

## LIEBERT® NX™ 3-PHASE UPS: 10-30kVA, 60Hz, 208VAC - SITE PLANNING DATA

The Liebert NX is a true on-line, double conversion, three-phase UPS system that delivers complete, centralized power protection for mission-critical systems.



Designed to meet the high availability power needs of a wide variety of IT applications, the UPS combines compact size, advanced operating features and low cost of ownership.

- Increases growth flexibility by handling larger loads, plus the ability to parallel 20 and 30 kVA modules for increased capacity and redundancy.
- Achieves higher availability by reducing the number of UPS units required to power your room.
- Reduces total cost of ownership through the use of longer life batteries and simplified preventive maintenance.

### General Specifications

INPUT	
<b>Voltage</b>	120/208VAC, 60Hz 3-phase, 4-wire plus ground
<b>Voltage Range without derating</b>	+10%, -20%
<b>Frequency Range</b>	57-63Hz
<b>Current Distortion</b>	4% maximum reflected THD at full load
<b>Current Limit</b>	125% of full load input current
<b>Current Walk-In</b>	20 seconds to full load
<b>Power Factor</b>	0.99 lagging minimum at full load
<b>Surge Protection</b>	Sustains input surges without damage, per criteria listed in IEC 1000-4-5
ENVIRONMENTAL	
<b>Operating Temperature</b>	<b>UPS:</b> 32° to 104°F (0-40°C) <b>Battery:</b> 68° to 86°F (20-30°C)
<b>Non-Operating Temperature</b>	-4° to 158°F (-20° to 70°C)
<b>Relative Humidity</b>	0-95% non-condensing
<b>Operating Altitude</b>	Up to 3,300 ft. (1,000m) without derating
<b>Acoustical Noise</b>	Less than 54 dBA typical, measured 3.3 ft. (1m) from the unit

OUTPUT	
<b>Voltage</b>	120/208VAC, 60Hz 3-phase, 3- or 4-wire plus ground
<b>Voltage Adjustment Range</b>	±5%
<b>Voltage Regulation</b>	1% for balanced load 2% for 100% unbalanced load
<b>Dynamic Regulation</b>	±5% deviation for 100% load step ±1% for loss or return of AC input
<b>Transient Response Time</b>	Recover to ±5% of output voltage within 1/2 cycle
<b>Voltage Distortion</b>	For linear loads, 1% THD Less than 4% THD for 100% nonlinear loads without kVA/kW derating
<b>Phasing Balance</b>	120° ±0.5° for balanced load 120° ±1° for 100% unbalanced load
<b>Frequency Regulation</b>	±0.05% single module ±0.25% paralleled modules
<b>Load Power Factor Range</b>	0.70 lagging to 0.95 leading without derating
<b>Overload</b>	125% of full load for 10 minutes 150% for one minute, with true sinusoidal waveform
STANDARDS	
Listed to UL 1778 UPS standards, and CSA certified. Meets current requirements for safe high performance UPS operation.	

### Internal Battery

Model	Battery Time (Minutes)				Added Battery Weight lb. (kg)
	10kVA	15kVA	20kVA	30kVA	
FR	26	14	9	—	550 (250)
HR	45	26	17	9	648 (294)

**Site Planning Data - 10-30kVA, 60Hz, 208VAC**

UPS Rating		Voltage		AC Input			Battery		AC Output		Mechanical Data			
kVA	kW	Input	Output	Current (A)		Rec. OCPD	Nom. VDC	Max. Discharge	Current		Dimensions - WxDxH in. (mm)	Weight lb. (kg)	Heat Dis. BTU/hr (kWH)	Cooling Air CFM (m³/hr)
				Nom.	Max.				Nom.	OCPD				
10	8	208	208	28	35	45	288	37A	28	40	24x32.5x63 (610x826x1600)	450 (205)	2,800 (0.82)	384 (652)
15	12	208	208	42	53	70	288	55A	42	60	24x32.5x63 (610x826x1600)	450 (205)	4,200 (1.23)	558 (948)
20	16	208	208	56	70	90	288	73A	56	70	24x32.5x63 (610x826x1600)	550 (250)	5,500 (1.61)	522 (886)
30	24	208	208	83	104	125	288	110A	84	125	24x32.5x63 (610x826x1600)	550 (250)	8,300 (2.43)	834 (1417)
<b>See Notes for Table (below):</b>				1	2,3,5,8,12	6	4	1,3,8,12	1,3,8,12	6	13	14	—	—

**Notes for Table**

- Nominal (Nom) current is based on full rated output load at nominal input voltage.
- Maximum (Max) current (125% of nominal) is short duration for battery recharge conditions.
- UPS input and bypass cables must be run in separate conduit from output cables.
- Nominal battery voltage is shown at 2.0 volts/cell per NEC 480-2.
- For Single Input units only.  
For Dual Input units, see “Electrical Data Specification Sheet, 10-30kVA UPS Module, Single or Dual Input Liebert NX - U3813041.”
- OCPD = Overcurrent Protection Device. Recommended AC input and AC output overcurrent protection represents 125% of nominal full load current (continuous) plus 100% of recharge current (non-continuous) per NEC 215.
- Minimum-sized grounding conductors to be per NEC 250-122. Parity-sized ground conductors are recommended. Neutral conductors to be sized for full capacity per NEC 310-15 (b)(4). References are per NEC 1999.
- Wiring requirements:  
AC Input: 3-phase, 4-wire, plus ground  
AC Output: 3-phase, 3- or 4-wire, plus ground
- All wiring is to be in accordance with national and local electric codes.
- Minimum access clearance is 3 ft. (0.9m) front and 18 in. (457mm) above the UPS.

**Notes for Table (continued)**

- Top or bottom cable entry through removable access plates. Punch plate to suit conduit size, then replace.
- Control wiring and power wiring must be run in separate conduit.
- Dimensions shown include an internal battery.
- Weights shown do not include an internal battery nor optional cabinets or features.

**Additional Notes**

- If site configuration includes a backup emergency generator, it is recommended that the engine generator set be properly sized and equipped for a UPS application. Generator options would typically include an isochronous governor (generator frequency regulation) and a UPS-compatible regulator (generator voltage regulation). Consult generator manufacturer for required generator options and sizing.
- If site configuration includes an automatic transfer switch, refer to Liebert Power Line titled “Criteria for Application of Automatic Transfer Switches (ATS) With Uninterruptible Power Supply (UPS) Systems,” publication 91K-PLT-48-02. It is also recommended that the transfer switch be equipped with auxiliary contacts for UPS “on generator” current limit. Consult transfer switch manufacturer for required transfer switch options and sizing.
- If site configuration requires an external isolated maintenance bypass circuit, it should be noted that utility AC input might not be in phase with the UPS AC output. Consult a Liebert sales representative or applications engineer.



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