

■ AC Power for  
*Business-Critical Continuity™*

*Liebert® NXr Series*  
30KVA to 200KVA (380V)



## Anticipating Technology Changes Through Adaptive Architecture

Today, you need a power infrastructure that can work across your enterprise and respond to constant change: an infrastructure that allows you to deploy blade servers and other high-density equipment safely and cost-effectively. You need an infrastructure that can meet the strict power quality requirements of VoIP switches.

An infrastructure that allows you to add capacity without compromising availability or serviceability.

Scalability alone can't get you there. You need an infrastructure that takes it one step further. An infrastructure that can adapt to your needs.



*Liebert NXr UPS*

### *How the Liebert NXr Enables Adaptive Architecture?*

#### **Lowest Cost of Ownership**

Liebert NXr was designed to minimize capital equipment expenses and optimum efficiency. Its low footprint saves costly floor space while effectively managing data center facilities with high densities. It provides 100% usable real power with high generator compatibility because of low input THDi, high input power factor, low input cable and switch gear rating.

#### **Extreme Performance**

In response to the demands of new technologies, the Liebert NXr achieves higher tiers of availability and support even with increased densities with minimal disruption to operations. It has configurable battery and standard top cable entry. Liebert NXr allows easy configuration of different system architectures like dual bus and parallel ability.

#### **Higher System Availability**

Liebert NXr provides a mission-critical technology that minimizes single points of failure in your network. A UPS that promises the highest possible availability of your IT systems; the Liebert NXr highlights reliability with low mean time to repair (MTTR).

#### **Extreme Performance**

- Up to 96% efficiency.
- Greater than 99% Input Power Factor.
- Less than 3% input THDi.

#### **Space Savings**

- 200kVA UPS in less than 0.51m<sup>2</sup> footprint.

#### **Truly Adaptive and Flexible**

- Top and bottom cable entry.
- Less than 400kg for a 200kVA UPS.
- Flexible battery configuration: 12Vx 30/32/34/36/40 cell design.
- Internal battery compartment option for 30kVA UPS.

# Liebert NXr

## Efficient and Adaptive Power For Your Critical Applications

The Liebert NXr from Emerson Network Power presents an efficient, space saving and flexible solution for your network. With an above industry standard efficiency rate of up to 96% in a compact, low footprint UPS, Liebert NXr keeps your network protected while saving on cost and data center space.

With best in class true online double conversion technology, redundancy options and flexible battery configurations, trust the Liebert NXr to provide the same level of reliability you have come to expect from the Liebert NX UPS series.

### Features and Benefits

- High efficiency rating of up to 96% on true online double conversion mode.
- High power density with 200kVA load in <0.51m2 footprint.
- Advanced digital signal processor (DSP) and digital control technology to ensure higher system reliability.
- Parallel technology allowing four (4) parallel units, without the need for centralized bypass cabinet and additional external modules
- Digital current sharing technology for extremely small circulating current and high parallel reliability
- Wide input voltage and frequency range against harsh utility environment.
- Powerful output overload and short circuit capacity enhancing system stability and system safety under extreme conditions.
- Intelligent battery management for automatic battery maintenance and prolonged battery life
- 6-inch LCD display available in 12 different languages.
- Layered independent sealed duct and redundant fan design, circuit board painting protection and dust filter, offering outstanding protection from a harsh environment
- Advanced monitoring and communication capabilities for improved visibility and control.
- Lower mean time to repair (MTTR) with front access for maintenance
- Flexible UPS system configuration that works in different modes of operation.
- Internal battery compartment option for 30kVA UPS. Giving battery runtime of 10minutes for 30kW and 15minutes for 24kW loads.

## Efficiency Savings

Ratings (kVA)	Traditional UPS (92%)	Liebert NXr (96%)	Annual Saving	Saving @10 Years
30	\$25.709	\$24.638	\$1.071	\$10.712
40	\$34.278	\$32.850	\$1.428	\$14.283
60	\$51.417	\$49.275	\$2.142	\$21.424
90	\$77.126	\$73.913	\$3.214	\$32.136
100	\$85.696	\$82.125	\$3.571	\$35.707
120	\$102.835	\$98.550	\$4.285	\$42.848
150	\$128.543	\$123.188	\$5.356	\$53.560
160	\$137.113	\$131.400	\$5.713	\$57.130
200	\$171.391	\$164.250	\$7.141	\$71.413

Note: Cost is based on \$0.10 kWh.

## *The best investment you can make in a UPS system: Efficiency, Reliability and Value in a compact package.*

### ***How can I get the most out of my investment?***

- Liebert NXr, with its unity power factor (kVA=kW), offers more real power to support customer's mission critical loads.
- With up to 96% online double conversion efficiency, Liebert NXr saves you operating costs compared to most traditional UPS's in the market.

### ***How can I get optimum protection for my network with Liebert NXr?***

- The double conversion technology of Liebert NXr allows it to have an above average industry standard of up to 96% efficiency, giving your network and data center equipment full protection at the most efficient rate.

### ***How can I get the highest levels of Protection and Availability?***

- Liebert NXr gives you built-in reliability with its stratified cooling technology allowing cooling of critical components and a redundant cooling fan option.
- Wider input voltage and frequency tolerances contribute to high power availability.
- Digital controls provide the fastest possible power management to enhance reliability, accuracy and efficiency while reducing component count.
- Dual bus compatibility and system redundancy further enhance the availability of a power.
- High overload protection handles 110% overload for 60 minutes, 125% for 10 minutes, and 150% for 1 minute.

### ***How can I save on my electricity bill and investment costs?***

- The improved input power factor of the Liebert NXr can actually reduce your electricity usage.
- It delivers the highest possible input power factor - greater than 0.99 at rated linear and non-linear loads - for maximum efficiency.
- The unique ability of the Liebert NXr to adjust power walk-in from 5 seconds to 30 seconds, along with reduced input current distortion and power factor correction, also enables you to save money by reducing back-up generator sizing requirement.
- The unit's compact footprint requires less floor space, leaving you with more room for other equipment.

- Liebert NXr has built in Parallel and Load Bus Synchronization (LBS) boards. No extra hardware is needed; it may be easily connected just with control cables.

### ***How can I save floor space with Liebert NXr?***

- Liebert NXr is a compact UPS with low footprint.
- A 200kVA Liebert NXr UPS can be installed in less than 0.51m<sup>2</sup> space.

### ***How can I satisfy the requirements of the latest servers?***

- Liebert NXr is capable of driving wide ranges of loads, from 0.5 lagging to 0.9 leading. This makes the UPS follow the latest IT industry trends, with more active power available for all kinds of loads.

### ***How can I also protect also my upstream-connected devices?***

- The Liebert NXr provides the cleanest level of upstream power with the lowest level of input current THDi in the industry.
- This ensures that clean power flows upstream, avoiding damage to other loads connected to the upstream power distribution bus.

### ***How can I extend the system when I need more power?***

- Liebert NXr features easy and simple scalability and redundancy. In fact, up to four Liebert NXr modules may be paralleled in a redundant configuration for added reliability and serviceability.
- The Liebert NXr is compatible with Liebert's unique LBS.

### How can I ensure the UPS will work under the most severe conditions?

- The wide input voltage window of 305V-477V and a frequency tolerance of 40Hz to 70Hz provide high quality power, even when input parameters are below standard. This helps minimize transfers to the battery, reducing the charging and discharging cycles.
- Back-feed protection sensing ensures system integrity.
- Short-circuit-proof, DSP controlled inverter provides highest output power quality.

### How can I easily maintain my UPS?

- Liebert NXr includes a built-in maintenance bypass, with IP 20 UPS enclosure protection - even with the front doors open.
- Redundant configuration allows you to utilize one module while the other is being serviced.
- Dual bus compatibility enables you to transfer the load to an alternate power source for maintenance activities.

### How can I monitor and communicate with my UPS?

- To meet a variety of needs, the Liebert NXr offers communications through web or management systems through MODbus and SNMP communication protocol.

### How can I check the status of my UPS?

- The Liebert NXr features easy access for service. Thanks to front accessibility of critical components, self-diagnostics and various monitoring options.
- Large and user-friendly LCD display provides operating information in twelve different languages.

### How can I satisfy my particular installation needs?

- Flexibility is achieved through many choices including type of battery, number of single and multi-unit configurations, and an array of internal and external power and communication options.
- Auto restart capability provides added availability.
- Ultra-quiet performance with noise levels below 56dBA allows greater latitude in where to place the unit.
- Adjustable power walk-in, numerous user specified settings, a choice of power monitoring communications alternatives and user friendly control are all handled through the menu-driven LCD control panel with detailed data reporting.
- Emerson Network Power is recognized to be a great solution provider. Please contact your local Emerson Network Power office or Liebert representative to receive special solution consultancy.

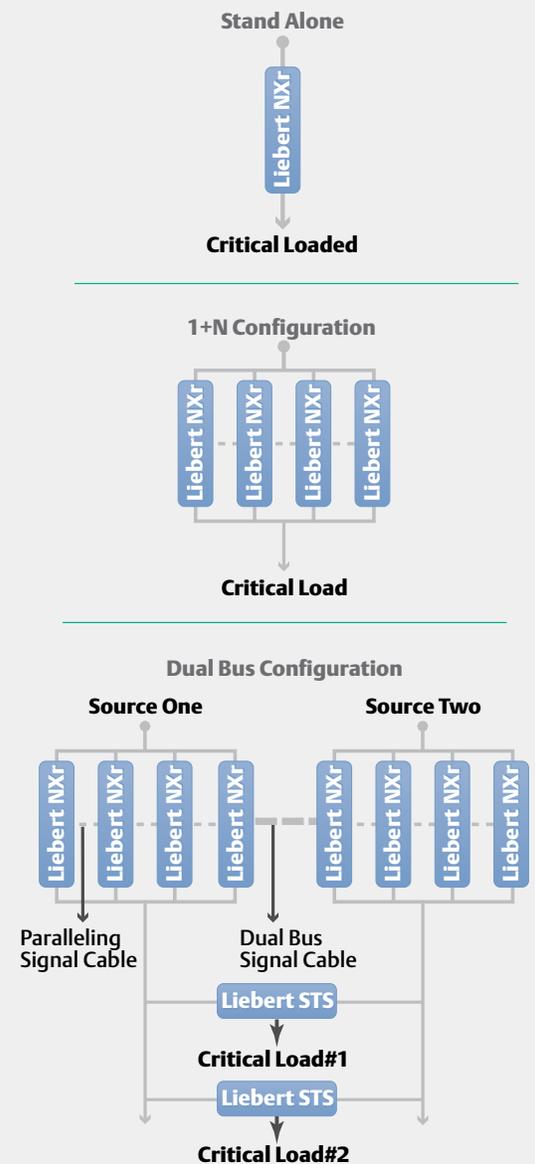
### How can I protect and extend the life of my batteries?

- Liebert NXr minimizes transfers to batteries with its wide input voltage tolerance down to 305V.
- Temperature-compensated battery charging extends battery life.

## Configurations: A Full Range Of Features

To meet all your power availability needs for single or dual input operation, your Liebert NXr power system can be utilized with either single or dual power inputs. The dual power feature allows you to take advantage of a secondary power source.

An optional wrap-around maintenance bypass is also offered for the single input configuration.



## Addressing a Variety of Needs



Today's advanced systems require power protection that is just as innovative. These systems, however, face many of the traditional threats to their availability - foremost among them is a lack of high quality power required to operate sensitive electronics.

The goal of Emerson Network Power is solving these challenges with a power solution that combines high performance, operating efficiency, compact size, reliability and total cost of ownership.

Emerson Network Power Liebert NXr is the Next Generation of true-online, double conversion digital UPS. Designed to meet the high availability power needs of a wide variety of applications (IT, non-IT, industrial & medical), the Liebert NXr combines innovation and simplicity and low total cost of ownership. The result is a power system that delivers both reliability and a return on investment beyond what has been traditionally offered.

### **Advanced Monitoring and Communications Capabilities Keep You in Control**

#### **Power Communication Options**

When choosing the best system to protect your mission critical applications, an important consideration would be the software and communication options. As part of our commitment to provide the best solution for you, we offer a wide range of sophisticated software and communication options for Liebert NXr.

#### **The most extensive list of optional communication solutions for Liebert NXr UPS Systems**

Control through Building Management Systems via Modbus and Jbus protocols

- Web-enabled Monitoring and Management through SNMP protocols.
- Network Management Systems ready.
- Software Solutions.
- Site Monitor Software.
- Facility wide monitoring.
- Shutdown software for your computer equipment.
- Simultaneous monitoring via different protocols.

#### **Information Technology**

- Data Centers.
- Servers (LAN, WAN, MAN, ERP, e-mail, web and others).
- Networking.

#### **Telecommunication**

- Mobile (2G, 2.5G, 3G).
- Paging.
- Fixed (including WLL).

#### **Industrial Automation**

- Process (including instrumentation).
- Motion (digital drives and robotics)  
Transport Automation
- Airport automation and flight booking.
- Others including railways and road transport automation and ticket booking.

#### **Banking, Insurance and Financial Services**

#### **Software Development Houses / Software Technology Parks (STP)**

#### **Building Automation**

- Access Control.
- Security System.
- Fire Alarm System.
- Emergency Lighting.
- Other Critical Applications.

#### **Satellite**

- Uplinking.

# Technical Specifications

Model	NXr								
Power	30 kVA <sup>2</sup>	40kVA <sup>1</sup>	60 kVA	90 kVA	100 kVA <sup>1</sup>	120 kVA	150 kVA	160 kVA <sup>1</sup>	200kVA <sup>1</sup>
	30 kW <sup>2</sup>	36kW	60 kW	90 kW	90 kW <sup>1</sup>	120 kW	150 kW	144 kW <sup>1</sup>	180kW <sup>1</sup>
<b>System efficiency</b>									
AC-AC online double conversion	up to 96%								
<b>Input Parameters</b>									
Rated input voltage	380/400/415VAC, three-phase four-wire								
Rated operating frequency	50/60 Hz								
Input voltage range	305V - 477V at full load-25% to -40% with linear load derating								
Input frequency range	40Hz - 70Hz								
Input power factor	>0.99 at full load, >0.98 at half load								
Input THDI	<3%								
Input walk-in function	Available, 5 - 30s (settable)								
<b>DC Parameter</b>									
Battery Type	VRLA								
Battery Compensation	Yes								
Charger output voltage regulation accuracy	1%								
DC ripple low voltage	≤1%								
<b>Output Parameter</b>									
Inverter output voltage	380/400/415VAC, three-phase four-wire								
Inverter output frequency	50/60 Hz								
Output frequency stability	50Hz/60Hz±/- 0.1%								
Load power factor handling capability (without capacity derating)	0.9 leading - 0.9 lagging								
<b>Voltage stability</b>									
Steady state	< ±1%, typical								
Transient state	±5%, typical								
Transient state response time	<20ms								
Inverter overload capacity	1 hour for 110%, 10mins for 125%, 1min for 150%, 200ms for >150%								
<b>Phase Shift</b>									
With 100% balanced load	<1° el								
With 100% unbalanced load	<1° el								
<b>THDv</b>									
100% linear load	<1%								
100% non-linear load	<4%								
<b>Bypass Parameter</b>									
Bypass input voltage	380/400/415VAC, three-phase four-wire								
Bypass voltage range	Default: -20% to +15%, other values, such as -40%, -30%, -10% to +10%, +15% settable through software								
Bypass overload capacity	110% long term 170% 10 minutes 1000% for 100ms								
<b>Environmental Conditions</b>									
Operating temperature range	0 - 40°C								
Storage temperature	-25 - 70°C								
Maximum operating altitude	≤1000m, When operating at 1000>2000m, derated by 1% for every 100m increase of altitude								
Relative Humidity	≤95%								
Noise (1m)	56-66dB, adjusted according to load rate								
IP Class	IP20								
Standards	Safety: IEC60950-1; IEC62040-1-1/AS62040-1-1 EMC: IEC62040-2/AS62040-2/EN50091-2 CLASS A Design and test: IEC62040-3/AS62040-3								
<b>Physical Parameters</b>									
Dimension, w x h x d (mm)	600 x 1400 x 843								600 x 1600 x 843
Weight (kg)	200	234	234	268	268	302	336	336	380

1. UPS are 0.9 output power factor  
2. with internal battery compartment

Emerson Network Power, a business of Emerson (NYSE:EMR), delivers software, hardware and services that maximize availability, capacity and efficiency for data centers, healthcare and industrial facilities. A trusted industry leader in smart infrastructure technologies, Emerson Network Power provides innovative data center infrastructure management solutions that bridge the gap between IT and facility management and deliver efficiency and uncompromised availability regardless of capacity demands. Our solutions are supported globally by local Emerson Network Power service technicians. Learn more about Emerson Network Power products and services at [www.EmersonNetworkPower.com](http://www.EmersonNetworkPower.com)

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- Infrastructure Management & Monitoring

- Outside Plant
- Power Switching & Controls
- Precision Cooling

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