



Product brochure

Vertiv™ PowerIT Rack PDU for high density applications

Advanced power management for Artificial Intelligence
and High-Performance Computing



Why choose Vertiv's High-Density rPDUs and High-Ampacity?

Meeting modern demands:

As data centers evolve, configurations exceeding 25 kW are becoming more common, necessitating higher-density rack PDUs to efficiently manage power distribution and thermal management. Vertiv™ PowerIT High-Density rPDUs are specifically designed to address these needs, allowing your data center to handle increasing power demands

Engineered for high performance:

The Vertiv™ PowerIT High Density rPDU is built to meet the rising power requirements of modern data centers, particularly those supporting high-performance computing (HPC) and artificial intelligence (AI) applications. With the capability to deliver up to 57.6 kW per unit, these rPDUs provide dependable power distribution for high-density environments, maintaining optimal performance, and reliability.

Beyond power distribution:

Our comprehensive portfolio of rPDUs offers more than just power distribution. Seamlessly integrating with your data center infrastructure management systems, they enhance resilience, boost performance, and provide the technological support necessary to meet the demands of AI and high-performance computing.

Advanced monitoring and management:

Vertiv™ PowerIT offers a wide range of monitored and switched rPDUs equipped with network interfaces for remote monitoring, management, and automated alerts. These rPDUs provide critical insights into improving data center energy efficiency while preventing downtime by notifying you when user-specified thresholds for power and environmental conditions are breached.

Three-phase power:

Three-phase power systems are particularly significant for meeting the high power demands of AI and HPC environments. These systems connect three voltage sources or loads to balance power distribution efficiently. The two most commonly used configurations, 208V Delta and 240-415V WYE, enable optimal power delivery and management.

This makes three-phase power systems exceptionally well-suited for supporting the intensive power requirements of high-performance computing applications.

	208V Delta (UL Model Only)	240/415V WYE
Voltage levels	Provides voltage levels ranging from 200-240V, with the most common being 208V.	Provides voltage range of 200-240/346-415V, with the most common being 240V (USA) or 230V (EMEA) Line-to-Neutral output.
Configurations	Employs a triangular connection of three phases (AB, BC, and CA) without a neutral wire	Three phases joined in a Y-shaped pattern and connected by a neutral wire.
Applications	Legacy servers, blade servers and micro servers.	High-performance servers, storage arrays, and networking equipment.
	Power Efficiency: Well-suited for high-power applications due to its voltage range.	Global Availability: WYE power systems operating at 240/415V are more commonly used than 208V Delta systems. This widespread adoption standardizes components and simplifies maintenance and replacements, streamlining installation and upkeep.
Advantages	Cost-Effectiveness: Existing installations can use it without major infrastructure changes. Compatibility with Legacy Equipment: In retrofit scenarios, where older equipment is still in use, the 208V Delta system provides continuity.	Scalable Power: Accommodates increased demands as a data center expands or adds new equipment.



Enhanced features for high-density demands

Vertiv offers a diverse line of high-density rPDUs, tailored to enhance performance and management in high-density environments. The two major types to consider are monitored and switched models.

Monitored rPDUs provide comprehensive power usage data, making them ideal for optimizing energy efficiency and power distribution in high-density settings. These rPDUs offer detailed insights into power consumption, helping to maintain operational efficiency.

Switched rPDUs offer the same benefits with the added advantage of controlling individual outlets. This allows for remote management of power loads and the ability to reboot unresponsive equipment, providing greater flexibility and control.

Both types integrate seamlessly with your high-performance infrastructure computing infrastructure, enhancing resilience and performance. Let's compare their features to determine the best fit for your needs.

	Monitored rPDUs	Switched rPDUs
Power usage data	✓	✓
Remote on/off control of individual outlets	✗	✓
Real-time monitoring and remote power cycling	✓	✓
Energy efficiency optimization	✓	✓
Prevents overloads by turning off outlets	✗	✓
Remotely reboots unresponsive equipment	✗	✓
Integrates with equipment management systems	✓	✓

Go beyond the standard with Configure-to-Order capabilities:



Chassis color	Outlet and plug type	Intelligence	Cord length
Differentiate between primary and secondary power feeds with color-coded rPDUs.	Modify the rPDU by selecting the outlet type, placement, and color-coding to meet specific needs.	Choose from basic to intelligent features to optimize your rack power infrastructure.	Select a cord length ranging from 3 to 5 meters to simplify cable management.

At a glance

Advanced security

- UL2900-1 certificate, (and IEC 62443 SL2 ongoing)
Secure Boot with firmware signature / hardware trust anchor
- Supports highest security communication together with Avocent® ACS VPN and Out-of-Band communications for Edge applications.
- SNMPv3, ssh, HTTP(S) and IPv6 support.

Compatibility with all industry-standard racks and power chain

- Available in all major global voltage and amperage combinations typically used in data centers or remote sites.
- Easily integrate with Vertiv's full line of power products. A Vertiv™ expert can assist in selecting the right rPDU for your power chain needs

Simplified integration with management tools

- Integration with Vertiv™ software stack to simplify implementation and change management translating to real cost savings.
- IPv4 and IPv6 support.
- Support for all major management, authentication and encryption standards and protocols to fully integrate with higher level data center management software provided by Vertiv or third parties.

Optimized energy and capacity management

- Metering of key electrical parameters with +/-1% accuracy provides highly accurate comprehensive power monitoring.
- Lowest idle power consumption in the industry.
- Vertiv DCIM (Data center infrastructure management) solutions provide reports on power and environmental trends, giving you control over IT energy usage.



Designed for high availability

- High operating temperature rating to accommodate increased rack densities.
- Secure cords with U-Lock outlets to prevent accidental dislodging.

Hot-swappable Interchangeable Monitoring Device (IMD)

- Allows for easy upgrades and maintenance without disrupting power distribution.

Dual ethernet ports

- Simplifies management of multiple PDUs with fault-tolerant daisy chaining or IP aggregation capabilities.

UL and CE marked

- Meets important regulatory requirements for data centers.

Individual testing

- Each unit undergoes rigorous testing for functionality to ensure reliability.

Color

- Black powder coat finish.
- Red, orange, yellow, green, blue, white Available on configure-to-order units.

Warranty

- 5-year limited warranty if registered within 120 days of purchase; otherwise, warranty defaults to 3 years.
- Certifications*
- RoHS
- UL & c-UL listed 62368
- CE marked
- FCC part 15 class a conformance
- TAA Compliant

*Certifications vary by model. Refer to the product data sheet for specific regulatory information.

Configure-to-order and engineer-to-order

Engineered-to-order units allow further customization, including colored chassis options, alongside varying power and receptacle configurations. Contact your Vertiv sales team for more information.

Interfaces/ports*

- Serial port
- Modem (RJ-12)
- Network (RJ-45)
- USB

Intelligence type

- Basic upgradable
- Unit level monitored
- Outlet level monitored
- Switched unit level monitored
- Switched outlet level monitored



Contact: Sales support Americas

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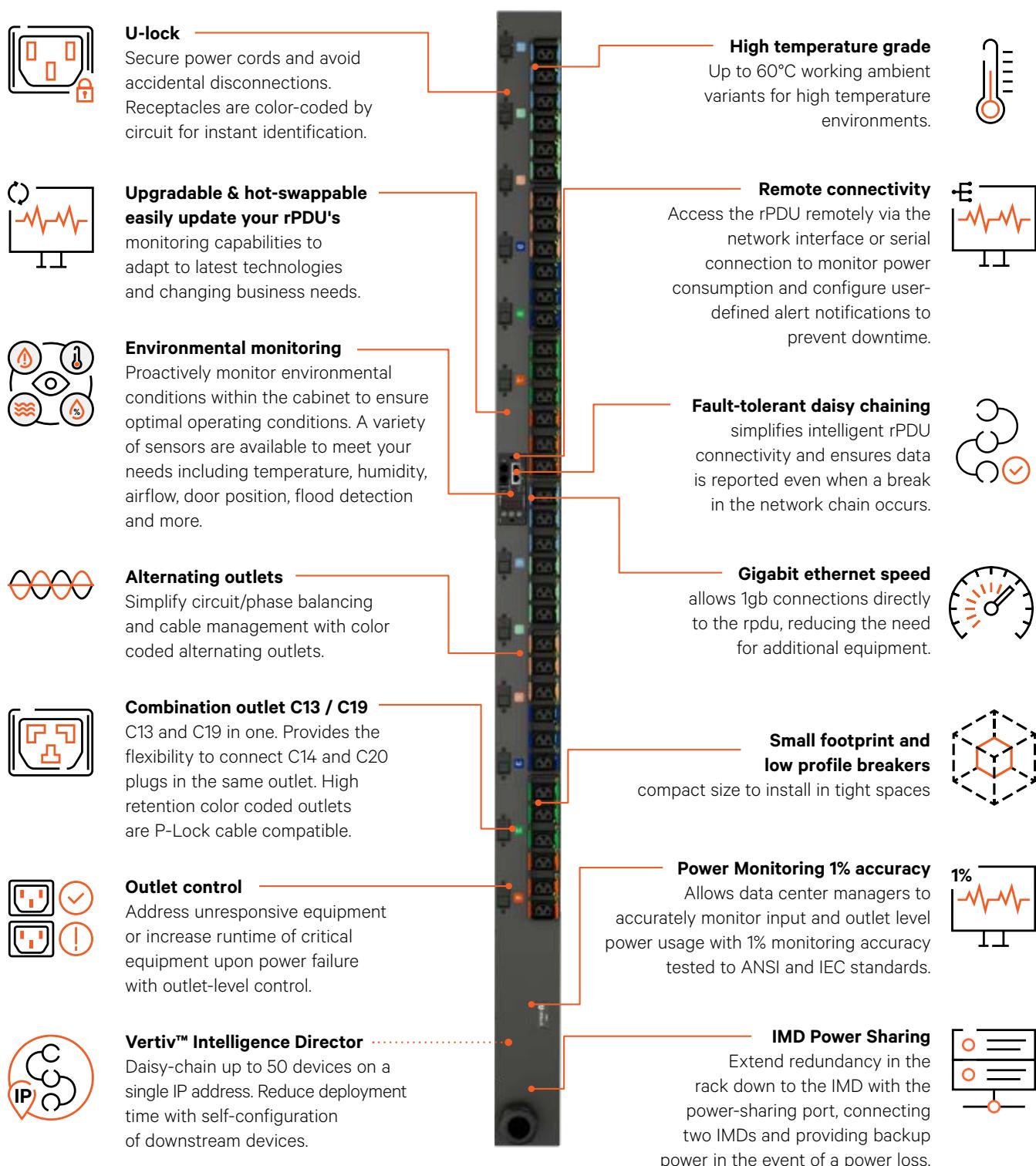
Built-to-Order reference PDU models

Model	PDU type	Plug type	Input current	Voltage	Output receptacle	Power rating	Configuration	Distribution Emergency	Distribution Emergency Renewal
VP1U60A0	Basic	2P + E (IP44)	60A/63A	200-240V	"(36) Combination Outlet C13/C19"	13.8kW	Vertical	RPDU-DE5R-006	RPDU-DER5R-006
VP1U60A1	Basic	2P + E (IP44)	60A/63A	200-240V	"(24) Combination Outlet C13/C19"	13.8kW	Vertical	RPDU-DE5R-006	RPDU-DER5R-006
VP1U60A2	Basic	" 3P + N + E (IP44)"	60A/63A	240/415V WYE	"(36) Combination Outlet C13/C19"	43.4 kW	Vertical	RPDU-DE5R-007	RPDU-DER5R-007
VP1U62A0	Basic	2P + E (IP44)	60A/63A	200-240V	"(24) Combination Outlet C13/C19"	13.8kW	Horizontal	RPDU-DE5R-006	RPDU-DER5R-006
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VP1UA0A1	Basic	Hardwired Input	80A	240/415V WYE	"(36) Combination Outlet C13/C19"	57.6 kW	Vertical	RPDU-DE5R-007	RPDU-DER5R-007
VP4U60A0	Unit Monitored	2P + E (IP44)	60A/63A	200-240V	"(36) Combination Outlet C13/C19"	13.8kW	Vertical	RPDU-DE5R-007	RPDU-DER5R-007
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VP4U60A2	Unit Monitored	" 3P + N + E (IP44)"	60A/63A	240/415V WYE	"(36) Combination Outlet C13/C19"	43.4 kW	Vertical	RPDU-DE5R-008	RPDU-DER5R-008
VP4U62A0	Unit Monitored	2P + E (IP44)	60A/63A	200-240V	"(24) Combination Outlet C13/C19"	13.8kW	Horizontal	RPDU-DE5R-007	RPDU-DER5R-007
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VP5U60A0	"Switched Unit Monitored"	2P + E (IP44)	60A/63A	200-240V	"(36) Combination Outlet C13/C19"	13.8kW	Vertical	RPDU-DE5R-008	RPDU-DER5R-008
VP5U60A1	"Switched Unit Monitored"	" 3P + N + E (IP44)"	60A/63A	240/415V WYE	"(48) Combination Outlet C13/C19"	43.4 kW	Vertical	RPDU-DE5R-008	RPDU-DER5R-008
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VP5U60A3	"Switched Unit Monitored"	" 3P + N + E (IP44)"	60A/63A	240/415V WYE	"(24) Combination Outlet C13/C19"	43.4 kW	Vertical	RPDU-DE5R-008	RPDU-DER5R-008
VP5U62A0	"Switched Unit Monitored"	2P + E (IP44)	60A/63A	200-240V	"(24) Combination Outlet C13/C19"	13.8kW	Horizontal	RPDU-DE5R-008	RPDU-DER5R-008



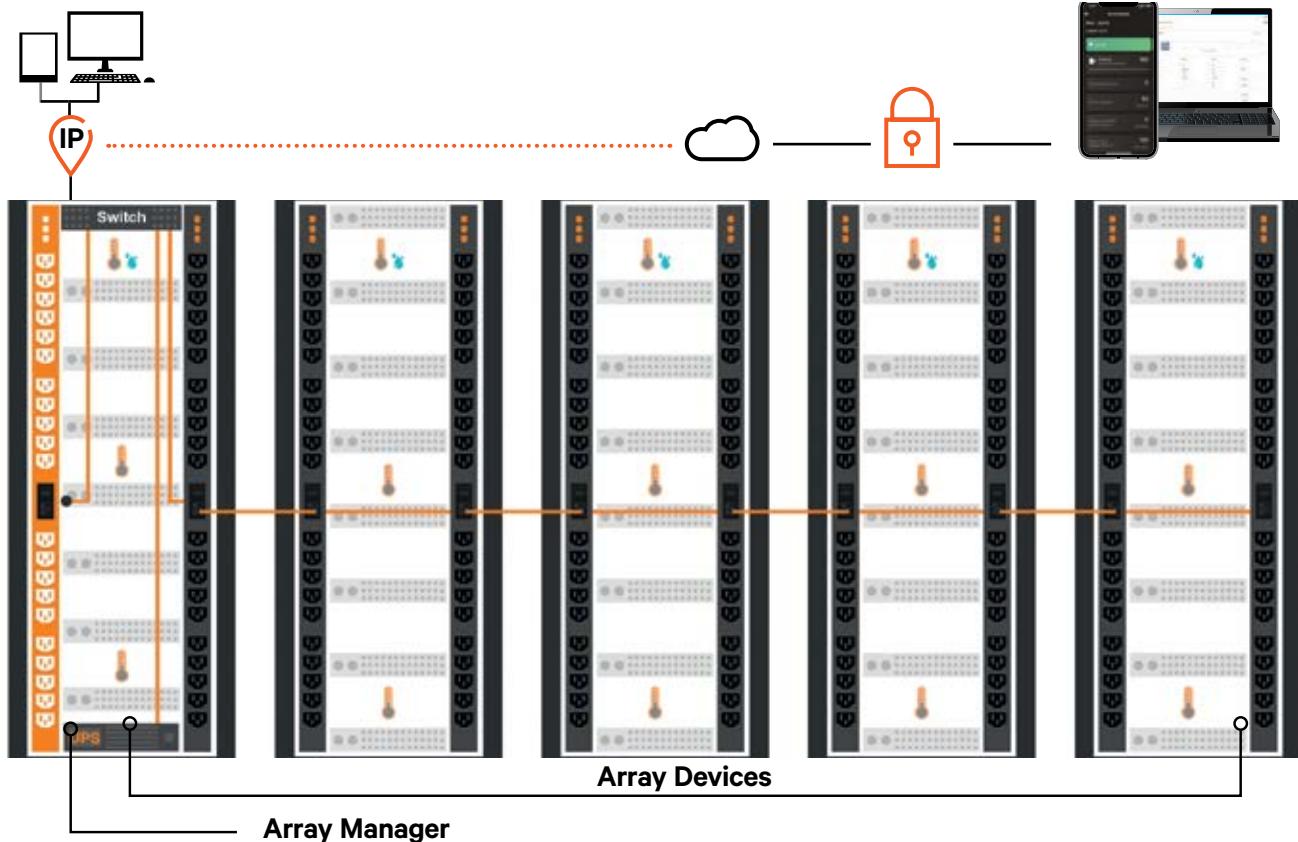
VP5U62A2	"Switched Unit Monitored"	" 3P + N + E (IP44)"	60A/63A	240/415V WYE	"(24) Combination Outlet C13/C19"	43.4 kW	Horizontal	RPDU-DE5R-008	RPDU-DER5R-008
VP5UA0AO	"Switched Unit Monitored"	Hardwired Input	80A	240/415V WYE	"(36) Combination Outlet C13/C19"	57.6 kW	Vertical	RPDU-DE5R-008	RPDU-DER5R-008
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VP6UA0AO	Outlet Monitored	Hardwired Input	80A	240/415V WYE	"(36) Combination Outlet C13/C19"	57.6 kW	Vertical	RPDU-DE5R-008	RPDU-DER5R-008
VP7U60A0	"Switched Outlet Monitored"	2P + E (IP44)	60A/63A	200-240V	"(36) Combination Outlet C13/C19"	13.8kW	Vertical	RPDU-DE5R-008	RPDU-DER5R-008
VP7U60A1	"Switched Outlet Monitored"	" 3P + N + E (IP44)"	60A/63A	240/415V WYE	"(48) Combination Outlet C13/C19"	43.4 kW	Vertical	RPDU-DE5R-008	RPDU-DER5R-008
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Why choose Vertiv's High-Density rPDUs?



Vertiv™ Intelligence Director

Plug-n-play data center infrastructure enabling lightning-fast AI and HPC deployments



The next generation of Vertiv™ PowerIT rPDUs offer enhanced monitoring and simplified networking with the introduction of Vertiv™ Intelligence Director.

*One unit per group is required to have an IMD-03E, IMD-03E-S, IMD-3E, IMD-3E-S, IMD-03E-G, IMD-3E-G or IMD-5M

**Vertiv™ Intelligence Director compatible with Vertiv™ MPH2 and Vertiv™ MPX rack Vertiv™ GXT4, Vertiv™ GXT5, Vertiv™ PS15, Vertiv™ EXM, Vertiv™ APM and Vertiv™ ITA2 UPS, Vertiv™ CRV row cooling and USB-connected Vertiv™ VRC cooling.

- On Monitored* and Switched units, users have the ability to daisy chain up to 50 devices with a single IP address.
- Access data from all downstream rPDU and UPS** devices from one rPDU.
- Users are able to aggregate data by grouping devices by rack or row.
- Downstream devices self-configure, significantly reducing deployment time.
- Securely transmit device data to the Vertiv™ Intelligence cloud for anytime access to critical infrastructure information.

How it works

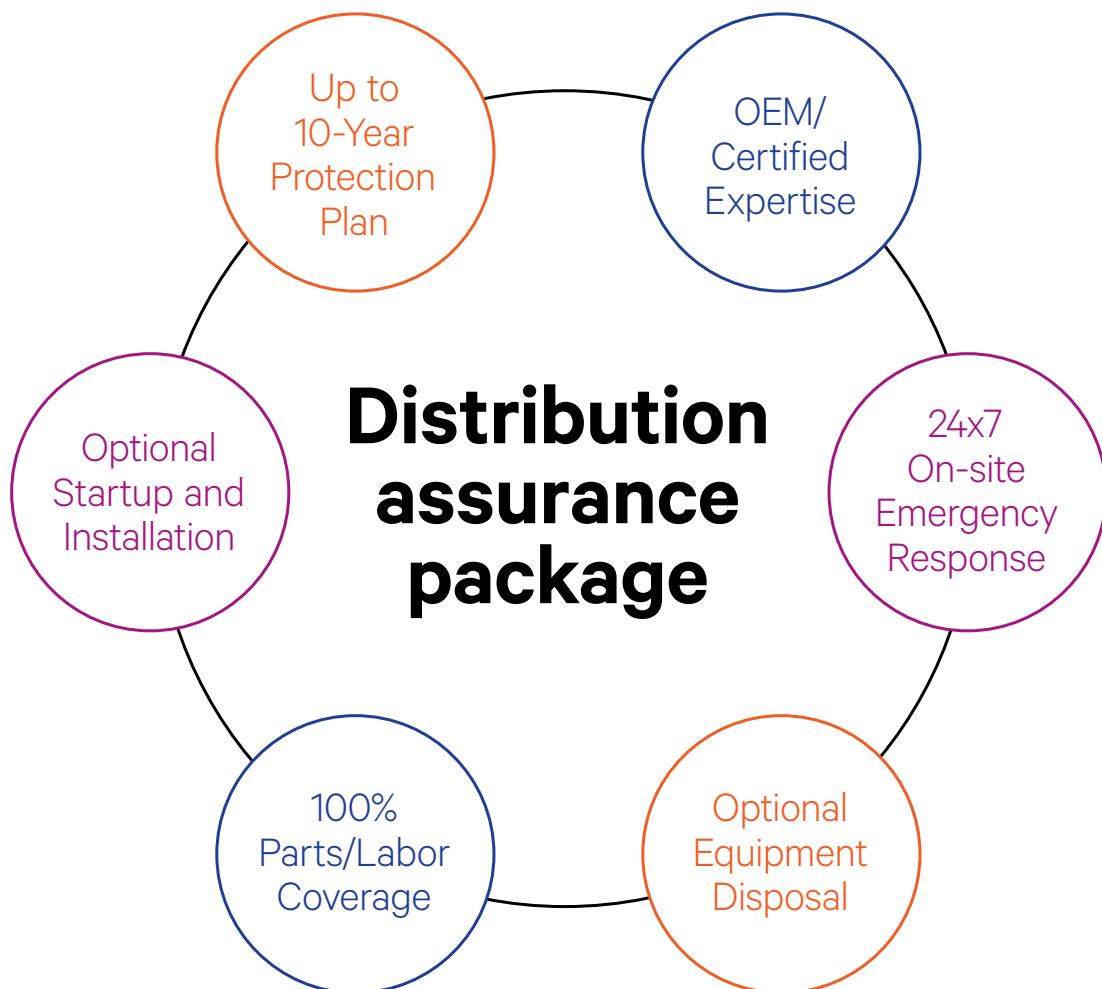
1. Designate a Switched or Monitored unit as the array manager.
2. Connect up to 50 array devices through a network switch or by daisy chaining the rPDUs to the array manager.
3. Securely access array device data via SNMP or the array manager user interface through a single IP address and bring the consolidated data in your private cloud.
4. Bring your infrastructure data together with the option to connect to the Vertiv Intelligence cloud platform.

Ensure power system availability with expert support for Vertiv™ PowerIT rPDUs

The Distribution Assurance Package combines market-leading rPDU technology with a up to ten years' protection plan and the industry's premier service capability.

Rack Power Distribution Units (rPDUs) are the last link in the power chain, ensuring delivery of critical power to IT loads. These critical components play a key role in data center infrastructure management, giving you access to rack-level power consumption and environmental information. Rack PDUs also allow you to directly control power to IT equipment for better capacity and power management. Having rPDUs that are properly installed and maintained is essential for critical system availability. However, your internal resources who are dealing with time and budget constraints cannot always give rPDUs the attention they need. Additionally, services that aren't provided by the original equipment manufacturer (OEM) may not be comprehensive or include the level of expertise required.

By choosing a bundled solution that combines market-leading rPDU technology with lifecycle services provided by the OEM, you simplify the management of your IT equipment.

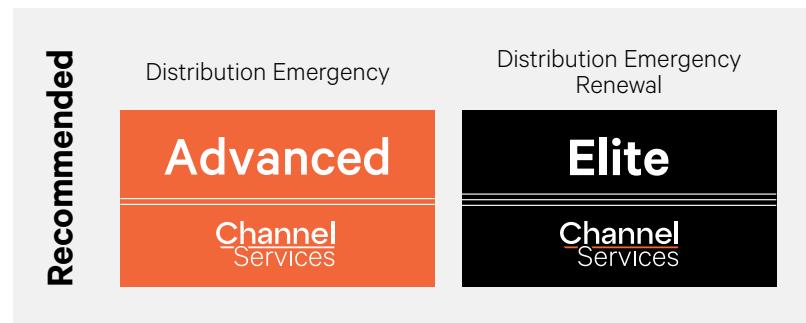




Benefits

- Assured critical power delivery
- Simplified rack PDU deployment and maintenance
- Optimized use of your IT staff
- Instant access to power protection information
- Improved protection for your IT investment

Channel Services



	Comprehensive 5-year protection service	Installation service	Startup service	Distribution emergency
Distribution assurance package configurations	Installation	✓	✗	✗
	Startup	✗	✓	✗
	Technical support hotline	✓	✓	24/7
	Parts included	✗	✗	✗
	Response time	✗	✗	8 working hours*
	Contract duration	✗	✗	5 years + 5 years' renewal

*Customer engineer or shipment of the new unit within 8 working hours from ticket acknowledgement

Please refer to the Scopes of Work for full and additional details.

