CLARY®

Power Protection Solutions for Traffic and ITS Applications


RIGHT
TURN
ONLY
PACIFIC HWY.
NO PARKING ANY TIME

CONTENTS

A BRIEF HISTORY

In 1939, Clary Corporation started out as a high-tech manufacturer of precision aircraft parts for the military. Over the next 30 years, Clary evolved into manufacturing unique technology including gyroscopic devices for military missile programs, portable computer products and mechanical adding machines. Clary's experience in computer manufacturing challenged the company to evolve once again.

In the early 1970's, Clary designed the industry's first all solid-state Uninterruptible Power Supply (UPS). In 1997, Clary refined their solid-state UPS technology, integrating it with digital technology to become the industry standard for rugged devices. Ever since, Clary has been innovating and refining this technology to meet the expanding needs of customers globally. Clary all-digital UPS systems are known worldwide for their extreme temperature capability and rugged, reliable design. Clary UPS systems utilize online double-conversion technology which isolates equipment from raw utility power and produces a regulated pure sine wave output that protects sensitive instrumentation and electronics from every power anomaly imaginable.

TRAFFIC PRODUCTS

The demands of the traffic industry today are noticeably different from the past. Today traffic signal equipment utilizes all the latest technologies including video detection, Bluetooth readers, radar and Ethernet/cellular communications, in addition to the most advanced controllers available. It is imperative to protect and keep this equipment running smoothly. There are many different traffic cabinet configurations, with specific power requirements. Fortunately, Clary manufactures various UPS products to satisfy all your power protection needs.

Clary UPS systems have been certified to comply with NEMA standards for temperature, shock and vibration and are approved for use by some of the most respected state transportation agencies, including Caltrans, TxDOT, and FDOT. Clary is committed to meeting the highest quality standards and has achieved ISO 9001:2015 certification.

SP 1400LT

Online UPS for the new generation of traffic controllers

NEW PRODUCT

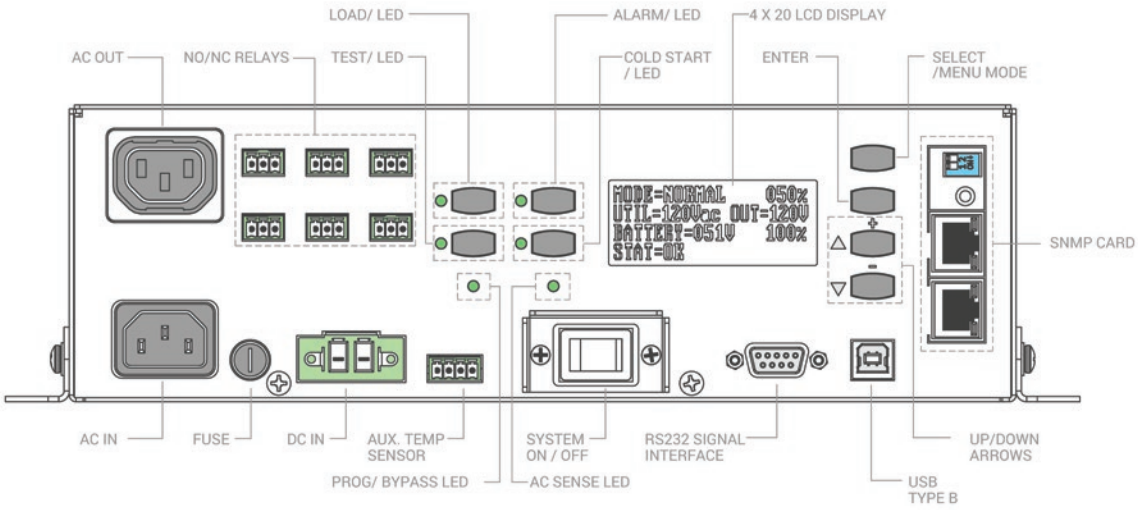
Overview

The SP 1400LT is a small form-factor online-UPS optimized for use in modern compact ATC traffic cabinets. The LT Series are advanced UPS systems that provide clean, regulated double-conversion power for controllers and other sensitive equipment inside the traffic cabinet. Rated for 1400 VA/1000 W, the SP 1400LT has been independently tested and certified to comply with NEMA temperature standards as well as NEMA standards for shock and vibration.

Compatible with most existing traffic cabinets, the SP 1400LT may be shelf mounted. The SP1400LT provides full operation in LED signalized intersections when configured with optional Lithium Ion Phospate or VRLA batteries. Advanced communication features allow monitoring, configuration and control of the system over RS232, modem or network connections. Available with battery bus voltages of 48 V or 72 V.

Ideal for ATC cabinets

Our SP48LI battery pack mates nicely with the SP1400LI UPS



The SP 1400LT is a power factor corrected uninterruptible power supply designed to enhance utility power or repair failing utility power in traffic, ITS or security cabinets. Clary's SP 1400LT extends the reliability of the cabinet when the utility power fails (black out) or falters (brownout). The SP 1400LT system also protects the cabinet by insuring that no harmful power anomalies arrive at the cabinet to destroy or degrade the cabinet electronics. Clary's industry proven on-line, true sine wave power protects the cabinet 100% of the time to insure reliable and continuous error-free operation. The SP 1400LT operates in extreme environments from -40˚C to +74˚C (-40˚F to 165˚F), and communicates via USB with monitoring center or other equipment. Power quality analytical data is recorded and exportable to Excel in CSV format.

Electrical Input	
Voltage	120 VAC (85 VAC to 155 VAC before going to battery, when configured with batteries)
Frequency	40 Hz to 70 Hz
Electrical Output	
Voltage	120 VAC ±3%
Frequency	50 Hz or 60 Hz
Current	10.4 A
Rating	1400 VA / 1000 W
Crest Factor Ratio	· 50% load up to 4.8:1 · 75% load up to 3.2:1 · 100% load up to 2.4:1
THD	3.00%
Dynamic Response	±4% for 100% step load change, 0.5 ms recovery time
Overload	· 110% for 10 sec · 200% for 50 ms
UPS Protection	· Input and output short circuit · Input and output overload · Excessive battery discharge
Environmental	
Temperature	-40°C to +74°C (-40°F to +165°F)
Humidity	0% to 95% non-condensing
Altitude	Sea level to 10,000 ft
Mechanical	
Input	IEC style
Outputs	IEC style
Dimensions (H × W × D)	3.5" × 11" × 8.5" (2U)
Weight	8 lb
Cooling	· Low velocity · Forced air

Design	
Standard Features	· Power factor corrected input · Fully regenerative · True on-line continuous power · Low distortion sine wave output · Designed for non-linear loads · Extended brownout protection
Certifications	· FCC Class A · IEEE 587/ANSI C62.4 · IEC 555 @ 120 VA · NEMA
Control and Indicators	
User Interface	LED display panel with current and historical operational status of power system, battery system, output load, alarm states, event logs and configurations.
Switches / Control Panel	· System power · Cold start · Load I · Test
Audible Alarms	· Utility interrupt · Inverter failure · Overload · Low battery
Intelligent Computer Interfaces	1 each DB9-F (RS232 and signal interface pins) and 1 each USB
Options	
SNMP	Allows full control and monitoring interface over network connection. Compatible with HP Openview™, IBM Netview™, CA Unicenter TNG™, and other major software offerings.

SP 560

Compact UPS that delivers uncompromising protection

The compact SP 560 from Clary delivers on-line protection 100% of the time, for reliable, continuous error-free operation, regardless of utility power quality. Occupying only 1U of vertical rack space, it can fit into any cabinet. Clary's SP 560 is a 560 VA / 400 W power source built for electronics equipment in ITS, traffic and security applications, delivering constant, conditioned, regenerated AC power. It protects equipment from being disrupted, degraded or damaged due to harmful power events. Clary power conditioning completely isolates the cabinet from utility power enabling error-free operation during surges, sags, spikes, and other power anomalies. With an optional battery pack, the SP 560 system operates as an on-line, double-conversion UPS, extending the reliability of the cabinet's electronics during utility power failures (black-outs). The SP 560 is power factor corrected to reduce utility current draw and wiring requirements. Designed for indoor/outdoor use, the Clary SP 560 will operate in temperature extremes from -40˚C to +74˚C (-40˚F to 165˚Fand it communicates locally or remotely via serial, USB or an optional web agent.

Electrical Input	
Voltage	120 VAC (85 VAC to 155 VAC before going to battery, when configured with batteries)
Frequency	40 Hz to 70 Hz
Electrical Output	
Voltage	120 VAC ±3%
Frequency	Software selectable to sync with input utility or run at crystal controlled 50/60 Hz ±1 Hz
Current	4.8 A
Rating	560 VA / 400 W
Crest Factor Ratio	· 50% load up to 4.8:1 · 75% load up to 3.2:1 · 100% load up to 2.4:1
THD	3.00%
Dynamic Response	±4% for 100% step load change 0.5 ms recovery time
Overload	· 110% for 10 sec · 200% for 50 ms
UPS Protection	· Input and output short circuit · Input and output overload · Excessive battery discharge
Environmental	
Temperature	-40°C to +74°C (-40°F to +165°F)
Humidity	0% to 95% non-condensing
Altitude	Sea level to 10,000 ft
Mechanical	
Input	IEC-320, C14 male connector
Outputs	IEC-320, C13 female receptacles (2)
Dimensions (H × W × D)	1.7" × 11.0" × 8.5" (1U)
Weight	5 lb
Cooling	· Low velocity · Forced air

Design	
Standard Features	· Power factor corrected input · Fully regenerative · True on-line continuous power · Low distortion sine wave output · Designed for non-linear loads · Extended brownout protection
Certifications	· FCC Class A · IEEE 587/ANSI C62.4 · IEC 555 @ 120 VA · NEMA
Typical Recharge Time (to 85% Capacity @ 100% Load)	· 3 to 5 hrs with SP 48SB battery pack · 48 to 72 hrs with Outpost or Garrison batteries
Control and Indicators	
Visual Indicators	· Battery status · AC output · AC input · Alarm
Switches / Control Panel	· System power · Cold start · Load I
Audible Alarms	· Utility interrupt · Inverter failure · Overload · Low battery
Intelligent Computer Interfaces	1 each DB9-F (RS232 and signal interface pins) and 1 each USB
Options	
External Battery Pack	SP 48SB battery pack. Compact design. Ideal for runtime requirements less than an hour.

SP 1250LE

Space saving designed UPS

The SP 1250LE universal power conditioner is a power factor corrected 1250 VA / 875 W device designed to enhance utility power or repair failing utility power in traffic, ITS or security cabinets. Clary's SP 1250LE can also operate as an on-line, dual conversion UPS when configured with the optional battery pack, which extends the reliability of the cabinet when the utility power fails (black out) or falters (brownout). The SP 1250LE system also protects the cabinet by insuring that no harmful power artifacts arrive at the cabinet to destroy or degrade the cabinet electronics. Clary's industry proven on-line, true sine wave power protects the cabinet 100% of the time to insure reliable and continuous error-free operation. The SP 1250LE operates in extreme environments from -40˚C to +74˚C (-40˚F to 165˚F), and communicates via USB with monitoring center or other equipment. Power quality analytical data is recorded and exportable to Excel in CSV format.

Electrical Input	
Voltage	120 VAC (85 VAC to 155 VAC before going to battery, when configured with batteries)
Frequency	40 Hz to 70 Hz
Electrical Output	
Voltage	120 VAC ±3%
Frequency	50 Hz or 60 Hz
Current	10.4 A
Rating	1250 VA / 875 W
Crest Factor Ratio	· 50% load up to 4.8:1 · 75% load up to 3.2:1 · 100% load up to 2.4:1
THD	3.00%
Dynamic Response	±4% for 100% step load change 0.5 ms recovery time
Overload	· 110% for 10 sec · 200% for 50 ms
UPS Protection	· Input and output short circuit · Input and output overload · Excessive battery discharge
Environmental	
Temperature	-40°C to +74°C (-40°F to +165°F)
Humidity	0% to 95% non-condensing
Altitude	Sea level to 10,000 ft
Mechanical	
Input	IEC-320, C14 male connector
Outputs	IEC-320, C13 female receptacles (2)
Dimensions (H × W × D)	1.7" × 15.25" × 8.5" (1U)
Weight	8 lb
Cooling	· Low velocity · Forced air

Design	
Standard Features	· Power factor corrected input · Fully regenerative · True on-line continuous power · Low distortion sine wave output · Designed for non-linear loads · Extended brownout protection
Certifications	· FCC Class A · IEEE 587/ANSI C62.4 · IEC 555 @ 120 VA · NEMA
Typical Recharge Time (to 85% Capacity @ 100% Load)	· 3 to 5 hrs with SP 48SB battery pack · 48 to 72 hrs with Outpost or Garrison batteries
Control and Indicators	
Visual Indicators	· Battery status · AC output · AC input · Alarm
Switches / Control Panel	· System power · Cold start · Load I · Load II
Audible Alarms	· Utility interrupt · Inverter failure · Overload · Low battery
Intelligent Computer Interfaces	1 each DB9-F (RS232 and signal interface pins) and 1 each USB
Options	
External Battery Pack	SP 48SB battery pack. Compact design. Ideal for runtime requirements less than an hour.

SP 1250DLE

Clean power for the next generation

LOW VOLTAGE UPS

Our newest digital UPS is designed for ITS and traffic applications, including the new low-voltage ATC cabinets. It's the only double conversion, true on-line UPS with both AC and DC power inputs and outputs, and in a compact 1U rack-mounted package. The SP 1250DLE is designed for temperature extremes of -40˚C to +74˚C (-40˚F to +165˚F) and supports 85-155 VAC or 48 VDC input voltages, as well as generator input. The unit provides a 120 VAC output and 48 VDC, 24 VDC, and 12 VDC outputs, up to an 875 watt maximum for all outputs combined. For customers who do not yet require DC support but anticipate a future need, the SP 1250DLE can be ordered without DC output and later upgraded in the field.

Electrical Input	
Input #1	
Voltage	85 - 155 VAC
Frequency	60 Hz ±5 Hz
Power Factor	Power factor corrected
Input #2	
Voltage	48 VCD nominal battery pack
Isolation	Thru-neutral design
Electrical Outputs	
Outputs – General	
Total Power	875 W maximum all outputs combined
Overload	120% for 10 mins
Isolation	AC, 48 VDC and 24/12 VDC isolated from each other
UPS Protection	· Input and output short circuit · Input and output overload
Output #1 – AC	
Voltage	120 VAC ±3%
Frequency	60 Hz
VA / Power	1250 VA / 875 W
THD	5% maximum
Isolation	Thru-neutral design
UPS Protection	· Input and output short circuit · Input and output overload
Output #2A - DC	
Voltage	48 VDC ±3%
Current	8 A
Power	400 W
Output #2B - DC	
Voltage	24 VDC ±3%
Current	6 A
Power	144 W
Output #2C - DC	
Voltage	12 VDC ±3%
Current	6 A
Power	72 W

Environmental	
Temperature	-40°C to +74°C (-40°F to +165°F)
Humidity	95% maximum, non-condensing
Altitude	-1000 to 10,000 ft
Cooling	· Forced air · Removable filter · Reversible direction
Design	
Standard Features	· Power factor corrected input · Fully isolated DC output stages · Wide AC input operating range without battery use · True on-line continuous power · High inrush current capability
Typical Recharge Time (to 85% Capacity @ 100% Load)	· 3 to 5 hrs with SP 48SB battery pack · 48 to 72 hrs with Outpost or Garrison batteries
Control and Indicators	
Visual Indicators	· AC input · DC input · Battery status · Load status · Fault indicators
Switches / Control Panel	· System power · Cold start · Fault silence · Battery test · AC output · DC output
Audible Alarms	For fault conditions
Intelligent Computer Interfaces	· USB 2.0 and RS232 serial data interface · Full interactive remote computer monitoring and control of most features including load control (requires optional monitoring software)
Options	
SNMP Interface	Allows full control and monitoring interface over network connection. Compatible with HP Openview™, IBM Netview™, CA Unicenter TNG™, and other major software offerings.

SP 1250LX

Online UPS with integrated PIM and programmable display

BEST SELLER

The SP 1250LX features an integrated Power Interface Module and programmable display. The LX Series are advanced UPS systems that provide clean, regulated dual conversion power for controllers and other sensitive equipment inside the traffic cabinet. Rated for 1250 VA / 875 W with operational temperature of -40˚C to +74˚C (-40˚F to 165˚F), meeting all NEMA temperature specifications. Compatible with most existing traffic cabinets, the SP 1250LX can be rack or shelf mounted and can be configured with either front or rear power connectors. The SP 1250LX provides full operation in intersections with all LEDs. Advanced communication features allow monitoring, configuration and control of the system over RS232, modem or network connections. Available with battery bus voltages of 48 V or 72 V. Optional 96 V battery bus in SP1250LX-HW increase wattage rating from 875 to 1,000 watts.

Electrical Input	
Voltage	75 VAC to 155 VAC (before going to batteries)
Frequency	45 Hz to 65 Hz
Electrical Output	
Voltage	120 VAC ±3%
Frequency	50 Hz or 60 Hz
Current	10.4 A
Rating*	1250 VA / 875 W
Crest Factor Ratio	· 50% load up to 4.8:1 · 75% load up to 3.2:1 · 100% load up to 2.4:1
THD	4.00% maximum
Dynamic Response	±4% for 100% step load change 0.5 ms recovery time
Overload	· 110% for 10 sec · 200% for 50 ms
UPS Protection	· Input and output short circuit · Input and output overload · Excessive battery discharge
Environmental	
Temperature	-40°C to +74°C (-40°F to +165°F)
Humidity	0% to 95% non-condensing
Altitude	Sea level to 10,000 ft
Mechanical	
Input	Hardwired to bypass box
Outputs	Hardwired to bypass box, with single 15 Amp receptacle
Dimensions (H × W × D)	3.5" × 19.0" × 10.0" (2U)
Weight	13 lb
Cooling	· Low velocity · Forced air

Design	
Standard Features	· Power factor corrected input · Fully regenerative · True on-line continuous power · Low distortion sine wave output · Designed for non-linear loads · Extended brownout protection · EIA/RS232 data interface
Certifications	· IEEE 587/ANSI C62.4 · IEC 555 @ 120 VA · NEMA
Typical Recharge Time (to 85% capacity @ 100% load)	48-72 hrs (more time required with extended battery option)
Control and Indicators	
Switches / Control Panel	· System power · Cold start · Test · Alarm silence · Four line LCD display panel
Alarms	· Utility interrupt · Inverter failure · Overload · Low battery · Self test
Intelligent Computer Interfaces	· Serial interface for EIA 232 · 1 each DB9-F (RS232 and signal interface pins) and 1 each USB · 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 (see user manual for additional interface information)
Options	
SNMP Interface	Allows full control and monitoring interface over network connection. Compatible with HP Openview™, IBM Netview™, CA Unicenter TNG™, and other major software offerings.
Battery Bus Voltage	· 48 V or 72 V · 96 V in HW model

*1000 W in SP1250LX-HW

SP 2000LX

Ideal power protection for large diamond intersections

NOW AVAILABLE WITH 48 V BUS

The SP 2000LX features an integrated power interface module and programmable display. The LX Series are advanced UPS systems that provide clean, regulated dual conversion power for controllers and other sensitive equipment inside the traffic cabinet. Rated for 2000 VA / 1400 W with operational temperature of -40˚C to +74˚C (-40˚F to +165˚F), meeting all NEMA temperature specifications. Compatible with most existing traffic cabinets, the SP 2000LX can be rack or shelf mounted and can be configured with either front or rear power connectors. The SP 2000LX provides full operation in intersections with all LEDs. Advanced communication features allow monitoring, configuration and control of the system over RS232, modem or network connections. Available with battery bus voltage of 48 V or 96 V.

Electrical Input	
Voltage	75 VAC to 155 VAC (before going to batteries)
Frequency	45 Hz to 65 Hz
Electrical Output	
Voltage	120 VAC ±3%
Frequency	50 Hz or 60 Hz
Current	16.7 A
Rating*	2000 VA / 1400 W
Crest Factor Ratio	· 50% load up to 4.8:1 · 75% load up to 3.2:1 · 100% load up to 2.4:1
THD	4.00% maximum
Dynamic Response	±4% for 100% step load change 0.5 ms recovery time
Overload	· 110% for 10 sec · 200% for 50 ms
UPS Protection	· Input and output short circuit · Input and output overload · Excessive battery discharge
Environmental	
Temperature	-40°C to +74°C (-40°F to +165°F)
Humidity	0% to 95% non-condensing
Altitude	Sea level to 10,000 ft
Mechanical	
Input	Hardwired to bypass box
Outputs	Hardwired to bypass box, with single 15 Amp receptacle
Dimensions (H × W × D)	3.5" × 19.0" × 10.0" (2U)
Weight	13 lb
Cooling	· Low velocity · Forced air

Design	
Standard Features	· Power factor corrected input · Fully regenerative · True on-line continuous power · Low distortion sine wave output · Designed for non-linear loads · Extended brownout protection · EIA/RS232 data interface · 96 VDC battery system
Certifications	· IEEE 587/ANSI C62.4 · IEC 555 @ 120 VA · NEMA
Typical Recharge Time (to 85% capacity @ 100% load)	48-72 hrs (more time required with extended battery option)
Control and Indicators	
Switches / Control Panel	· System power · Cold start · Test · Alarm silence · Four line LCD display panel
Alarms	· Utility interrupt · Inverter failure · Overload · Low battery · Self test
Intelligent Computer Interfaces	· Serial interface for EIA 232 · 1 each DB9-F (RS232 and signal interface pins) and 1 each USB · 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 (see user manual for additional interface information)
Options	
SNMP Interface	Allows full control and monitoring interface over network connection. Compatible with HP Openview™, IBM Netview™, CA Unicenter TNG™, and other major software offerings.

*2000 VA / 1700 W available with optional firmware

SP Commander 560

A new breed of UPS for ITS applications

CONTROL 8 DEVICES REMOTELY

Here is the only UPS that puts you in full control of your system with 8 IP-addressable 15 A 120 V power outlets. Not only does the SP Commander 560 provide continuous on-line power conditioning that protects your ITS infrastructure against surges, sags, and spikes, it reduces maintenance costs as well by monitoring critical equipment and signaling the operations center when abnormalities occur. Remote control of power outlets allows rebooting equipment which can reduce unnecessary field inspection and service.

Rear view

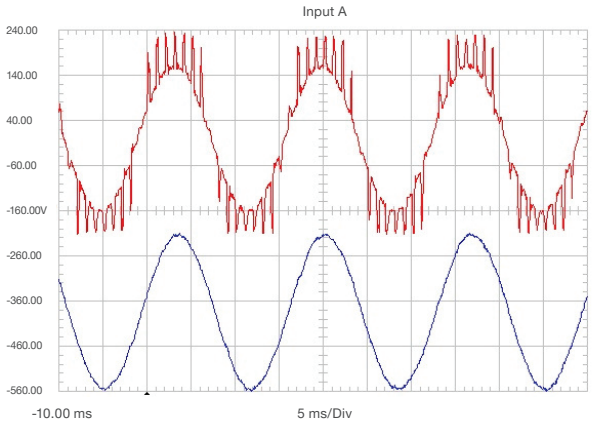
Electrical Input	
Voltage	120 VAC (85 VAC to 155 VAC before going to battery, when configured with batteries)
Frequency	40 Hz to 70 Hz
Electrical Output	
Voltage	120 VAC ±3%
Frequency	Software selectable to sync with input utility or run at crystal controlled 50/60 Hz ±1 Hz
Current	4.8 A
Rating	560 VA / 400 W
Crest Factor Ratio	· 50% load up to 4.8:1 · 75% load up to 3.2:1 · 100% load up to 2.4:1
THD	3.00%
Dynamic Response	±4% for 100% step load change 0.5 ms recovery time
Overload	· 110% for 10 sec · 200% for 50 ms
UPS Protection	· Input and output short circuit · Input and output overload · Excessive battery discharge
Environmental	
Temperature	-40°C to +74°C (-40°F to +165°F)
Humidity	0% to 95% non-condensing
Altitude	Sea level to 10,000 ft
Mechanical	
Front Panel Input	IEC-320, C14 male connector
Front Panel Output	IEC-320, C13 female receptacles
Rear Panel Output	NEMA 5-15R
Dimensions (H × W × D)	1.75" × 16.75" × 12.25" (1U)
Weight	8 lb
Cooling	· Low velocity · Forced air

Design	
Standard Features	· Power factor corrected input · Fully regenerative · True on-line continuous power · Low distortion sine wave output · Designed for non-linear loads · Extended brownout protection
Certifications	· FCC Class A · IEEE 587/ANSI C62.4 · IEC 555 @ 120 VA · NEMA
Typical Recharge Time (to 85% Capacity @ 100% Load)	· 3 to 5 hrs with SP 48SB battery pack · 48 to 72 hrs with Outpost or Garrison batteries
Control and Indicators	
Visual Indicators	· Battery status · AC output · AC input · Alarm
Switches / Control Panel	· System power · Cold start · Load I
Audible Alarms	· Utility interrupt · Inverter failure · Overload · Low battery
Intelligent Computer Interfaces	1 each DB9-F (RS232 and signal interface pins) and 1 each USB

Power Conditioning

CLEAN UP DIRTY POWER

Clary's UPS systems do much more than provide backup in event of power loss. Our exclusive digital on-line double conversion cleans and conditions utility power and protects your valuable equipment from a wide variety of power anomalies, such as surges, spikes, noise, and harmonic distortion.



Eliminate Harmonic Distortion

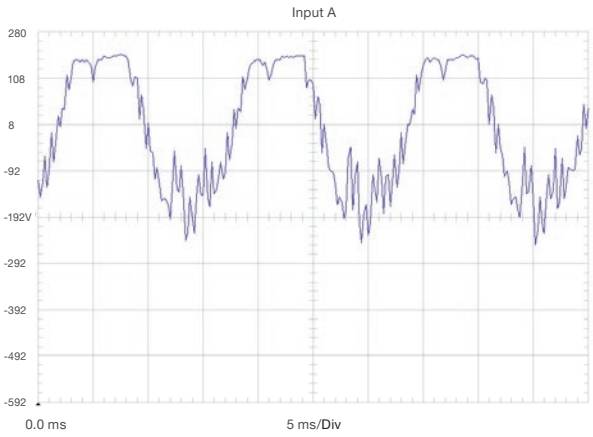
Some products in the market, such as line-interactive UPS systems simply "boost" or "buck" incoming voltage. Unfortunately, the "boost" also increases or "boosts" the power anomalies, sending more dirty power to your system.

This image shows incoming power that suffers from harmonic distortion. However, when this power is run through a Clary UPS the harmonic distortion is eliminated and the output is a clean pure sinewave that your equipment needs.

STABILIZE GENERATOR INPUT

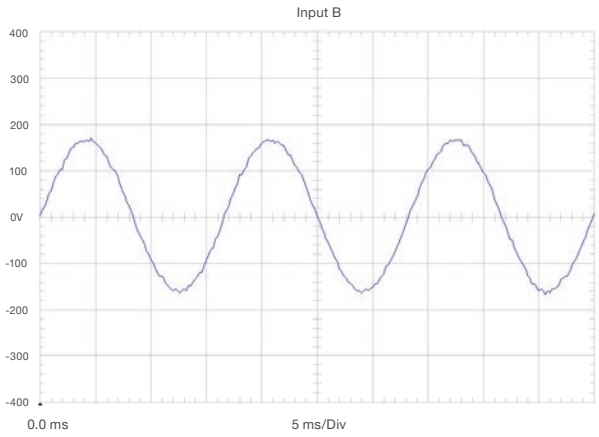
In the event of prolonged outages, many agencies deploy generators to power intersections. The use of generators in traffic signals often poses a problem since not all generators produce a sinewave or frequency that allows traffic equipment to operate as designed.

Portable Generator



This image shows the output from a portable generator. The sinewave is erratic. But when the generator output is run through a Clary UPS, the wave form is corrected and stable sinewave output is sent to power your equipment.

Clary Conversion Technology



These are but a few of the differences between line-interactive type BBS systems and Clary's digital on-line double conversion technology. Clary only manufactures on-line double conversion UPS systems because only the best power protection is worthy of the Clary name.

Accessories & Communications

SPH 302 Bypass Switch

Bypass switches allow you to bypass the UPS for utility power in the event the UPS needs to be serviced or removed. Crest factor ratio: 50% load up to 4.8:1, 75% load up to 3.2:1, 100% load up to 2.4:1. Several switches are offered. Model depicted is SPH 302.

SPD 302 Bypass Switch

Bypass switches allow you to bypass the UPS for utility power in the event the UPS needs to be serviced or removed. Crest factor ratio: 50% load up to 4.8:1, 75% load up to 3.2:1.100% load up 2.4:1. Several switches are offered. Model depicted is SPD 302 with GFCI plug, circuit breaker and generator plug.

Battery Strap

Optimal battery straps are available for ease in handling batteries.

SNMP/HTTP Adapter

The optional SNMP/HTTP card functions as an SNMP agent and includes an embedded HTTP server (web server). This means that one industry standard management tool can be used to monitor and control all your UPS systems from one central location, and power management can be integrated into your existing network or building management strategy.

Remote View Software

Remote View is a client software running as a NMS (Network Management System). Users are provided with tree-view and list-view (icon style and report style) to monitor device in this software. User can upload a map of their city/agency and plot in excess of 1,000 UPS systems deployed. This allows user to monitor all systems deployed from a single platform with visual and broadcast notifications.

Garrison™ & Outpost™ Batteries

Garrison™

The Garrison™ batteries are designed to provide extended runtimes of up to 25 hours in extreme temperature applications. They have been field tested and used for years in the traffic and ITS markets.

Operational from -20°C to +50°C (-4°F to +122°F). This maintenance-free sealed lead acid battery features absorbent glass mat (AGM) technology for efficient gas recombination of up to 99%.

The Garrison series is offered in 80 and 100 Ampere-Hour (AH) ratings, each outputting 12 VDC. The batteries are available packaged in 48 VDC, 72 VDC, or 96 VDC strings.

Includes models: CAGM-1280, CAGM-1280-4, CAGM-1280-6, CAGM-1280-8, CAGM-12100, CAGM-12100-4, CAGM-12100-6 and CAGM-12100-8.

Configurations

Model	Voltage (nominal)	AH Capacity (20 hr rate)	System Voltage	Estimated Runtime (hrs) at 25°C (77°F) Full Charge							Weight per Battery lb (kg)	Overall Dimensions		
				300 W	500 W	700 W	875 W	1000 W	1200 W	1400 W		Length in (mm)	Width in (mm)	Height in (mm)
CAGM-1280-4 (4 batteries)	12 VDC	80 Ah	48 VDC	9	5.2	3.3	2.4				56.2 (25.5)	10.28 (261)	5.45 (168.5)	8.41 (213.5)
CAGM-1280-6 (6 batteries)			72 VDC	14	7.5	5	3.9							
CAGM-1280-8 (8 batteries)			96 VDC	20	12	8.3	6.8	6	4.2	3.9				
CAGM-12100-4 (4 batteries)	12 VDC	100 Ah	48 VDC	11	6.6	4.1	3.1				66.6 (30.2)	12.15 (308.7)	6.65 (169)	8.41 (213.5)
CAGM-12100-6 (6 batteries)			72 VDC	19.8	10	6.8	5.3							
CAGM-12100-8 (8 batteries)			96 VDC	25	16	10	8	7	5.3	5				

Outpost™

The Outpost™ batteries are designed for deep cycle, extreme temperature applications. They have been field tested and used for years in the traffic and ITS market as well as the US military.

Operational from -40°C to +74°C (-40°F to +165°F). Available in 41 and 51 Ampere Hour (AH) ratings. Outpost batteries are sealed lead acid batteries built using an advanced absorbed glass mat (AGM) construction with microporous spun glass separators.

The result is a highly reliable, non-spillable, maintenance-free battery usable in the most demanding applications. The casing is a copolymer polypropylene technology originally developed for military jet fighter applications where wide temperature range performance is demanded.

Positive plates—special lead calcium. Includes models: OP72C-41, OP96C-41, OP72D-51, OP96D-51, OPB-1241, OPB-1251

Configurations

Model	Voltage (nominal)	AH Capacity (20 hr rate)	System Voltage	Estimated Runtime (hrs) at 25°C (77°F) Full Charge							Weight per Battery lb (kg)	Overall Dimensions		
				300 W	500 W	700 W	875 W	1000 W	1200 W	1400 W		Length in (mm)	Width in (mm)	Height in (mm)
OP48C (4 batteries)	12 VDC	41 Ah	48 VDC	4.3	2.5	1.5	1.1				29 (13.2)	7.71 (195.9)	4.96 (126)	8.05 (204.4)
OP72C (6 Batteries)			72 VDC	6.4	3.5	2.4	1.7							
OP96C (8 batteries)			96 VDC	8.8	5.2	3.5	2.8	2.5	1.9	1.6				
OP48D (4 batteries)	12 VDC	51 Ah	48 VDC	5	3.2	1.9	1.4				35 (15.9)	8.81 (224)	5.25 (133)	8.82 (224)
OP72D (6 batteries)			72 VDC	8.3	4.4	3	2.2							
OP96D (8 batteries)			96 VDC	11	6.5	4.4	3.5	3.2	2.4	2				

Specialty Batteries

SP 48SB Battery Pack

Clary UPS systems work not only with traditional sealed lead acid batteries but some of the newer battery technologies as well. We've implemented small form-factor solutions that allow you to reduce cabinet size on new installations or fit a UPS into an otherwise jam-packed existing cabinet. Our SP48SB Battery Pack is the perfect complement to our SP560 or SP120LE products and the right choice for ITS systems. It's only 1U and can stack neatly on top of the UPS to provide the necessary run-time to ride out power glitches. THE SP48SB features Cyclon batteries, a series of nonspillable sealed-lead rechargeable D cells.

Configurations											
Model	Voltage (nominal)	AH Capacity (20 hr rate)	System Voltage	Estimated Runtime (hrs) at 25°C (77°F) Full Charge				Weight per Battery lb (kg)	Overall Dimensions		
				200 W	400 W	600 W	800 W		Length in (mm)	Width in (mm)	Height in (mm)
SPB-48SB	Lead Acid	2.5 Ah	48 VDC	17 min	6 min	3.5 min	1.75 min	10 (4.5)	11 (279)	8.5 (216)	1.7 (44)

SP 48LI Battery Pack

Our SP48LI battery pack mates nicely with the SP1400LI UPS. It features Lithium Iron Phospate technology which packs high energy density into a compact footprint. The SP48LI offers the flexibility to meet space restraints by resting either on top, behind, or aside the UPS and can be used in series to increase runtime.

Configurations												
Model	Voltage (nominal)	AH Capacity (20 hr rate)	System Voltage	Estimated Runtime (hrs) at 25°C (77°F) Full Charge					Weight per Battery lb (kg)	Overall Dimensions		
				300 W	500 W	700 W	875 W	1000 W		Length in (mm)	Width in (mm)	Height in (mm)
SPB-48LI	Lithium Iron Phosphate (LiFeP04)	9.5 Ah	48 VDC	75 min	45 min	29 min	23 min	18 min	13 (5.9)	11 (279)	4.25 (108)	6.25 (159)

SP Series Cabinets

Battery back-up cabinets for traffic applications

Clary UPS peripheral cabinets are manufactured to the highest standards. Clary enclosures provide a safe watertight environment for traffic control systems. All cabinets are fully ventilated and made to accept generator input. Clary cabinets are NEMA 3R rated and can be manufactured to Caltrans, TEES standards. Clary can deliver standard cabinets or can custom configure them to meet your individual specifications.

Top mounted UPS enclosure
for 337 cabinet

Free standing or side mount
UPS enclosure

Cabinet Top Mounted Battery Enclosure

Made of aluminum construction and designed to mount on top of a 332 traffic cabinet, the enclosure can house either (8) 41 amp hour batteries or (6) 51 amp hour batteries. The Uninterruptible Power System (UPS) resides below in the 332 cabinet and the batteries are connected to the UPS through the cable wire way, mounted on the side of the 332 cabinet and battery enclosure. It is vented for airflow and has front and rear access doors. Mounting brackets are included.

Applications

Agencies across the nation rely on Clary power protection solutions to keep their critical transportation infrastructure operating safely and efficiently. There are numerous traffic and ITS applications that can benefit from Clary's technology. Among these applications are:

- Major intersections
- Light rail crossing
- Pedestrian crossing
- Video traffic detection
- Open road tolling
- Variable message signs
- Evacuation routes
- Safe routes to schools
- Rail preemption
- Emergency preemption
- Fire stations
- Intersections with a history of signal malfunction
- Hospital entrances
- Mall entrances
- Sport / concert venues
- Airports
- Parking garages and gates
- Regional transportation corridors
- Traffic enforcement systems
- EMS routes
- Ramp meters
- Arterials
- Bridges
- Tunnel safety systems

SIGNAL POWER

Specifications are subject to change without notice. Revised specifications may be available on our website www.Clary.com.

Designed and built in the USA

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