AC Power Systems for Business-Critical Continuity

Liebert Series 610 1000 kVA UPS

Reliable Power For Large Data Centers and Factories

When your facility can't afford any unplanned outages, you need the Uninterruptible Power Supply system with the best reliability record in the business. The Series 610 is based on a conservative design philosophy that has produced field-documented critical bus MTBF in excess of two million hours, based on actual field experience.

LIEBERT SERIES 610 PROVIDES CLEAN, RELIABLE POWER FOR HUNDREDS OF SITES, INCLUDING:

- Data Centers
- Telecommunications Centers
- Process Control Facilities
- And other locations housing sensitive electronic equipment

STANDARD FEATURES INCLUDE:

- 12-pulse 3-phase rectifier/charger
- Input and Output isolation transformers
- Electrically operated output circuit breaker and wrap-around bypass circuit breaker on Single-Module Systems (SMS)
- Static bypass switch with isolators on SMS
- Bypass pulse-paralleling on SMS and Automatic retransfer on SMS
- Enhanced output critical bus and internal fault management
- High overload capability
- Two-step input current limit and two-step battery charger current limit
- Automatic equalize charger and timer
- Application Specific Integrated Circuits (ASICs)
- Microprocessor- based monitoring with easy-to-read back-lit LCD display
- User prompted menu program
- Metering
- Visual & Audible alarms
- Remote E.P.O. provisions
- Redundant cooling fans
- Front access for maintenance and service

Liebert®

EMERSON™ Network Power

General Specifications

Ups Rating			Ac Input / Output Voltage	Efficiency At 100% Load	Nominal Battery Requirements	Maximum Heat Dissipation At Full Load	Dimensions WxDxH[2]	Approx. Weight (LB.)[2]	
kVA	kW	Power Factor	(VAC)	(%)	(CELLS)	(BTU/Hr)	(INCHES)	SMS	MMU
1000	900	0.9	480 or 600	93	240	231,200	177x44x82	16,700	16,555

[1]Efficiency measured at rated power factor
[2]Dimensions and weights do not include System Control Cabinet furnished with Multi-Module Systems

The Liebert Series 610 Gives You Power Protection In Many Configurations

- Single-Module Systems
- Multi-Module Systems
- Parallel Redundant Systems
- Isolated Redundant Systems
- Load Bus Synchronized Systems
- Liebert Power-Tie™ Systems

Input

Voltage: 480 or 600 VAC, 3-phase, 3-wire plus ground.
Voltage Range: +10, -15% (no battery discharge down to -20%)
Power Factor: 0.92 lagging at full load with input filter (0.85 without).
Frequency Range: 60 Hz, ±5%.
Current Distortion: 4% maximum reflected THD at full load with optional input filter (9% without).
Subcycle Magnetizing Inrush: 5-8 times normal full load current.
Walk-In: Configurable walk-in of 20% to 100% over 15 seconds.

Output and Bypass

Voltage: 480 or 600 VAC, 3-phase, 3-wire or 4-wire plus ground.
Voltage Adjustment: ±5%.
Voltage Regulation: ±0.5% for balanced load; ±2% for 50% unbalanced load.
Dynamic Regulation: ±8% deviation for 100% load step. ±5% deviation for 50% load step. ±1% for loss or return of AC input. Manual return of load to UPS: ±4%.
Transient Response Time: Recover to ±1% of steady state within 50 milliseconds.
Voltage Distortion: For linear loads, 5% THD, maximum total. 3% RMS maximum for any single harmonic. Less than 5% THD for 100% nonlinear loads without kVA/kW derating.
Phasing Balance: 120° ±1° for balanced load. 120° ±3° for 50% unbalanced load.
Frequency Regulation: ±0.1%.
Load Power Factor Range: Unity to rated lagging power factor without derating.
Overload: 125% of full load for ten minutes. 150% for 30 seconds. 104% continuous.
Fault-Clearing Current: Up to 1000% for 16 milliseconds up to 500% for 40 milliseconds.

Environmental

Operating Temperature: 0° to 40°C without derating.
Non-Operating Temperature: -20°C to 70°C.
Humidity: 0-95% relative humidity without condensation.
Operating Altitude: Up to 4,000 feet (1200 meters) without derating.
Non-Operating Altitude: Up to 50,000 feet (15,000 meters).
Audible Noise: 75 dBA typical, measured 5 feet from the unit.

Physical

ETL Listed to UL 1778 UPS standards, and CSA certified. Meets requirements for safe high performance UPS operation.

Standard Features

- 12-pulse, 3-phase rectifier/charger
- Easy-to-read backlit LCD monitor/control display panel
- Self-diagnostics
- Input and output isolation transformer
- 2-stage battery charge current limit
- 2-stage input AC current limit
- Internal wrap-around bypass
- Automatic and programmable retransfer
- Automatic line-drop compensation
- Battery overdischarge protection
- Battery-time-remaining display and battery statistics
- Automatic equalize charge timer
- Emergency Power Off (EPO)
- Front access for service and maintenance

Options and Accessories

- Input filter/power factor correction
- Load Bus Sync™ (for dual load bus systems)
- Power-Tie® Dual-Bus Systems
- Bypass isolation transformer
- Maintenance bypass switchboards
- Power distribution unit
- Standard and custom switchgear packages
- Valve-regulated lead-acid battery packs
- Flooded rack-mounted battery systems
- SNMP capabilities
- Remote monitor panel
- Communications interfaces
- Alarm status contacts
- Customer alarm inputs

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The global leader in enabling business-critical continuity.

- **AC Power Systems**
- Connectivity
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- Embedded Power
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- Integrated Cabinet Solutions
- Outside Plant
- Precision Cooling
- Site Monitoring and Services