

SANUPS E11B

Hybrid UPS

Ver.3
English



SANUPS E11B

UPS That Achieves Power Quality and Efficiency
and Can Be Used Worldwide



UPS unit

3-year
warranty

Lineup

[No. of phases/wires] Input/Output voltage	Output capacity		Battery Backup time*	Input plug	Fixed Double Conversion mode	Safety standards	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	6	4
				NEMA 5-15P	✓	—	E11B102A001DM	6	4
				NEMA 5-15P	—	✓	E11B102A001AMUJ	9	4
				NEMA 5-15P	✓	✓	E11B102A001DMUJ	9	4
	1.5	1.2	3 min (5 min)	NEMA 5-15P	—	—	E11B152A001AM	6	4
				NEMA 5-15P	✓	—	E11B152A001DM	6	4
				NEMA 5-20P	—	✓	E11B152A001AMUJ	9	4
				NEMA 5-20P	✓	✓	E11B152A001DMUJ	9	4
	2	1.6	3 min (5 min)	NEMA L5-30P	—	—	E11B202A001AM	6	4
				NEMA L5-30P	✓	—	E11B202A001DM	6	4
				NEMA L5-30P	—	✓	E11B202A001AMUJ	9	4
				NEMA L5-30P	✓	✓	E11B202A001DMUJ	9	4
				Terminal block	—	—	E11B202A001AMT	8	4
				Terminal block	✓	—	E11B202A001DMT	8	4
	3	2.4	3 min (5 min)	NEMA L5-30P	—	—	E11B302A001AM	6	4
				NEMA L5-30P	✓	—	E11B302A001DM	6	4
				NEMA L5-30P	—	✓	E11B302A001AMUJ	9	4
				NEMA L5-30P	✓	✓	E11B302A001DMUJ	9	4
				Terminal block	—	—	E11B302A001AMT	8	4
				Terminal block	✓	—	E11B302A001DMT	8	4
[Single-phase 2-wire] 200 V model 200/208/220/230/240 V	1	0.8	3 min (5 min)	IEC 60320-C14	—	—	E11B102A002AM	7	4
				IEC 60320-C14	✓	—	E11B102A002DM	7	4
				NEMA L6-20P	—	—	E11B102A012AM	7	4
				NEMA L6-20P	✓	—	E11B102A012DM	7	4
				IEC 60320-C14	—	✓	E11B102A002AMUJ	10	4
				IEC 60320-C14	✓	✓	E11B102A002DMUJ	10	4
				NEMA L6-20P	—	✓	E11B102A012AMUJ	10	4
				NEMA L6-20P	✓	✓	E11B102A012DMUJ	10	4
	2	1.6	3 min (5 min)	IEC 60320-C20	—	—	E11B202A002AM	7	4
				IEC 60320-C20	✓	—	E11B202A002DM	7	4
				IEC 60320-C20	—	✓	E11B202A002AMUJ	10	4
				IEC 60320-C20	✓	✓	E11B202A002DMUJ	10	4
				NEMA L6-20P	—	✓	E11B202A012AMUJ	11	4
				NEMA L6-20P	✓	✓	E11B202A012DMUJ	11	4
				Terminal block	—	—	E11B202A002AMT	8	4
				Terminal block	✓	—	E11B202A002DMT	8	4
	3	2.4	3 min (5 min)	IEC 60320-C20	—	—	E11B302A002AM	7	4
				IEC 60320-C20	✓	—	E11B302A002DM	7	4
				IEC 60320-C20	—	✓	E11B302A002AMUJ	11	4
				IEC 60320-C20	✓	✓	E11B302A002DMUJ	11	4
				NEMA L6-20P	—	✓	E11B302A012AMUJ	11	4
				NEMA L6-20P	✓	✓	E11B302A012DMUJ	11	4
				Terminal block	—	—	E11B302A002AMT	8	4
				Terminal block	✓	—	E11B302A002DMT	8	4

Note: 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.

Installation examples



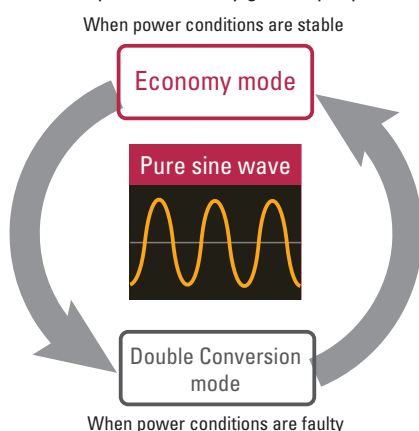
Mountable in an EIA standard 19-inch rack
Rack-mounting brackets are included as standard. Rack support rails are optional.



Vertical installation
Vertical stands are optional.

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.

SANUPS SOFTWARE STANDALONE

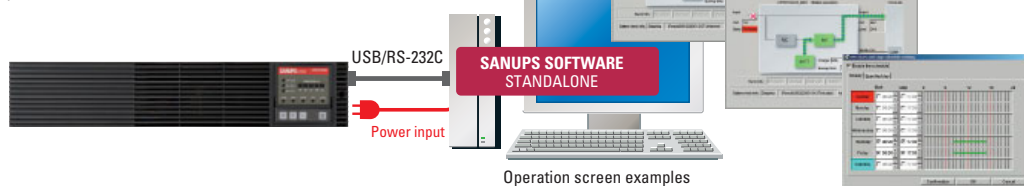
A free software program (Windows version) that enables the power management from computers is available for download from our website.

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

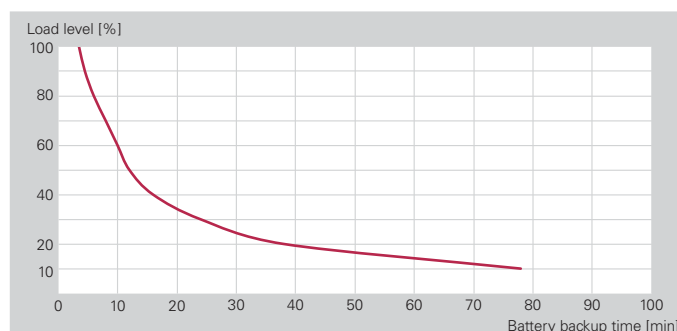


Battery Cold Start Function

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

With this function enabled, the UPS can be used as an emergency power supply in the event of a natural disaster or emergency. The default setting is "Disabled."

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.

Reduces Battery Drain and Degradation

- With its wide input voltage range,⁽²⁾ this UPS reduces the number of unnecessary transfers to battery power when input power is unstable, 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 either voltage.

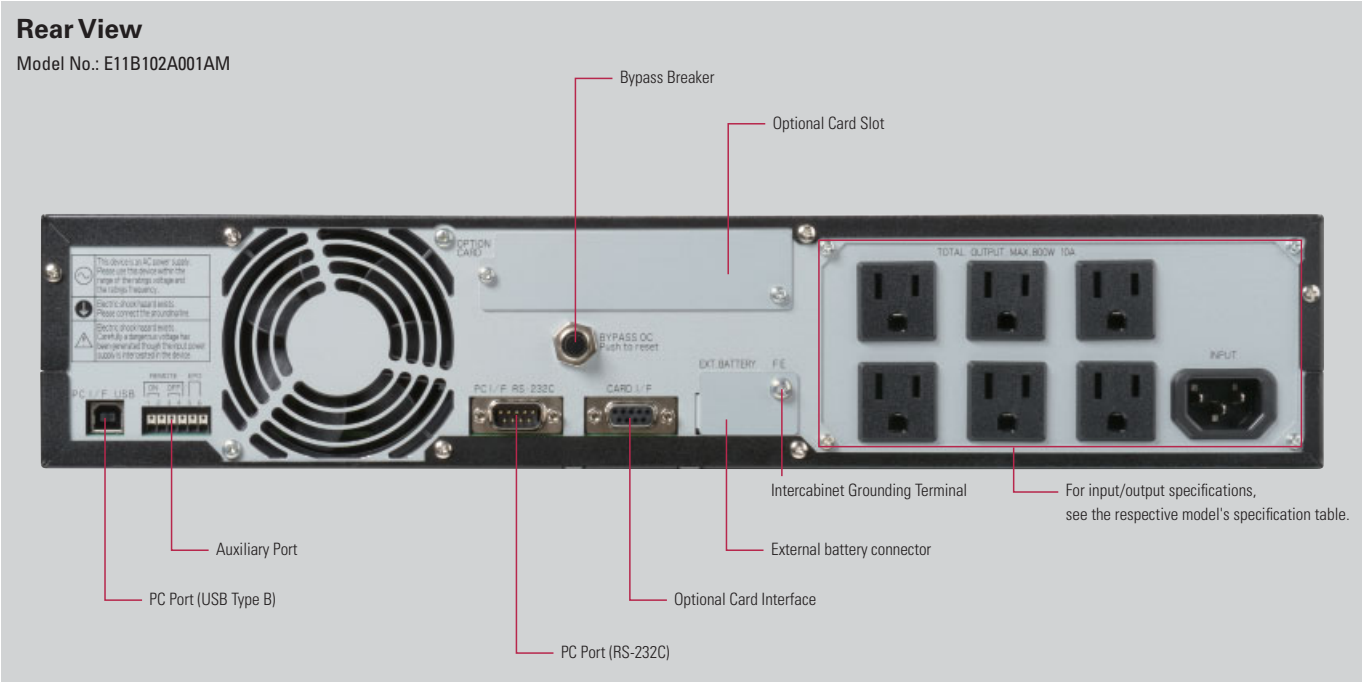
Wide Operating Temperature Range

- The E11B has a wide operating temperature range of -10 to +55°C. (The upper limit is +40°C for UL/CE/UKCA 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.

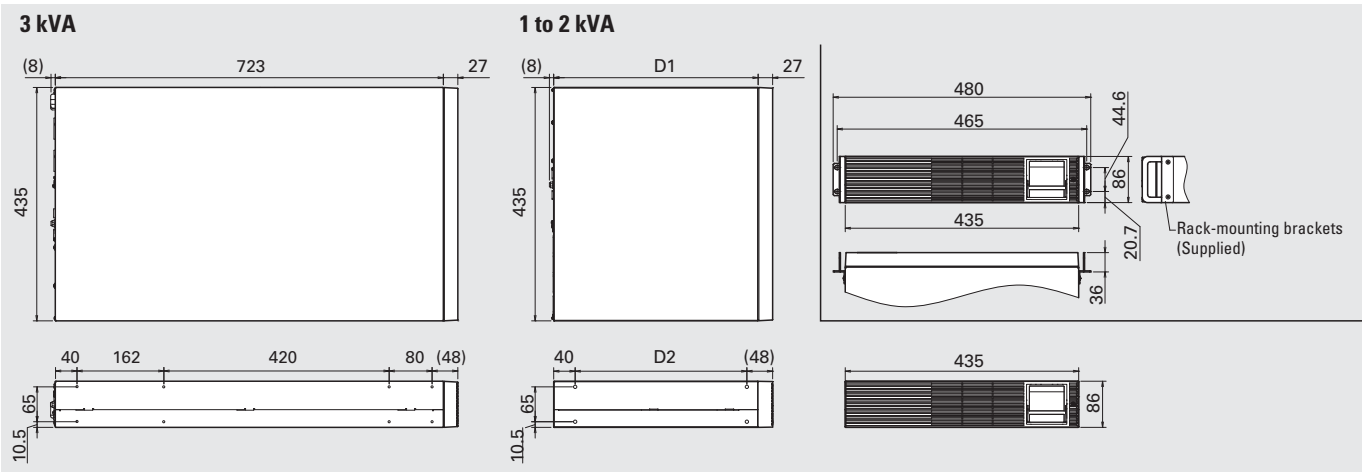
Variety of Input and Output Options Available

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

Views and Part Names



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	—	—	39 kg

Network Options

Item	Model no.	Remarks
LAN interface card	PRLANIF031	When installed in the optional card slot, this card enables 24/7 monitoring of UPS operations and status, and sends email notifications to system administrators for quick actions via network in the event of a power failure. Combined with a temperature and humidity sensor (Model no.: 9CT1-T, extension cable: CARD-CBL007), this card can also monitor the ambient temperature and humidity. Multiple servers (up to 50) can be shut down through communication protocols such as SSH, Telnet, and REST API.
Dry Contact Interface Card	Terminal block output	PRCONIF007
	D-sub output connector	PRCONIF008
SANUPS SOFTWARE for download	Windows version	PMS52 □ 00DL ⁽²⁾
	Multi-OS version ⁽¹⁾	PMS53 □ 00DL ⁽²⁾
		SANUPS SOFTWARE is used to shut down up to 50 network-connected servers, one of which is connected to the UPS via a serial cable, from the serially connected server. The software is not necessary when using the LAN interface card PRLANIF031. For the latest OS support information, refer to our website.
		For bulk purchase of software licenses, append appropriate -suffix to the model number.
		-10 (10 licenses)
		-50 (50 licenses)
		-100 (100 licenses)

(1) Supports Windows, Linux, and Unix.

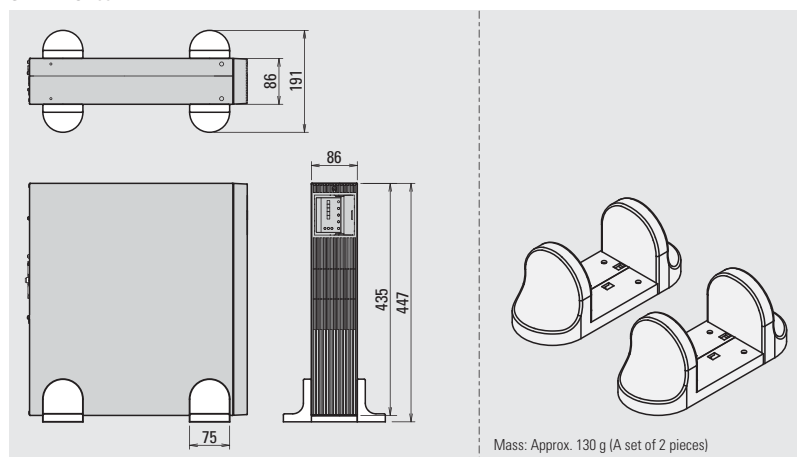
(2) The □ 's denote revision characters.

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

Dimensions of Options (Unit: mm)

Vertical Stands

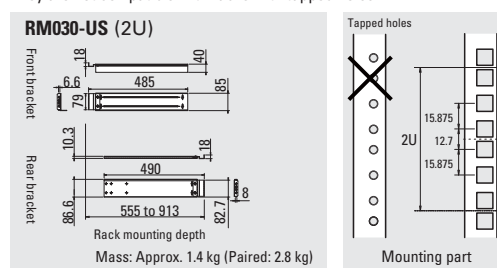
STAND2UA00



Rack Support Rails

Used for mounting the UPS on a standard 19-inch rack. A pair of left and right rails. Shown is the left rail.

They are not compatible with racks with tapped holes.



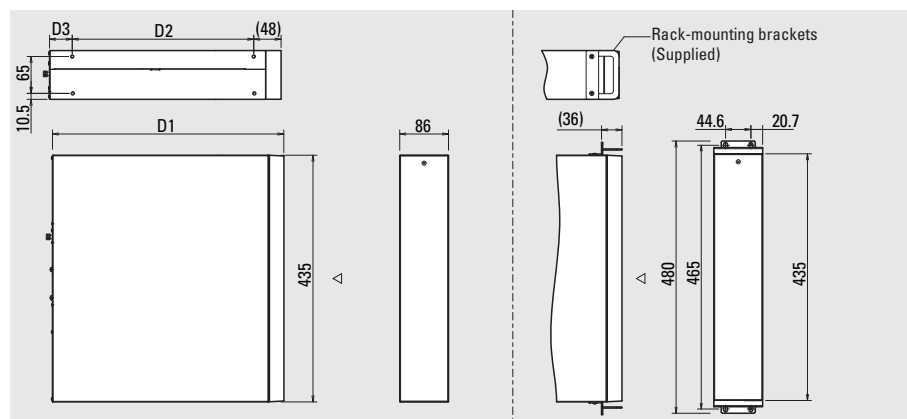
Rack mounting brackets for securing a UPS in a rack come included or installed.

Extended battery box

Model no.	Compatible UPS capacity	Backup time ⁽¹⁾			Dimensions					Mass	Floor mounting brackets + Joining brackets
		15 min	35 min	50 min	W	D1	D2	D3	H		
BCE11B102A01	1 kVA	1 unit	2 units	3 units	435	408	320	40	86	20 kg	FM2UA00BC
BCE11B152A01	1.5 kVA	1 unit	2 units	3 units		500	412			26 kg	
BCE11B202A01	2 kVA	1 unit	2 units	3 units		565	477			34 kg	
BCE11B302A01	3 kVA	1 unit	2 units	3 units		750	420	202		52 kg	FM2UA01BC

(1) At a 25°C ambient temperature and a load power factor of 0.8, using new, fully charged batteries.

Note: Extended battery boxes are not UL-certified.



Paint color: Black (Munsell N1.5)

Specifications

100 V model

Model no.	E11B102A001AM		E11B152A001AM	E11B202A001AM	E11B302A001AM	
Model no. (Fixed Double Conversion mode)	E11B102A001DM		E11B152A001DM	E11B202A001DM	E11B302A001DM	
Rated output capacity (apparent power / active power)		1 kVA / 0.8 kW		1.5 kVA / 1.2 kW	2 kVA / 1.6 kW	3 kVA / 2.4 kW
Technology	Topology		Hybrid ⁽¹⁾			
	Cooling system		Forced air cooling			
AC input	No. of phases/wires		Single-phase 2-wire ⁽²⁾			
	Rated voltage		100/110/115/120 V (Same as output)			
	Voltage range	In Double Conversion mode	At load level < 40%: 55 to 150 V At load level < 70%: 68 to 144 V At load level ≥ 70%: 80 to 144 V		At load level < 40%: 55 to 150 V At load level < 70%: 68 to 140 V At load level ≥ 70%: 80 to 140 V	
		In Economy mode	Within ±8% of rated voltage			
	Rated frequency		50/60 Hz (auto-sensing ⁽³⁾)			
	Frequency range	Fixed Double Conversion mode	Within ±1% of rated frequency (Synchronization range) 40 to 120 (Asynchronous operation range)			
		In automatic transfer setting	Within ±1/3/5% of rated frequency (Factory setting is ±3%. Synchronization range) 40 to 120 (Asynchronous operation range)			
	Required capacity ⁽⁴⁾		1.1 kVA or less	1.5 kVA or less	2.2 kVA or less	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)		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	Fixed Double Conversion mode	Within ±1% of rated frequency		
			In automatic transfer setting	Within ±1/3/5% 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		5 years (At an operating temperature of 25°C. For reference purposes only)			
	Battery capacity	(Ah-cell)	108	162	216	324
		(Wh)	204	306	408	612
Battery self-test		Automatic				
Interface	PC port		RS-232C, USB Type B ⁽⁶⁾ (Cannot be used at the same time)			
	Remote port		Remote ON/OFF			
	Dry contact output		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 during asynchronous operation too)		3 mA or less		3.5 mA or less		
Operating environment		Ambient temperature: -10 to +55°C, ⁽⁷⁾ relative humidity: 20 to 90% (non-condensing)				
Storage environment ⁽⁸⁾		Ambient temperature: -15 to +60°C; relative humidity: 20 to 90% (non-condensing)				
Expected service life (of the UPS unit excluding battery)		7 years (At a 30°C average ambient temperature. For reference purposes only)				
EMC standard		VCCI 32-1 Class A				
Separate options						
Vertical stands		STAND2UA00			—	
Floor mounting brackets		FM2UA00			FM2UA01	
Rack support rails ⁽⁹⁾		RM030-US (2U)				
Replacement battery pack model no.		S-BPE11B102A0003	S-BPE11B152A0003	S-BPE11B202A0003	S-BPE11B302A0003	
Air filter ⁽¹⁰⁾		FL011				

(1) When the UPS transfers from Economy mode to battery operation, there will be an interruption of approximately 8 ms. This can be caused by abrupt changes of input voltage or frequency while a UPS operates in Economy mode. 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) Use of USB interface requires driver installation.

(7) When the ambient temperature exceeds 40°C, battery charging will stop and a Device Error (minor malfunction) alarm will be generated.

(8) Avoid use or storage in 30°C or higher temperatures for extended periods of time, or the battery life will shorten. If a UPS is to be stored for a long period, it will be necessary to recharge batteries once every two to six months.

(9) Used for mounting the UPS in a standard 19-inch rack. Prior to purchase, check that the rails are mountable to your 19-inch rack.

(10) A front side air intake filter for preventing dust ingress.

	E11B102A001M	E11B152A001M	E11B202A001M	E11B302A001M
Rear view				
Output outlet shape	NEMA 5-15R × 6	NEMA 5-15R × 7	NEMA 5-20R × 7	NEMA L5-30R × 2
Power Input Cable	IEC60320-C13 NEMA 5-15P (1800 mm)	IEC60320-C13 NEMA 5-15P (1800 mm)	Approx. 1800 mm NEMA L5-30P	Approx. 1500 mm NEMA L5-30P

200 v model

Model no.			E11B102A002AM	E11B102A012AM	E11B202A002AM	E11B302A002AM
Model no. (Fixed Double Conversion mode)			E11B102A002DM	E11B102A012DM	E11B202A002DM	E11B302A002DM
Rated output capacity (apparent power / active power)			1 kVA / 0.8 kW		2.0 kVA / 1.6 kW	3 kVA / 2.4 kW
Technology	Topology		Hybrid ⁽¹⁾			
	Cooling system		Forced air cooling			
AC input	No. of phases/wires		Single-phase 2-wire ⁽²⁾			
	Rated voltage		200/208/220/230/240 V (Same as output)			
	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		At load level < 40%: 110 to 300 V At load level < 70%: 136 to 280 V At load level ≥ 70%: 160 to 280 V
		In Economy mode		Within ±8% of rated voltage		
	Rated frequency		50/60 Hz (auto-sensing ⁽³⁾)			
	Frequency range	Fixed Double Conversion mode		Within ±1% of rated frequency (Synchronization range) 40 to 120 (Asynchronous operation range)		
		In automatic transfer setting		Within ±1/3/5% of rated frequency (Factory setting is ±3%. Synchronization range) 40 to 120 (Asynchronous operation range)		
	Required capacity ⁽⁴⁾		1.1 kVA or less		2.2 kVA or less	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	Fixed Double Conversion mode	Within ±1% of rated frequency		
			In automatic transfer setting	Within ±1/3/5% 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		5 years (At an operating temperature of 25°C. For reference purposes only)			
	Battery capacity	(Ah-cell)	108	108	216	324
		(Wh)	204	204	408	612
Battery self-test		Automatic				
Interface	PC port		RS-232C, USB Type B ⁽⁶⁾ (Cannot be used at the same time)			
	Remote port		Remote ON/OFF			
	Dry contact output		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 during asynchronous operation too)			3 mA or less		3.5 mA or less	
Operating environment			Ambient temperature: -10 to +55°C, ⁽⁷⁾ relative humidity: 20 to 90% (non-condensing)			
Storage environment ⁽⁸⁾			Ambient temperature: -15 to +60°C; relative humidity: 20 to 90% (non-condensing)			
Expected service life (of the UPS unit excluding battery)			7 years (At a 30°C average ambient temperature. For reference purposes only)			
EMC standard			VCCI 32-1 Class A			
Separate options						
Vertical stands			STAND2UA00			–
Floor mounting brackets			FM2UA00			FM2UA01
Rack support rails ⁽⁹⁾			RM030-US (2U)			
Replacement battery pack model no.			S-BPE11B102A0003		S-BPE11B202A0003	S-BPE11B302A0003
Air filter ⁽¹⁰⁾			FL011			

(1) When the UPS transfers from Economy mode to battery operation, there will be an interruption of approximately 8 ms. This can be caused by abrupt changes of input voltage or frequency while a UPS operates in Economy mode. 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) Use of USB interface requires driver installation.

(7) When the ambient temperature exceeds 40°C, battery charging will stop and a Device Error (minor malfunction) alarm will be generated.

(8) Avoid use or storage in 30°C or higher temperatures for extended periods of time, or the battery life will shorten. If a UPS is to be stored for a long period, it will be necessary to recharge batteries once every two to six months.

(9) Used for mounting the UPS in a standard 19-inch rack. Prior to purchase, check that the rails are mountable to your 19-inch rack.

(10) A front side air intake filter for preventing dust ingress.

	E11B102A002 M	E11B102A012 M	E11B202A002 M	E11B302A002 M
Rear view				
Output outlet shape	IEC 60320-C13 × 6	IEC 60320-C13 × 6	IEC 60320-C13 × 6, IEC 60320-C19 × 1	IEC 60320-C13 × 6, IEC 60320-C19 × 1
Power Input Cable				

Specifications

Terminal block type

100 V model

200 V model

Model no.				E11B202A001AMT	E11B302A001AMT	E11B202A002AMT	E11B302A002AMT	
Model no. (Fixed Double Conversion mode)				E11B202A001DMT	E11B302A001DMT	E11B202A002DMT	E11B302A002DMT	
Rated output capacity (apparent power / active power)				2 kVA / 1.6 kW		3 kVA / 2.4 kW	2 kVA / 1.6 kW	3 kVA / 2.4 kW
Technology	Topology			Hybrid ⁽¹⁾				
	Cooling system			Forced air cooling				
AC input	No. of phases/wires			Single-phase 2-wire ⁽²⁾				
	Rated voltage (Same as output)			100/110/115/120 V (Same as output)			200/208/220/230/240 V (Same as output)	
	Voltage range	In Double Conversion mode		At load level < 40%: 55 to 150 V			At load level < 40%: 110 to 300 V	
				At load level < 70%: 68 to 140 V			At load level < 70%: 136 to 280 V	
		In Economy mode		At load level ≥ 70%: 80 to 140 V			At load level ≥ 70%: 160 to 280 V	
	Rated frequency			Within ±8% of rated voltage				
	50/60 Hz (auto-sensing ⁽³⁾)							
	Frequency range	Fixed Double Conversion mode		Within ±1% of rated frequency (Synchronization range)				
		In automatic transfer setting		40 to 120 (Asynchronous operation range)				
AC output	Within ±1/3/5% of rated frequency (Factory setting is ±3%. Synchronization range)							
	40 to 120 (Asynchronous operation range)							
	Required capacity ⁽⁴⁾			2.2 kVA or less		3 kVA or less	2.2 kVA or less	3 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	Fixed Double Conversion mode	Within ±1% of rated frequency				
			In automatic transfer setting	Within ±1/3/5% of rated frequency (Factory setting: ±3%)				
			In battery operation	Within ±0.5% of rated frequency (This applies during 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/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)					
			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			5 years (At an operating temperature of 25°C. For reference purposes only)				
	Battery capacity	(Ah-cell)	216		324	216		324
		(Wh)	408		612	408		612
Battery self-test			Automatic					
Interface	PC port			RS-232C, USB Type B ⁽⁶⁾ (Cannot be used at the same time)				
	Remote port			Remote ON/OFF				
	Dry contact output			Optional dry contact interface card is required				
	Network support			Optional LAN interface card is required				
Acoustic noise (In Double Conversion mode)				55 dB				
Heat dissipation (In Double Conversion mode at rated output, after battery charging completed)				260 W		390 W	260 W	390 W
Input leakage current (This applies during asynchronous operation too)				3.5 mA or less				
Operating environment				Ambient temperature: -10 to +55°C, ⁽⁷⁾ relative humidity: 20 to 90% (non-condensing)				
Storage environment ⁽⁸⁾				Ambient temperature: -15 to +60°C; relative humidity: 20 to 90% (non-condensing)				
Expected service life (of the UPS unit excluding battery)				7 years (At a 30°C average ambient temperature. For reference purposes only)				
EMC standard				VCCI 32-1 Class A				
Separate options								
Vertical stands				STAND2UA00		—	STAND2UA00	—
Floor mounting brackets				FM2UA00		FM2UA01	FM2UA00	FM2UA01
Rack support rails ⁽⁹⁾				RM030-US (2U)				
Replacement battery pack model no.				S-BPE11B202A0003		S-BPE11B302A0003	S-BPE11B202A0003	S-BPE11B302A0003
Air filter ⁽¹⁰⁾				FL011				

(1) When the UPS transfers from Economy mode to battery operation, there will be an interruption of approximately 8 ms. This can be caused by abrupt changes of input voltage or frequency while a UPS operates in Economy mode. 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% (±1/3/5% selectable).

(4) Max. capacity during battery recovery charging

(5) At a 25°C ambient temperature and load power factor of 0.8, using new, fully charged batteries. In parentheses are values at a 0.7 load power factor.

(6) Use of USB interface requires driver installation.

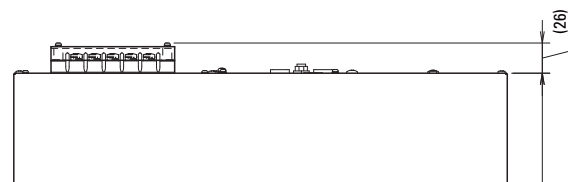
(7) When the ambient temperature exceeds 40°C, battery charging will stop and a Device Error (minor malfunction) alarm will be generated.

(8) Avoid use or storage in 30°C or higher temperatures for extended periods of time, or the battery life will shorten. If a UPS is to be stored for a long period, it will be necessary to recharge batteries once every two to six months.

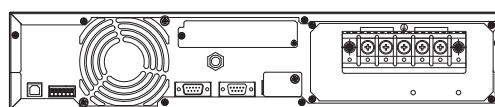
(9) Used for mounting the UPS in a standard 19-inch rack. Prior to purchase, check that the rails are mountable to your 19-inch rack.

(10) A front side air intake filter for preventing dust ingress.

Terminal block portion



Top view



Rear view

100 V model

UL/CE/UKCA certified models

Model no.				E11B102A001AMUJ	E11B152A001AMUJ	E11B202A001AMUJ	E11B302A001AMUJ
Model no. (Fixed Double Conversion mode)				E11B102A001DMUJ	E11B152A001DMUJ	E11B202A001DMUJ	E11B302A001DMUJ
UL-registered no.				E11B102U001J	E11B152U001J	E11B202U001J	E11B302U001J
Rated output capacity (apparent power / active power)				1 kVA / 0.8 kW	1.5 kVA / 1.2 kW	2 kVA / 1.6 kW	3 kVA / 2.4 kW
Technology	Topology			Hybrid ⁽¹⁾			
	Cooling system			Forced air cooling			
AC input	No. of phases/wires			Single-phase 2-wire ⁽²⁾			
	Rated voltage			100/110/115/120 V (Same as output)			
	Voltage range	In Double Conversion mode		At load level < 40%: 55 to 150 V		At load level < 40%: 55 to 150 V	
				At load level < 70%: 68 to 144 V		At load level < 70%: 68 to 140 V	
		In Economy mode		At load level ≥ 70%: 80 to 144 V		At load level ≥ 70%: 80 to 140 V	
	Rated frequency			Within ±8% of rated voltage			
				50/60 Hz (auto-sensing ⁽³⁾)			
	Frequency range	Fixed Double Conversion mode		Within ±1% of rated frequency (Synchronization range)			
		In automatic transfer setting		40 to 120 (Asynchronous operation range)			
					Within ±1/3/5% of rated frequency (Factory setting is ±3% Synchronization range)		
				40 to 120 (Asynchronous operation range)			
Required capacity ⁽⁴⁾				1.1 kVA or less	1.5 kVA or less	2.2 kVA or less	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)			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	Fixed Double Conversion mode	Within ±1% of rated frequency			
			In automatic transfer setting	Within ±1/3/5% of rated frequency (Factory setting: ±3%)			
			In battery operation	Within ±0.5% of rated frequency (This applies during 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/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			5 years (At an operating temperature of 25°C For reference purposes only)			
	Battery capacity	(Ah-cell)		108	162	216	324
		(Wh)		204	306	408	612
Interface	Battery self-test			Automatic			
	PC port			RS-232C, USB Type B ⁽⁶⁾ (Cannot be used at the same time)			
	Remote port			Remote ON/OFF			
	Dry contact output			Optional dry contact interface card is required			
	Network support			Optional LAN interface card is required			
Acoustic noise (In Double Conversion mode)				45 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				3 mA or less		3.5 mA or less	
Operating environment				Ambient temperature: -10 to +40°C, ⁽⁷⁾ relative humidity: 20 to 90% (non-condensing)			
Storage environment ⁽⁸⁾				Ambient temperature: -15 to +60°C, relative humidity: 20 to 90% (non-condensing)			
Safety standards				UL 1778 5th edition (E226092), CSA C22.2 No. 107.3-14 (3rd edition), CE marking (EN 62040-1:2008/A1:2013)			
Expected service life (of the UPS unit excluding battery)				7 years (At a 30°C average ambient temperature. For reference purposes only)			
EMC standard				VCCI 32-1 Class A, FCC Part 15 Subpart B Class A, EN 62040-2 C2:2010, EN 55032:2015 Class A, EN 62040-2:2006, EN 55035:2017/A11:2020			
Separate options							
Vertical stands				STAND2UA00		—	
Floor mounting brackets				FM2UA00		FM2UA01	
Rack support rails ⁽⁹⁾				RM030-US (2U)			
Air filter ⁽¹⁰⁾				FL011			

(1) When the UPS transfers from Economy mode to battery operation, there will be an interruption of approximately 8 ms. This can be caused by abrupt changes of input voltage or frequency while a UPS operates in Economy mode. 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% (±1/3/5% selectable).

(4) Max. capacity during battery recovery charging

(5) At a 25°C ambient temperature and load power factor of 0.8, using new, fully charged batteries. In parentheses are values at a 0.7 load power factor.

(6) Use of USB interface requires driver installation.

(7) When the ambient temperature exceeds 40°C, battery charging will stop and a Device Error (minor malfunction) alarm will be generated.

(8) Avoid use or storage in 30°C or higher temperatures for extended periods of time, or the battery life will shorten. If a UPS is to be stored for a long period, it will be necessary to recharge batteries once every two to six months.

(9) Used for mounting the UPS in a standard 19-inch rack. Prior to purchase, check that the rails are mountable to your 19-inch rack.

(10) A front side air intake filter for preventing dust ingress.

	E11B102A001 MUJ	E11B152A001 MUJ	E11B202A001 MUJ	E11B302A001 MUJ
Rear view				
Output outlet shape	NEMA 5-15R × 6	NEMA 5-20R × 7	NEMA L5-30R × 2	NEMA L5-30R × 2
Power input cable	IEC60320-C13 NEMA 5-15P (1800 mm)	IEC60320-C19 NEMA 5-20P (1800 mm)	Approx. 1800 mm NEMA L5-30P	Approx. 1500 mm NEMA L5-30P

Specifications

200 V model

UL/CE/UKCA certified models

Model no.				E11B102A002AMUJ	E11B102A012AMUJ	E11B202A002AMUJ
Model no. (Fixed Double Conversion mode)				E11B102A002DMUJ	E11B102A012DMUJ	E11B202A002DMUJ
UL-registered no.				E11B102U002J	E11B102U002J	E11B202U002J
Rated output capacity (apparent power / active power)				1 kVA / 0.8 kW		2 kVA / 1.6 kW
Technology	Topology			Hybrid ⁽¹⁾		
	Cooling system			Forced air cooling		
AC input	No. of phases/wires			Single-phase 2-wire ⁽²⁾		
	Rated voltage			200/208/220/230/240 V (Same as output)		
	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		At load level < 40%: 110 to 300 V At load level < 70%: 136 to 280 V At load level ≥ 70%: 160 to 280 V
		In Economy mode		Within ± 8% of rated voltage		
	Rated frequency			50/60 Hz (auto-sensing ⁽³⁾)		
	Frequency range	Fixed Double Conversion mode		Within ± 1% of rated frequency (Synchronization range) 40 to 120 (Asynchronous operation range)		
		In automatic transfer setting		Within ± 1/3/5% of rated frequency (Factory setting is ± 3%. Synchronization range) 40 to 120 (Asynchronous operation range)		
	Required capacity ⁽⁴⁾			1.1 kVA or less		2.2 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	Fixed Double Conversion mode	Within ± 1% of rated frequency		
			In automatic transfer setting	Within ± 1/3/5% 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 Bypass	In Double Conversion mode		105% (for 200 ms)		
				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			5 years (At an operating temperature of 25°C. For reference purposes only)		
	Battery capacity	(Ah-cell)	108	108	216	
		(Wh)	204	204	408	
Battery self-test			Automatic			
Interface	PC port			RS-232C, USB Type B ⁽⁶⁾ (Cannot be used at the same time)		
	Remote port			Remote ON/OFF		
	Dry contact output			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
Input leakage current				3 mA or less		3.5 mA or less
Operating environment				Ambient temperature: -10 to +40°C, ⁽⁷⁾ relative humidity: 20 to 90% (non-condensing)		
Storage environment ⁽⁸⁾				Ambient temperature: -15 to +60°C, relative humidity: 20 to 90% (non-condensing)		
Safety standards				UL 1778 5th edition (E226092), CSA C22.2 No. 107.3-14 (3rd edition), CE marking (EN 62040-1:2008/A1:2013)		
Expected service life (of the UPS unit excluding battery)				7 years (At a 30°C average ambient temperature. For reference purposes only)		
EMC standard				VCCI 32-1 Class A, FCC Part 15 Subpart B Class A, EN 62040-2 C2:2010, EN 55032:2015 Class A, EN 62040-2:2006, EN 55035:2017/A11:2020		
Separate options						
Vertical stands				STAND2UA00		
Floor mounting brackets				FM2UA00		
Rack support rails ⁽⁹⁾				RM030-US (2U)		
Air filter ⁽¹⁰⁾				FL011		

(1) When the UPS transfers from Economy mode to battery operation, there will be an interruption of approximately 8 ms. This can be caused by abrupt changes of input voltage or frequency while a UPS operates in Economy mode. 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% (±1/3/5% selectable).

(4) Max. capacity during battery recovery charging

(5) At a 25°C ambient temperature and load power factor of 0.8, using new, fully charged batteries. In parentheses are values at a 0.7 load power factor.

(6) Use of USB interface requires driver installation.

(7) When the ambient temperature exceeds 40°C, battery charging will stop and a Device Error (minor malfunction) alarm will be generated.

(8) Avoid use or storage in 30°C or higher temperatures for extended periods of time, or the battery life will shorten. If a UPS is to be stored for a long period, it will be necessary to recharge batteries once every two to six months.

(9) Used for mounting the UPS in a standard 19-inch rack. Prior to purchase, check that the rails are mountable to your 19-inch rack.

(10) A front side air intake filter for preventing dust ingress.

	E11B102A002 MUJ	E11B102A012 MUJ	E11B202A002 MUJ
Rear view			
Output outlet shape	IEC 60320-C13 × 6	IEC 60320-C13 × 6	IEC 60320-C13 × 6, IEC 60320-C19 × 1
Power input cable			

UL/CE/UKCA certified models

200 V model

E11B202A012AMUJ	E11B302A002AMUJ	E11B302A012AMUJ	Model no.
E11B202A012DMUJ	E11B302A002DMUJ	E11B302A012DMUJ	Model no. (Fixed Double Conversion mode)
E11B202U002J	E11B302U002J	E11B302U002J	UL-registered no.
2 kVA / 1.6 kW	3 kVA / 2.4 kW		Rated output capacity (apparent power / active power)
Hybrid ⁽¹⁾			Topology
Forced air cooling			Cooling system
Single-phase 2-wire ⁽²⁾			No. of phases/wires
200/208/220/230/240 V (Same as output)			Rated voltage
At load level < 40%: 110 to 300 V			In Double Conversion mode
At load level < 70%: 136 to 280 V			Voltage range
At load level ≥ 70%: 160 to 280 V			In Economy mode
Within ±8% of rated voltage			Rated frequency
50/60 Hz (auto-sensing ⁽³⁾)			Fixed Double Conversion mode
Within ±1% of rated frequency (Synchronization range)			Frequency range
40 to 120 (Asynchronous operation range)			In automatic transfer setting
Within ±1/3/5% of rated frequency (Factory setting is ±3%. Synchronization range)			Required capacity ⁽⁴⁾
40 to 120 (Asynchronous operation range)			Input power factor
2.2 kVA or less	3 kVA or less		No. of phases/wires
0.95 or greater			Rated voltage (Changeable with settings)
Single-phase 2-wire			Fixed Double Conversion mode
200/208/220/230/240 V (Factory setting: 200 V)			In Economy mode
Within ±2% of rated voltage			Voltage regulation
Within -10 to +8% of rated voltage			Rated frequency (same as input)
50/60 Hz			Fixed Double Conversion mode
Within ±1% of rated frequency			In grid operation
Within ±1/3/5% of rated frequency (Factory setting: ±3%)			In automatic transfer setting
Within ±0.5% of rated frequency (This applies during asynchronous operation too)			In battery operation
3% or less			At linear load
8% or less			At rectifier load
0.8 lagging (Variation range: 0.7 lagging to 1.0)			Voltage harmonic distortion
Within ±5% of rated voltage (For 0↔100% load step changes at rated input)			(At rated output)
Within ±5% of rated voltage (At rated output)			Load power factor
Within ±5% of rated voltage (For ±10% abrupt change)			For abrupt load change
Automatic transfer to bypass (With automatic retransfer function)			For loss/return of input power
105% (for 200 ms)			For abrupt input voltage change
200% (for 30 s), 800% (for 2 cycles)			Overcurrent protection
Small-sized valve-regulated lead-acid (VRLA) battery			In Double Conversion mode
3 min (5 min)			Inverter
5 years (At an operating temperature of 25°C. For reference purposes only)			Bypass
216	324	324	Type
408	612	612	Battery backup time ⁽⁵⁾
Automatic			Expected life
RS-232C, USB Type B ⁽⁶⁾ (Cannot be used at the same time)			(Ah-cell)
Remote ON/OFF			(Wh)
Optional dry contact interface card is required			Battery capacity
Optional LAN interface card is required			Battery self-test
55 dB			PC port
260 W	390 W		Remote port
3.5 mA or less			Dry contact output
Ambient temperature: -10 to +40°C, ⁽⁷⁾ relative humidity: 20 to 90% (non-condensing)			Network support
Ambient temperature: -15 to +60°C, relative humidity: 20 to 90% (non-condensing)			Acoustic noise (In Double Conversion mode)
UL 1778 5th edition (E226092), CSA C22.2 No. 107.3-14 (3rd edition), CE marking (EN 62040-1:2008/A1:2013)			Heat dissipation (In Double Conversion mode at rated output, after battery charging completed)
7 years (At a 30°C average ambient temperature. For reference purposes only)			Input leakage current
VCCI 32-1 Class A, FCC Part 15 Subpart B Class A, EN 62040-2 C2:2010, EN 55032:2015 Class A, EN 62040-2:2006, EN 55035:2017/A11:2020			Operating environment
			Storage environment ⁽⁸⁾
			Safety standards
			Expected service life (of the UPS unit excluding battery)
			EMC standard
			Separate options
			Vertical stands
			Floor mounting brackets
			Rack support rails ⁽⁹⁾
			Air filter ⁽¹⁰⁾

(1) When the UPS transfers from Economy mode to battery operation, there will be an interruption of approximately 8 ms. This can be caused by abrupt changes of input voltage or frequency while a UPS operates in Economy mode. 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% (±1/3/5% selectable).

(4) Max. capacity during battery recovery charging

(5) At a 25°C ambient temperature and load power factor of 0.8, using new, fully charged batteries. In parentheses are values at a 0.7 load power factor.

(6) Use of USB interface requires driver installation.

(7) When the ambient temperature exceeds 40°C, battery charging will stop and a Device Error (minor malfunction) alarm will be generated.

(8) Avoid use or storage in 30°C or higher temperatures for extended periods of time, or the battery life will shorten. If a UPS is to be stored for a long period, it will be necessary to recharge batteries once every two to six months.

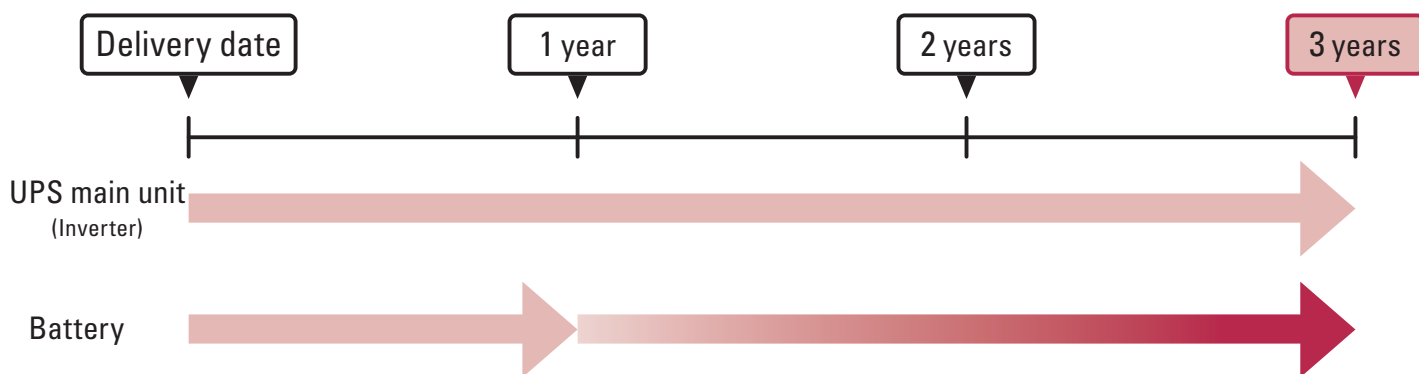
(9) Used for mounting the UPS in a standard 19-inch rack. Prior to purchase, check that the rails are mountable to your 19-inch rack.

(10) A front side air intake filter for preventing dust ingress.

E11B202A012 MUJ	E11B302A002 MUJ	E11B302A012 MUJ	Rear view
IEC 60320-C13 × 6, IEC 60320-C19 × 1	IEC 60320-C13 × 6, IEC 60320-C19 × 1	IEC 60320-C13 × 6, IEC 60320-C19 × 1	Output outlet shape
IEC60320-C19 NEMA L6-20P	IEC60320-C19 IEC60320-C20	IEC60320-C19 NEMA L6-20P	Power input cable
(1800 mm)	(1800 mm)	(1800 mm)	

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

ECO PRODUCTS are designed to reduce the environmental impacts throughout the product's life cycle. Ranging from design to manufacturing stages, the environmental impact of a product and its packaging materials is assessed against the eco-design requirements. Those products that satisfy the requirements 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 20 kWh. 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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