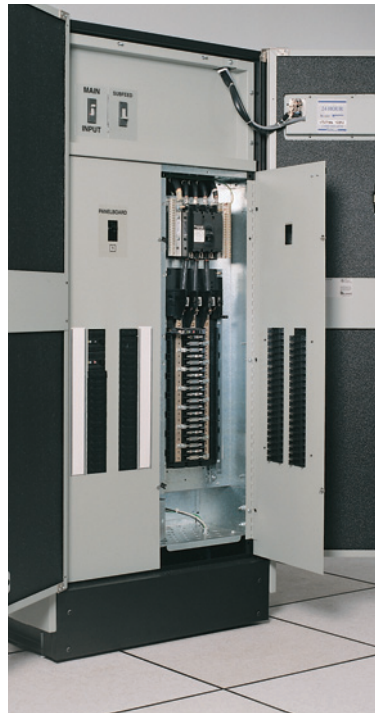


Liebert Precision Power Center
Packaged Power Distribution For Higher Power Quality



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. 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. 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 Liebert PPC is convenient and space-saving, reducing installation time and cost compared to a conventional approach using multiple interconnected components. The Liebert PPC is built on a proven system design used in thousands of installations, and unlike 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.



The Liebert PPC Offers A Number Of Benefits:

Reliability

- **Improved Power Quality** — Results in optimum equipment operation, reducing downtime and extending service life.
- **Computer-Grade Grounding** — The Liebert PPC automatically establishes a single point ground to meet major manufacturers' recommendations and the requirements of the National Electric Code.
- **Monitoring** — Built-in metering and alarm annunciation with communication capabilities to Liebert centralized monitoring.

Flexibility

- **Handles Non-Linear Loads** — Fully compatible with the non-linear loads of modern computer systems and other electronic equipment.
- **Expansion Capability** — add-on panelboards, optional expansion cabinet and flexible cabling can be installed with minimal disruption to meet growing needs.
- **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.

Low Total Cost Of Ownership

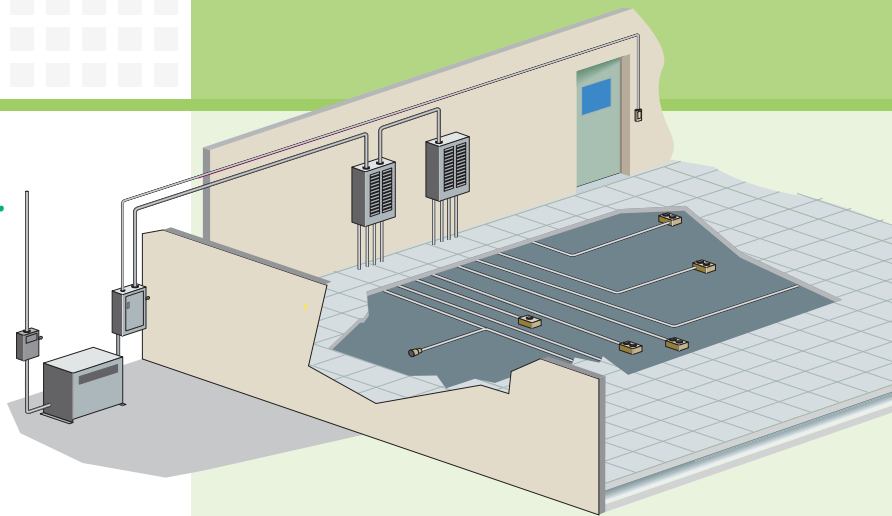
- **Space Savings** — Compact single cabinet conserves valuable floor space.
- **Easy Installation** — Single input cable connection reduces installation time and cost.

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

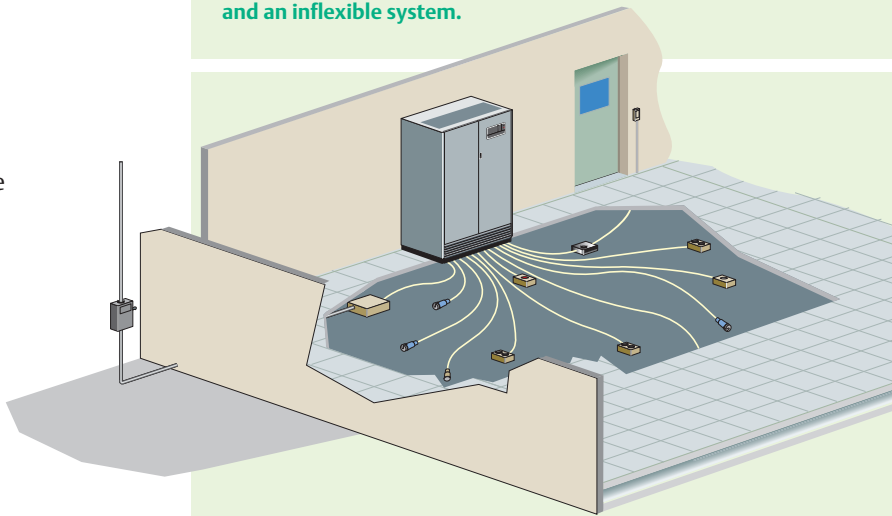
A Noticeable Improvement In Power Quality

There are a number of integral features that allow Liebert 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 reduces 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 Liebert 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 Liebert PPC is designed to accommodate moderate levels of harmonic currents. Where severe levels of harmonic currents are anticipated, a K-Factor transformer option for harmonic current cancellation is 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 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, an isolated RS-232 ASCII port is provided for communication of monitored parameters and alarm information to other monitoring systems. Liebert OpenComms NIC interface card can also be used to enable cost-effective monitoring of a Liebert 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 Liebert 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 Liebert 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.

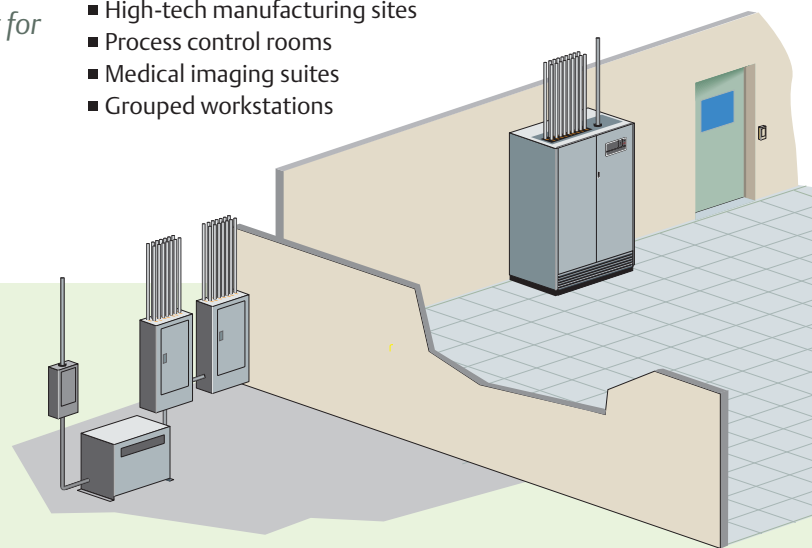
Raising The Standard Of Power In Non-Raised Floor Applications

The innovative top-exit Liebert 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 Liebert 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

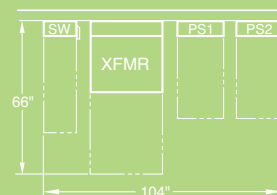
Ideal for conditioned grade power distribution in applications where there is no raised floor, the top-exit Liebert PPC brings the flexibility and space-saving benefits of a packaged power system to a variety of applications:

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

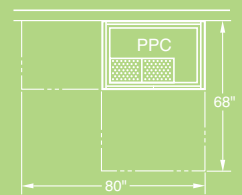


High Efficiency Power Distribution In Far Less Space

Compared to a conventional power distribution system built at the site and using multiple interconnected components, the top-exit Liebert 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		Dimensions (in)			Weight (lbs)	Heat Output BTU/HR
			Std	Opt**	W	D	H		
15	600	20	42	84	20	32	68	550	2500
	480	25							
	208	60							
30	600	40	42	84	20	32	68	700	4600
	480	50							
	208	110							
50	600	70	84	126	32	32	68	850	6200
	480	80							
	208	200							
75	600	100	84	126	32	32	68	1050	8150
	480	125							
	208	300							
100	600	125	84	126	32	32	68	1275	9900
	480	175							
	208	400							
125	600	175	84	126	32	32	68	1450	11500
	480	200							
	208	450							
150	600	200	126	168	44	32	68	1750	12500
	480	250							
	208	600							
200	600	250	126	168	44	32	68	2100	15500
	480	350							
	208	350							
225	600	300	126	168	44	32	68	2250	15800
	480	350							
	480	350							

50 Hz

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

Top Exit

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

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.

Ensuring The High Availability Of Mission-Critical Data And Applications.

Emerson Network Power, the global leader in enabling business-critical continuity, ensures network resiliency and adaptability through a family of technologies – including Liebert power and cooling technologies – that protect and support business-critical systems. Liebert solutions employ an adaptive architecture that responds to changes in criticality, density and capacity. Enterprises benefit from greater IT system availability, operational flexibility, and reduced capital equipment and operating costs.

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- Surge Protection

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