S Series

Medical Equipment Standards
UL-60601-1 Listed!
(Formally UL-2601-1)

Quality Management System ISO 9001:2008 Certified

Digital Uninterruptible Power System
S1500-601
for Non-Life-Support Medical Applications

When All Others Fail
Turn to Clary's 60 years of technical expertise, and our unmatched experience in providing high performance and reliable UPS systems for applications ranging from extreme temperature environments to offshore drilling rigs, military shipboard, 911 emergency systems or hospital grade medical systems. Clary starts where the competition stops.

Reliability
Clary units supply reliable Continuous Digital Power during brownouts, dirty unstable electrical power and loss of input power. Unlike most other UPSs, the S Series will run continuously from batteries or auxiliary generator systems as long as power is available.

True On-Line Technology
Clary specializes exclusively in True On-Line Double Conversion systems. This technology provides ultimate protection from all power anomalies, keeping mission-critical applications out of harm's way. Our systems provide a digitally controlled precision regenerated output sinewave, unlike common standby or line interactive designs.

Uncompromising Performance
Clary S Series is the only UPS of its class to offer medical grade reliability and performance, supplying clean, regulated power to sensitive medical devices. This reliable power system is built to the highest quality standards. S Series systems are typically found in patient care areas, medical laboratories, nurse stations, medical or dental offices and are intended for non life support applications.

Communications
Connectivity features include remote control, configuration and monitoring of the UPS. Clary products are compatible with all major network operating systems.

Off-the-shelf and Custom Solutions
In 1977, Clary Corporation pioneered On-Line Double Conversion UPS technology, and in 1996 introduced digital control for continuous power UPS systems for mission-critical applications. Today, Clary manufactures a variety of superior power products here in the USA, and can customize specs to meet your application requirements. What's more, our in-house field service department consistently sets the industry standard. Clary systems are found in hospitals, police and fire emergency systems, oil fields, rugged industrial applications, traffic signals, computer networks, military aerospace systems and numerous other applications.

MODEL	RATING	WATTS
S1500-601	1,500VA	1050

Features

- Keeps equipment running
- Improves power quality
- Protects all connected equipment
- Easy installation in the office or lab
- No interrupted procedures
- Enhanced patient security
- No invalid test result
- No revenue disruption
- Clean Regulated Power

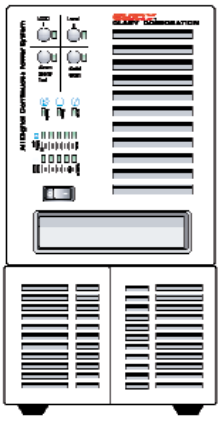
Where POWER is a way of life

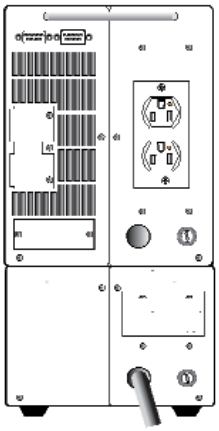
Scientific Grade Digital Uninterruptible Power System

S Series

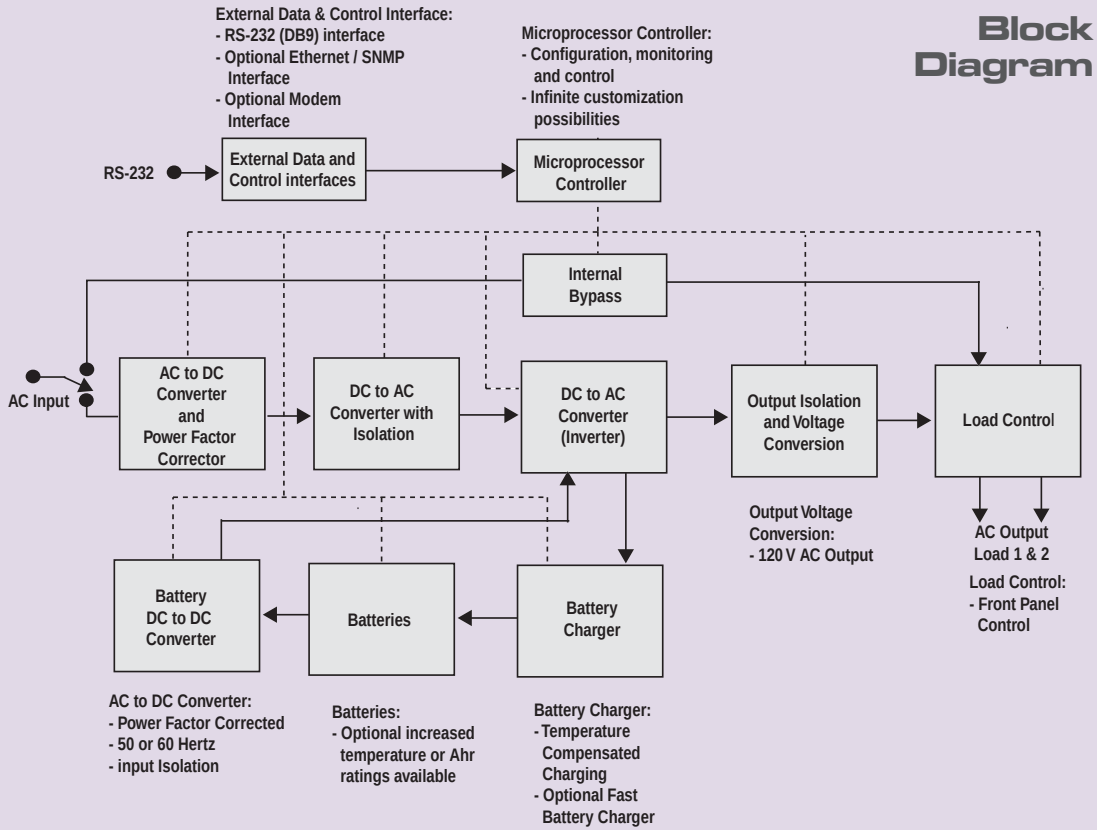
S Series Diagrams

Tower Style Chassis
S1500-601





Block Diagram



Features and Benefits

Features	Benefits
Input Voltage Range: 120/240 VAC +10%, -20%; 108 to 288 VAC before switching to batteries	Assures continuous system operation during electrical surges and sags without switching to the batteries and depleting their capacity.
True On-Line Technology	True On-Line means Fully Regenerative, Dual Conversion operation. It assures complete isolation from voltage and frequency variations. Unlike "line-interactive," "off-line" or "standby" systems, there is absolutely no interruption of power output or shift in line frequency to cause system crashes or resets. Complete compatibility with emergency standby generator systems is assured.
Full Microprocessor Control	Every aspect of system operation is monitored and controlled by the internal microprocessor. This assures flawless operation regardless of load, environmental or input power conditions. Clary has over 30 years experience designing with Digital Technology, which ensures reliability.
Power Factor Correction	Power Factor Correction eliminates distortion and harmonic currents caused by today's high-tech loads. Eliminating this distortion assures that all of your equipment works together without problems. It also reduces your energy bill.
Communications and Control Interface	Allows interactive system control over a variety of network connections and communication interfaces - RS-232 (standard), Contact Closure and TCP/IP - SNMP (optional).
Complete Power Distribution Center	Two NEMA 5-15R, Hospital Grade connectors on two separate circuits are standard.
Remote Control of Receptacles (Two Output Circuits)	Each row of output connectors can be individually switched on or off at the front panel. Locked-up devices are a fact of life and this control allows the user to reboot devices powered by the UPS. Using a communications link, a remote operator (and/or network administrator) can also control and monitor each circuit.
Long Life Internal Batteries	Special VRLA batteries that offer longer discharge and float life allow full system operation during blackouts and severe brownouts. (See specification page for run time.)
Additional Battery Options	For applications that require longer operation during a power outage, additional matching battery packs that can be connected to the rear panel and extend run times are available.
SNMP Option	SNMP capability via TCP/IP Network connection. Compatible with more software than any other UPS including; HP Openview™, CA Unicenter TNG™ and other major software packages.

S Series Specifications

Scientific Grade

ELECTRICAL

Input

Voltage	120/240 VAC +10%, -20% (without battery discharge)
Frequency	50 to 60 Hz
Current	See Table Below, Power Factor Corrected per IEC 555 @ 120 VAC

Output

Voltage	120 VAC ±3%	
Frequency	Software Selectable to Sync with Input Utility or Run at Crystal Controlled 50 or 60 Hz ±1 Hz	
Current	See Table Below	
Crest Factor Ratio (Non-linear Load and < 5% THD) Typical	@50% Load @75% Load @100% Load	Up to 4.8:1 Up to 3.2:1 Up to 2.4:1
Total Harmonic Distortion (THD)	3% Typical (Non-linear) 5% Max. (Non-linear)	
Dynamic Response	±4% for 100% Step Load Change; 0.5 ms Recovery Time	
Overload	110% for 10 min; 200% for .05 sec	
Efficiency @100% Load	85% Typical	
UPS Protection	Input and Output Short Circuit; Input and Output Overload; Excessive Battery Discharge	

ENVIRONMENTAL

Operating Temp.	0°C to +40°C (+32°F to +104°F)
Humidity	0% to 95% Non-condensing
Altitude	Sea Level to 10,000 ft (some derating of temp. w/altitude)
Audible Noise	39 to 42 dBA at 5 ft

MECHANICAL

Input: 120Vac 240Vac	L5-20P Plug w/6 ft Cord to IEC L6-15P Plug w/6 ft Cord to IEC
Outputs (standard)	(1) Duplex hospital grade receptacle (5-15R)

CUSTOM OPTIONS

Contact Factory for Other Custom Options

Specifications subject to change without prior notice

DESIGN

Standard Features	Power Factor Corrected Input; Fully Regenerative; True On-Line; Low Distortion Sinewave Output; Inverter Powers Load Continuously; Designed for Non-linear Loads; Extended Brownout Protection; Continuous Operation on -20% to +10% Utility w/o Draining Batteries; Automatic Bypass; RS232 Data Interface; AC Output - 2 Channel Load Control; Rear Mounted Ground Stud
Specifications	UL-60601-1; UL-1778; FCC Class A; IEEE 587 / ANSI C62.41; IEC 555 @ 120 VAC
MTBF	In Excess of 100,000 hrs
Recharge Time to 85% Capacity @ 100% Load	8 hrs (more time required with extended battery option)

CONTROLS AND INDICATORS

Sequenced LEDs Single LED	Battery Level, Load Level AC In, Inverter On, Load On, Summary Alarm, Alarm Silence
Front Panel Controls	Power On; Cold Start; Alarm Silence; Test; Load I On-Off; Load II On-Off
Audible Alarms	Utility Interrupt; Inverter Failure; Overload; Low Battery; Self Test
RS232 Data Interface (DB-9)	Full Interactive Remote Computer Monitoring and Control of Most Features, Including Load Control (requires optional monitoring software). Shutdown Software and Utility Package Included. Compatible with Systems Enhancement™ UPS Control Software.
Contact Closures (DB-9)	Open Collector; Optional Dry Contact
Optional SNMP Interface	Allows Full Control and Monitoring over Network Connection. Compatible with HP Openview™, IBM Netview™, CA Unicenter TNG™, and other major software offerings.

Model	VA	Watts	Input Current (A)	Output Current (A)	Backup Time 100% / 50% Load	Unit Weight (lbs)	Dimensions H x W x D (in)
S1500-601*	1,500	1,050	120Vac 10.7	12.5	5 / 17	80	14.1(36) x 6.9 (17.5)x 21(53)
S1500-601*	1,500	1,050	240Vac 7.8	12.5	4 / 17	80	14.1(36) x 6.9 (17.5)x 21(53)

* Includes hospital grade options

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