Liebert®

Precision Power Center

Power Conversion and Distribution

PACKAGED POWER DISTRIBUTION FOR HIGHER POWER QUALITY

Affordable, Reliable Operation

For A Variety Of Applications,

Including Computer Rooms,

LANS/WANS, Communications

Facilities and Manufacturing.

EMERSON™
Network Power

LIEBERT DELIVERS THE PACKAGED POWER SOLUTION

Creating high quality power is a major step towards protecting the operation of a critical facility. But don't stop there. Once you've created a better level of power, you need to make sure that it can be distributed properly to each piece of important equipment.

Critical Power Distribution Made Easy

This is why Liebert designed the Precision Power Center (PPC) — to bring you a distribution system that will close the power delivery loop in your critical facility.

Liebert's PPC offers the benefits of a custom-tailored power system, with the convenience and cost savings of a pre-packaged, factory-tested unit. Housed in a single, self-contained cabinet, it combines distribution, computer-grade grounding, isolation, and power monitoring to provide the protection your vital computer or communications equipment demands. Available in 15-225 kVA capacity systems for raised floor applications and 15-150 kVA capacities in top-exit models, the PPC offers flexible expansion capabilities to fit growing sites.

A Proven System

The packaged system approach of the PPC is convenient and space-saving, reducing installation time and cost compared to a conventional approach using multiple interconnected components. The PPC is built on a proven system design used in thousands of installations, and unlike the one-of-a-kind, built-up distribution constructed at the site, it undergoes thorough factory testing as a complete system to assure reliable consistent performance.

Features include:

Computer-Grade Grounding — the PPC automatically establishes a single point ground to meet major manufacturers' recommendations and the requirements of the National Electric Code.

Handles Non-Linear Loads — fully compatible with the non-linear loads of modern computer systems and other electronic equipment.

Monitoring — built-in metering and alarm annunciation with communication to Liebert centralized monitoring.

Space Savings — compact single cabinet conserves valuable floorspace.

Easy Installation — single input cable connection reduces installation time and cost.

Location Flexibility — the unit can be easily relocated to protect your investment.

UL and CSA Listed as a Complete System — meets safety requirements for fast, hassle-free inspection and building code approvals.

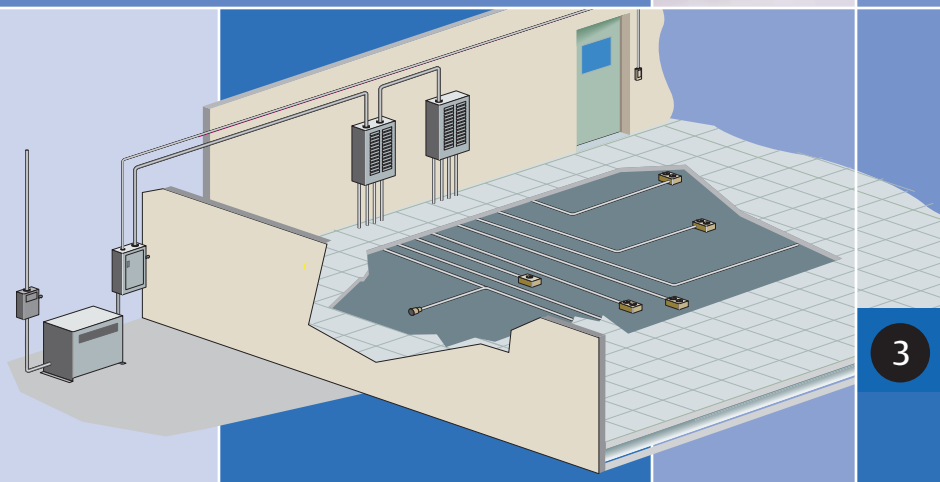
Expansion Capability — add-on panelboards, optional expansion cabinet and flexible cabling can be installed with minimal disruption to meet growing needs.

An All-In-One Power System...All At An Affordable Price

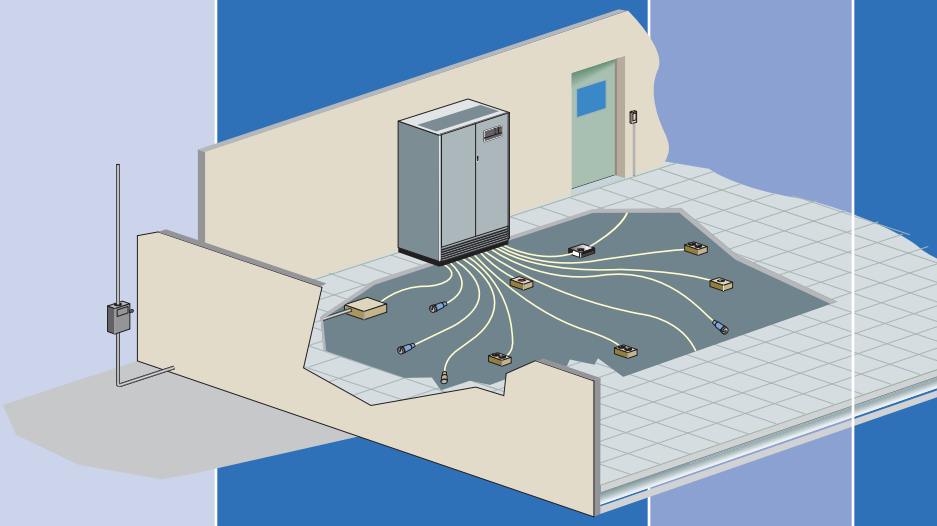
A Noticeable Improvement In Power Quality

There are a number of integral features that allow Precision Power Centers to offer a higher quality level of electrical power for your critical applications:

- The main input breaker with low voltage shunt trip accessory provides primary transformer overcurrent protection, a power disconnecting means, and a method to interface with shutdown controls.
- Built-in transformer eliminates harmonic neutral currents, which are possible with building wiring systems.
- A double-shielded isolation transformer located close to the load provides superior noise attenuation.
- Supplemental transformer protection is provided by temperature sensors in each winding to alarm abnormally high winding temperature or shutdown unit before isolation damage.
- One or more, individually enclosed 42 pole output panelboards with panelboard main breaker and individual isolated neutral and ground busbars distribute power to the sensitive load equipment.
- 42 output conduit landings are provided for each output panelboard to accommodate the large number of dedicated branch circuits recommended for sensitive electronic loads.
- Oversized neutral components safely withstand neutral currents of at least 1.73 times full load currents.
- System shutdown controls, including manual restart, overtemperature shutdown and emergency power off, are included.
- Shielded output cables for each load reduce EMI and RFI.



A conventional power distribution system configured and installed at the site typically requires more wiring and connection materials, more components, larger wire sizes and greater service clearance. The result is a longer installation time, larger installed footprint, higher costs and an inflexible system.



The Liebert packaged approach gives you an easily installed package — a single power connection to the building wiring simplifies hook-up and reduces installation time and cost. Flexible cables can be specified in lengths and sizes to match sensitive electronic loads, making the system easy to relocate or expand. A choice of service access allows greater location flexibility and smaller installed footprint. And since the power source is right there in the room, it eliminates difficulties in establishing a proper ground. The system also eliminates potentially harmful harmonic neutral current from the building wiring system.

DESIGNED FROM THE GROUND UP FOR EFFECTIVE POWER DISTRIBUTION

Several key features have allowed Liebert to build a packaged power distribution system that combines a high level of power quality effectiveness with a cost that is less than conventional built-up systems.

Computer Grade Grounding

The Precision Power Center establishes a single point ground for the critical load. Power ground and computer ground points are identical minimizing ground-loop currents and common mode disturbances. Short output cables maintain the integrity of the isolation and conditioning.

Secure Distribution And Circuit Identification

Distribution panels are in the computer room which limits access to authorized personnel only. Each breaker has an adjacent identification tag for rapid circuit ID. Each output cable is labeled at each end with circuit number, length, type of receptacle and circuit identification.

Non-Linear Load Compatibility

The basic PPC is designed to accommodate moderate levels of harmonic currents. Where severe levels of harmonic currents are anticipated, K-Factor transformers, and multi-output transformers options for harmonic current cancellation are available.

On-Site Power Monitoring

The integral power monitoring panel provides comprehensive metering and alarms for system power parameters. Monitoring features include:

- True RMS measurements
- Autoscan of all parameters
- Adjustable alarm thresholds
- Programmable custom alarms
- Battery-backed alarm memory
- Summary alarm contact

Central Monitoring Interface

Liebert Precision Power Centers are compatible with our 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, an isolated RS-232 ASCII port is provided for communication of monitored parameters and alarm information to other monitoring systems. Liebert's OpenComms NIC interface card can also be used to enable cost-effective monitoring of a PPC by your facility or network monitoring system.

Optional System Enhancements

A host of options enable you to design the Liebert packaged power system to your exact needs:

- An expansion cabinet can be placed adjacent to PPC, adding up to six additional panel boards.
- Transient voltage surge suppression (TVSS) is available for increased protection from damaging voltage surges. Very short interconnecting wiring provides superior surge clamping performance.
- Redundant PPC configurations are available for high-availability, fault-tolerant applications including: dual-input breakers, dual-transformers, and static transfer switches.
- K20 transformer safely withstands high harmonic currents associated with electronic loads without derating.
- Optional dual-output transformer with two three-phase outputs, phase-shifted by 30° provides cancellation of harmonic load currents.

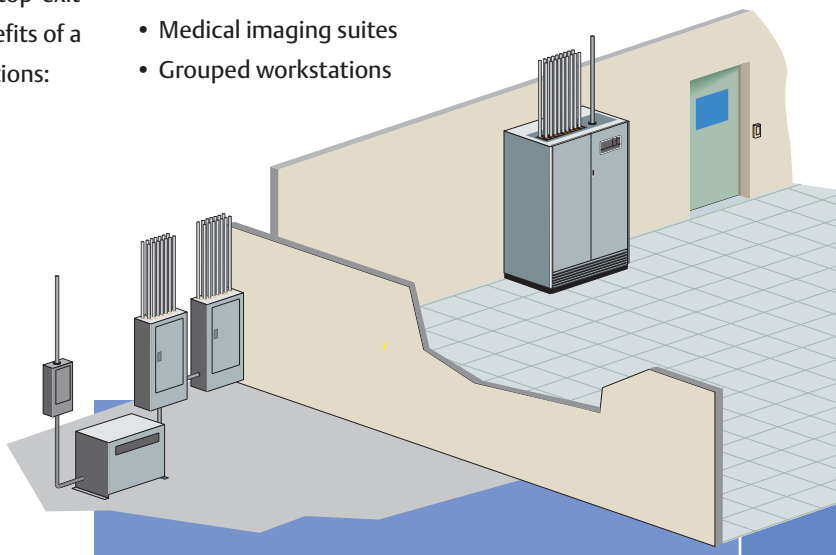
RAISING THE STANDARD OF POWER IN NON-RAISED FLOOR APPLICATIONS

Liebert's innovative top-exit Precision Power Center (PPC) takes packaged power systems to new heights...literally. By placing the input and output conduit connections at the top of the unit, the top-exit PPC brings the benefits of high quality packaged power systems to non-raised floor applications. What's more, the unit retains the normal bottom output cable exit for easy relocation and expansion flexibility.

Added Flexibility Enables You To Bring Packaged Power To Even More Locations

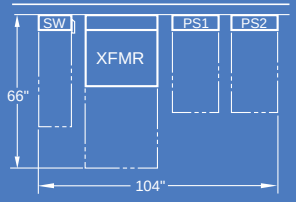
Ideal for conditioned grade power distribution in applications where there is no raised floor, the top-exit PPC brings the flexibility and space-saving benefits of a packaged power system to a variety of applications:

- Office areas
- LANS
- Laboratories
- High-tech manufacturing sites
- Process control rooms
- Medical imaging suites
- Grouped workstations

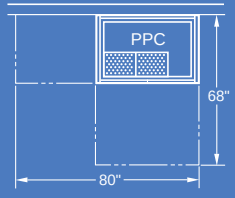


High Efficiency Power Distribution In Far Less Space

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



Conventional System = 47.7 Sq. Ft.



PPC = 37.8 Sq. Ft.

Specifications

60 Hz

Output kVA	Input Voltage*	Input Circuit Breaker(Amps)	Panelboard Poles Std	Panelboard Poles Opt**	Dimensions (in) W	D	H	Weight (lbs)	Heat Output BTU/HR
15	600 480 208	20 25 60	42	84	20	32	68	550	2500
30	600 480 208	40 50 110	42	84	20	32	68	700	4600
50	600 480 208	70 80 200	84	126	32	32	68	850	6200
75	600 480 208	100 125 300	84	126	32	32	68	1050	8150
100	600 480 208	125 175 400	84	126	32	32	68	1275	9900
125	600 480 208	175 200 450	84	126	32	32	68	1450	11500
150	600 480 208	200 250 600	126	168	44	32	68	1750	12500
200	600 480	250 350	126	168	44	32	68	2100	15500
225	600 480	300 350	126	168	44	32	68	2250	15800

50 Hz

Output kVA	Input Voltage*	Input Circuit Breaker(Amps)	Panelboard Poles Std	Panelboard Poles Opt**	Dimensions (cm) W	D	H	Weight (kg)	Heat Output (kW)
15	415 400 380	30 30 30	42	84	51	81	173	275	0.84
30	415 400 380	60 60 60	42	84	51	81	173	350	1.44
50	415 400 380	100 100 100	84	126	81	81	173	420	1.84
75	415 400 380	150 150 150	84	126	81	81	173	520	2.46
100	415 400 380	200 200 200	84	126	81	81	173	630	3.12
125	415 400 380	225 250 250	84	126	81	81	173	710	3.83
150	415 400 380	300 300 300	126	168	112	81	173	860	4.24
200	415 400 380	400 400 400	126	168	112	81	173	1045	5.61
225	415 400 380	450 450 450	126	168	112	81	173	1110	6.46

Top Exit

Output kVA	Input Voltage*	Input Circuit Breaker(Amps)	Panelboard Poles *** Std	Panelboard Poles *** Opt**	Dimensions (in) W	D	H	Weight (lbs)	Heat Output BTU/HR
15	600 480 208	20 25 60	42	84	32	32	68	600	2500
30	600 480 208	40 50 110	42	84	32	32	68	750	4600
50	600 480 208	70 80 200	84	126	44	32	68	900	6200
75	600 480 208	100 125 300	84	126	44	32	68	1100	8150
100	600 480 208	125 175 400	84	126	44	32	68	1325	9900
125	600 480 208	175 200 450	84	126	44	32	68	1500	11500
150	600 480 208	200 250 600	84	126	44	32	68	1750	12500
200	600 480	250 350	84	126	44	32	68	2100	15500
225	600 480	300 350	84	126	44	32	68	2250	15800

kVA: 15-225, 3-phase

Input

3-phase, 3 wire plus ground

208, 240, 480, or 600 volts; 60 Hz

208, 380, 400 or 415 volts; 50 Hz

(Transformerless system require 3-phase, 4W & G)

Output

3-phase, 4 wire plus ground

120/208 volts; 60 Hz

120/208, 220/380, 230/400, or 240/415 volts; 50 Hz

Transformer: Double-Shielded, all copper windings.

Class H 220˚C insulation.

Voltage Adjustments:-10% to +5% of nominal in 2 1/2% increments

Noise Attenuation: 120 dB common mode

Efficiency: 96 to 98%

Ground: Single-point reference on separately derived systems.

Distribution: Individually protected 225 Amp panelboards with plug-in or bolt-on breakers and flexible output cables.

Cooling System: Convection

Monitored Parameters: Input and output voltages; Output, neutral and ground currents; Output voltage THD; Output current THD, K-factor and crest factor; kVA; kW; Power factor; Percent load; kW-Hrs; and Frequency.

Alarm Conditions: Output over- and under-voltages; output overload; neutral and ground over currents; output voltage THD; transformers over temperature; frequency deviation; phase sequence error; phase loss; 5 customer specified alarm conditions.

The standard output voltage is 208/120 volts, for 60 Hz units.
*Other voltages available, consult factory.
** 84 pole models are 32" (81cm) wide. 126 pole models are 44" (112cm)wide.
168 pole models are 62" (157cm) wide.
***84 pole models are 44" (112cm) wide. 126 pole models are 62" (157cm) wide.

WE HELP YOU GET IT RIGHT — RIGHT FROM THE START.

Precision Power Center

Power Conversion and Distribution

For over 35 years, Liebert has been providing tailored solutions for protecting the operation of critical electronic systems in a variety of industries. From customer premise equipment to global networks, we've used our expertise to tailor the right products, monitoring systems and global service capabilities into a variety of specific solutions.

Liebert's years of experience and knowledge of leading edge technologies enables us to truly understand your needs — both in terms of overall reliability and specific areas of equipment protection. Whether it's a new or existing facility, centrally located or remote, we listen to you and your preferences to help us develop solutions that are right for your facilities.

We recognize that each situation has its own unique requirements and are better prepared than any other manufacturer to deliver the right level of reliability at the right price. And we do it through the right combination of knowledge, experience, product selection and service capability.

Someone Nearby To Help Before And After The Sale

One of the many things that differentiate Liebert from others in our business is local expertise. We have the most extensive sales and service network in the world. Liebert's extensive network of technical sales associates, backed by the industry's largest service organization, enables us to respond quickly to customer needs.

Specifying and maintaining a high availability facility support system requires someone who is knowledge-able in all phases of environmental control and power protection — that's the Liebert difference.

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