400 VA to 2.1 kVA

LT SERIES

Uninterruptible Power Systems

Designed to be used with non-linear or linear load applications such as:

- Networking
- Midrange Computing
- Hosts/Hubs
- Personal Workstations
- Voice Mail/Information Technology
- Integrated Services Digital Network (ISDN) – CATV/Digital
- Point-of-Sale
- Transmission Repeaters
- Supervisory Control and Data Acquisition (SCADA)
- Distributed Control Systems (DCS)
- Communication Closets

ISO 9001 SGS

CONTROLLED POWER COMPANY

"World's recognized authority in power treatment"

LTX, LT, LTR, AND LTN SERIES

CONTROLLED POWER COMPANY

Controlled Power Company engineers and manufactures the industry's highest quality power conditioning equipment, capitalizing on 25 years of experience. We have an enviable reputation for quality, which is reflected in the design, workmanship, and performance of our products.

We provide the widest range of power equipment for regulating, conditioning, isolating, purifying, and distributing incoming electrical power. All products incorporate state-of-the-art technology, optimizing performance characteristics for various applications. Our products protect sensitive electronic systems from erratic operation and failure due to power line transients, noise, brownouts, sags, surges, and total power outages.

LTX, LT, LTR, & LTN Series UPS

The overall function of the LTX, LT, LTR, and LTN Series UPS's is to take polluted, fluctuating, and erratic electrical power that exists in all areas today and purify or replace it (in the case of complete power outages) with well-regulated, computer grade power.

The LTX, LT, LTR, and LTN UPS's maintain electrical power to the critical load for approximately 10 minutes to several hours. The backup time is a function of the amount of battery reserve that is purchased with the system.

Features & Benefits

The LTX, LT, LTR,and LTN Series products are designed to maximize backup time, protect your computer or critical load, and monitor all the key parameters of electrical power including a log of events.

Features include:

- Steady, Regulated Voltage to ±3% Provides Proven Performance and Extends the Life of Your Equipment
- Highest Level Performance Sine Wave Output Matches Your System's Requirements
- 100% Power Conditioning
- No-break, Continuous Power Provides Seamless Switching to Battery Backup
- Patented "Fuzzy Ranging"™ Control Extends Battery Life and Backup Time
- Optional Extended Backup Time
- DataGuard Option for Automatic Unattended Shutdown of Your Computer

LTX Series Display Monitor & Diagnostics Provide System Status:

LED Bar Graphs

- Percent Load (includes overload alarm)
- Percent Battery (includes low battery alarm and weak battery warning)

LED Indicators

- System On Line
- System On Battery Backup

Selectable (Dip Switch)

- Low Battery Warning (2 or 5 minutes)
- Auto Shutdown (if no load present)
- Standard Communication or RS232 Serial Communication

LT, LTR, and LTN Display Monitors & Diagnostics

Bright, 3-Digit LED Provides System Parameters:

- Input Voltage
- Output Voltage
- Percent of Battery Capacity
- Percent of Load
- Percent of Battery Charged

LED Indicators Provide System Status:

- System On (Green)
- System On Battery (Yellow)
- Low Battery Warning (Red)

TOTAL POWER SECURITY

Built-In Isolation

It is a common fact that isolation transformers provide electrical security for the load, eliminate electrical noise, and produce a new clean ground for digital and communication signals. All LT Series include a power purifying isolation transformer (uncommonly found in 400VA to 2.1KVA UPSs), which protects your equipment from the most damaging power disturbances. This standard isolation transformer offers the user a choice of input and output voltage selections between 120 to 240 volts.

Input Power Factor Correction With Less Than 10% Total Harmonic Distortion (THD)

The LT Series goes beyond the traditional UPS. Double magnetic conversion prevents damaging load-generated harmonics from backing-up into the utility lines.

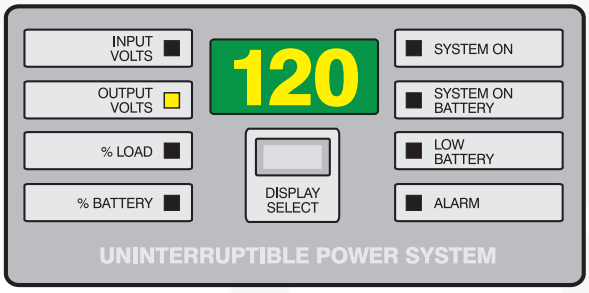
User-Friendly Full Monitoring Features

The LT, LTR, and LTN have a full complement of diagnostic indicators. Metering includes: Battery Voltage, Input Voltage, Output Voltage, and % Load. Status LEDs include: System On, On Battery, Low Battery, and Alarm.

The LTX interface diagnostics include progressive graphic displays of % Load and Battery. LEDs include: On Line, On Battery, Low Battery, Weak Battery, and Alarm.

Fuzzy Ranging™

Fuzzy Ranging™, a patented technology solution, uses fuzzy logic to automatically broaden the input operating range as a function of load. This feature provides added security during deep brownout conditions without battery consumption. Fuzzy Ranging assures the batteries will be at full capacity for a real emergency…a power outage.



Product Specifications:

Input

- 120 VAC at 60 Hz (LTX Series)
- 120, 208, or 240 VAC at 60 Hz; 220 VAC at 50 Hz (LT, LTR, and LTN Series)

Operating Range: +10%, -40% typical
Frequency Range: ±2.5 Hz

Performance

Common Mode: 120 dB
Transverse Mode: 70 dB
Fuzzy Ranging Plus™: Human-like decision making to optimize usable input line voltage without using batteries. Range without battery consumption to 60% of nominal input voltage.

Output

Sine Wave Voltage: Maximum 3% harmonic distortion, any single harmonic
At 60 Hz:
120 VAC; 120/208 VAC; 120/240 VAC (LT and LTR Series)
120 VAC (LTX Series)
At 50 Hz:
220 VAC; 110/220 VAC (LT, LTR, and LTN Series)
Load Regulation: Typically better than ±3%
Isolation: Galvanic isolation

Environmental

Operating Temperature:
0°C – 40°C (LTX, LT, and LTR Series)
-35°C – 50°C (LTN Series)

Agencies

- IEEE 587 Category B Guide for surge suppression, exceeds by 33%
- IEC 555

MTBF

Total System:
100,000 hours MIL Spec Standard 217E

Safety

- U/L Listed 1778 Standard for UPS Equipment
- (LT series only) U/L Listed 544 Standard for Medical and Dental Equipment CSA Certified
- FCC Article 15, J, Class A

PROVEN SOLUTIONS

LTX650 Provides Data Cable Versatility

A franchise of gasoline service stations encountered errors, lockups, and communication problems at their point-of-sale computers. They found that the LTX650 completely resolved all of their power problems.

Because of its unique filter patch versatility, the LTX650 completely secured this franchise's gas pump data cabling, cash register, modem phone line, and AC power. Ten minutes of battery backup provided enough time for the complete download of their daily transactions in the event of a power failure.

"We needed over four distinct solutions," said the MIS Director. "The LTX650 provides pure regulated power 100% of the time, and protects all of my data lines with a new common ground filtering system."

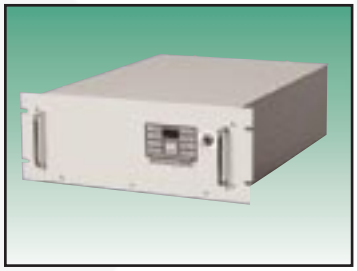
LT1200 Solves Network Dropout Problem

A manufacturer of large water circulation assemblies generated severe voltage dips and spikes throughout their building when testing their pumps. The voltage dips and spikes caused the administrator's network to crash repeatedly.

The LT1200 eliminated the problem because of its tight voltage regulation and inherent spike suppression properties. "We tried other UPS's, but with ineffective results," said the Plant Manager. "We needed a UPS that could keep the voltage steady, and the LT1200 does just that."

LTR1000 Supports Factory-Floor Automation

A manufacturer of automotive components must adhere to the most stringent tolerances of any automation process. Damaging electrical environments and "dirty" factory power take their toll on the typical power protection systems which are intended to protect the factory's equipment.



The LTR1000 solved this supplier's factory-floor equipment failures. Where most line-interactive standby UPS's simply pass the factory power directly to the process controllers, the LTR1000 delivers a clean, regulated, reconstructed sine wave for trouble-free process operation.

"Where commercial grade UPS's have failed because of the harsh electrical environment in our factory, the LTR1000 thrives," explained the factory engineer. "We have standardized our plant to include the LTR1000 for all our distributed control systems. It's the only UPS that stands the test of time."

LTN700 – Extreme Measures for Extreme Conditions

Protecting and securing remote communications systems requires the UPS installation site to be outdoors, subject to extreme temperatures and weather conditions. A UPS must tolerate temperatures in excess of 120° F and survive the driving rain, while providing reliable extended backup time, and clean AC power for the cellular towers and cable amplifiers. The LTN700 provides up to 12 hours of backup in a NEMA3R weatherproof outdoor enclosure, and is prepped for easy tower or strut installations.

COMMUNICATIONS

DataGuard

DataGuard is a feature-rich unattended operating system shutdown software package. Each computer which has DataGuard installed, polls the condition of the UPS. Upon failure of utility power, DataGuard performs a graceful unattended operating system shutdown based on the preset timers.

- User-definable timers and broadcast messages
- Log file records all power events
- Automatic reset upon utility power restoration
- Provides power history graph
- Dials out via modem to pager
- On screen countdown timer
- Supports inverter shutdown

DataGuard supports the following Operating Systems: Windows 3.1/95/98/NT, Novell, OS/2, IBM AIX, HP-UX, UNIX, SunOS, SGI IRIX, DEC VMS/VAX, Digital UNIX, Apple Mac OS.

Automatic Message Dialer

When the utility power fails, the **Automatic Message Dialer** will call and leave a pre-recorded voice message.

- Dials up to three numbers and announces a user-configurable message
- Automatically dials on LOW BATTERY or ON BATTERY

Multi-Interface Units – MIU 4 / MIU 8

Multi-Interface Units allow an unlimited number of computer systems to simultaneously monitor a single UPS and gracefully shutdown the operating systems in the event of a power failure. (DataGuard software required.)

- Controls a cluster of up to 8 (MIU 8) CPUs from one UPS
- Unlimited daisy-chaining of MIUs
- Multiplexes ON BATTERY and LOW BATTERY

SNMP

The external **SNMP** adapter gives network managers the ability to monitor and manage their UPS's or other devices such as smoke alarms, without ever having to leave the Network Management Station (NMS).

- Sends traps to a total of 4 separate NMS's
- MIBII compliant
- Trap monitors

Power Administrator

Offers the power of remote access to re-boot or turn off/on loads via modem, Telnet, 10BaseT, and SNMP.

- Internal MIU 4
- Prevents start-up overload
- Sheds non-critical loads upon events
- Shutdown and start-up timers
- 5 access methods
- 12 unattended power management events

Supports:

- SNMP
- Dry contact signals
- DataGuard

Optional:

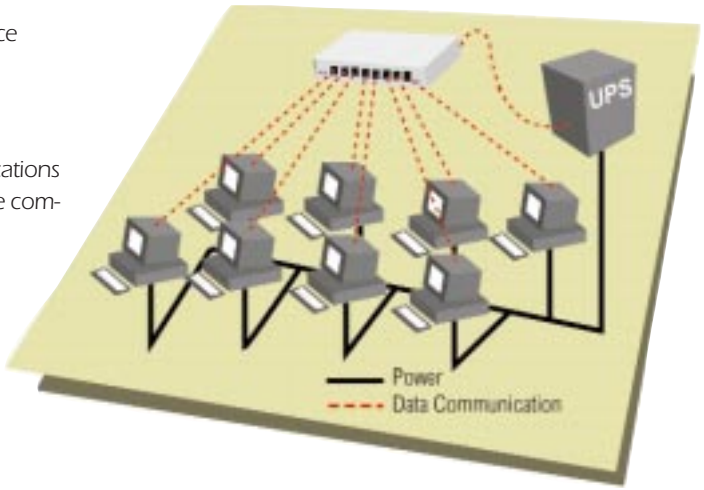
- SNMP card
- Modem interface

Remote Annunciator

The **Remote Annunciator** is used for applications where the UPS will be installed in an area outside the computer room or outside the operator's visual range.

Monitors UPS status for:

- General Alarm
- System On Battery Power
- Bypass Active
- Impending Shutdown



MODEL SELECTION GUIDES

LTX SERIES - SINGLE PHASE 400 VA TO 850 VA

MODEL	VA	WATTS	*FULL LOAD BATTERY RUNTIME	HALF LOAD BATTERY RUNTIME	UNIT WEIGHT
LTX400	400	260	18 min.	38 min.	43 lbs.
LTX600	600	420	10 min.	23 min.	45 lbs.
LTX850	850	600	12 min.	27 min.	55 lbs.

*Extended runtimes available.
All cabinet dimensions are 6.4"W x 15.5"D x 9"H.

LT AND LTR SERIES - SINGLE PHASE 700 VA TO 2.1 kVA

MODEL	VA	WATTS	*FULL LOAD BATTERY RUNTIME	HALF LOAD BATTERY RUNTIME	UNIT WEIGHT
LT700	700	500	11.5 min.	30 min.	64 lbs.
LT850	850	600	9 min.	24 min.	64 lbs.
LT1000	1000	700	7 min.	15 min.	69 lbs.
LT1200	1200	850	12 min.	27 min.	102 lbs.
LT1400	1400	1000	8 min.	23 min.	102 lbs.
LT1600	1600	1200	7 min.	17.5 min.	102 lbs.
LT1800	1800	1300	9.5 min.	26 min.	112 lbs.
LT2100	2100	1500	7.5 min.	21.5 min.	112 lbs.

*Extended runtimes available.
All cabinet dimensions are 8.125"W x 17.5"D x 17.5"H.
NOTE: The LT700 and LT850 can be shipped via United Parcel Service.

LTN SERIES - 700 VA TO 2.1 kVA

MODEL	VA	WATTS	*FULL LOAD BATTERY RUNTIME	HALF LOAD BATTERY RUNTIME	UNIT WEIGHT
LTN700	700	500	6 hrs.	12 hrs.	475 lbs.
LTN850	850	600	4 hrs., 30 min.	9 hrs.	475 lbs.
LTN1000	1000	700	3 hrs., 15 min.	6 hrs., 30 min.	480 lbs.
LTN1200	1200	850	2 hrs., 50 min.	6 hrs.	523 lbs.
LTN1400	1400	1000	2 hrs., 20 min.	4 hrs., 50 min.	523 lbs.
LTN1600	1600	1200	2 hrs.	4 hrs., 15 min.	523 lbs.
LTN1800	1800	1300	1 hr., 45 min.	3 hrs., 30 min.	535 lbs.
LTN2100	2100	1500	1 hr., 15 min.	3 hrs., 15 min.	535 lbs.

*Extended runtimes available.
All cabinet dimensions are 30"W x 16"D x 30"H.

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