



## PX4 Rack PDUs

### The Power of Forward Thinking

Trusted by the world's largest data center operators, Raritan intelligent PDUs benefit from over 30 years of battle-tested engineering. Perfected by our data center experts, they ensure uptime and availability.

The new PX4 builds on the Xerus™ Technology Platform by adding industry-proven outlet technology and 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 events
- 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 communication, by default, for all PDU data

#### OUTPACE

- High Density Outlet Technology
- C13 and C19 all-in-one outlets
- Alternating branch power distribution
- Per-outlet power cord locking
- 45-degree angled infeed with optional Universal Input

#### OUTTHINK

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

#### OUTPERFORM

- Xerus Technology Platform
- Advanced security suite
- Redfish® RESTful API
- Hundreds of cataloged and customizable 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 features. 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.



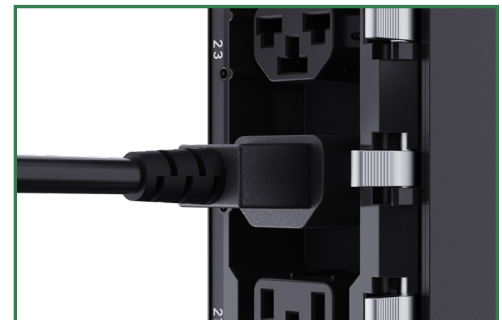
### HDOT Cx OUTLETS

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 while lowering costs and future-proofing your installations.



### RAMLOCK LOCKING TECHNOLOGY

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



### ALTERNATING BRANCH OUTLETS

Outlets are grouped into branches in a repeating and distinguishable pattern along 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 WITH UNIVERSAL INPUT OPTION

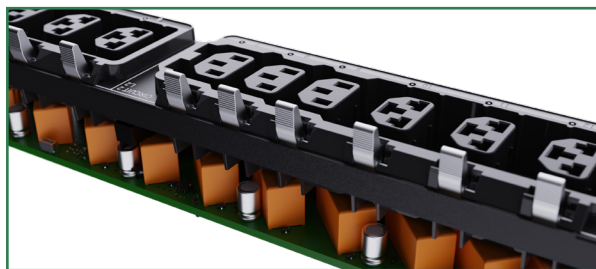
A flexible infeed cord design that improves infeed accessibility and reduces the number of PDU configurations needed. The Universal Input option (not shown) is a one-size-fits-all infeed that accommodates single-phase and three-phase Legrand Universal Input Cord options for the same PDU allowing you to adapt to dynamic power configurations, simplifying deployments and providing a genuine plug-and-play solution.

### R/G/B LED OUTLET INDICATORS

Quickly and easily see the health status of the PDU. Color LED indicators show the following: 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. Relays can be configured to retain their on/off state so critical power is maintained even in the rare case of a PDU failure.



### COLOR-CODING OPTIONS

Color-coded rack PDUs are an intuitive way to visually separate, locate, and brand your data center power distribution pathways. PDU color-coding customization options include strategically placed color labels along the front side of the PDU and full-color chassis options with color visible along the entire length of the PDU.

### 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.



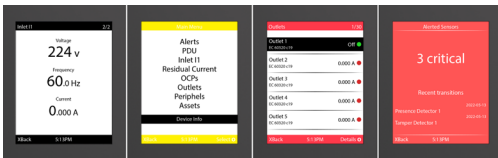
# OUTTHINK

## Breaking Boundaries in Hardware & Intelligence

**THE IX CONTROLLER** is the PX4's center of intelligence, housing 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

Features an auto-flip orientation that displays power usage, outlet status, and critical alerts.

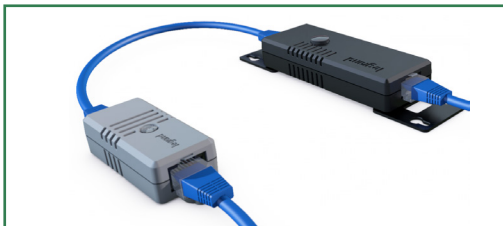


### DUAL NETWORK GIGABIT 10/100/1000 ETHERNET PORTS

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

### SENSOR PORT

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

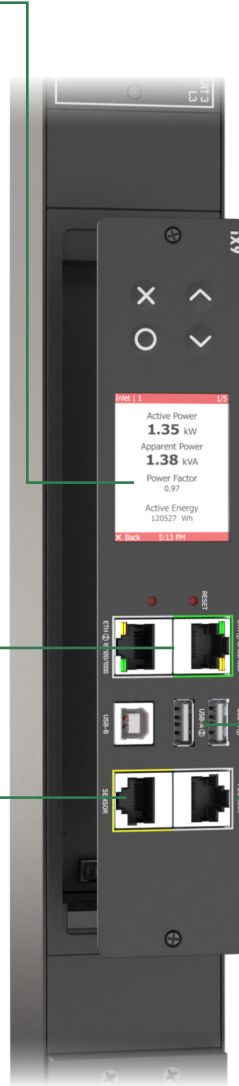


### DUAL USB-A PORTS & SINGLE USB-B PORT

USB-A enables simultaneous connectivity to mobile interfaces, rapid PDU configurations, mass firmware updates, and serial console access. USB-B supports USB-to-Serial CLI communications, cascading devices for sharing a network connection, and connecting to a mobile device.

### 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 set of rack 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 exactly which outlet caused the PDU's circuit breaker to trip
- Use with an outlet power on prevention tool called Trip Cause Outlet Handling to isolate defective equipment and restore power faster to nonoffending devices

### WAVEFORM CAPTURE

Power metrics become more powerful when captured, trended over time, and visualized in the same location. 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 ensure your data center's rack power is running efficiently.

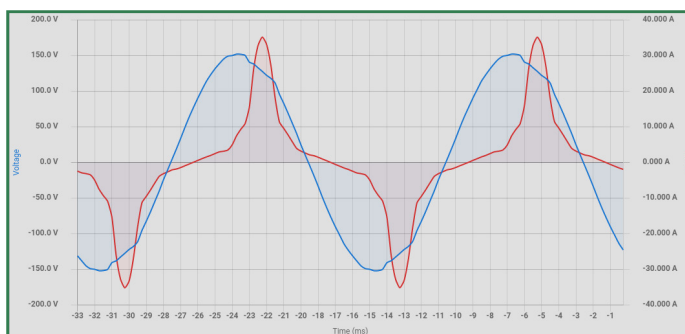
### PEAK & MIN/MAX VALUES

#### FOR POWER MEASUREMENTS

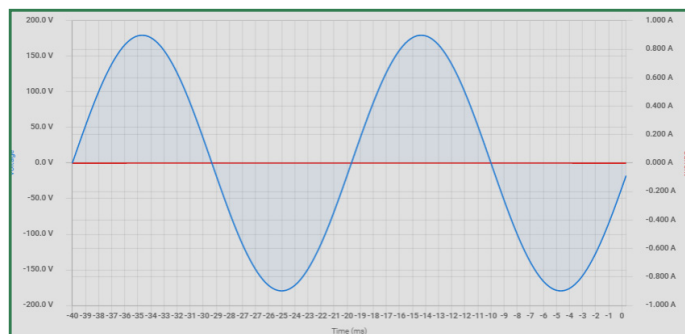
- Values are measured over time and can be used to determine normal loads and failover ratings, plus recommend upgrades based on peak ratings
- Identify stranded capacity and plan for failover
- Easily determine where you have the capacity to install new devices in the cabinet

### TOTAL HARMONIC DISTORTION MEASUREMENT

- 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



**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 such as 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
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	■	■	■	■	■

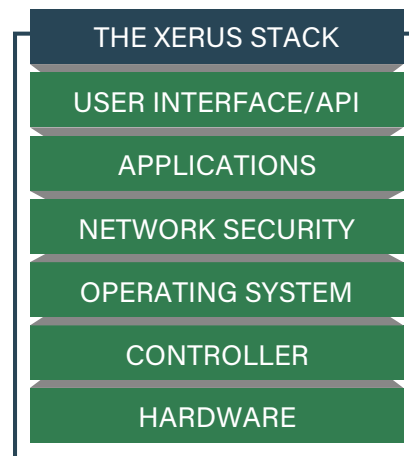
# OUTPERFORM

## 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 APIs, and Redfish API, enabling remote monitoring and visibility into your data center.

The PX4 is designed to grow with the evolving demands of digital expansion, security, and efficiency. Xerus delivers unparalleled security for your rack-level power distribution, safeguarding connected assets and maximizing your data center's continuity and performance.

## ADVANCED SECURITY SUITE

### ENCRYPTION

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

- HTTPS
- SSH
- SNMPv3
- STARTTLS

### CERTIFICATES

Verify user identity, enable secure network communication, and protect against "man-in-the-middle" attacks with:

- Digital Certificates
- CA Certificates
- Self-Signed Certificates
- SCEP Support
- US-CERT Monitoring

### PASSWORD POLICIES

Enforce strong and updated password policies to control user access:

- Strong Passwords
- Force Password Changes
- Password Expiration

### FIREWALL

Control user access and keep out unauthorized users:

- 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 threats:

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

## 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, selecting from standard configuration models, configure-to-order models, 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 48 Outlets (mix of HDOT Cx and HDOT C13)
- Universal, 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 and Secure Element
- 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 and 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, MQTT, MODBUS TCP
- Web Browser (HTTP, HTTPS)
- SSH Command Line Interface
- Xerus Firmware
- Redfish RESTful API
- Perl, Python, JavaScript, and C#/.NET 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.