

# SP Series

New Technology Series



## Uninterruptible Power for Traffic Signal Applications



New Technology Products

**SP1250LX-R/N**, SP1250LX-R/N (48) and SP2000LX-R/N

The **SP1250LX-R/N**, SP2000LX-R/N and the Outpost™ Series batteries are designed for outdoor use and will operate in extreme temperature environments of -40°C to +74°C (-40°F to +165°F).



**SP1250LX-R/N**, SP1250LX-R/N (48) and SP2000LX-R/N

### Universal UPS Systems for LED Traffic Signals Featuring:

- Local Keypad programmability - no laptop necessary
- Local display of; battery status, power system status, UPS system status, UPS information and event logs
- Integrated PIM with external By-pass to support ease of connection
- Supports both NEMA, front mount(N) or Rack Mount(R), rear mount power and battery connection
- Eight Programmable Relays with 16 assignable status conditions to set or reset relays
- Signaling via open collector contacts, RS232 Serial Interface, USB or SNMP Adapter (Internet)
- Can keep an intersection running for up to 8 hours or longer
- Online mode for system reliability and protection
- Does not compromise existing cabinet wiring for ease of installation
- Provides ON-LINE conditioned, re-manufactured power for cabinet equipment protection
- TCP/IP- Communicates with monitoring center or other equipment for fast status notification
- SP1250LX-R/N (48): 1,250VA, 875 continuous watts, 48Vdc battery system
- SP1250LX-R/N: 1,250VA, 875 continuous watts and 1400 watts for 10 seconds, 72Vdc battery system
- SP2000LX-R/N: 2,000VA, 1,400 continuous watts, 96Vdc battery system
- Multi-state DOT and NEMA compliant
- Optional NEMA 3R Type II and Type III cabinets available
- Power Factored Corrected for reliable, safe power

Where POWER is a way of life

Uninterruptible Power for Traffic Signal Applications



**GLARY**  
The Continuous Power Company™



# SP Series

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Clary Power Products are known worldwide for their demanding role in power protection! Clary Power Products deliver high availability to critical systems. Using the most advanced UPS technology, Clary Corporation has developed a line of power products for traffic systems applications that delivers the same reliability as its military and life support products.

### SP Series, Model PD



**SPD-302C**  
By-pass Switch  
with GFCI Plug, Circuit Breaker and  
Generator Plug

Keeping intersections alive during power failures, Clary's New Technology Series are the world's most advanced Uninterruptible Power System (UPS) for traffic applications. Without compromising existing cabinet wiring, the New Technology Series keeps LED signal heads running for up to 8 hours or more during power failures. Clary's continuous power systems fit inside most existing cabinets and meet NEMA temperature specifications. Optional, NEMA 3R Type II and Type III cabinets are available.

The New Technology Series systems provide clean, regulated dual conversion power for controllers and other sensitive equipment inside the cabinet. The SP1250LX-R/N systems are intended for applications where constant load usage will not exceed 875 watts or 1400 watts for ten seconds, 72Vdc system only. While the SP2000LX-R/N is intended for loads that will not exceed a constant 1400 watts. The SP1250LX-R/N systems require either four (48VDC systems) or six batteries (72VDC systems) while the SP2000LX-R/N require eight batteries and sufficient cabinet space or a separate cabinet such as the CLARY CBO-126 or the CBS-126 UPS traffic cabinet.

Advanced communication features allow monitoring, configuration and control of the system over RS232 modem or TCP/IP network connections or USB connection.

SP1250LX-R/N (48V), SP1250LX-R/N or the SP2000LX-R/N feature a universal mounting system that supports both NEMA and 332 style rack mount cabinets. When ordering please specify either SP1250LX-R/N or SP2000LX-R/N (SP1250LX-R for rack mount and SP1250LX-N for NEMA (shelf) mount).

### OUTPOST BATTERIES



**OPB-1241 / OPB-1251**  
or  
**OP72A - Battery Set**

These 41 and 51Ahr maintenance-free, Absorbent Glass Mat, Valve Regulated, Lead Acid (AGM-VRLA) batteries are designed for deep cycle, extreme temperature applications. They have been field tested and used for years by the military. Absorbent Glass Mat (AGM) technology assures a safe environment. Especially designed for outdoor and extreme temperature applications, they are capable of operating from -40°C to +74°C (-40°F to +165°F). This makes them ideal for use with Clary's SP1250PD PLUS Series, the New Technology Series Traffic Signal solutions, and IT communication solutions or other extreme temperature applications. Additional Battery Types and Ratings are available, please contact factory.

# Features List



## Component

## Features

### General Features

- Compatible with most traffic cabinets
- Works with intersections that have red LEDs by utilizing flash mode
- Provides full operation in intersections with all LEDs in all positions
- Power event counter records number of power utility failures
- Small size fits most cabinets
- Non-invasive to cabinet wiring (only utility line is rerouted)
- Auxiliary contacts allow full operation for short power interruptions and flash operation for longer interruptions or low battery
- Police panel compatibility allows complete shutdown during emergencies
- All internal calibrations are digital; no potentiometer to set or fail
- Intelligent software interface for monitoring and configuration
- Optional Web-based network interface allows monitoring with common web browsers
- Economically priced

### UPS Electronics

- Dual Microprocessor controlled
- Power handling capacity: 1,250 VA, 875 watts or 2000 VA, 1400 watts
- Rugged, military grade inverter designed for 24 hour, 7 day, 365 days a year operation
- Built-in TVSS (surge suppression)
- DSP technology
- Automatic periodic self testing
- Interfaces: RS232 intelligent; contact closures; optional NTCIP or TCP/IP network interface and USB

### Battery System

- Sophisticated battery management for recharging and protection
- Temperature compensated battery charging
- Battery run-time counter
- Periodic battery testing checks for: Battery condition; Battery charge; Battery status; Battery temperature
- Foolproof battery connector system allows safe, tool-less installation even in dark or low-light conditions
- Optional "quick charge" battery charger

### Batteries

- Outpost™ batteries specifically designed for outdoor use
- AGM/VRLA battery technology
- Sizes available for 2,4,8 or more hours of operation
- Mounting trays available for 170 style cabinets

### Bypass Switch Features GFI and Generator connections

- By-pass switch allows hot swapping of entire UPS without disturbing intersection operation
- Minimum disruption of cabinet wiring
- Uses high reliability, industry standard contactors

### Alarm Functions

- Input bad
- Output bad
- Temperature
- Overload
- General alarm
- Consult SP1250LX or SP2000LX User Manuals for additional information on alarm monitoring and logging.

*Where POWER is a way of life*

# New Technologies Series Specifications

## ELECTRICAL

### Input

Voltage	75 Vac to 155 Vac before going to batteries
Frequency	45 to 65 Hz

### Output

Voltage	120 VAC +3%
Frequency	50 or 60 Hz

### Rating:

SP1250LX-R/N (48)	1,250 VA/875 Watts
SP1250LX-R/N	1,250 VA/875 Watts
SP2000LX-R/N	2,000 VA/1400Watts,

Crest Factor Ratio (Non-linear Load and < 5% THD) Typical	@50% Load	Up to 4.8:1
	@75% Load	Up to 3.2:1
	@100% Load	Up to 2.4:1

### Total Harmonic

Distortion (THD)	4.0% Max.
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Dynamic Response	±4% for 100% Step Load Change	0.5 ms Recovery Time
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Overload	110% for 10 sec;	200% for .05 sec
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UPS Protection	Input and Output Short Circuit;	Input and Output Overload;	Excessive Battery Discharge
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## ENVIRONMENTAL

Operating Temp.	-40°C to +74°C (-40F to +165°F)
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Humidity	0% to 95% Non-condensing
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Altitude	Sea Level to 10,000 ft (some derating of temp. w/altitude > 6,000 ft)
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## MECHANICAL

Input	Hardwired to By-pass Switch
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Outputs	Hardwired to Bypass Switch
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## CUSTOM Options

Cabinet	NEMA, 332 or CBO-123 Cabinet style configurations available; NEMA 3R Type II and Type III Optional
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Consult Factory for other Custom options

## DESIGN

Standard Features	Power Factor Corrected Input; Fully Regenerative; True On-Line Continuous Power; Low Distortion Sinewave Output; Designed for Non-linear Loads; Extended Brownout Protection; EIA/RS232 Data Interface
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Specifications	Meets FCC Class A, IEEE 587/ANSI C62.41, IEC 555 @ 120 VAC and NEMA Stds
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MTBF	Inverter: > 100,000 hrs System w/Bypass: 150,000 hrs Calculated from Component Spec
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Typical Recharge Time to 85%	48-72 hrs (more time required with extended battery option)
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Capacity @ 100% Load	Less than 20 hrs with optional Fast Battery Charger
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## CONTROLS AND INDICATORS

Control Panel	Power On; Cold Start; Test; Alarm Silence; Four line LCD display Panel
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Audible Alarms	Utility Interrupt; Inverter Failure; Overload; Low Battery; Self Test
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Serial Interface for EIA 232. Optional NTCIP and TCP/IP via Standard RJ45 and USB Connector	Full Interactive Remote Computer Monitoring and Control of Most Features Including Load Control (requires optional monitoring software); NTCIP and TCP/IP Ready
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Contact Closures ("D" connector)	Open Collector for Remote Annunciation and On Battery, Low Battery; See User Manual for additional interface information
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Specifications subject to change without prior notice.



## Uninterruptible Power for Traffic Signal Applications

Model	VA	Watts	Input Current (A)	Output Current (A)	Backup Time 100% / 50% Load	Unit Weight LBS	Dimensions H x W x S
SP1250LX-R/N (48V)	1,250	875	8.8	10.4	2.0 hrs. / 4.0 hrs	27	3.50 x 19.0 x 10.0
SP1250LX-R/N	1,250	875	8.8	10.4	2.0 hrs. / 4.0 hrs.	27	3.50 x 19.0 x 10.0
SP2000LX-R/N	2,000	1400	14.3	16.7	1.0 hrs. / 3.5 hrs.	28	3.50 x 19.0 x 10.0

**CLARY**  
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