

Liebert® NXL™ UPS

High Availability UPS for Medium & Large Data Centers

500kVA ■ 600kVA ■ 800kVA

The industry's most reliable power protection and advanced technology has been combined into a new generation of three-phase UPS systems for high power applications – the Liebert NXL from Emerson Network Power. The Liebert NXL provides excellent dynamic performance, with the ability to handle virtually any input condition while still providing computer grade output to critical loads. The leader in large UPS system installations, Emerson offers complete and unequalled support, including engineering consultation, the largest and most wide-spread factory trained service organization, and the industry's largest and most advanced production and witness test facility.



The Liebert NXL Series is Ideally Suited for

- Enterprise data centers
- Industrial process equipment
- Laboratories
- Any application requiring high levels of power availability and computer-grade power quality

Features



Flexibility

Liebert NXL is designed for flexibility in application:

- Matching battery and maintenance bypass cabinets for easy configuration
- Top or bottom cable entry
- Internal cabinet cable wiring simplifies installation.
- Ship-ahead I/O section can be installed before UPS installation



High Availability

Availability is a primary consideration in any UPS selection. Liebert NXL is inherently reliable:

- Liebert ActiveStar® Digital Signal Processor (DSP) controls - no potentiometers
- Redundant fans & system power supplies to ensure maximum availability
- Built-in zig-zag transformer to ensure high fault current handling capability increasing availability
- Provide superior handling of present and future leading power factor loads
- High fault current capability
- Color touch screen controls improve user interface and reduce risk of human error
- Excellent dynamic performance
- Generator and utility friendly with low current distortion



Lowest Total Cost of Ownership

Liebert NXL addresses ownership costs with intelligent design and operating efficiency:

- Front access for installation and service
- Compact cabinets require less floorspace
- Standard Top and Bottom cable entry
- Inter-cabinet cabling requires less hard wiring
- Built-in battery cabinet breaker isolates string for ease of service
- High efficiency
- Intelligent Paralleling optimizes UPS performance thus improving system efficiency

Liebert NXL System Features

Advanced UPS Design

- True on-line double conversion topology
- Superior overload and fault-clearing capability
- High operating efficiency level
- Intelligent Paralleling of UPS control capability
- Excellent dynamic performance - medium frequency PWM inverter
- Compatible with Generation 3 server power supplies to meet current and future needs
- Supports leading power factor loads
- Latest generation IGBTs
- Advanced inverter control provides active harmonic cancellation
- Output isolation transformer
- Continuous duty static bypass switch
- Output filter reduces total harmonic distortion to 2.5%
- Power factor management and generator friendly operation
- Liebert AF2 compatible to reduce input current harmonic to less than 3% and improved power factor ≥ 0.98
- Compact footprint

Large Touch-Screen User Display

- Easy operation, monitoring and control
- System one-line view
- Advanced metering and key statistics
- Input/Output breaker control

Customer's Value Added Features

Source Share Mode of Operation

- Improve generator compatibility
- Reduce generator sizing, even lower generator capacity can be used
- Reduce generator operating & maintenance expenses.
- Reduce investment on generator & associated switchgear and distribution.
- Low CO2 emission due to less fuel burned.

Liebert NXL Battery Cabinet

- Flexible runtime solutions by paralleling cabinets
- Built in battery disconnect
- Front access only for installation and service
- Battery isolation minimizes the risk of downtime due to a catastrophic battery failure, and reduces the risk of electric shock during service
- Battery ground fault alarm
- Battery temperature compensation
- Equalize charging
- Optional integrated technology battery monitoring

Service ability & Safety

- Full front access design for installation and service
- Improved contractor cable access for ease of installation
- Meets NEC requirements
- Inner door design for safety meets Arc Flash requirements
- CE Marked

Regen Mode of Operation

- UPS ability to burn-in test itself
- Reduce testing expenses for on-site load bank testing including reduction in energy cost
- No need for permanent expensive switchgears for load testing purposes



| Model Name | | Liebert NXL | | |
|-------------------------------------|-----|-------------|-----|-----|
| Nominal Power Rating at 0.9 PF Load | kVA | 500 | 600 | 800 |

| Input Parameters | | |
|--|-----|---|
| Input Voltage to Rectifier | Vac | 380 / 400 / 415 3-phase , 3-wires plus ground |
| Permissible Input Rectifier Voltage Range | Vac | 380V system: 291 (-23%) to 438 (+15%) 400V system: 300 (-25%) to 460 (+15%) 415V system: 310 (-25%) to 477 (+15%) |
| Input Voltage to Bypass | Vac | 380 / 400 / 415 3-phase, 4-wire plus ground |
| Input Frequency | Hz | 50 or 60 |
| Permissible Input Frequency Range | Hz | 45 to 66 |
| Input THDi at nominal voltage at full load | % | up to 3% ⁽¹⁾ |
| Input Power Factor at nominal voltage | - | up to 0.98% ⁽¹⁾ |
| Flexi Power Walk-In | sec | 3 to 30 (selectable) in 1 sec. Increments |

| Battery & DC Parameters | | |
|--|------------|---|
| Battery Type | | VRLA (Valve Regulated Lead Acid) or Wet or NiCD |
| Float Voltage | Vdc / Cell | 2.15 - 2.3 |
| End Of Discharge (EOD) | Vdc / Cell | Selectable from 1.60 to 1.88 (for VRLA / Wet Cells) |
| Equalize Charge | Vdc / Cell | 2.30(adjustable in 0.01 volt increments from 2.3-2.45 V/cell) |
| DC Ripple Voltage in float & Const V Ch.mode | % | <1 (RMS value) |

| Output Parameters | | | |
|---|------|--|--------------|
| Inverter Type | | IGBT-based Sine-Sine PWM Controlled | |
| Output Power | kW | 450 | 540 720 |
| Output Voltage | Vac | 380 / 400 / 415 3-phase, 4-wires plus ground | |
| Output Voltage Regulation (loss & return of utility) | % | < % 1 (3-phase RMS average) | |
| Output voltage Regulation (100% unbal. Load) | | < % 2 (3-phase RMS average) | |
| Output Frequency | Hz | 50 or 60 | |
| Output Frequency Regulation | % | +/- 0.1 | |
| Voltage Displacement | ° el | 120 deg +/- 1 deg electrical (with 100% unbalanced load) | |
| Output THDu at nominal voltage | % | <2% | |
| Output THDu at nominal voltage on Non Linear load as per EN 62040-3 | % | 2.5% (max) | |
| Capability to handle High Crest Factor Load as per IEC 62040-3 | | 3:1 | |
| Capability to handle Step Load | % | 0-100 or 100-0 | |
| Transient Recovery | msec | 20 (recovery to 95% of the voltage level) | |
| Leading Power Factor handing capability | | Up to 0.8 Leading (1) | |
| Overload | | | |
| Inverter | % FL | 110% for 60 minutes 125% for 10 minutes 150% for 1 minute | |
| Bypass | % FL | 1150% for 10 ms 1050% for 20 ms 775% for 100 ms 460% for 5 secs | |

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| System Parameter | | |
|----------------------|---|--------------------------|
| UPS Efficiency AC-AC | % | up to 97% ⁽¹⁾ |

| Physical Parameters & Standards | | | | | | |
|--|-----|---|----------|-----------|----------|----------------|
| Cabinet section | kVA | Rectifier | Inverter | Rectifier | Inverter | Bypass/ Output |
| Width | mm | 1250 | 1585 | 1585 | 1570 | 800 |
| Total Width ⁽²⁾ | mm | 2835 | | 3955 | | |
| Depth | mm | 1090 | | | | |
| Height | kg | 1950 | | | | |
| Weight | kg | 1750 | 1940 | 2850 | 3080 | 460 |
| Total Weight | | 3690 | | 6390 | | |
| Colour | | ZP 7021 | | | | |
| Front Door Opening (for better Serviceability) | | More than 180 | | | | |
| Degree of Protection for UPS Enclosure | | IP 20 with front door in opened condition | | | | |

| Environmental Parameters | | |
|---|-------|--|
| Operating Temperature Range | °C | 0 to 40 (UPS) ⁽³⁾ |
| UPS Storage Temperature Range | °C | -25 to 70 |
| Relative Humidity | % | 5 to 95 non-condensing (Operating and non operating) |
| Acoustical Noise level @ 1 meter | dB(A) | 68 74 |
| Maximum Altitude above MSL with full rating a per IEC 62040-3 | m | ≤ 1500 |
| Standards & Conformities | | IEC 62040-1-1, IEC 62040-2, IEC 62040-3 |
| | | CE Mark |
| | | EN 62040-1-1, EN 62040-2, EN 62040-3, EN 60950 |
| | | The above mentioned product standards incorporate relevant compliance clauses with generic IEC and EN standards for safety (60950), electromagnetic emission and immunity (61000 series) and construction(60529) |

(1) Conditions Apply.
(2) With input harmonic filter & standard Top Cable Entry.
(3) 35°C for 800kVA. Conditions Apply.

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- Racks & Integrated Cabinets
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- Industrial Power
- Power Switching & Controls
- Services