

# Liebert® NX™

250 - 800kVA

*Enterprise-Scale UPS Protection For Medium And Large Data Centers*



## Efficiency. Availability. Capacity. Control.

Facility managers continue to face the increasing cost of energy consumption and the call for greener means of operating the facility. Today, going into energy-efficient options and generating less CO<sub>2</sub> in every possible way can no longer be ignored.

Introducing the Liebert® NX™ 250-800kVA, a next generation three-phase UPS solution from Emerson Network Power. The Liebert® NX™ delivers the best combination of availability, reliability and energy-efficiency. It presents an industry-leading features such as intelligent energy management that promotes efficient energy measures in the infrastructure and outstanding power protection technology that is designed to use less energy, generate less CO<sub>2</sub>, less space requirement in order to provide significant cost savings.

The Liebert® NX™ 250-800kVA is equipped with a transformer-free design with full IGBT double-conversion technology that enables cost-savings on installation and operating the equipment while delivering high quality protection to your critical load.



### The Liebert® NX™ best applies to:



**Large IDC/EDC  
equipment rooms**



**Banking and  
financial services**



**Communication network  
management centers**

# The Best Investment You Can Make In A UPS System Efficiency, Reliability And Value In A Compact Package.

## Get The Most Out Of Your Investment

- The Liebert® NX™ offers 12.5% additional active power compare to a .8 PF UPS system to support customer's mission critical load, meeting the requirements of the latest servers.
- The Liebert® NX™ offers up to 99% efficiency in smart VFD mode.
- The Liebert® NX™ is a compact UPS with low footprint compared to traditional UPS systems of the same capacity.

## Get The Highest Availability & Reliability

- Super-wide input voltage range and frequency tolerance of 40Hz to 70Hz to provide high quality power, even when input parameters are below standard.
- Back-feed protection promoting critical system continuity

## Ease of Maintenance

- Dual bus compatibility enables user to transfer the load to an alternative power source for all maintenance activities. The Liebert® NX™ features easy access for servicing, thanks to the front door accessibility of critical components, self diagnostics and various monitoring options.
- Large and user-friendly LCD display provides operating information in twelve different languages.

## Efficiency Savings

Energy Cost/kWH (USD)		\$0.10				
Ratings (kVA)	Traditional UPS (92%)	Liebert® NX™ (95%)	Annual Energy Saving	Annual Air Con Savings	Total Annual Saving	Saving @ 10 Years
250	\$214,239	\$207,474	\$6,765	\$2,899	\$9,665	\$96,649
300	\$257,087	\$248,968	\$8,119	\$3,479	\$11,598	\$115,979
400	\$342,783	\$331,958	\$10,825	\$4,639	\$15,464	\$154,639
600	\$514,174	\$497,937	\$16,237	\$6,959	\$23,196	\$231,958
800	\$685,565	\$663,916	\$21,649	\$9,278	\$30,928	\$309,278

Note: Cost is based on \$0.10kWH





# Features

## Main Technical Features

- Online double conversion technology; protecting the power load from disturbances brought by the utility power or the generator system
- Adopts advanced 6th generation DSP control with higher system reliability that allows online maintenance and capacity expansion
- Super-wide input voltage and frequency range
- Advanced distributed parallel technology
- Standard built-in LBS function
- User-friendly large LCD display with 12 available language interfaces
- Longer battery life thru smart battery management feature
- Safe & reliable battery system thru battery system grounding failure detection function



## Capacity

- High efficiency up to 95% in dual conversion mode
- Up to 99% in ECO mode

## Input Power

- THDi less than 3% Input current distortion
- Clean grid

## High Power Factor

- Input power factor > 0.99

## Compatibility

- Compatible with 0.9 leading power factor

## Availability

- Maximum power availability with 0.9 output power factor

## Space Saving

- Compact footprint

## Flexibility

- Super wide input voltage window

## High efficiency and minimum cost of ownership

The Liebert® NX™ adopts the transformer-free design and 6th generation DSP control technology.

It delivers high efficiency at partial and rated loads (up to 99% in smart VFD mode). This level of efficiency reduces hugely the Total Cost of Ownership of the UPS during its life cycle.



### Liebert® NX™: Customer Values Matrix

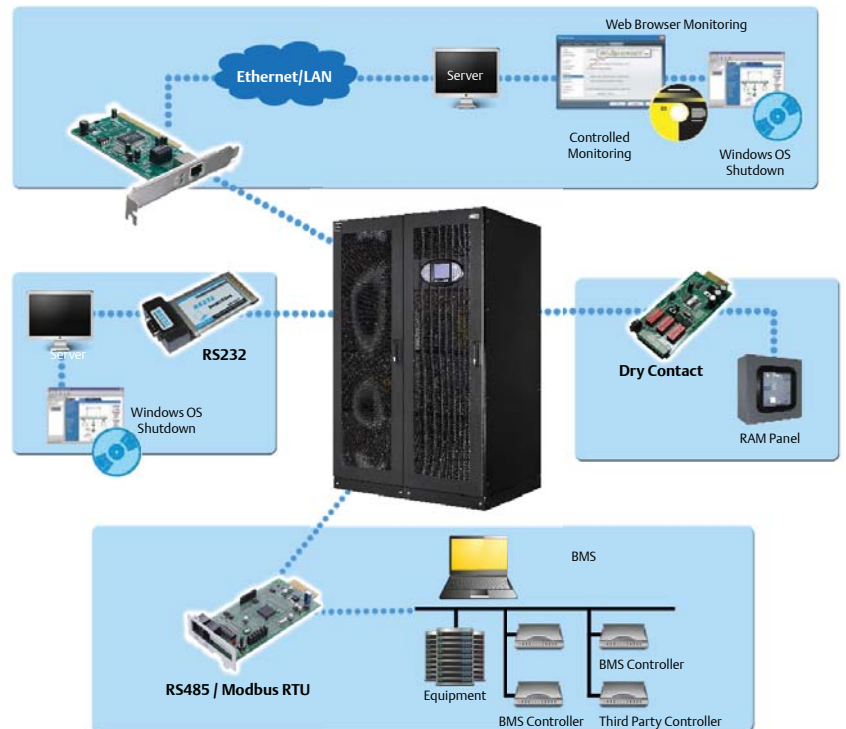
	Total Cost of Ownership	Highest Availability	Higher Performance & Flexibility	Improved Manageability	Extra Value Delivered
Ultra High Efficiency	★		★		★
Small Footprint	★		★		★
Wide Input Voltage	★	★	★		★
Wide Input Frequency	★	★	★		★
IGBT Inverter & Rectifier		★	★		★
Dual Bus Ready		★	★	★	★
Advanced Microprocessor	★	★	★	★	★
Low THDI & THDv (<3%)	★	★	★		★
Higher Input & Output PF	★	★	★		★
Parallel-able		★	★		★
Full Digital Control	★	★	★		★
Advanced Battery Management System	★	★	★	★	★
24x7 Services	★			★	★

## Communication Option

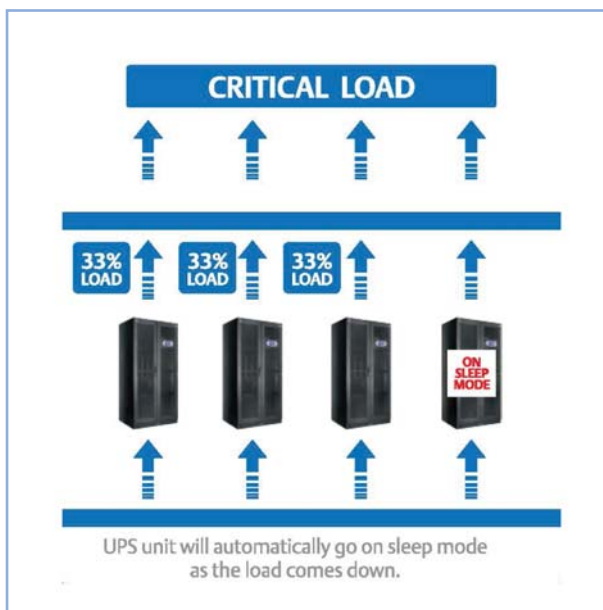
The Liebert® NX™ is capable of communicating with interface options that enables the user to get updates on local and remote monitoring, status signaling, control, maintenance and firmware upgrade.

### The interface options are:

- RS 232 for maintenance
- Programmable dry contacts for remote monitoring
- RS 485 for MODBUS/JBUS interface
- Ethernet card for LAN/WAN monitoring



## Dynamic Capacity Modulation



**This scalable architecture keeps the purchasing and operating costs of your power protection solutions exceptionally low**

The Liebert® NX™ can operate in single or in parallel mode to improve the power availability, and to increase the system capacity and redundancy.

- In a 1 +N system , if the load is much less than the connected UPS units, one or more UPS units will turn to sleep mode.  
**Customer Benefit:** Improves efficiency without compromising availability.
- Load profiling (weekly or monthly) to monitor the off-peak times and adaptively schedule modules to take off-line.
- Track each module's off-line hours and schedule other modules to be off-line to distribute the intelligent tracking of each module and switching UPS in dormant status if facility doesn't require full capacity.

# Technical Specifications

Rated Power	250kVA	300kVA	400kVA	600kVA	800kVA
<b>Dimension</b>					
Width (mm)	1200			2400	
Depth x Height (mm)	900 x 1900				
Weight (kg)	800	850	900	1850	1950
<b>Input feature (rectifier)</b>					
Rated input voltage	380/400/415Vac, 3-phase and 4-wire				
Rated frequency	50Hz / 60Hz				
Input voltage range	324 ~ 478Vac				
Input frequency range	40 ~ 70Hz				
Input power factor	> 0.99				
Input current distortion (THDi)	< 3%				
<b>DC feature</b>					
Number of battery cells per string	240				
Recharger output voltage regulation	0.01				
DC ripple voltage	< 1%				
Temperature compensation	-3.0 (selectable from 0 to -5.0 around 25°C or 30°C)				
<b>Output features</b>					
Inverter output voltage	380/400/415Vac, 3-phase and 4-wire				
Output power factor	0.9 (90kW for every 100kVA)				
Voltage Regulation	Stable state	±1%			
	Transient state	±5%			
Transient response time	20 ms				
Phase angle displacement accuracy with balanced load	±1°				
Phase angle displacement accuracy with 100% unbalanced load	±1.5°				
THDv	100% linear load	< 2%			
	100% nonlinear load	< 5%			
Inverter overload capacity	105%	continuous			
	125%	10 minutes			
	150%	30 millisecond			
Power handling capability without derating	0.7 lagging - 0.8 leading				
<b>Bypass</b>					
Bypass input voltage	380/400/415Vac, 3-phase and 4-wire				
Bypass voltage range	-20% ~ +15%, other values settable through software				
<b>System</b>					
Operating temperature	0 ~ 40°C				
Storage temperature	-20 ~ 70°C (without battery)				
Relative Humidity	0 ~ 95% (without condensation)				
Max operation altitude	< 1000m above sea level (without derating)				
Noise (1m)	74 dB			76 dB	
IP degree of protection	IP20				
<b>Standard</b>					
General safety	EN62040-1/IEC62040-1/AS62040-1				
EMC	EN62040-2/IEC62040-2/AS62040-2 (Class C3)				
Design and Test	EN62040-3/IEC62040-3/AS62040-3 (VFI SS 111)				

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