

# SANUPS

ONLINE UPS

# ASE-H

UL Models



## SANYO DENKI

# ASE-H

Highly reliable double conversion online UPS with unit scalability and parallel redundant operation capability



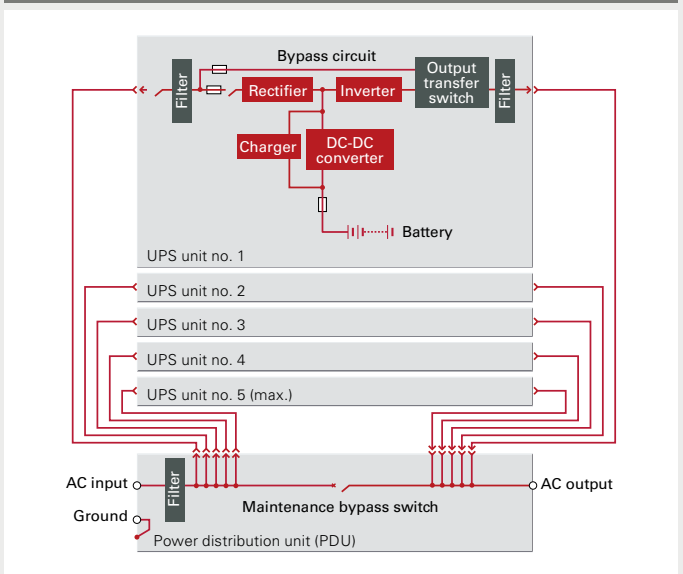
Mounted in an EIA standard 19-inch rack  
Note: Mounting brackets and rack support rails are optional. Can be vertically installed as well.



### Lineup

[No. of phases/wires] Input/Output voltage	Output capacity		Battery backup time
	(kVA)	(kW)	
[Single-phase 2-wire] <b>120 V</b> model	1	0.7	5 min
	2	1.4	
	3	2.1	
	4	2.8	
	5	3.5	
[Single-phase 2-wire] <b>208 V</b> model	1	0.7	
	2	1.4	
	3	2.1	
	4	2.8	
	5	3.5	

### Circuit Block Diagram

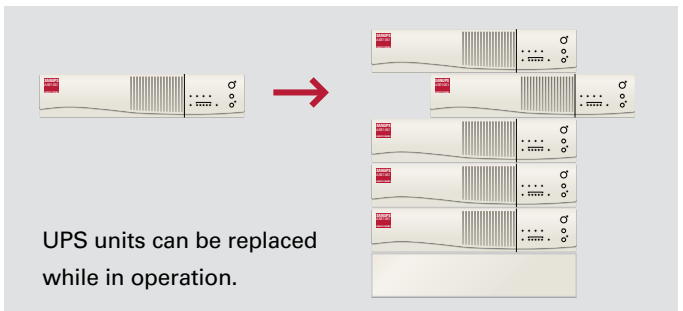


### Battery Cold Start Function

Batteries can start up the UPS even when grid AC power is not available, enabling inverter operation.

### Easy Maintenance

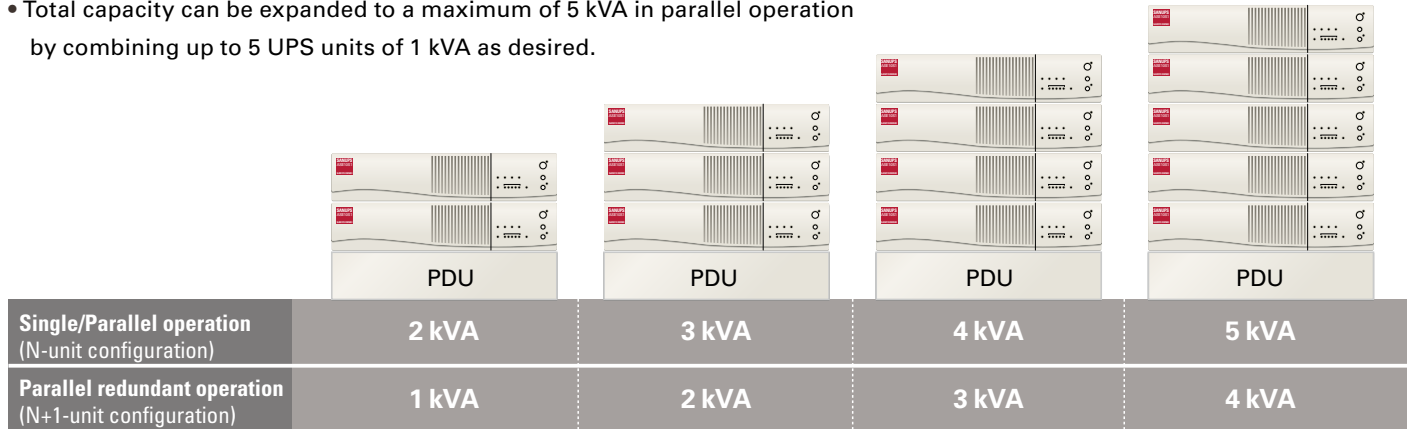
- Front-access module design allows users to easily replace battery packs even while supplying power.
- A built-in maintenance bypass circuit allows maintenance to be performed while inverter power is being supplied.



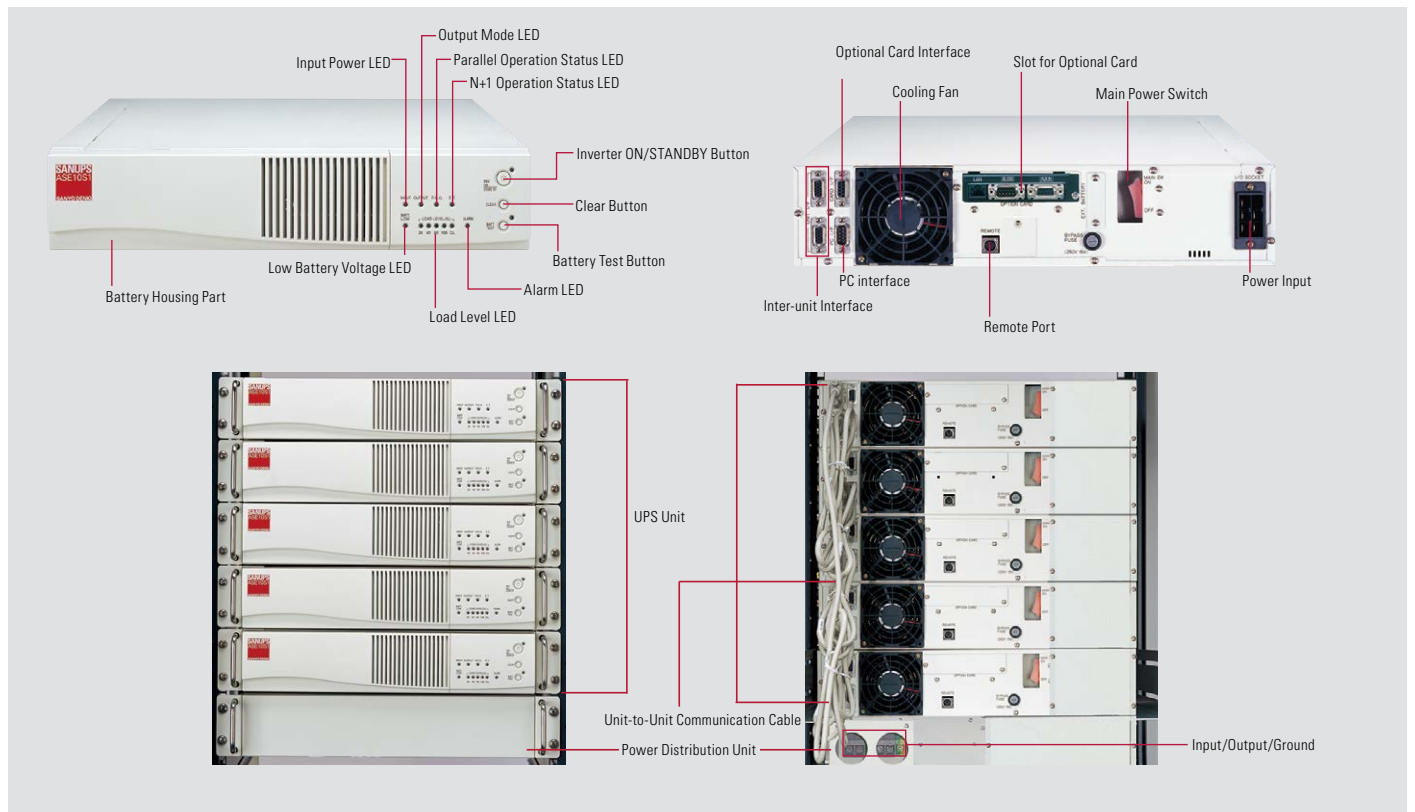
UPS units can be replaced while in operation.

## Scalable Capacity

- Total capacity can be expanded to a maximum of 5 kVA in parallel operation by combining up to 5 UPS units of 1 kVA as desired.



## Views and Part Names



## Cables

Number of parallel-connected UPS units		2	3	4	5
Terminal indication		Input/Output/Ground			
Minimum wire size	120 V model	10 AWG	8 AWG	6 AWG	6 AWG
	208 V model	14 AWG	12 AWG	12AWG	10 AWG

### Specifications

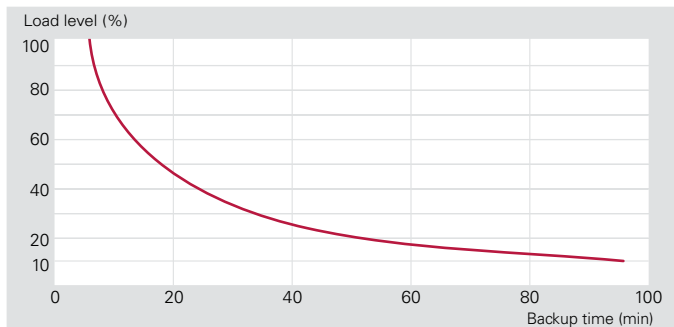
Input/Output voltage	UPS unit model no.	Power distribution unit (PDU) model no.	PDU with maintenance bypass model no.
120 V	UL-registered no.	ASE10S1HU001-20	PDASEU01
	Order no.	ASE10S1HUA001R-20	PDASEUA01-US
208 V	UL-registered no.	ASE10S1HU002-08	PDASEU02
	Order no.	ASE10S1HUA002R-08	PDASEUA02-US

Note: 100/110/115 and 220/230/240 V models are also available. Contact us for details.

Item	No. of units	2		3		4		5		Remarks	
		N-unit	N+1-unit	N-unit	N+1-unit	N-unit	N+1-unit	N-unit	N+1-unit		
Configuration											
Rated output capacity (apparent power / active power)		2 kVA / 1.4 kW	1 kVA / 0.7 kW	3 kVA / 2.1 kW	2 kVA / 1.4 kW	4 kVA / 2.8 kW	3 kVA / 2.1 kW	5 kVA / 3.5 kW	4 kVA / 2.8 kW		
System	Topology	True online double conversion									
	Rectifier	High power factor converter									
	Cooling method	Forced air cooling									
	Inverter	High-frequency PWM									
AC input	No. of phases/wires	Single-phase 2-wire									
	Rated voltage	Within ±15% of rated output voltage									
	Rated frequency	50/60 Hz									
	Frequency range	Within ±1, ±3, or ±5% of rated frequency									
	Required capacity	1.8 kVA or less	0.9 kVA or less	2.7 kVA or less	1.8 kVA or less	3.6 kVA or less	2.7 kVA or less	4.5 kVA or less	3.6 kVA or less		
	Power factor	0.95 or greater									
AC output	No. of phases/wires	Single-phase 2-wire									
	Rated voltage	100, 110, 115, or 120 V (100 V models) / 208, 220, 230, or 240 V (200 V models)									
	Voltage regulation	Within ±5% of rated voltage									
	Rated frequency	50/60 Hz									
	Frequency regulation	During grid operation	Within ±1, ±3, or ±5% of rated frequency								
		During battery operation	Within ±0.5% of rated frequency								
	Voltage harmonic distortion	At linear load	3% or less								
		At rectifier load	8% or less								
	Rated load power factor	Rated	0.7 (lagging)								
		Fluctuation range	0.7 (lagging) to 1.0								
	Transient voltage fluctuation	Abrupt load change	Within ±10% of rated voltage								
		Loss/return of input power	Within ±10% of rated voltage								
Abrupt input voltage change		Within ±10% of rated voltage									
Overcurrent protection	Automatic transfer to bypass (with automatic retransfer)										
Overload capability	Inverter	105% (for 200 ms)									
	Bypass	200% (for 30 s), 800% (for 2 cycles)									
Battery	Type	Small-sized valve-regulated lead-acid (VRLA) battery									
	Backup time	5 min	15 min	5 min	10 min	5 min	10 min	5 min	8 min	At 25°C ambient temperature and rated load	
Acoustic noise		40 dB or less			45 dB or less					At 1 m from front of unit, A-weighting	
Heat dissipation		185 W	106 W	280 W	190 W	372 W	283 W	467 W	377 W		
Input leakage current		4.5 mA or less			6 mA or less		7.5 mA or less		9 mA or less		
Operating environment		Ambient temperature: 0 to 40°C; relative humidity: 30 to 90% (non-condensing)									

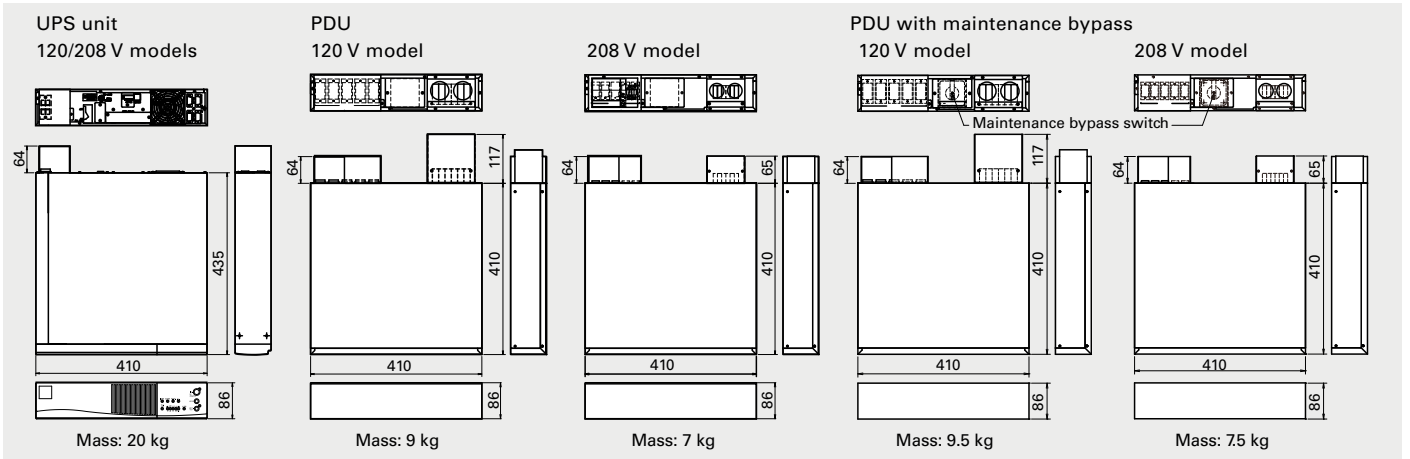
Note: A power distribution unit is required to operate the UPS units.

### Load Level vs Backup Time



Note: At 25°C ambient temperature and load power factor of 0.7, under factory conditions.

**Dimensions (Unit: mm)**



Note: Mounting brackets and rack support rails are optional.

Paint color: Ivory (Munsell 6.6Y 8.3/0.8)

**Options**

Item	Model	Description
LAN interface card	IPv6 model**	<b>PRLANIF011B-US</b> This card enables 24/7 monitoring of UPS operations and status, and e-mail notifications to system administrators via network in the event of a power failure.
	Environmental monitoring, IPv6 model**	<b>PRLANIF013B-US</b> Combined with our temperature sensor (PRLANSN001) and humidity sensor (PRLANSN002), this model enables monitoring of UPS ambient temperature and humidity.
Dry contact interface card	Terminal block output	<b>PRCONIF001-US</b> This card outputs no-voltage signals to notify UPS status.
	D-sub connector	<b>PRCONIF003-US</b> A and B contacts can be selected for each signal.
SANUPS SOFTWARE	Windows version	<b>PMS50□00E***</b> Computer-based power management software (installation required) For updated OS support information, please refer to our website.
	Multi-OS version*	<b>PMS51□00E***</b> For bulk purchase of software licenses, append an appropriate -suffix to the model number.
Rack mounting brackets	UPS unit	<b>RMASEB02R-US</b> Used for mounting the UPS on a standard 19-inch rack.
Rack support rails		<b>RM014R-US</b> Used for mounting the UPS on a standard 19-inch rack.

\* Supports Windows, Unix, and Linux.

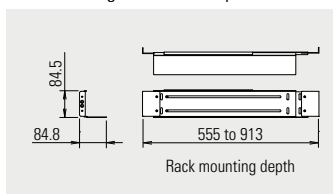
Note: Optional products have different operating temperature ranges from the UPS.

\*\* Possible to use even in a mixed IPv4 and IPv6 environment.

\*\*\* The □'s denote revision characters.

**Rack Support Rail Dimensions (Unit: mm)**

Rack mounting brackets are optional.



A pair of left and right rails. Shown is the left rail.





## Notes before Purchase

- Before installing, assembling, and using the product, please read Instruction Manual carefully and use it properly.
  - When using this product in the following applications, consult us in advance because special considerations are required for operation, maintenance, and management.
    - (a) Medical equipment that may have direct effects on human life or human body.
    - (b) Trains, elevators, and other machinery that can cause injury.
    - (c) Socially and publicly important computer systems.
    - (d) Other equipment that is related to safety of human life and that can have major impact on maintenance of public functions.
  - For use in an environment where vibration is present, such as in a car or a ship, please consult us in advance.
  - Never attempt to disassemble or alter the product in any way.
  - For installation and maintenance work of the product, please consult us or properly licensed personnel.
  - Products listed in this catalog may be regulated by export laws and regulations in each country. When exporting these products, compliance with each country's respective export laws and regulations is highly recommended.
  - SANYO DENKI will not be liable for any direct or indirect damages or loss, including but not limited to equipment downtime, missed power sales revenue, business interruptions, increased power purchases, resulting from the use of or inability to use our products or services.
- Note: For any inquiry or consultation, please contact our sales department.

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