

BENEFITS

Reliability

- Improved Power Quality
- Computer-Grade Grounding
- Metering and Monitoring

Flexibility

- Handles Non-Linear Loads
- Expansion Capability
- Location Flexibility
- UL and ULc Listed as a Complete System
- Match distribution system to business requirements

Low Total Cost Of Ownership

- Space Savings
- Easy Installation
- DOE TP-1 Listed Isolation Transformer

Power Distribution Done Right

An Ideal Solution for Distributing Power in:

- Raised floor data rooms
- Non-raised floor/slab rooms
- Office areas
- Laboratories
- High-tech manufacturing sites
- Process control rooms
- Medical imaging suites
- Grouped workstations

Power Distribution for the way you need it

Vertiv™ has innovated their proven, floor-mount power distribution solutions to meet the needs of the modern data center. The Liebert® PPC™ offers the benefits of a custom-tailored power system, with the convenience and cost savings of a pre-packaged, factory-tested unit.

From single stage distribution strategies to extensive two-stage approaches, the Liebert PPC line of PDUs is entrusted to deliver reliable, cost effective and flexible data center power distribution.



Liebert PPC – 150-225kVA

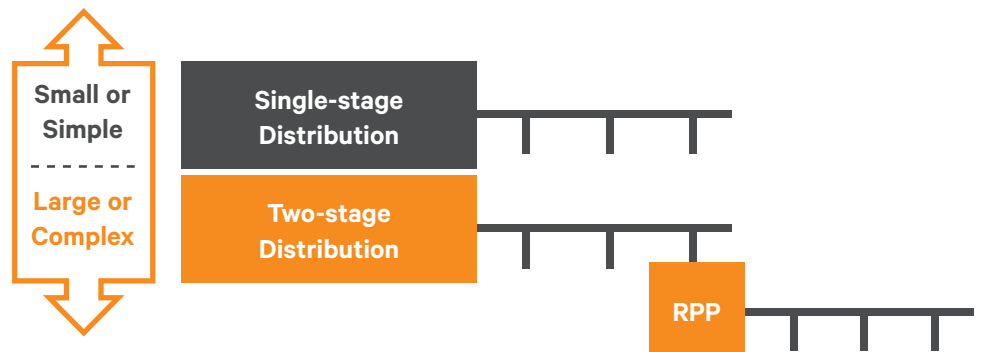


Liebert PPC – 430kVA

This self-contained system combines distribution, computer-grade grounding, isolation, and power monitoring to provide the protection vital systems demands.

Available in 15-225 kVA capacity systems for raised floor applications and top-exit models, the Liebert PPC offers integrated panelboards with flexible expansion capabilities that are ideal for single-stage distribution configurations.

The 300 to 800kVA models can form the perfect backdrop to support larger implementations that may employ a two-stage distribution strategy. These offer the capacity and breaker flexibility needed in one distribution cabinet to feed the remote power panels downstream. Several innovative alternatives exist.



APPLYING POWER DISTRIBUTION SINGLE AND TWO STAGE APPROACHES

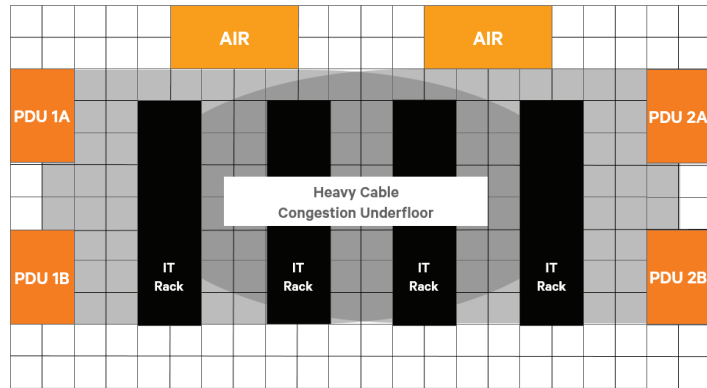
Power Distribution Best Practices

Vertiv™ provides leading power distribution solutions across the entire power path, from the floor to the rack. The trend for larger sites has been to adopt two stage distribution that better supports the growing number of circuits in a data center.

Single stage distribution

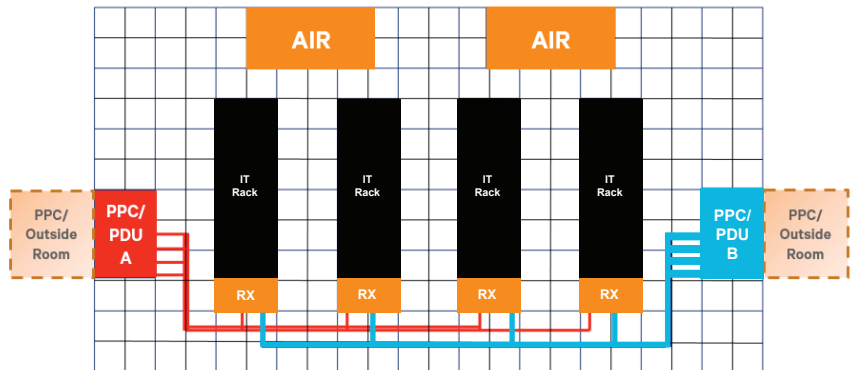
Use panelboards located at the PDU. Typical for sizes less than 225kVA.

See our complete line of PDUs for each stage and application.



Two Stage Distribution

Use breakers at the PDU to feed remote power panels or busway to the server racks. Reduces cable congestion and opens up space for more servers. Ideal for larger scale environments.



No Raised Floor? No Problem.

Just select the top-exit option. By placing the input and output conduit connections at the top of the unit, the top-exit Liebert® PPC™ brings the benefits of high quality packaged power systems to non-raised floor applications. Plus, the unit retains the normal bottom output cable exit for easy relocation and expansion flexibility.

Ideal for slab data centers, office environments, laboratories, manufacturing technology, process control rooms, medical imaging suites and more.



Liebert PPC – 150-225kVA

Vertiv offers you the right configuration to match your data center's requirements for protection, capacity, space, safety and flexibility.

The Standard for Powering Critical Systems

Standard Features

- True Front access only design
- Convection cooled
- DOE 2016 TP-1 Listed isolation transformer
- Main Input CB
- Flexible Distribution Options (Subfeeds, Panelboards, I-Line options)
- Metering with Display
- UL60950
- Non-Linear load compatibility

Optional Features

- Expansion Cabinets for additional distribution
- TVSS
- K-Rated transformers to withstand high harmonic loads without derating
- Panelboard and Subfeed monitoring with <2% accuracy
- Dual output voltage taps for ultimate flexibility (415V and 208V taps)
- Isolated Distribution options
- Compartmentalization of output subfeed breakers and monitoring components

Leverage the Power of a Package

Compared to a conventional power distribution system built at the site and using multiple interconnected components, the Liebert® PPC™ provides a much smaller footprint, reduced installation time, less cost and easier service access.

Package solutions for modern facilities

Simplifies Installation — the power connection to the building wiring is made easier to reduce time and cost.

Improved Flexibility — wide variety of cable lengths and sizes make the system easier to relocate or expand. A choice of service access allows greater location flexibility and smaller installed footprint.

Reliable Grounding — the in room system provides an ideal means to establish a proper ground, while eliminating any potentially harmful harmonic neutral current from the building wiring system.



*Liebert PPC – 150-225kVA Bottom Entry/Exit
with two Square D 72 pole Panelboards*

Benefits that make a difference

- Main input breaker with low voltage shunt trip provides optional primary transformer overcurrent protection and control
- Higher efficiency than standard transformers
- Supplemental transformer protection guards from abnormally high winding temperature
- Individually enclosed panelboards with panelboard main breaker and individual isolated neutral and ground busbars distribute high quality power
- Output conduit landings for each output panelboard facilitate many dedicated branch circuits
- Withstand neutral currents of at least 1.73 times full load safely
- Optional shielded output cables for each load reduce EMI and RFI

Meeting Demands for Capacity, Footprint, Flexibility and Cost

The Liebert® PPC™ can be configured in various distribution configurations to meet specific application requirements for larger capacity demands. Each is optimized around key factors, such as footprint, flexibility, safety and scalability, while providing reliable, cost effective power distribution. These are usually applied using 300kVA systems and above most used in two stage distribution.

Large Liebert PPC Options

I-Line Panelboards

Using I-Line panelboards offers excellent power flexibility. Most of the time that added agility requires a relatively larger footprint and a higher cost.

Fixed Mounted Breakers

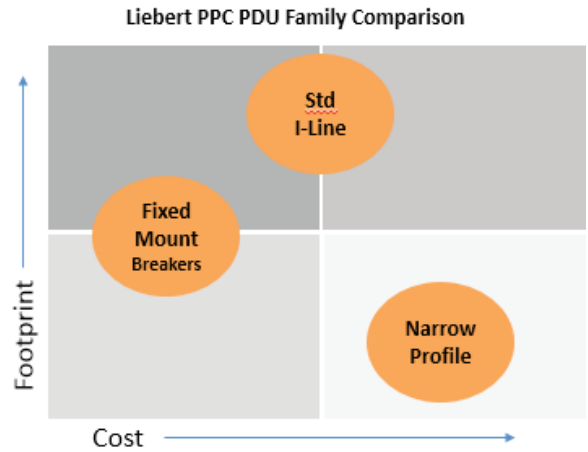
Projects driven by footprint and economics should consider **fixed mounted distribution breakers**. Vertiv™ offers several options that can save footprint and money over traditional solutions.

Narrow Profile

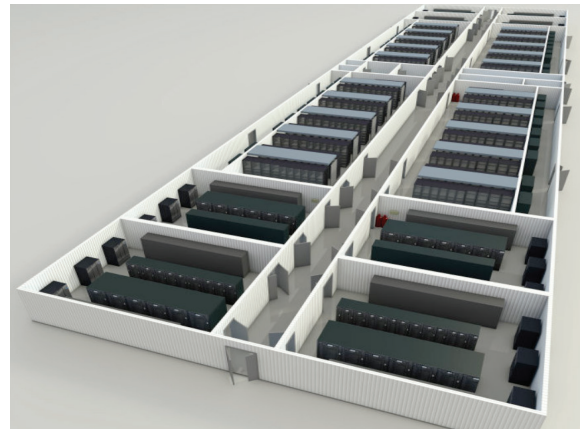
For an advanced, forward thinking configuration the Narrow Profile Liebert PPC uses a rotated transformer section to reduce the footprint significantly. From that configuration we can offer either fixed output breakers or our innovative compartmentalized isolated distribution system. Perfect for safe, “live” circuit installs and maintenance.



Liebert PPC - 800kVA Bottom and Top Entry/Exit



| Features | Distribution Types | | |
|---------------------------|--------------------|-----------------|----------------|
| | Fixed Mount | Standard I-Line | Narrow Profile |
| True Front Access | • | • | • |
| Branch Circuit Monitoring | • | • | • |
| 250AF Breakers | • | • | • |
| 400AF Breakers | • | • | • |
| 600AF Breakers | • | • | • |
| Panelboards | • | • | |
| Future Flexibility | | • | • |
| Isolated Breakers | | | • |
| Isolated Monitoring | | | • |



"This new Liebert PPC will make it much easier and faster to meet a customer's needs. We can take a 208/120V suite user and rapidly respond to the one who needs 415/240V by just swapping cabling!"

-Colocation provider

Narrow Profile Liebert® PPC™ with Isolation Distribution



Smaller Footprint



Improved Safety



Less Disruptions



Lower TCO



“The new Liebert PPC with isolated distribution provides us with better personnel safety and lower capital expenses while keeping systems operational.”

– VP of Critical Facilities

Optimized Isolated Distribution

Innovative Features Set a New Standard

Improved Safety

- **Isolated load-side breaker compartments** provide isolation between the line side and load side of the breakers using non-conductive polycarbonate material. **Impact:** Maintains service and IR scan without taking down the critical load, limits exposure to hazardous arc flash potential
- **Isolated monitoring components** allows for maintenance and service without powering down critical loads
- **IR scan ports are easily accessible** to allow scans of all transformer/output bus connections, while reducing PPE requirements
- **Plug-in breakers** with electronic trip settings enhance flexibility

Lower Capital Cost

- **Isolated compartment positions** enable a “growth as you go” approach to breakers. Expand only as customers or loads require
- **Innovative design** allows adding up to (8) 600AF or (10) 250AF plug-in breakers without powering down the PDU
- Space-saving footprint enables location flexibility and more revenue generating IT equipment
- **Optional dual output voltage taps** (415V and 208V) provide added flexibility to meet new loads

System Monitoring Enhances Visibility and Performance

Panelboard Monitoring

The integral **Current Plus Monitoring (CPM)** optional display monitors the current and voltage of the panelboard. The display includes a monochrome LCD, power and alarm LEDs, audible alarm, and a silence push button. It provides true RMS measurements and battery backed memory.

Monitored parameters include:

- Voltage - Line-to-Line
- Voltage - Line-to-Neutral
- Neutral Current
- Ground Current
- kVA
- Power Factor
- Voltage Total Harmonic
- Distortion (THD)
- Current Total Harmonic
- Crest Factor

Branch Circuit Monitoring

Advanced monitoring is available through the optional **Liebert® Distribution Monitoring (LDMF)** display. The option provides a large LCD screen that allows monitoring for subfeed breakers as well as panelboards and branch breakers. Alarm data may be viewed from this display for up-to-date breaker status. It provides true RMS measurements and battery backed memory.

Monitored parameters are the same as those for the CPM monitor, plus for each branch circuit.

- Phase current
- kW
- kW-hours
- Percent load

Centralized Monitoring

An optional Liebert Sitescan® interface that allows centralized monitoring of Liebert PPC™.

A Liebert IntelliSlot Unity communications card may be installed to allow monitoring through a Building Management System (BMS). The Unity card provides several protocol options (SNMP, Modbus, BACnet) in one card.

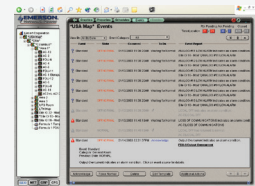
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Central Monitoring Interface

Liebert PPC are compatible with our Liebert SiteScan centralized monitoring systems, allowing single point monitoring and alarm of power conditions. These microprocessor-based systems provide historical data on room conditions for future requirement planning and troubleshooting. In addition, for communication of monitored parameters and alarm information to other monitoring systems. A Liebert IntelliSlot Unity card can also be used to enable cost-effective monitoring of a Liebert PPC by your facility or network monitoring systems. The Unity card provides several protocol options (SNMP, Modbus, BACnet) in one card.

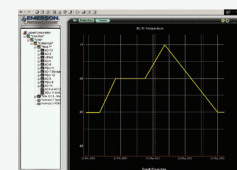
Event Management and Reporting

Liebert SiteScan Web will show you exactly where the problem — not some cryptic message that will leave you guessing. Events and alarms associated with a specific system, area or equipment selected in the navigation tree are displayed. This view allows you to monitor alarm or event information geographically, as well as to acknowledge event, sort events by category, actions and verify reporting actions.



Data Analysis and Trending Reporting

With Liebert SiteScan Web you get powerful tools to analyze data and use it to prevent specific problems from occurring again. The operator can view trends by using the navigation tree and selecting the "trends" button in the graphic window. Users can create custom trend data that consist of one or more multiple data points.



Critical Systems, Critical Care Additional Services for Added Protection

Preventative and Emergency Support

Maximizing the performance and efficiency of your data center's uninterruptible power supply (UPS) and other power distribution systems requires systems be properly maintained by factory-trained technicians. Trust Vertiv™ Services to take your critical maintenance to the next level—proactive maintenance that can significantly extend the life of your power systems, decrease your capital investment, optimize system efficiency and effectiveness, and increase overall system availability.

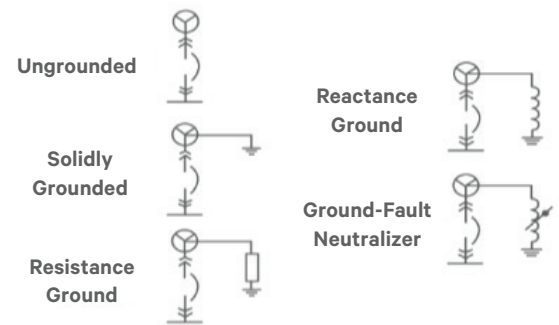
- 24x7 critical maintenance response
- Proactive service, extends system life
- Improved MTBF and MTTR
- Local factory trained engineers ready to respond
- Parts, expertise, satisfaction



Grounding Studies

A grounding system is one of the most important, yet neglected, segments of a critical facility's electrical power system. Testing it is not only prudent, it is required by the National Electrical Code. Grounding studies ensure protection from low-level arcing ground faults that can destroy your switchgear in seconds and put personnel in danger. Vertiv's grounding studies include the required tests and inspections needed to verify your system's integrity.

Types of Grounding Systems



Full Range Power Distribution

For all your floor or rack mounted power distribution needs, remember that Vertiv has many innovative and effective solutions. Shown are a few examples.



Liebert® RX RPP with panelboard or branch circuit level monitoring, can be used in 1-4 unit space-saving blocks.



Vertiv rack PDUs are available in basic, metered, monitored or switched models.



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