

ONEAC® Sinergy® S II Series UPS (700 VA - 3000 VA): Protecting key electronic equipment from power disruptions will make a positive financial impact on your business systems. The Sinergy S II Series Uninterruptible Power Supply (UPS) provides online double conversion technology to handle inconsistencies in the electrical system, to make brief power disruptions harmless, and to provide battery back-up to bridge prolonged power outages.

Advanced technology for superior protection

Many electrical devices and systems respond to power line faults, such as voltage or frequency variations, short interruptions and outages, by malfunctioning. In the case of data processing systems, this often causes processing errors and data loss. Or in extreme cases, permanent software and hardware damage. Any of these situations can be costly to your business.

You can protect your devices and systems effectively against disruptions with the ONEAC Sinergy S II Series UPS — in a flexible rack/tower configuration. Compact dimensions, low noise emissions and superior design mean the ONEAC Sinergy S II UPS can easily be integrated into most any working environment.



True online operation — load is decoupled from the AC power :

- Bridges power failures completely without interruption
- Provides consistent, quality power to your equipment
- Safe operation of sensitive loads

Low-impedance isolation transformer optional:

- Provides power conditioned protection to the loads
- Protects equipment from surges and noise
- Clean ground reference

Redundant power:

- External battery packs provide scalable, extended runtimes

Quick setup:

- Plug-and-play simplicity

Low noise and small footprint :

- Problem-free installation
- Unit supplied ready for connection to mains
- Fits unobtrusively into any environment

Comprehensive front panel control/indicators:

- LEDs indicate status, load, and runtime conditions
- Audible alarm sounds if fault occurs
- No operator control required while running

Integrated automatic bypass:

- No dropped loads in a short circuit and overload situation

Controllable receptacles:

- Separate receptacle banks
- Controlled remotely

Remote Power Off (RPO):

- Provides immediate emergency shutdown of UPS.
- Integrates into room-wide RPO

Hot-swappable, user replaceable batteries:

- Minimizes cost and downtime

Inverter converts frequencies:

- Operates worldwide

Computer interface:

- Allows equipment to communicate with the UPS
- MopUPS® PROFESSIONAL provided
- USB and serial communications ports

Optional Sinergy Plus accessory suite (available late 2006):

- Power conditioning
- Maintenance bypass
- Power Distribution Units (PDU)
- Automatic transfer switches

Optional UPS communications software and accessories:

- Intelligent responses during prolonged power failures
- Integration with SNMP networks using ManageUPS®NET for UPS and environmental monitoring
- Integrates UPS and computer into one system
- Configurable computer and multi-server shutdown
- Compatible with all major operating systems

2-year warranty:

- Your best assurance of product quality and reliability.

Online topology

The Sinergy S II Series UPS operates according to the online principle—connected loads are isolated from the irregularities of AC power supply without interruption and supplied instead by the UPS.

The rectifier, which converts the AC voltage to DC voltage, supplies the inverter with power during normal operations. At the same time, the battery is maintained at full charge or is recharged if needed.

The inverter generates the sine-wave output AC voltage from the DC voltage. The AC voltage level and frequency are extremely stable.

Sinergy's double voltage-conversion decouples the load from the AC power supply and protects it from the following irregularities:

- Voltage variations
- Frequency variations
- Overvoltage/Under-voltage
- Voltage peaks
- Interference voltages
- Distorted voltage waveforms

If a short interruption or mains failure occurs, the battery supplies the inverter instantly and without interruption. When power is restored during battery operation, the changeover to normal operation also takes place without interruption.

As no switchover is necessary when power fails or is restored (online operation), this UPS ensures even sensitive loads can be operated safely and without problems. If severe or prolonged overloading occurs, the UPS automatically switches to the integrated bypass. The AC power at the UPS output is now available.

Generator friendly

The true online double conversion topology easily supports generator applications. Frequency and voltage regulation means that even older generators can be accommodated without problems.

Frequency auto-detection, coupled with an extremely broad input voltage tolerance window, allow for a wide variety of utility line variances without interfering in the UPS operation and support of your critical loads. Cascading circuit protection means that after an extended overload, the UPS will engage a self-protection subroutine locking out the inverter & transferring the load to bypass source utilizing the appropriate feeder circuit protective device. Overload tolerances can be endured for minutes and hours, not seconds!

The Sinergy S II UPS can be used as a frequency converter, allowing usage worldwide.

Remote Power Off (RPO) adapter

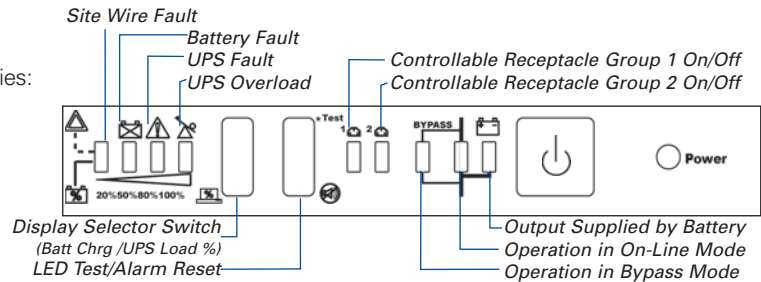
The RPO is standard on all Sinergy S II Series UPS. If the RPO contacts are opened, the UPS immediately shuts down.

The RPO circuit may be extended by connecting normally closed switches in series between the RPO connect pins. This activates any of the series switches, causing the UPS to shut off its output.

Comprehensive indicator and control panel

The comprehensive front panel LEDs provide a visual indication of the unit's status, load, and runtime.

All operational and load conditions are indicated by LEDs on the front panel display. The UPS also sends an audible warning signal at 4 second intervals indicating critical operational conditions. The lower the battery reserve, the shorter the audible alarm interval. Allowing plenty of time to save your precious data.



Indicator and control panel for the Sinergy S II Series UPS

Communications interface

All Sinergy S II Series UPSs are equipped with an interface designed for communication with a computer when using ONEAC's MopUPS PROFESSIONAL software. If the connected computer is informed of a power failure via the interface, it can shut down its programs and the operating system in a controlled and orderly manner within the battery's back-up time. MopUPS PROFESSIONAL can be upgraded to MopUPS PROFESSIONAL for network monitoring.

The UPS features USB and serial ports for communication with the computer/load. Optional connectivity accessories include MopUPS software, available for all major operating systems and networks, and ManageUPSNET with environmental monitoring.

COM ports allowing serial communication when used with ONEAC MopUPS communications software. In combination with the additional UPS software, this serial interface enables a host of key monitoring functions.

Flexible solutions

Scalable Sizing: All ONEAC Sinergy S II UPS runtimes can be expanded by adding additional battery packs. Back-up times up to several hours can be achieved in any load operation by using matching SBP cabinets.

Adding an optional automatic transfer switch (available late 2006) and another UPS can increase your system reliability. Multiple Sinergy S II UPSs can be connected for increased availability and reliability.

Hot-swappable, user replaceable batteries

The Sinergy S II batteries can easily be replaced by the user while the connected loads continue to be supported by the UPS, minimizing cost and downtime.

ONEAC SINERGY S II UPS: Optional Accessories

Protecting PCs and networks in a variety of applications

The ONEAC Sinergy Series UPS provides reliable support for:

- Personal computers
- Workstations
- Servers and networks (LAN, WAN, etc.)
- Data processing equipment and systems
- Computer centers
- Telecommunication systems
- ISDN systems
- Medical imaging and diagnostic equipment
- Retail Point of Sale (POS) systems
- Retail information systems
- Voice over IP
- Business system machinery
- Safety systems in power stations
- Broadcasting studios
- Transport systems
- Semiconductor test equipment
- Semiconductor manufacturers
- Process controls
- Control centers/SCADA systems
- Drives in continuous production processes
- Production and automation systems
- Air-traffic control systems
- And more

Isolated contacts interface card

An auxiliary interface suitable for Nortel PBX applications. It includes an isolated contacts interface card and an eight foot cable to connect the Sinergy S II UPS communications port to the PBX (part number for card and cable AK-NTMERID-02).

Sinergy Plus accessory suite (available late 2006)

The new Sinergy S II Plus accessory suite is the foundation of ONEAC's modular power quality solutions. It's designed to add additional power quality features and enhance the output performance of low and high voltage Sinergy S II Series UPSs. The Sinergy Plus 2U chassis may be configured with any or all of the following accessories:

- **Power conditioning transformer:** provides ONEAC power conditioning and protection for all loads attached to the "S II Plus".
- **PDU receptacles:** a wide array of receptacles, including hardwired terminal blocks, may be added to the output section of the Sinergy S II 'Plus' chassis.
- **External Maintenance ByPass:** allows the Sinergy S II UPS to be taken off line for service without interrupting the power supporting the load.
- **Optional Automatic Transfer Switches (ATS)** allow two Sinergy S II Series UPSs to be operated in parallel to increase reliability and availability. ATSs are available in both low and high voltage models and may be used either "upstream" or "downstream" from the UPSs.

To accommodate additional equipment beyond the capacity of the Sinergy Plus, additional external PDU strips are available.

Connectivity

The UPSs are equipped with a serial interface COM 3 and an interface slot COM. These interfaces can be used for:

- Direct communication between UPS and workstation/ server.
- Integration of the UPS as client into a network with centralized monitoring via a ManageUPSnet SNMP adapter in the slot COM.
- Transfer of operational states to external alarm systems via voltage-free contacts: with interface card SIC in slot COM.
- The necessary communication software packages and interface cables are available as options.

The 9-pole SUB-D connector (pin contacts) contains RS232 compatible signals. The interface slot COM can be fitted with various optional interface cards. Interface cards include an SNMP-adapter (ManageUPSnet) for connecting the device to a network isolated contacts card and an Isolated contacts card.

With a communications cable and MopUPS PROFESSIONAL installed, MopUPS PROFESSIONAL can exchange data with the UPS. This power management software polls the UPS for detailed information on the status of the power environment. If a power emergency occurs, the software initiates an orderly shutdown of the equipment. The interface ports will send On Battery and Low Battery signals to the host computer. The interface ports will also accept a shutdown inverter signal to conserve battery life.

Part Number	MopUPS SK-PROMOP-02	ManageUPSNET AM-00-0
System shutdown	•	via network
Event messaging via pager, email, network or SNMP traps	•	•
Log events	•	•
Run a command, script or batch file	•	
Web-based system management		•
Full SNMP client		•
Supports Terminal, Telnet, and FTP access		•

ONEAC SINERGY S II UPS: Specifications

Performance characteristics

- Nominal input voltage:** XAU models (low voltage): 120 V (factory default)
100, 127 V (selectable)
XHU models (high voltage): 208 V (factory default)
200, 208, 220, 230, 240 V (selectable)
- Available output voltage:** XAU models (low voltage): 120 V (factory default)
100, 127 V (selectable)
XHU models (high voltage): 208 V (factory default)
200, 208, 220, 230, 240 V (selectable)
- Surge voltage withstand capability:** ANSI/IEEE C62.41 Cat. A & B
- Crest factor:** 3:1
- Principle of operation:** online, double conversion
- Alarms:** Mains power loss, low battery, overload, on bypass
- Battery test:** automatic, once per month (adjustable through UPS management software supplied)
- Battery management:** EXB auto recognition, automatic runtime adjustment, protection against deep discharge
- Recharge time to 90% available capacity:** 5 - 8 hours (internal batteries)
- Relative humidity:** 20-90%, no condensation
- Frequency:** 50/60 Hz, auto-select, input frequency range 40-70 Hz
- Input frequency tolerance:** ± 5%
- Frequency tolerance, normal operation:** Output frequency synchronized with mains frequency
- Frequency tolerance, power failure:** ± 0.5% (internal frequency generator)
- Total harmonic distortion (linear load):** <4%
- Automatic bypass:** integrated
- Output waveform:** sinusoidal
- Overload capacity:** 110% warning; 110-130%: 12 seconds, switches to bypass; >130% 1.5 seconds, switches to bypass (contact technical service for details)
- Port:** (1) serial, (1) USB standard
- COM slot:** (1) for SNMP/web interface
- RPO:** standard
- Operational temperature:** 50°F to 77°F (+10°C to +25°C) (for integrated batteries)
- EMC:** 700-1500 VA models: FCC part 15, class B; EN 61000-6-1; EN 61000-602; EN 55024
2000-3000 VA models: FCC part 15, class A; EN 61000-6-1; EN 61000-602; EN 55024

Approvals

Sinergy S II Series UPSs: UL/cUL listed to 1778 and CE.

UPS Model	S0K7XAU	S1K0XAU	S1K5XAU	S2K0XAU	S3K0XAU	S2K0XHU	S3K0XHU
Part numbers	S0K7XAU	S1K0XAU	S1K5XAU	S2K0XAU	S3K0XAU	S2K0XHU	S3K0XHU
Power rating (VA/W)	700/490	1000/700	1500/1050	2000/1400	3000/2100	2000/1400	3000/2100
Output current (A) @ 120 V (A) @ 208 V (A)	5.8 NA	8.3 NA	12.5 NA	16.7 NA	25 NA	NA 9.6	NA 14
Internal battery	(3) VRLA, 12 V/7 ah YUASA NP7-12FR	(3) VRLA, 12 V/7 ah YUASA NP7-12FR	(3) VRLA, 12 V/9 ah YUASA REW45-12FR	(6) VRLA, 12 V/7 ah YUASA NP7-12FR	(6) VRLA, 12 V/9 ah YUASA REW45-12FR	(6) VRLA, 12 V/7 ah YUASA NP7-12FR	(6) VRLA, 12 V/9 ah YUASA REW45-12FR
Dimensions HxWxD - in - (cm)	3.4 x 17.2 x 19.2 8.64 x 43.7 x 48.7	3.4 x 17.2 x 19.2 8.64 x 43.7 x 48.7	3.4 x 17.2 x 19.2 8.64 x 43.7 x 48.7	3.4 x 17.2 x 26.3 8.64 x 43.7 x 66.8	3.4 x 17.2 x 26.3 8.64 x 43.7 x 66.8	3.4 x 17.2 x 26.3 8.64 x 43.7 x 66.8	3.4 x 17.2 x 26.3 8.64 x 43.7 x 66.8
Ship weight - lbs (kg)	56 (25)	60 (27)	60 (27)	85 (39)	86 (39)	85 (39)	86 (39)
Input connectors	5-15P	5-15P	5-15P	L5-20P	L5-30P	IEC320 to L6-20P	IEC320 to L6-30P
Output connection	(8) 5-15R	(8) 5-15R	(8) 5-20R(T)**	(4) 5-20R & (1) L5-20R	(4) 5-20R & (1) L5-30R	(6) IEC320 10 A*	(4) IEC320 10A* (1) IEC320 16 A
External battery (max. 4 per UPS)	SBP1K5-2	SBP1K5-2	SBP1K5-2	SBP3K0-2	SBP3K0-2	SBP3K0-2	SBP3K0-2
Heat Dissipation (BTU/hr)	275	390	584	1004	1158	810	1158

* Contact ONEAC for IEC to NEMA adapters.

**"T-slot" output connector will accept either 5-15P or 5-20P plugs.

External Battery

Part Number	SBP1K5-2	SBP3K0-2
External. battery (max. 4 per UPS)	(6) VRLA, 12V/7 ah YUASA NP7-12FR	(12) VRLA, 12V/9 ah YUASA REW45-12FR
Dimensions HxWxD - (in.) - (cm)	3.4 x 17.2 x 19.2 8.64 x 43.7 x 48.7	3.4 x 17.2 x 26.3 8.64 x 43.7 x 66.8
Ship or net weight (lbs/kg)	64 (29)	107 (49)

Typical Runtimes*	Internal Battery	Internal Battery Plus 1 Ext Battery	Internal Battery Plus 2 Ext Battery	Internal Battery Plus 3 Ext Battery	Internal Battery Plus 4 Ext Battery
S0K7XAU half load/full load (min)	0:27/0:11	1:50/0:50	3:48/1:33	5:28/2:28	7:30/3:20
S1K0XAU half load/full load (min)	0:19/0:06	1:16/0:32	2:32/0:59	3:48/1:33	5:23/2:06
S1K5XAU half load/full load (min)	0:13/0:05	0:52/0:19	1:43/0:33	2:37/0:54	3:38/1:14
S2K0XAU half load/full load (min)	0:16/0:07	1:26/0:44	2:51/1:01	4:45/1:30	6:44/2:15
S3K0XAU half load/full load (min)	0:14/0:06	0:57/0:23	1:54/0:58	2:51/1:30	4:07/2:04
S2K0XHU half load/full load (min)	0:16/0:08	1:26/0:44	2:51/1:01	4:45/1:30	6:44/2:15
S3K0XHU half load/full load (min)	0:14/0:06	0:57/0:23	1:54/0:58	2:51/1:30	4:07/2:04

* Runtimes are based upon fully charged, new batteries. Runtimes are affected by battery age, ambient temperature, site-specific UPS usage patterns, and actual operating load characteristics. Actual runtimes may vary.

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