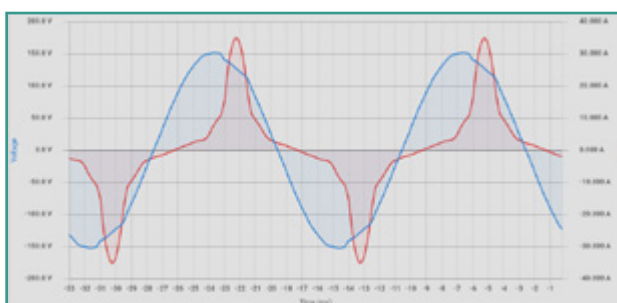
- Values are measured over time and can be used to determine normal loads and failover ratings, plus recommend upgrades based on peak ratings
- Identify stranded capacity and plan for failover
- Easily determine where you have the capacity to install new devices in the cabinet

TOTAL HARMONIC DISTORTION

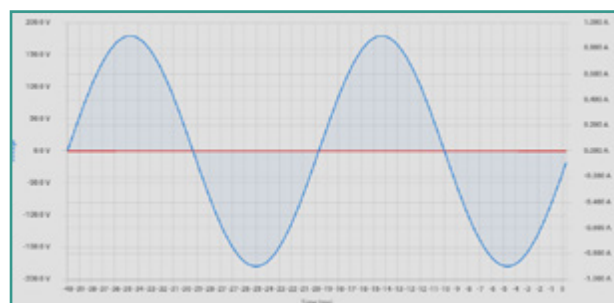
- Monitor harmonic events, voltage dips, and swells, crest factor, and power interruptions
- Monitor the power being fed to the PDU and the power distributed to the PDU's outlets

WAVEFORM CAPTURE

When captured, trended over time, and visualized in the same location, power metrics become more powerful. With Waveform Capture, you can closely monitor quality metrics at the rack, like harmonics or voltage dips and swells, define a threshold to monitor events, and visualize disturbances that may be distorting the PDU's power quality. These visualizations assist with ensuring your data center's rack power is running efficiently.



Harmonics Waveform Example



Voltage Dip Example

On-demand or event-driven waveform capture can be automated based on specific events through the PX4's web GUI or APIs.

POWER QUALITY MEASUREMENTS

The PX4's rack-based power quality measurements allow you to proactively troubleshoot sources of power issues like power leaks, distortions, or variations before they become more significant problems.

The PX4 measures the following types of power quality measurements at the PDU's inlet and/or outlet:

Power Quality Metric	Measurement	Inlet Measurement	Outlet Measurement
Voltage, RMS	V_{RMS}	Y	Y
Voltage, Neutral	V_N	Y	N
Voltage, Harmonic Distortion	V_{THD}	Y	Y
Voltage, Dip & Swell	V_{DIP} V_{SWL}	Y	N
Current, RMS	A_{RMS}	Y	Y
Current, Neutral	A_N	Y	N
Current, Inrush	A_{INRUSH}	N	Y
Current, Harmonic Distortion	A_{THD}	Y	Y
Crest Factor	CF	Y	Y
Watts	W	Y	Y
Volt-Amps-Apparent Power	VA	Y	Y
Volt-Amps-Reactive Power	VAR	Y	Y
Power Factor, True	PF_{true}	Y	Y
Power Factor, Displacement	PF_{disp}	Y	Y
Power Factor, Distortion	PF_{dist}	Y	Y
Energy	kWh, kVA	Y	Y

**Metrics with Y (yes) in the Outlet Measurement column are only available on units equipped with outlet level monitoring.*

PX SERIES

Raritan PDUs are available with various key features and intelligence levels.

	Inlet Power Monitoring	Branch Circuit Monitoring	Circuit Breaker Trip Alarming	Outlet Level Monitoring	Outlet Level Switching
PX 1000 Series	■	■	■		
PX 2000 Series	■	■	■		■
PX 4000 Series	■	■	■	■	
PX 5000 Series	■	■	■	■	■

OUTPERFORM

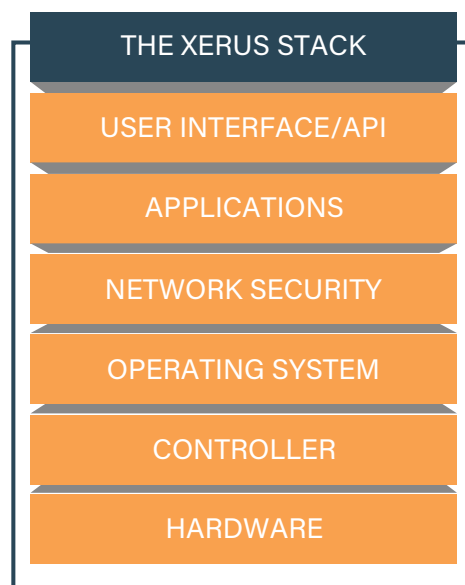
Technology That Transforms Rack Power Distribution

THE XERUS TECHNOLOGY PLATFORM

Forming the backbone of all Raritan power products, Xerus is a combination of robust hardware, software, and communication protocols. It facilitates power management and monitoring, environmental monitoring, asset governance, physical access control, and more.

Xerus helps maximize data center uptime and efficiency with security, advanced power monitoring, metrics and alerting, and complete visibility into your power chain. With Xerus, you receive actionable data to aid in decisions that help safeguard assets and maximize your data center's continuity and performance.

Rather than managing multiple systems using different protocols, the Xerus Technology Platform supports networked SNMP, MODBUS, open REST based API's and a Redfish API, enabling wherever-you-go monitoring and visibility into your data center.



ENHANCED SECURITY SUITE

ENCRYPTION

Secure encrypted communication by default for all PDU data at all times:

- HTTPS
- SSH
- SNMPv3
- Smart TLS

PASSWORD POLICIES

Enforcing strong and updated password policies to control user access:

- Strong Passwords
- Force Password Changes
- Password Expiration

CERTIFICATES

Valid and updated certificate to secure PDUs on public networks against "Man-in-the-middle" attacks:

- Digital Certificate
- CA Certificates
- Self Signed Certificates
- US-CERT Monitoring

FIREWALL

Control user access and keep out unauthorized access:

- IP based Access Control Lists (IP ACL) rules
- Role Based Access Control (RBAC) rules

DEFENSE IN DEPTH

Protect against network breaches by leveraging advanced security measures to stay ahead of the threats:

- Secure Boot
- Repeat Login Block Access
- Timing Out Inactive Sessions
- Limiting Same Login Use from Multiple Clients
- Enforced Restricted Service Agreement Warnings

UNIQUE SPECIFICATIONS

At Raritan, we understand that rack power needs vary from customer to customer. Our power experts will help you find the right PX4 PDU for your specific application, whether it be a standard configuration model, a configure-to-order model, or by engineering a custom PDU designed to your specific needs.

RANGE OF OPTIONS

- 100V, 120V, 200V, 208V, 230V, 240V, 400V, and 415V Inputs
- Single-Phase and Three-Phase Power
- 12A to 100A Input
- Up to 54 Outlets (mix of HDOT Cx and HDOT C13)
- NEMA, IEC, and other Outlet Types Available
- Zero U, 1U, 2U, and 3U Form Factors
- NEMA, IEC, 56 Series, and other Plugs/Receptacles
- Standard Certifications including FCC Part 15 Class A, UL and cULs, IEC 62368, CE, UKCA

SECURITY PROTOCOLS

- Configurable Strong Passwords
- User and User Group Permissions
- Active Directory®, LDAP/S, RADIUS, TACACS+
- Up to 256-bit AES Encryption
- Secure Boot
- SSH, SSL, TLS, and HTTPS

OUTLET CONTROLS

- Power-on Sequencing with Customizable Delays
- Outlet Grouping Across Linked PDUs
- PDU-based Load Shedding
- Last Known State Power-On
- Remote Outlet and Outlet Group On/Off
- R/G/B LED Outlet Indicators
- Bi-Stable Latching Relays

MECHANICAL ENHANCEMENTS

- RamLock Mechanical Locking
- 45-Degree Angled Infeed
- Alternating Branch Outlet Technology
- Adjustable Toolless Mounting

POWER METERING

- Metering at Outlets, Infeed, Circuit Breakers
- Peak and Min/Max Power Quality Measurements
- Monitor Harmonic Events, Waveform Capture, Voltage Dips & Swells, Crest Factor, Power Interruptions, Energy Usage, and more
- Circuit Breaker Trip Forensics

COMMUNICATION PROTOCOLS

- Dual 10/100/1000 Base T Ethernet
- USB-A, USB-B
- Email and Syslog
- SNMPv2c, SNMPv3
- SNMP TRAPs and INFORMs
- IPv6/IPv4 Support
- JSON-RPC API, MODBUS TCP
- Web Browser (HTTP, HTTPS)
- SSH Command Line Interface
- Xerus Firmware
- Redfish RESTful API
- Perl, Python, JavaScript, and Curl SDKs

MANAGEMENT CONTROLLER

- True Hot-Swappable
- High-Resolution Full-Color LCD
- Auto Flip Display
- Intuitive Interface Ports for Power Sharing, Failover Power, Cascading, Linking, and Sensors*
- Zero Touch Provisioning
- USB Mass Configuration

* Plug-and-play sensor support for Temperature, Humidity, Airflow, Dust/Particle, Differential Air Pressure, Water/Fluid, Vibration, Proximity, Contact Closure, Sensor Hubs, and more sensor types.