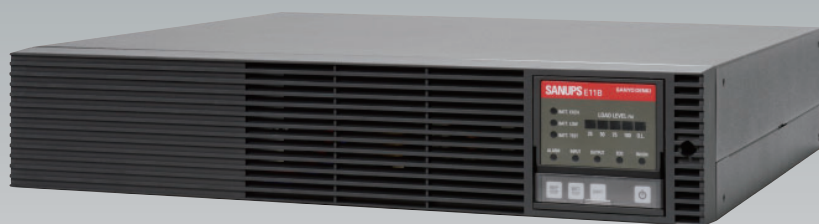


SANUPS E11B

Hybrid UPS



SANYO DENKI

SANUPS E11B

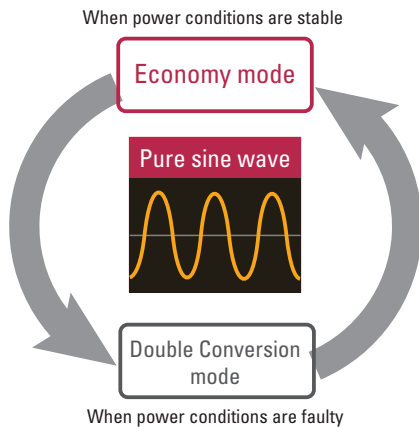
UPS Achieving Power Quality and Efficiency For Use Around the Globe



UPS unit
3-year
warranty

Achieves Both High-Quality Power Supply and Energy Saving

- This UPS provides high-quality, reliable power to loads while achieving energy saving. Thanks to the hybrid topology,⁽¹⁾ the UPS automatically selects the optimal mode of operation for any given input power conditions.



(1) A UPS design that automatically switches the double conversion and standby topologies according to the input power conditions.

Lineup:

[No. of phases/wires] Input/Output voltage	Output capacity		Battery backup time*	Input plug	Double Conversion mode fixed	UL/CE certification	Model no.	Page	
	[kVA]	[kW]						Specifications	Dimensions
[Single-phase 2-wire] 100 V model 100/110/115/120 V	1	0.8	3 min (5 min)	NEMA 5-15P	—	—	E11B102A001AM	p. 4	p. 3
					✓	—	E11B102A001DM	p. 4	p. 3
	—	✓		E11B102A001AMUJ	p. 6	p. 3			
	1.5	1.2		NEMA 5-15P	—	—	E11B152A001AM	p. 4	p. 3
					—	—	E11B202A001AM	p. 4	p. 3
2	1.6	NEMA L5-30P	—	—	E11B302A001AM	p. 4	p. 3		
3	2.4	NEMA L5-30P	—	—	E11B102A002AM	p. 5	p. 3		
[Single-phase 2-wire] 200 V model 200/208/220/230/240 V	1	0.8	3 min (5 min)	IEC60320-C14	—	—	E11B102A002AM	p. 5	p. 3
					✓	—	E11B102A002DM	p. 5	p. 3
				—	—	E11B102A012AM	p. 5	p. 3	
	1	0.8		NEMA L6-20P	—	—	E11B102A002AMUJ	p. 6	p. 3
					—	✓	E11B102A012AMUJ	p. 6	p. 3
	2	1.6		IEC60320-C20	—	—	E11B202A002AM	p. 5	p. 3
					—	—	E11B302A002AM	p. 5	p. 3
3	2.4	IEC60320-C20	—	—	E11B102A002AM	p. 5	p. 3		

* At a 25°C ambient temperature, 0.8 load power factor, using new, fully charged batteries. The values in parentheses are the values at a load power factor of 0.7.

Reduces Battery Drain and Degradation

- With its wide input voltage range,⁽²⁾ this UPS reduces the number of unnecessary transfers to battery power when power conditions are poor, reducing battery drain and deterioration.
- This extends battery backup time for critical loads while reducing running costs including battery replacement.

(2) The 100 V and 200 V models have input voltage ranges of 55 to 150 V and 110 to 300 V, respectively. The input frequency range is 40 to 120 Hz for both models.

Wide Operating Temperature Range

- The operating temperature range is -10 to +55°C. (The upper limit is +40°C for UL/CE certified models) This provides the product with a higher degree of freedom of installation, allowing it to be installed in locations with large temperature differences.

Variety of Input and Output Options Available

- We have a variety of input plug and output outlet options available for selection, allowing the E11B to be used in various countries.

Installation examples



Mountable in an EIA standard 19-inch rack
 Rack-mounting brackets are included as standard. Rack support rails are optional.



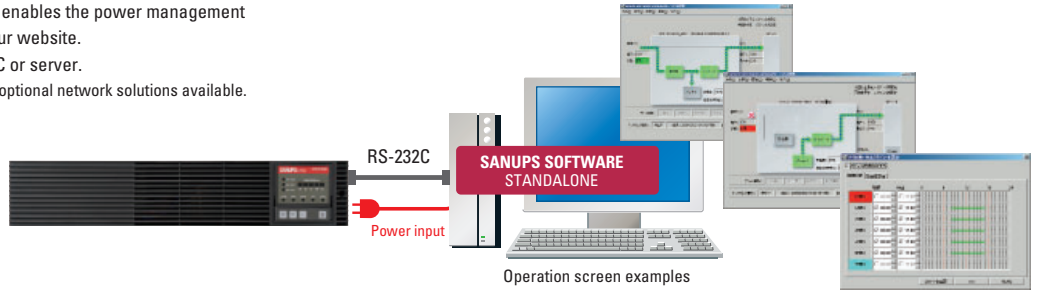
Vertical installation
 Vertical stands are optional.

SANUPS SOFTWARE STANDALONE

A free software program (Windows version) that enables the power management from computers is available for download from our website.
 UPS status can be checked at a glance from a PC or server.
 Note: For power management via a network, we have optional network solutions available.

Main functions

- Automatic start-up/shutdown of computers
- Scheduled operation
- UPS status display
- Message display
- UPS event log

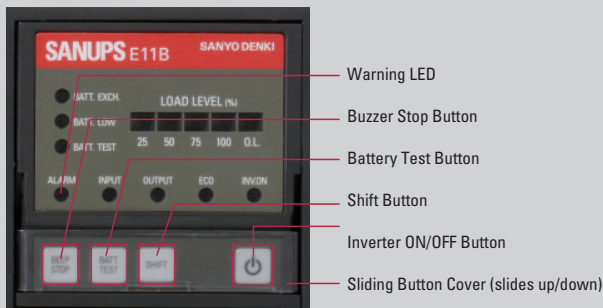


Battery Cold Start Function

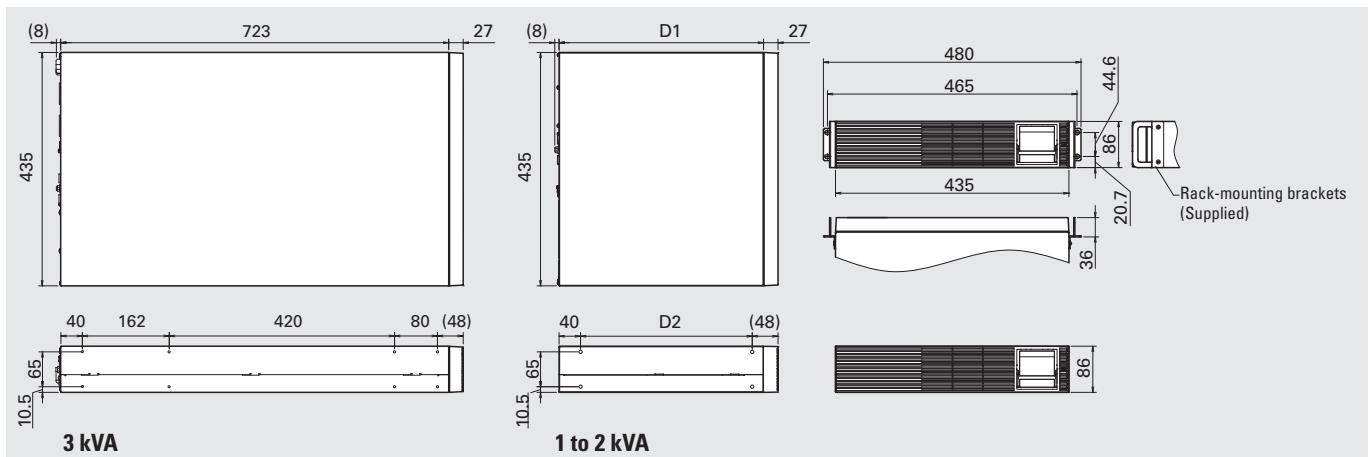
Batteries can start up the UPS even when grid AC power is not available, enabling inverter operation. The default setting is "Disabled."

Operating Panel

LED Panel



Dimensions (Unit: mm)



Output capacity	D1	D2	Mass
1 kVA	381	320	15 kg
1.5 kVA	473	412	20 kg
2 kVA	538	477	25 kg
3 kVA	723	—	39 kg

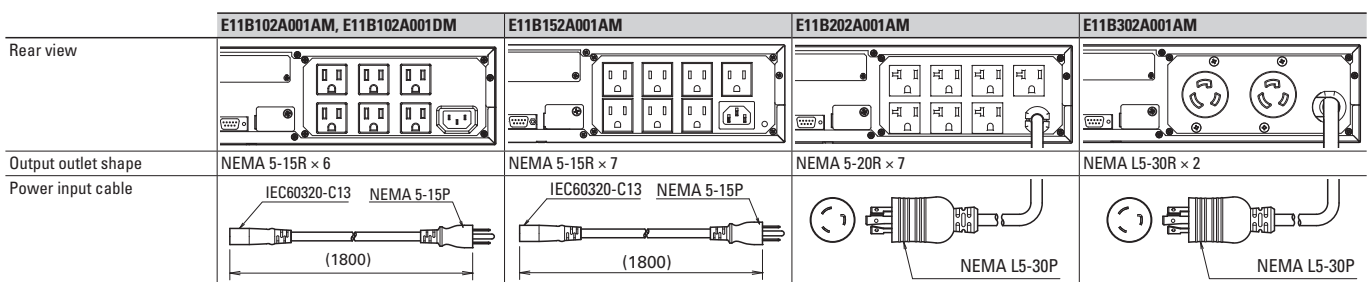
Specifications

100 v model

Model no.	E11B102A001AM		E11B152A001AM		E11B202A001AM		E11B302A001AM								
Model no. (Double Conversion mode fixed)	E11B102A001DM		-		-		-								
Rated output capacity (apparent power / active power)	1.0 kVA / 0.8 kW		1.5 kVA / 1.2 kW		2.0 kVA / 1.6 kW		3.0 kVA / 2.4 kW								
Technology	Hybrid ⁽¹⁾														
Cooling method	Forced air cooling														
No. of phases/wires	Single-phase 2-wire ⁽²⁾														
Rated voltage (Same as output)	100/110/115/120 V														
Voltage range	In Double Conversion mode		At load level < 40%: 55 to 150 V												
			At load level < 70%: 68 to 144 V												
Rated frequency	In Economy mode		At load level ≥ 70%: 80 to 144 V												
			Within ±8% of rated voltage												
Frequency range	In Double Conversion mode fixed setting		Within ±1% of rated frequency (Synchronization range)												
Required capacity ⁽⁴⁾	Input power factor		40 to 120 Hz (Asynchronous operation range)		Within ±1, 3, or 5% of rated frequency (Factory setting is ±3%; synchronization range)										
			In automatic transfer setting		40 to 120 Hz (Asynchronous operation range)										
No. of phases/wires	Single-phase 2-wire														
Rated voltage (Changeable with settings)	100/110/115/120 V (Factory setting: 100 V)														
Voltage regulation	In Double Conversion mode		Within ±2% of rated voltage												
			In Economy mode		Within -10 to +8% of rated voltage										
Rated frequency (same as input)		50/60 Hz													
Frequency regulation	In grid operation	In Double Conversion mode fixed setting		Within ±1% of rated frequency											
		In automatic transfer setting		Within ±1, 3, or 5% of rated frequency (Factory setting: ±3%)											
Voltage harmonic distortion (At rated output)	In battery operation		Within ±0.5% of rated frequency (This applies in asynchronous operation too)												
	At linear load		3% or less												
Load power factor	At rectifier load		8% or less												
	Rated		0.8 lagging (Variation range: 0.7 lagging to 1.0)												
Transient voltage fluctuation	For abrupt load change		Within ±5% of rated voltage (For 0⇌100% load step changes at rated input)												
	For loss or return of input power		Within ±5% of rated voltage (At rated output)												
	For abrupt input voltage change		Within ±5% of rated voltage (For ±10% abrupt change)												
Overcurrent protection								Automatic transfer to bypass (With automatic retransfer function)							
Overload capability	Inverter	In Double Conversion mode		105% (for 200 ms)											
		Bypass		200% (for 30 s), 800% (for 2 cycles)											
Battery	Type								Small-sized valve-regulated lead-acid (VRLA) battery						
	Battery backup time ⁽⁵⁾								3 min (5 min)						
	Expected life ⁽⁶⁾								Approx. 5 years						
	Battery capacity (At 15-minute rate)		34 W (2 series)		34 W (3 series)		34 W (4 series)		34 W (6 series)						
Battery self-test								Automatic							
Interface	PC port								RS-232C, USB Type B ⁽⁷⁾ (Cannot be used at the same time)						
	Remote port								Remote ON/OFF						
	Dry contact								Optional dry contact interface card is required						
	Network support								Optional LAN interface card is required						
Acoustic noise (In Double Conversion mode)								48 dB	51 dB	55 dB					
Heat dissipation (In Double Conversion mode at rated output, after battery charging completed)								130 W	195 W	260 W	390 W				
Input leakage current (This applies in asynchronous operation too)								3 mA or less		3.5 mA or less					
Operating environment								Ambient temperature: -10 to +55°C; ⁽⁸⁾ relative humidity: 20 to 90% (non-condensing)							
Storage environment ⁽⁹⁾								Ambient temperature: -15 to +60°C; relative humidity: 20 to 90% (non-condensing)							
EMC standard								VCCI Class A							
Separate options															
Vertical stands								STAND2UA00							
Rack support rails ⁽¹⁰⁾								RM030							
Replacement battery pack model no.								BPE11B102A00		BPE11B152A00		BPE11B202A00		BPE11B302A00	

- (1) When the UPS transfers from Economy mode to battery operation, there will be an interruption less than 8 ms. Fix the operation mode to Double Conversion mode for applications that require uninterrupted transfer.
- (2) If single-wire grounding the AC input and output, set the input/output ground phase according to the UPS specification. The W (N) terminal of AC input (S phase) and the W (N) terminal of AC output (V phase) are to be grounded.
- (3) The inverter synchronizes with AC input and allows an uninterrupted transfer to bypass provided that the AC input frequency is within a range of the rated frequency ±3% (1, 3, or 5% selectable).
- (4) Max. capacity during battery recovery charging

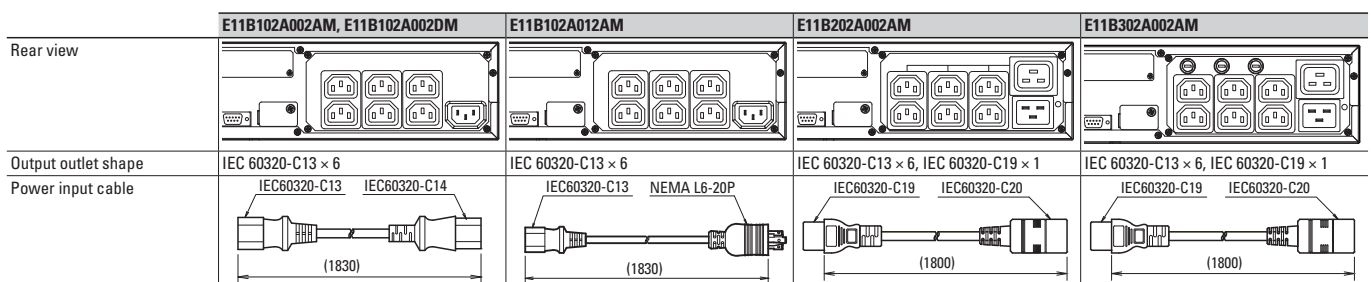
- (5) At 25°C ambient temperature and load power factor of 0.8, using new, fully charged batteries. In parentheses are vAalues at 0.7 load power factor.
- (6) At an operating temperature of 25°C.
- (7) Use of USB interface requires driver installation.
- (8) Battery charging will stop when battery temperature exceeds 55°C.
- (9) To extend battery life, avoid use or storage for extended periods of time in environments exceeding +30°C. When a UPS is stored without being operated for a long period, recharge the batteries once a year.
- (10) Used for mounting the UPS on a standard 19-inch rack.



200 v model

Model no.	E11B102A002AM		E11B102A012AM	E11B202A002AM	E11B302A002AM
Model no. (Double Conversion mode fixed)	E11B102A002DM		-	-	-
Rated output capacity (apparent power / active power)	1.0 kVA / 0.8 kW			2.0 kVA / 1.6 kW	3.0 kVA / 2.4 kW
Technology	Topology		Hybrid ⁽¹⁾		
	Cooling method		Forced air cooling		
AC input	No. of phases/wires		Single-phase 2-wire ⁽²⁾		
	Rated voltage (Same as output)		200/208/220/230/240 V		
	Voltage range	In Double Conversion mode	At load level < 40%: 110 to 300 V At load level < 70%: 136 to 288 V At load level ≥ 70%: 160 to 288 V		
		In Economy mode	Within ±8% of rated voltage		
	Rated frequency		50/60 Hz (auto-sensing ⁽³⁾)		
	Frequency range	In Double Conversion mode fixed setting	Within ±1% of rated frequency (Synchronization range) 40 to 120 Hz (Asynchronous operation range)		
		In automatic transfer setting	Within ±1, 3, or 5% of rated frequency (Factory setting is ±3%; synchronization range) 40 to 120 Hz (Asynchronous operation range)		
Required capacity ⁽⁴⁾		1.1 kVA or less	2.2 kVA or less	3.3 kVA or less	
Input power factor		0.95 or greater			
AC output	No. of phases/wires		Single-phase 2-wire		
	Rated voltage (Changeable with settings)		200/208/220/230/240 V (Factory setting: 200 V)		
	Voltage regulation	In Double Conversion mode	Within ±2% of rated voltage		
		In Economy mode	Within -10 to +8% of rated voltage		
	Rated frequency (same as input)		50/60 Hz		
	Frequency regulation	In grid operation	In Double Conversion mode fixed setting	Within ±1% of rated frequency	
			In automatic transfer setting	Within ±1, 3, or 5% of rated frequency (Factory setting: ±3%)	
		In battery operation	Within ±0.5% of rated frequency (This applies in asynchronous operation too)		
	Voltage harmonic distortion (At rated output)		At linear load	3% or less	
			At rectifier load	8% or less	
	Load power factor		Rated	0.8 lagging (Variation range: 0.7 lagging to 1.0)	
	Transient voltage fluctuation	For abrupt load change		Within ±5% of rated voltage (For 0↔100% load step changes at rated input)	
		For loss or return of input power		Within ±5% of rated voltage (At rated output)	
For abrupt input voltage change		Within ±5% of rated voltage (For ±10% abrupt change)			
Overcurrent protection		Automatic transfer to bypass (With automatic retransfer function)			
Overload capability	Inverter	In Double Conversion mode	105% (for 200 ms)		
	Bypass		200% (for 30 s), 800% (for 2 cycles)		
Battery	Type		Small-sized valve-regulated lead-acid (VRLA) battery		
	Battery backup time ⁽⁵⁾		3 min (5 min)		
	Expected life ⁽⁶⁾		Approx. 5 years		
	Battery capacity (At 15-minute rate)		34 W (2 series)	34 W (4 series)	34 W (6 series)
Battery self-test		Automatic			
Interface	PC port		RS-232C, USB Type B ⁽⁷⁾ (Cannot be used at the same time)		
	Remote port		Remote ON/OFF		
	Dry contact		Optional dry contact interface card is required		
	Network support		Optional LAN interface card is required		
Acoustic noise (In Double Conversion mode)		48 dB	55 dB		
Heat dissipation (In Double Conversion mode at rated output, after battery charging completed)		130 W	260 W	390 W	
Input leakage current (This applies in asynchronous operation too)		3 mA or less	5 mA or less	7 mA or less	
Operating environment		Ambient temperature: -10 to +55°C; ⁽⁸⁾ relative humidity: 20 to 90% (non-condensing)			
Storage environment ⁽⁹⁾		Ambient temperature: -15 to +60°C; relative humidity: 20 to 90% (non-condensing)			
EMC standard		VCCI Class A			
Separate options					
Vertical stands		STAND2UA00			
Rack support rails ⁽¹⁰⁾		RM030			
Replacement battery pack model no.		BPE11B102A00	BPE11B102A00	BPE11B202A00	BPE11B302A00

- (1) When the UPS transfers from Economy mode to battery operation, there will be an interruption less than 8 ms. Fix the operation mode to Double Conversion mode for applications that require uninterrupted transfer.
- (2) If single-wire grounding the AC input and output, set the input/output ground phase according to the UPS specification. The W (N) terminal of AC input (S phase) and the W (N) terminal of AC output (V phase) are to be grounded.
- (3) The inverter synchronizes with AC input and allows an uninterrupted transfer to bypass provided that the AC input frequency is within a range of the rated frequency ±3% (1, 3, or 5% selectable).
- (4) Max. capacity during battery recovery charging
- (5) At 25°C ambient temperature and load power factor of 0.8, using new, fully charged batteries. In parentheses are vA values at 0.7 load power factor.
- (6) At an operating temperature of 25°C.
- (7) Use of USB interface requires driver installation.
- (8) Battery charging will stop when battery temperature exceeds 55°C.
- (9) To extend battery life, avoid use or storage for extended periods of time in environments exceeding +30°C. When a UPS is stored without being operated for a long period, recharge the batteries once a year.
- (10) Used for mounting the UPS on a standard 19-inch rack.









Specifications

UL/CE certified models

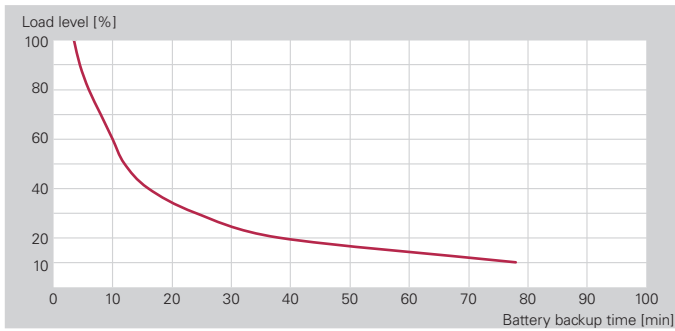
Model no.	E11B102A001AMUJ		E11B102A002AMUJ	E11B102A012AMUJ
UL-registered no.	E11B102U001J		E11B102U002J	E11B102U002J
Rated output capacity (apparent power / active power)	1.0 kVA / 0.8 kW			
Technology	Hybrid ⁽¹⁾			
Toplogy	Hybrid ⁽¹⁾			
Cooling method	Forced air cooling			
No. of phases/wires	Single-phase 2-wire ⁽²⁾			
Rated voltage (Same as output)	100/110/115/120 V		200/208/220/230/240 V	
Voltage range	In Double Conversion mode		At load level < 40%: 55 to 150 V	
			At load level < 70%: 68 to 144 V	
Voltage range	In Economy mode		At load level < 40%: 110 to 300 V	
			At load level < 70%: 136 to 288 V	
Voltage range	In Economy mode		At load level ≥ 70%: 80 to 144 V	
			At load level ≥ 70%: 160 to 288 V	
Rated frequency	50/60 Hz (auto-sensing ⁽³⁾)			
Frequency range	In Double Conversion mode fixed setting		Within ±1% of rated frequency (Synchronization range)	
			40 to 120 Hz (Asynchronous operation range)	
Frequency range	In automatic transfer setting		Within ±1, 3, or 5% of rated frequency (Factory setting is ±3%; synchronization range)	
			40 to 120 Hz (Asynchronous operation range)	
Required capacity ⁽⁴⁾	1.1 kVA or less			
Input power factor	0.95 or greater			
No. of phases/wires	Single-phase 2-wire			
Rated voltage (Changeable with settings)	100/110/115/120 V (Factory setting: 100 V)		200/208/220/230/240 V (Factory setting: 200 V)	
Voltage regulation	In Double Conversion mode		Within ±2% of rated voltage	
	In Economy mode		Within -10 to +8% of rated voltage	
Rated frequency (same as input)	50/60 Hz			
Frequency regulation	In grid operation	In Double Conversion mode fixed setting		Within ±1% of rated frequency
		In automatic transfer setting		Within ±1, 3, or 5% of rated frequency (Factory setting: ±3%)
Voltage harmonic distortion (At rated output)	In battery operation		Within ±0.5% of rated frequency (This applies in asynchronous operation too)	
	At linear load		3% or less	
Load power factor	At rectifier load		8% or less	
	Rated		0.8 lagging (Variation range: 0.7 lagging to 1.0)	
Transient voltage fluctuation	For abrupt load change		Within ±5% of rated voltage (For 0↔100% load step changes at rated input)	
	For loss or return of input power		Within ±5% of rated voltage (At rated output)	
	For abrupt input voltage change		Within ±5% of rated voltage (For ±10% abrupt change)	
Overcurrent protection	Automatic transfer to bypass (With automatic retransfer function)			
Overload capability	Inverter	In Double Conversion mode		105% (for 200 ms)
	Bypass		200% (for 30 s), 800% (for 2 cycles)	
Battery	Type	Small-sized valve-regulated lead-acid (VRLA) battery		
	Battery backup time ⁽⁵⁾	3 min (5 min)		
	Expected life ⁽⁶⁾	Approx. 5 years		
	Battery capacity (At 15-minute rate)	34 W (2 series)		
Battery self-test	Automatic			
Interface	PC port	RS-232C, USB Type B ⁽⁷⁾ (Cannot be used at the same time)		
	Remote port	Remote ON/OFF		
	Dry contact	Optional dry contact interface card is required		
	Network support	Optional LAN interface card is required		
Acoustic noise (In Double Conversion mode)	40 dB		48 dB	
Heat dissipation (In Double Conversion mode at rated output, after battery charging completed)	130 W			
Input leakage current	3 mA or less			
Operating environment	Ambient temperature: -10 to +40°C, ⁽⁸⁾ relative humidity: 20 to 90% (non-condensing)			
Storage environment ⁽⁹⁾	Ambient temperature: -15 to +60°C, relative humidity: 20 to 90% (non-condensing)			
EMC standard	VCCI Class A FCC Part 15 Subpart B Class A, EN 62040-2 C2:2010, EN 55022:2010 Class A, EN 62040-2:2006, EN 55024:2010			
Separate options				
Vertical stands	STAND2UA00			
Rack support rails ⁽¹⁰⁾	RM030			

(1) When the UPS transfers from Economy mode to battery operation, there will be an interruption less than 8 ms. Fix the operation mode to Double Conversion mode for applications that require uninterrupted transfer.
 (2) If single-wire grounding the AC input and output, set the input/output ground phase according to the UPS specification. The W (N) terminal of AC input (S phase) and the W (N) terminal of AC output (V phase) are to be grounded.
 (3) The inverter synchronizes with AC input and allows an uninterrupted transfer to bypass provided that the AC input frequency is within a range of the rated frequency ±3% (1, 3, or 5% selectable).
 (4) Max. capacity during battery recovery charging

(5) At 25°C ambient temperature and load power factor of 0.8, using new, fully charged batteries. In parentheses are values at 0.7 load power factor.
 (6) At an operating temperature of 25°C.
 (7) Use of USB interface requires driver installation.
 (8) Battery charging will stop when battery temperature exceeds 55°C.
 (9) To extend battery life, avoid use or storage for extended periods of time in environments exceeding +30°C. When a UPS is stored without being operated for a long period, recharge the batteries once a year.
 (10) Used for mounting the UPS on a standard 19-inch rack.

	E11B102A001AMUJ	E11B102A002AMUJ	E11B102A012AMUJ
Output outlet shape	NEMA 5-15R × 6 	IEC 60320-C13 × 6 	IEC 60320-C13 × 6 
Input plug shape	NEMA 5-15P 	IEC 60320-C14 	NEMA L6-20P 

Load Level vs Backup Time



Note: Reference value at 25°C ambient temperature and load power factor of 0.8, using new, fully charged batteries.

Network Options

Item	Model no.	Remarks
LAN Interface Card	IPv6, Modbus TCP model	PRLANIF022A
	IPv6, Modbus TCP/RTU model	PRLANIF024A
Dry Contact Interface Card	Terminal block output	PRCONIF007
	D-sub output connector	PRCONIF008
SANUPS SOFTWARE Download version	Windows version, IPv6 model	PMS52□00DL ⁽²⁾
	Multi-OS version, ⁽¹⁾ IPv6 model	PMS53□00DL ⁽²⁾

-10 (10 licenses)
 -50 (50 licenses)
 -100 (100 licenses)

(1) Supports Windows, Unix, and Linux.

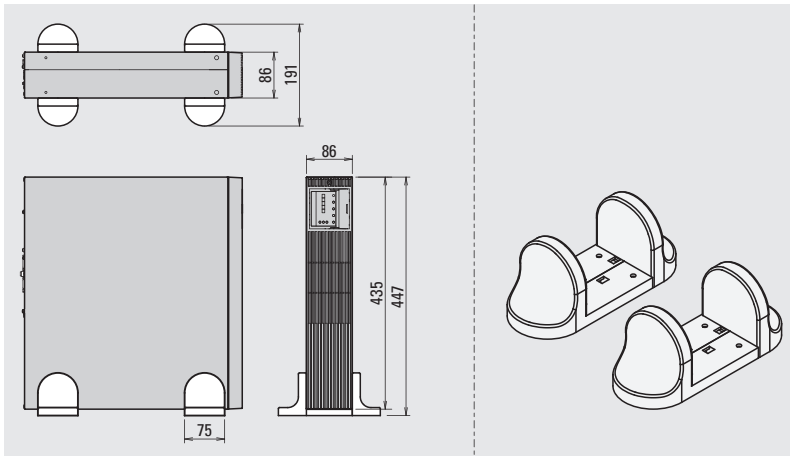
(2) The □ 's denote revision characters.

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

Dimensions of Options (Unit: mm)

Vertical Stands

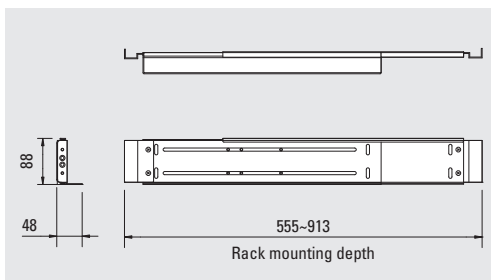
STAND2UA00



A set of 2 pieces

Rack Support Rails Used for mounting the UPS on a standard 19-inch rack. (A pair of left and right rails. Shown below is the left rail.)

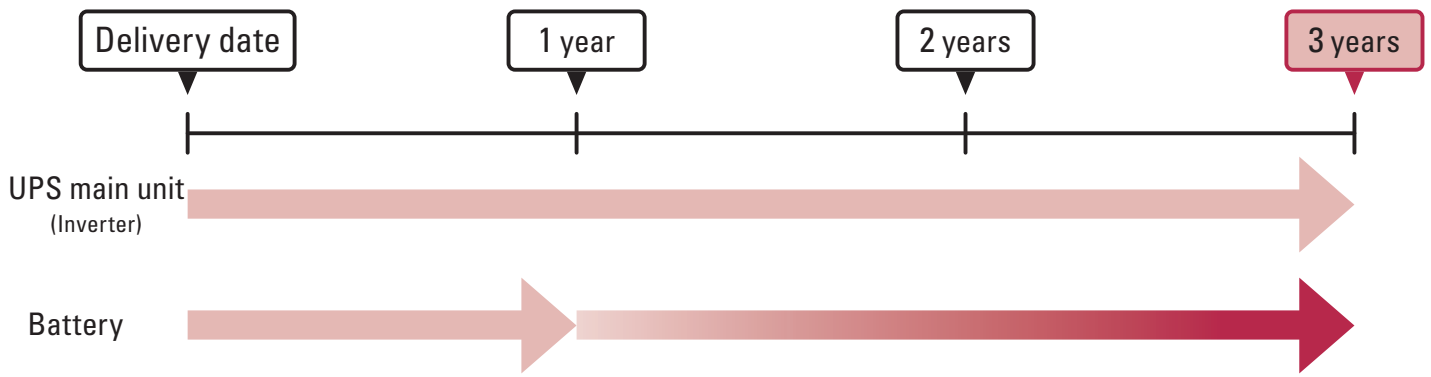
RM030



Rack mounting brackets are included with the UPS.

UPS warranty period

For warranty details, see the Warranty Card included with your UPS.



Battery warranty period is one year. It can be extended to three years by registering the UPS.

Note: This benefit is limited to users in Japan.

Complete registration on our website:

<https://www.sanyodenki.com>



ECO PRODUCTS

SANYO DENKI's ECO PRODUCTS are designed with the concept of lessening impact on the environment in the process from product development to waste. The product units and packaging materials are designed for reduced environmental impact. We have established our own assessment criteria on the environmental impacts applicable to all processes, ranging from design to manufacture. Those products that satisfy the criteria are accredited as ECO PRODUCTS.

● Fire Service Law and Fire Prevention Ordinance in Japan

The Fire Prevention Ordinance regulates the total battery capacity of storage batteries, including lithium-ion batteries, that can be installed indoors. When installing UPSs indoors, confirm that the total battery capacity in one location does not exceed 4,800 Ah cell. In other cases, consult with your local fire department for approval.

Note that the UPSs cannot be used as an emergency power supply for firefighting equipment.

● Building Standard Law in Japan

The UPSs cannot be used as backup power for building facilities conforming to the disaster management requirements defined in the Building Standard Law.

Notes before Purchase

- Before installing, assembling, and using the products, please read Instruction Manual carefully and use them properly.
- When using the products in the following applications, consult with 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 with us in advance.
- Never attempt to disassemble or alter the products in any way.
- For installation and maintenance work of the products, please consult with us or properly licensed personnel.
- Please contact us concerning the disposal of used storage batteries supplied by SANYO DENKI.

- The products listed in this catalog fall into the category 16 of Appended Table 1 of the Export Trade Control Order. To export the products as an individual part or to export a device into which the products are assembled, the "Inform Requirements" and "Objective Requirements" that the Ministry of Economy, Trade and Industry of Japan established based on the "Catch-all Controls" must be studied for applicability. Accordingly, appropriate export formalities must be performed.
- 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.
- The products listed in this catalog are equipped with lithium-ion batteries. When transporting the products, do not transport by air. When transporting by sea, transport must be carried out according to the International Maritime Dangerous Goods (IMDG) Code. Also, depending on the country and region, there are cases where regulations are established independently, so please consult with the shipping company in advance.

For any inquiry or consultation, please contact a SANYO DENKI sales representative.

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