

## 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-parallelism 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

## General Specifications

Ups Rating			Ac Input / Output Voltage	Efficiency At 100% Load	Nominal Battery Requirements	Maximum Heat Dissipation At Full Load	Dimensions WxDxH <sup>2</sup>	Approx. Weight (LB.) <sup>2</sup>	
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

<sup>1</sup>Efficiency measured at rated power factor

<sup>2</sup>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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SL-30504 (R1/06) Printed in USA

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- Power Protection
- Integrated Cabinet Solutions
- Outside Plant
- Precision Cooling
- Site Monitoring and Services

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