

SP Series

SP Series

Uninterruptible Power for Traffic Signal Applications

1,250 VA and 2,000 VA



The SP Series UPS and Outpost™ Series batteries are designed for outdoor use and will operate in extreme temperature environments of -40°C to $+74^{\circ}\text{C}$ (-40°F to $+165^{\circ}\text{F}$).

SP 1000SR/SN - SP 1250SR/SN PLUS - SP 2000SR/SN

Universal UPS Systems for LED Traffic Signal Applications

- Can keep an intersection running for up to 8 hours or longer
- Does not compromise existing cabinet wiring
- Provides ON-LINE conditioned re-manufactured power for cabinet equipment
- RS232 or TCP/IP- Communicates with monitoring center or other equipment
- SP 1000SR/SN: 1,250 VA, 875 Watts, continuous power
- SP 1250SR/SN PLUS: 1,250 VA, 875Watts (1400 watts, peak load 10 sec. or less)
- SP 2000SR/SN: 2,000 VA, 1,400 Watts, continuous power
- Multi-state DOT and NEMA compliant
- Optional NEMA 3R Type II and Type III cabinets available
- Power Factored Corrected



SP 1250U - SP 2000U

UPS Systems for IT/Communication Applications

- Provides uninterrupted power for up to 8 hours or longer
- Completely conditions, re-manufactures and regulates power
- Power factor corrected
- RS232 or Optional SNMP Adapter (TCP/IP Protocols)
- SP 1250U: 1,250 VA, 875 Watts, continuous power
- SP 2000U: 1,400 Watts, continuous power
- Optional NEMA 3R Type II and Type III cabinets available



Outpost™ Series

AGM VRLA Batteries for Traffic Applications -40°C to $+74^{\circ}\text{C}$ (-40°F to $+165^{\circ}\text{F}$)

- Designed for outdoor applications
- Outlives any other battery in extreme environments
- Special connectors allow safe, rapid field replacement
- Configured in a set of six batteries (SP1000SR/SN & SP1250PLUS SR/SN/U)
- Configured in a set of eight batteries (SP2000SR/SN/U)



Where POWER is a way of life

Uninterruptible Power for Traffic Signal Applications



SP Series

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 1000SR/SN - SP 1250SR/SN PLUS - SP 2000SR/SN



Keeping intersections alive during power failures, Clary's SP Series is the world's most advanced Uninterruptible Power System (UPS) for traffic applications. Without compromising existing cabinet wiring, the SP 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 all NEMA temperature specifications. Optional NEMA 3R Type II and Type III cabinets are available.

These systems also provide clean, regulated power for controllers and other sensitive equipment inside the cabinet. The SP1000SR/SN systems are intended for application where load usage will not exceed 875 watts. These systems are also available with an extended load option SP1250SR/SN PLUS that will allow for 1400 watts peak load for a ten second interval. This option accommodates intersections that have not yet replaced the yellow incandescent traffic lamps. Additionally, Clary can provide a SP2000SR/SN system that will sustain a continuous 1400 watt load. These systems require eight batteries and additional cabinet space or a separate cabinet such as the Clary CBO-123 UPS cabinet.

Advanced communication features allow monitoring, configuration and control of the system over RS232, modem or network connections. Available for both NEMA and 170 style cabinets.

SP 1250U - SP2000U



Providing outdoor equipment with clean, regulated power, these rugged UPSs also provide up to 8 hours or more of backup power. Wherever functionality must be maintained regardless of outside temperature and utility power conditions, these systems are designed for the task.

Advanced communication features allow monitoring, configuration and control of the system over RS232, modem or network connections. Fits most outdoor enclosures.

OUTPOST BATTERIES



These 41Ah 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. Absorbed Glass Mat (AGM) technology assures a safe spill-proof environment. Especially designed for outdoor and extreme temperature applications, they are capable of operating from -40°C to $+74^{\circ}\text{C}$ (-40°F to $+165^{\circ}\text{F}$). This makes them ideal for use with Clary's SP Series traffic signal solutions, IT/Communication UPS solution or other extreme temperature applications.

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 potentiometers to set or fail
- Intelligent software interface for monitoring and control
- Optional Web-based network interface allows monitoring with most common web browsers
- Economically priced

UPS Electronics

- Microprocessor controlled
- Power handling capacity: 1,250 VA, 875 watts to 2,000 VA, 1,400 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 and TCP/IP network interface

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 rainy 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

Power Interface Module (PIM)

- PIM allows hot swapping of entire UPS without disturbing intersection operation
- Minimum disruption of cabinet wiring
- Uses high reliability, industry standard contactors
- Three sets of independent auxiliary contacts for flash, delayed flash and monitoring

Alarm Functions

- Input bad
- Output bad
- Temperature
- Overload
- General alarm

Where POWER is a way of life

SP Series Specifications

ELECTRICAL

Input

Voltage	120 VAC +12%, -29% (without battery discharge)
Frequency	48 to 62 Hz

Output

Voltage	120 VAC +3%
Frequency	50 or 60 Hz
Rating:	SP 1000 SR/SN 1,250 VA/875 Watts SP 1250 SR/SN PLUS 1,250 VA/875 Watts ¹ SP 2000SR/SN/U 2,000 VA/1400 Watts
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.
Dynamic Response	±4% for 100% Step Load Change 0.5 ms Recovery Time
Overload	110% for 10 min; 200% for .05 sec
UPS Protection	Input and Output Short Circuit; Input and Output Overload; Excessive Battery Discharge

ENVIRONMENTAL

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

MECHANICAL

Input	Hardwired to PIM
Outputs	Hardwired to PIM, w/single 15 Amp Receptacle on back of UPS
Cabinet	NEMA, 332 or CBO-123 Cabinet Style Configurations Available; NEMA 3R Type II and Type III Optional

CUSTOM Options

Consult Factory for other Custom options

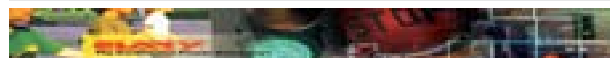
DESIGN

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
Specifications	Meets FCC Class A, IEEE 587/ANSI C62.41, IEC 555 @ 120 VAC and NEMA Stds
MTBF	Inverter: > 100,000 hrs System w/Bypass: 150,000 hrs Calculated from Component Spec
Typical Recharge Time to 85%	48-72 hrs (more time required with extended battery option)
Capacity @ 100% Load	Less than 20 hrs with optional Fast Battery Charger

CONTROLS AND INDICATORS

Ramping LEDs	Battery Level; Load Level
Single LEDs	AC In; Inverter On; Low Battery and Summary Alarm; Alarm Silence
Control Panel	Power On; Cold Start; Test; Alarm Silence; Event Counter (w/Reset); Hour Meter; Battery Disconnect
Audible Alarms	Utility Interrupt; Inverter Failure; Overload; Low Battery; Self Test
Serial Interface for EIA 232. Optional NTCIP and TCP/IP via Standard RJ45 Connector	Full Interactive Remote Computer Monitoring and Control of Most Features Including Load Control (requires optional monitoring software); NTCIP and TCP/IP Ready
Contact Closures ("D" connector)	Open Collector for Remote Annunciation of Power Up, Power Down, On Battery, Low Battery and Alarms

Specifications subject to change without prior notice.



Uninterruptible Power for Traffic Signal Applications - 1000, 1250 and 2000VA

Model	VA	Watts	Input Current (A)	Output Current (A)	Backup Time 100% / 50% Load	Unit Weight (lbs)	Rackmount H x W x D (in)
SP1000SN/SR ²	1,250	875	8.8	10.4	1.5 hrs. / 3.25 hrs.	20	3.50 x 19.0 x 13.0 (2U)
SP1250SN/SR Plus ^{1,2}	1,250	875	8.8	10.4	1.5 hrs. / 3.25 hrs.	20	3.50 x 19.0 x 13.0 (2U)
SP2000SN/SR ²	2,000	1400	18.0	20.0	15.0 min. / 35.0 min.	30	5.25 x 19.0 x 17.0 (3U)
SP1250U ¹	1,250	875	8.8	10.4	1.5 hrs. / 3.25 hrs.	20	3.50 x 19.0 x 13.0 (2U)
SP2000U	2,000	1400	18.0	20.0	15.0 min / 35.0 min	30	5.25 x 19.0 x 17.0 (3U)

Note 1 Supports 1400 watt peak load for 10 seconds or less, intended for yellow incandescent applications.

Note 2 Requires Clary PIM30C, G, R, or GR for traffic applications.



The Continuous Power Company™

Made in the USA

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