

# SANUPS

## TRUE ON LINE UPS

MODEL TYPE

# ASE-H



**SANYO DENKI**

# HIGH RELIABILITY FAULT TOLERANT UPS SYSTEM

Uninterruptible Power Supply

# SANUPS ASE-H



Input	Output	
AC100,110,115,120V Single-phase	AC100,110,115,120V Single-phase	1~5kVA (0.7~3.5kW)
AC208,220,230,240V Single-phase	AC208,220,230,240V Single-phase	

SANUPS ASE-H is designed as the True On-Line Method (All Time Inverter Power Feeding) Uninterruptible Power Supply (UPS) that realizes the unique complete individual control for each unit. Equipped with the extra power margin as much as a single UPS unit, the redundant capacity that can support unexpected trouble, can provide more stable and reliable power with high quality.

Expandability up to 5 units at a maximum enables to provide the output capacity of 5 kVA.



## 1 *Supplying extremely stable and reliable power*

- Parallel redundant operation that achieves high reliability, can be realized.
- Power source of complete sine wave can be supplied with the all time inverter power feeding (True On-Line Method) system even at the time when power is stopped or at the moment of momentary power failure or in the event of voltage drop.
- Eliminating malfunctions of load equipment due to disorder of power waveform.

## 2 *Setting the output capacity as desired*

- A maximum of 5 kVA output capacity can be set as desired.

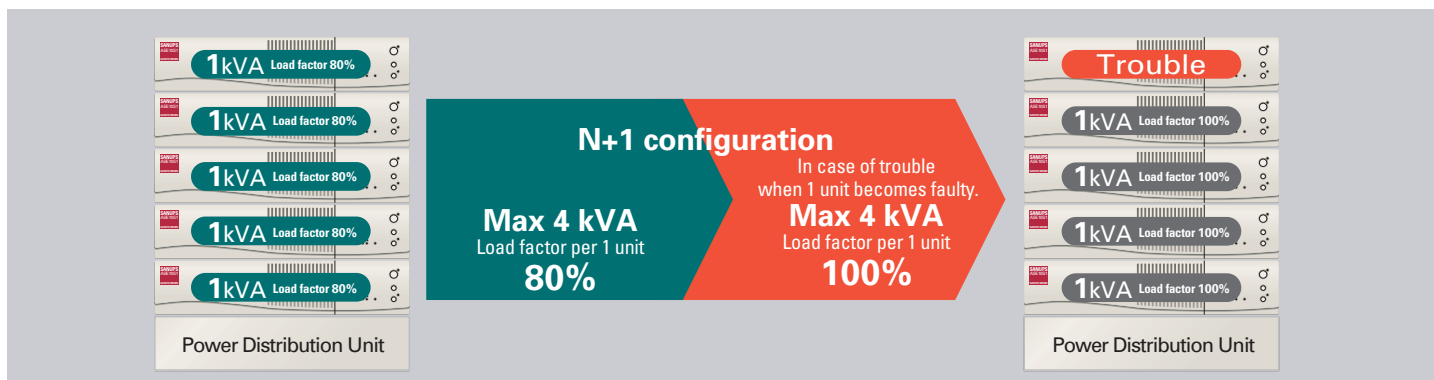
## 3 *Easy maintenance and cost-saving*

- Life of battery unit is 5 years.
- UPS unit can be exchanged.

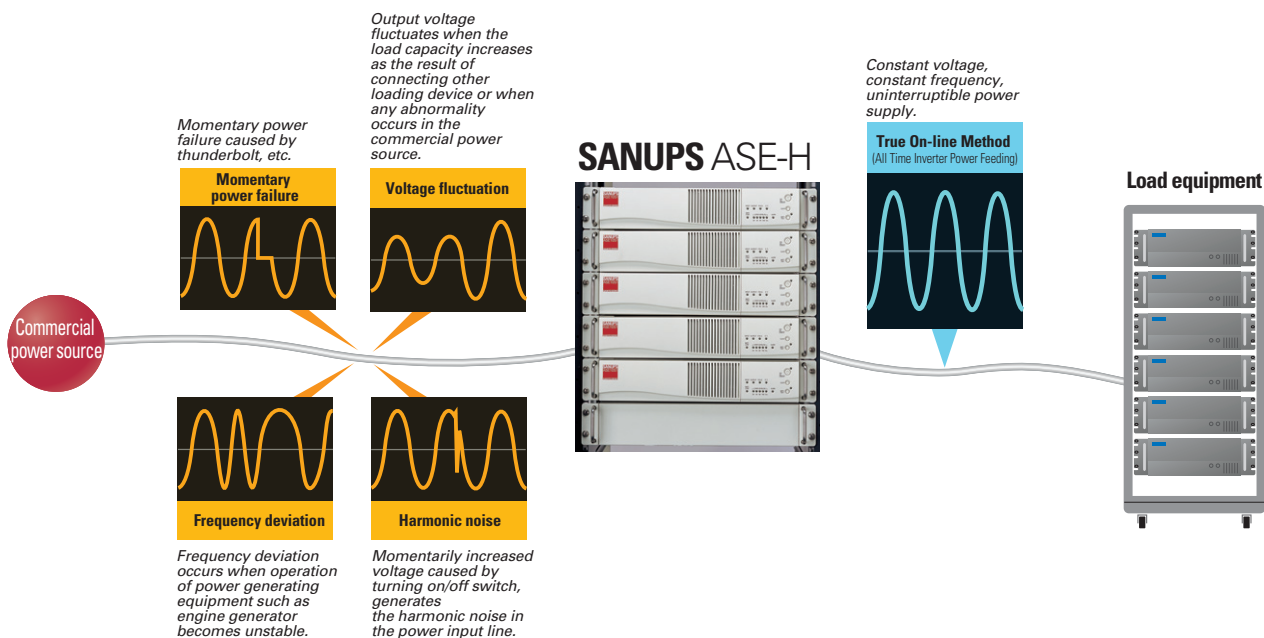
# 1 Feature

## Supplying extremely stable and reliable power

- Parallel redundant operation that achieves high reliability, can be realized.
- Extremely reliable power supply can be realized by configuring N+1 unit system and allowing extra power margin as much as a single UPS unit in the case of unexpected trouble.



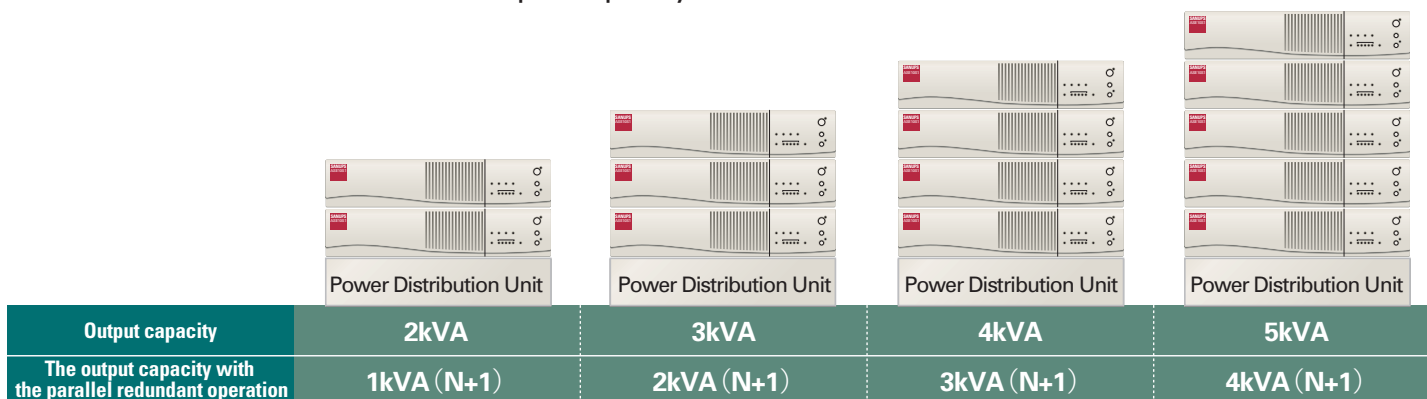
- Power source of complete sine wave can be supplied with the all time inverter power feeding (True On-Line Method) system even at the time when power is stopped or at the moment of momentary power failure or in the event of voltage drop.
- Eliminating malfunctions of load equipment due to disorder of power waveform.



# 2 Feature

## Setting the output capacity as desired

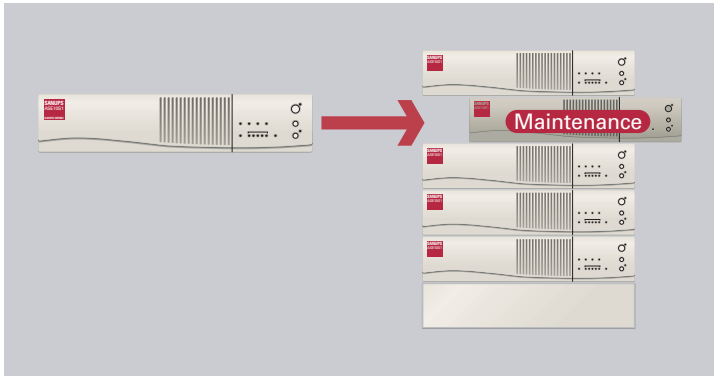
- A maximum of 5 kVA output capacity can be set as desired.



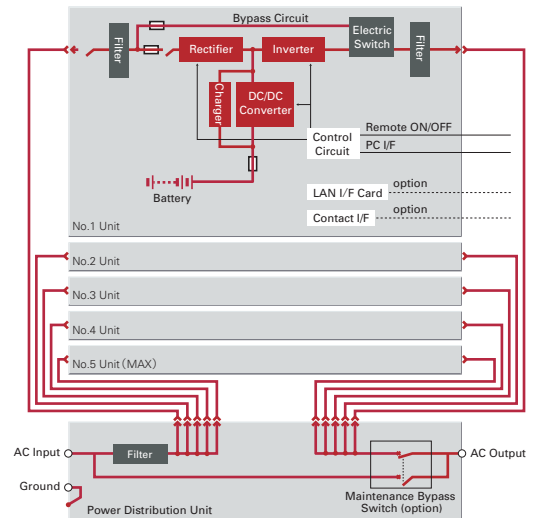
### 3 Feature

## Easy maintenance and cost-saving

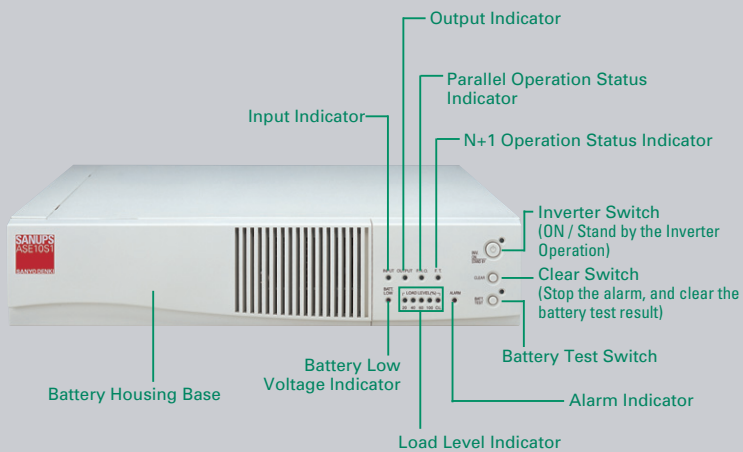
- Life of battery unit is 5 years.
- UPS unit can be exchanged.



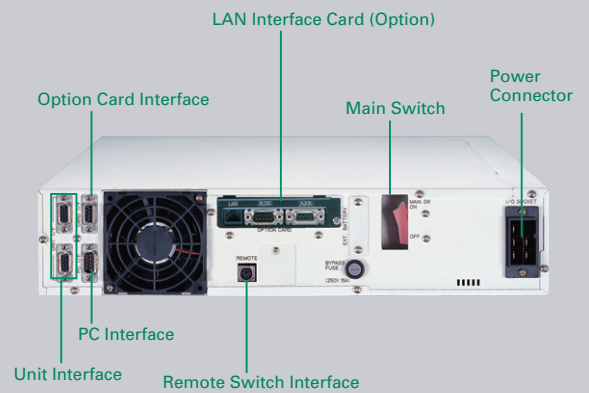
### General System Diagram



### Front side

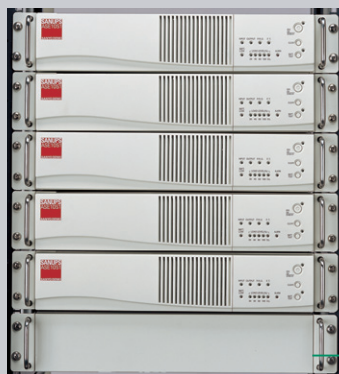


### Back side



### Configuration example (5 kVA)

### Front side



### Back side



Inverter Unit  
Unit Interface Cable  
Power Distribution Unit

## Specification table

Item										Remarks
Model	Standard type	ASE10S1HUA001,-10,-15,-20 (100V system) / ASE10S1HUA002-08,-20,-30,-40 (200V system)								
System	Number of units	2Units		3Units		4Units		5Units		
	System composition	N		N+1		N		N+1		
	Output power	2kVA/1.4kW	1kVA/0.7kW	3kVA/2.1kW	2kVA/1.4kW	4kVA/2.8kW	3kVA/2.1kW	5kVA/3.5kW	4kVA/2.8kW	
	Topology	True On-Line, Double conversion								
	Input rectify system	IGBT PWM								
	Inverter system	High-frequency PWM								
	Cooling	Forced air								
AC Input	Number of phase / wire	Single-phase / 2-wire								(Note 1)
	Nominal voltage	100/110/115/120V (100V system) / 208/220/230/240V (200V system)								Same as output voltage
	Voltage range	±15%								
	Frequency	50/60Hz								Automatic select
	Frequency range	±1/3/5% (default 3%)								Same as output frequency range
	Required capacity	< 1.8kVA	< 0.9kVA	< 2.7kVA	< 1.8kVA	< 3.6kVA	< 2.7kVA	< 4.5kVA	< 3.6kVA	
	Power factor	> 0.95								
AC Output	Number of phase / wire	Single-phase / 2-wire								
	Nominal voltage	100/110/115/120V (100V system) / 208/220/230/240V (200V system)								
	Voltage regulation	±5%								
	Frequency	50/60Hz								Same as input frequency
	Frequency range	±1/3/5% (default 3%) (battery operation:< ±0.5%)								User selectable
	Voltage distortion	Linear load	< 3%							
		Non-linear load	< 8%							
	Power factor	Nominal	0.7(lag)							
		Fluctuation range	0.7(lag) to 1.0							
	Transient voltage regulation	100% step load	±10%							On 0-100% change or on output change
		Power recovery	±10%							On rated output
		Input voltage step	±10%							±10% change
	Overcurrent protection	Automatically switched to the bypass circuit (With auto return function)								(Note 2)
	Overcurrent capacity	Inverter	105% for 200ms							
		Bypass	200% for 30sec, 800% for 2cycles							
Battery	Type	Maintenance-free sealed lead-acid battery								5 years life
	Backup time	5min.	15min.	5min.	10min.	5min.	9min.	5min.	8min.	Ambient at 77°F(25℃)
Operation	Startup on battery	This function is supported								(Note 3)
Acoustic noise		< 40dB		< 45dB						At 1 meter from the unit front
Nominal heat dissipation		185W	106W	280W	190W	372W	283W	467W	377W	
Input current leak		< 4.5mA		< 6mA		< 7.5mA		< 9mA		
Operating temperature		32 to 104°F (0 to 40°C)								
Relative humidity		30 to 90% (Non-condensing)								

Note 1: When grounding is connected, the grounding phase of the input and output signals must follow the specification of the equipment.

Note 2: The inverter runs in synchronization with the AC input and momentary switching without interruption become possible when the AC input frequency is within range of the rated output frequency accuracy and at the same time when the AC input voltage is within the range of nominal voltage ±15%

Note 3: The normal inverter output can be obtained using the installed battery even if the AC power input source has any abnormalities (power failure or lowered voltage, etc.)

### Model Number of Power Distribution Unit

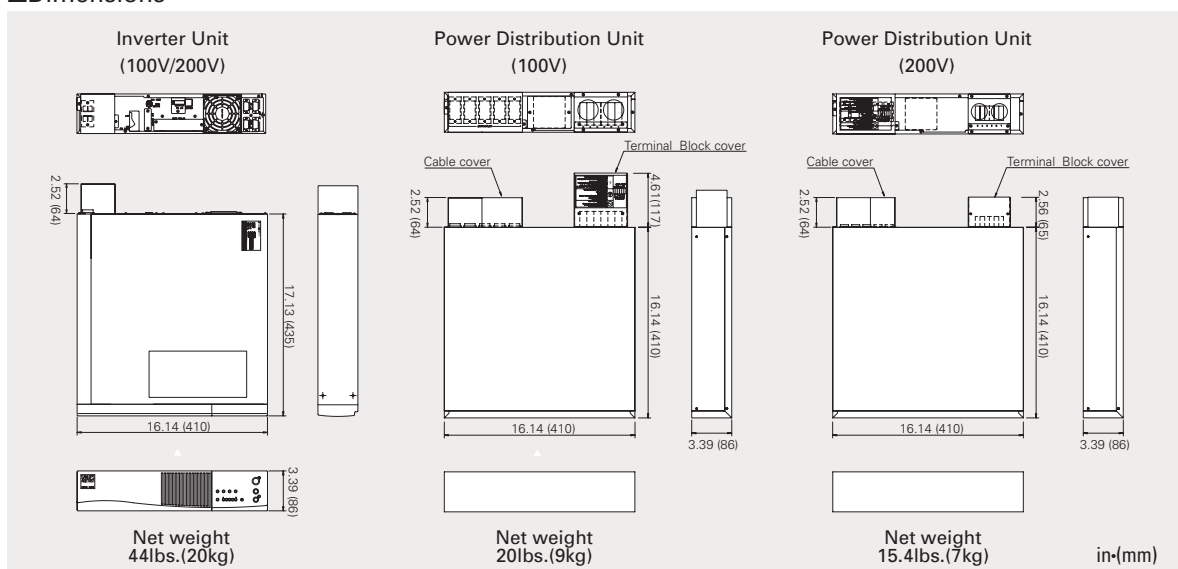
#### • Standard type

100V system	PDASEUA01-US
200V system	PDASEUA02-US

#### • Option (With maintenance bypass switch)

100V system	PDASEUA01S-US
200V system	PDASEUA02S-US

## ■Dimensions





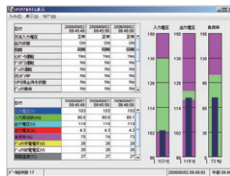
## PC interface

### ■ SANUPS SOFTWARE

The SANUPS SOFTWARE UPS Power Management Software increases the reliability and manageability of the entire system, including the network and the server. It provides UPS information to the System Manager, and flexible settings for handling power-related problems.



Example using  
SANUPS SOFTWARE



## Network interface

### ■ LAN interface card

A LAN Interface Card (100Base-TX) can be inserted in the optional card slot on the rear panel of the SANUPS ASE-H. This allows for continuous monitoring and reporting of power conditions, and quick response during power failures. Power problems can also be reported to the System Manager via e-mail when this Card is installed.

## External equipment interface

### ■ Contact interface card(Optional)

The error signals such as power failure and UPS fault are output in the signal format of non-voltage contact signal. This is the card that can be used to control the external devices such as buzzer.

### OS

#### for Windows

Windows 2000  
Windows XP  
Windows XP Professional x64 Edition  
Windows Vista  
Windows Server 2003  
Windows Server 2003 x64 Edition

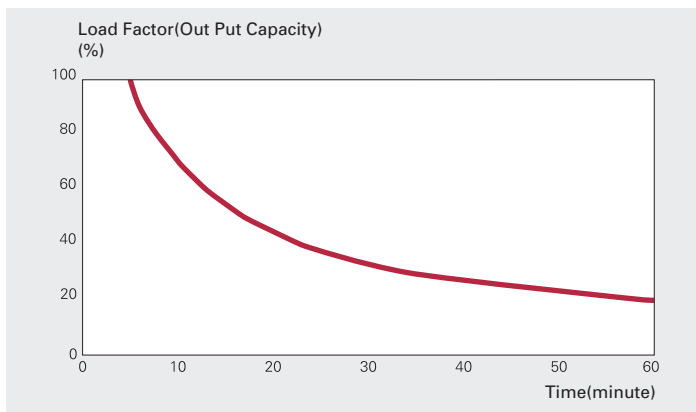
#### for UNIX

Solaris 8, 9, 10 (SPARC)  
AIX 5.1, 5.2, 5.3  
HP-UX 11i (PA-RISC / Itanium2)

#### for Linux

Red Hat Enterprise Linux v.3  
(x86 / AMD64 / Intel EM64T)  
Red Hat Enterprise Linux v.4  
(x86 / AMD64 / Intel EM64T)  
SUSE Linux Enterprise Server 9  
(x86 / AMD64 / Intel EM64T)  
Turbolinux 10 Server  
(x86 / AMD64 / Intel EM64T)

### Backup time(Ambient temperature 77°F(25°C), default value)



### Option

Items	Model No.
19-inch rack mount metal (for EIA standard rack) (for UPS unit, Distribution unit)	RMASEA02-US
Rack support rail	RM014-US
Remote switch	RSW008
SANUPS SOFTWARE	for Windows PMS40B00E (without cable)
	for Multiple OS *corresponds to all upper OS PMS41B00E (without cable)
LAN interface card	PRE11A01-US
Contact interface card	PRASE06

## Notes when investigating use of this product in your applications

●Before starting installation, assembling and use, read the "Operation Manual" carefully and use the product correctly in your applications.

●When you are going to use this product in the following application, the special considerations are required for operation, running, maintenance and control. Be sure to consult with our company as a part of your investigations.

(a) Medical equipment and other equipment that are related directly to human life.

(b) Train or elevator that can give injury to human body.

(c) Socially and publicly important computer systems

(d) And other equipment that are related to safety of human life and that can affect severe effects on maintenance of public functions.

●For the applications that undergo vibration such as vehicles, ships and transportation facilities, please consult with our company.

●Never modify this product or give additional processing to this product.

●For the installation and maintenance work, please consult with our company or with specialized company.

※For any inquiry or consultation, please contact our sales representative.

Seller: **SANYO DENKI AMERICA, INC.**

468 Amapola Avenue Torrance, CA 90501 U.S.A.

MFG: **SANYO DENKI CO., LTD.**

115-1, Kita-otsuka Toshima-ku Tokyo 170-8451, JAPAN

Web site <http://www.sanyo-denki.com>

Phone:+1 310 783 5400 Fax:+1 310 782 8021

Web site <http://www.sanyodenki.co.jp>

Phone:+81 3 3917 5157 Fax:+81 3 3917 4521

The names of companies and/or their products specified in this catalogue are the trade names, and/or trademarks and/or registered trademarks of such respective companies.

※Remarks: Specifications are Subject to Change Without Notice.

CATALOG No.789-4'07.11.C