SANUPS E11B

Hybrid UPS



Ver. 2

SANYO DENKI

Downloaded from Arrow.com.

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 [kVA]	Output capacity [kW]	Battery Backup time*	Input plug	Fixed Double Conversion mode	UL/CE certified	Model no.	Page: Specifications	Page: 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 Vmodel 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.

Downloaded from Arrow.com.

Installation examples



Mountable in an EIA standard 19-inch rack

Rack-mounting brackets are included as standard. Rack support rails are optional.



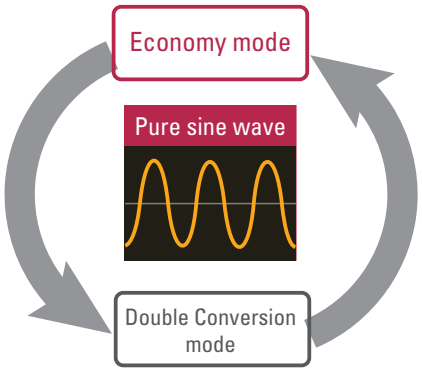
Vertical installation

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.

When power conditions are stable



When power conditions are faulty

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

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 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.

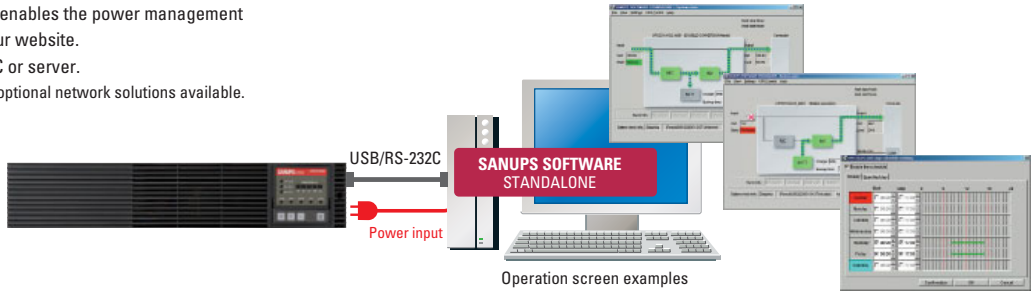
Variety of Input and Output Options Available

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

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

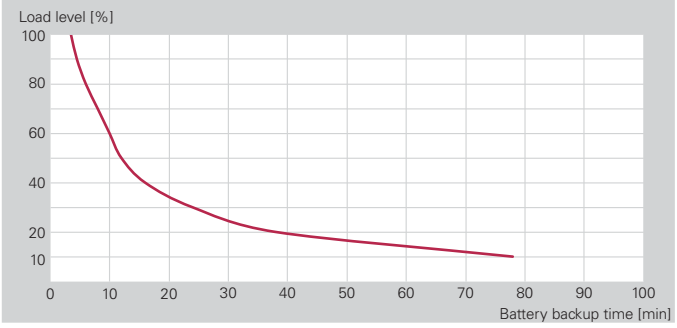


Operation screen examples

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.

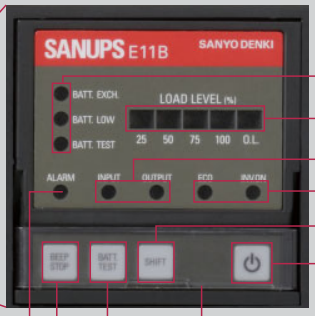
Downloaded from Arrow.com.

Views and Part Names

Front View



LED Panel



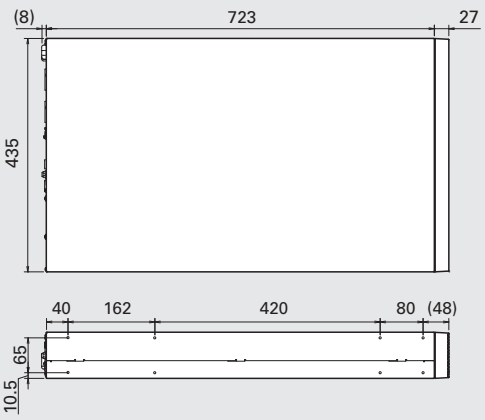
Rear View



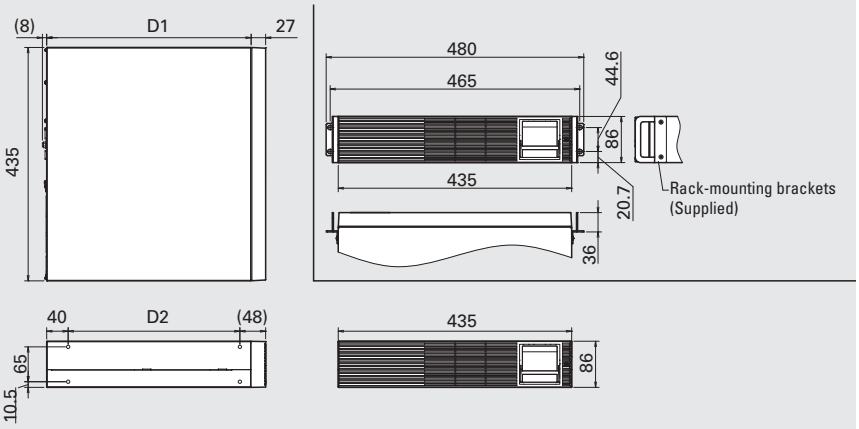
Model no.: E11B102A001AM

Dimensions (Unit: mm)

3 kVA



1 to 2 kVA



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

Downloaded from Arrow.com.

Network Options

Item	Model no.		Remarks
LAN Interface Card	IPv4/IPv6, Modbus TCP supported	**PRLANIF022A**	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.
	IPv4/IPv6, Modbus TCP/RTU supported	**PRLANIF024A**	
	IPv4/IPv6, environmental monitoring	**PRLANIF013B-US**	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	**PRCONIF007**	This card outputs no-voltage contact signals to notify UPS status. A and B contacts can be selected for each signal.
	D-sub output connector	**PRCONIF008**	
SANUPS SOFTWARE Download version	Windows version	**PMS52□00DL**(2)	This is an installation-based UPS management software. For the latest OS support information, refer to our website. For bulk purchase of software licenses, append an appropriate -suffix to the model number as on the right.
	Multi-OS version(1)	**PMS53□00DL**(2)	

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

(1) Supports Windows, Unix, and Linux.

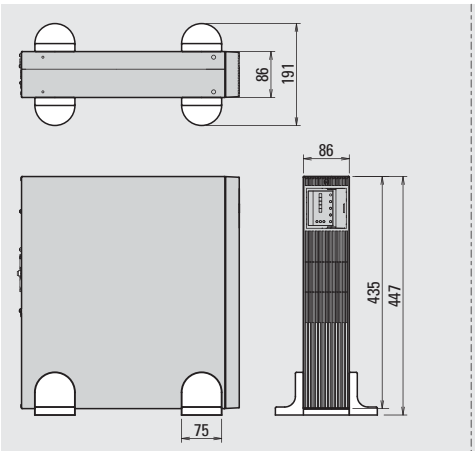
(2) The □' s denote revision characters.

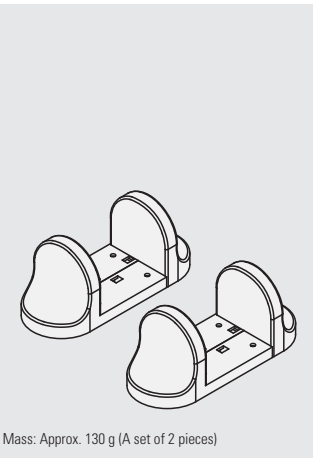
Note: Optional products have different operating temperature ranges from the UPS.

Dimensions of Options (Unit: mm)

Vertical Stands

STAND2UA00





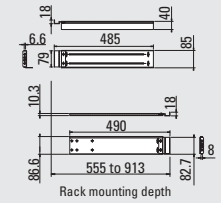
Mass: Approx. 130 g (A set of 2 pieces)

Rack support rails

Used for mounting the UPS in a standard 19-inch rack.

Rack mounting brackets for securing a UPS in a rack come included with or installed to the UPS. (A pair of left and right rails. Shown below is the left rail.)

RM030-US (2U)



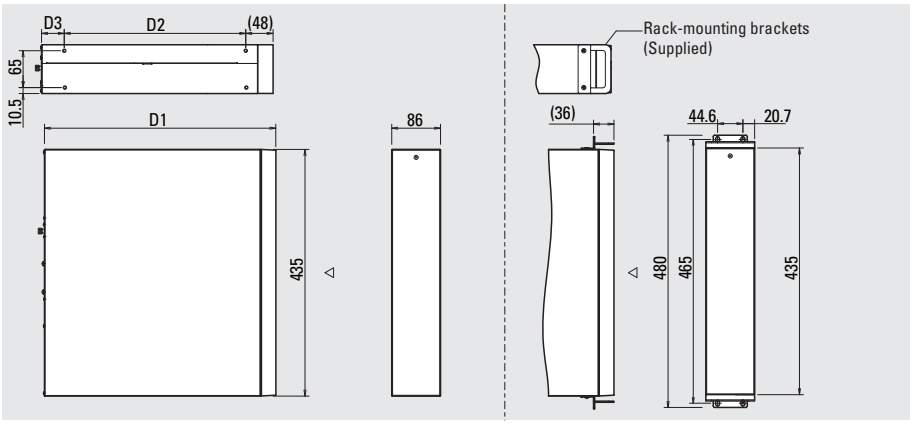
Mass: Approx. 1.4 kg (Paired: 2.8 kg)

Extended battery box

Model no.	Compatible UPS capacity	Backup time(1)			Dimensions					Mass
		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
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

(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)

Downloaded from Arrow.com.

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 (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 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 (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 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,(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			–
Floor mounting brackets				FM2UA00			FM2UA01
Rack support rails(10)				RM030			
Replacement battery pack model no.				S-BPE11B102A0003	S-BPE11B152A0003	S-BPE11B202A0003	S-BPE11B302A0003
Air filter(11)				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) At an operating temperature of 25°C.

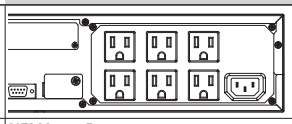
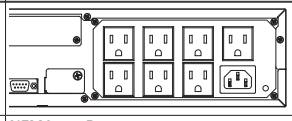
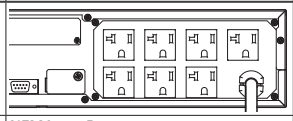
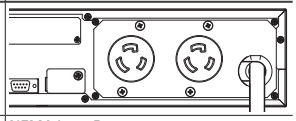
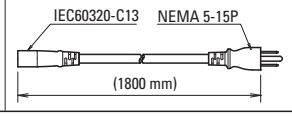
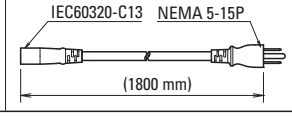
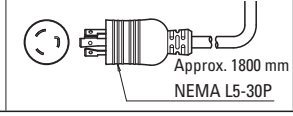
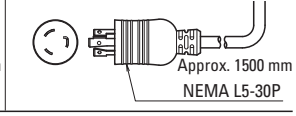
(7) Use of USB interface requires driver installation.

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

(9) 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.

(10) Used for mounting the UPS on a standard 19-inch rack.

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

	E11B102A001□M	E11B152A001□M	E11B202A001□M	E11B302A001□M
Rear view				
Output outlet shape	NEMA 5-15R × 6	NEMA 5-15R × 7	NEMA 5-20R × 7	NEMA L5-30R × 2
Power Input Cable				

Downloaded from Arrow.com.

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 (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		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 (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 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,(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			–
Floor mounting brackets				FM2UA00			FM2UA01
Rack support rails(10)				RM030			
Replacement battery pack model no.				S-BPE11B102A0003		S-BPE11B202A0003	S-BPE11B302A0003
Air filter(11)				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) At an operating temperature of 25°C.

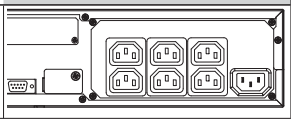
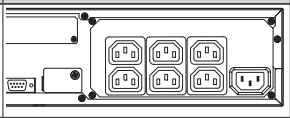
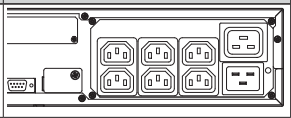
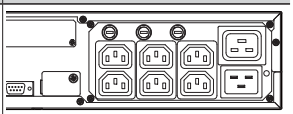
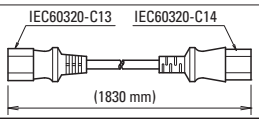
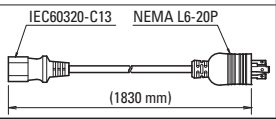
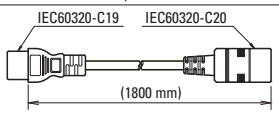
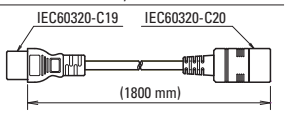
(7) Use of USB interface requires driver installation.

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

(9) 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.

(10) Used for mounting the UPS on a standard 19-inch rack.

(11) 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				

Downloaded from Arrow.com.

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		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 140 V At load level ≥ 70%: 80 to 140 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]			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			
AC output	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)			
		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 (4 series)	34 W (6 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 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,[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	–	STAND2UA00	–
Floor mounting brackets				FM2UA00	FM2UA01	FM2UA00	FM2UA01
Rack support rails[10]				RM030			
Replacement battery pack model no.				S-BPE11B202A0003	S-BPE11B302A0003	S-BPE11B202A0003	S-BPE11B302A0003
Air filter[11]				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) At an operating temperature of 25°C.

(7) Use of USB interface requires driver installation.

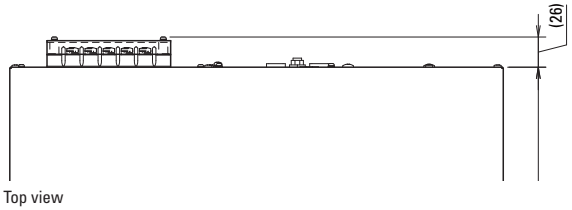
(8) When the ambient temperature exceeds 40°C, battery charging will stop and a Device Error (minor malfunction) alarm will be generated.

(9) 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.

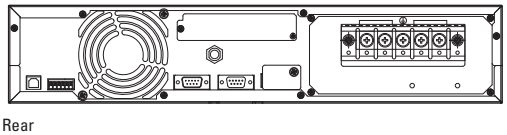
(10) Used for mounting the UPS in a standard 19-inch rack.

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

Terminal block portion



Top view



Rear

Downloaded from Arrow.com.

100 V model UL/CE 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 (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 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 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[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 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,[8] relative humidity: 20 to 90% (non-condensing)			
Storage environment[9]				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)			
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			–
Floor mounting brackets				FM2UA00			FM2UA01
Rack support rails[10]				RM030			
Air filter[11]				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) At an operating temperature of 25°C.

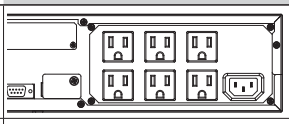
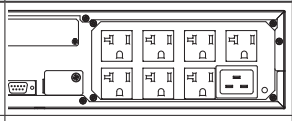
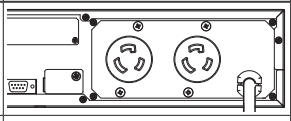
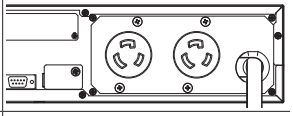
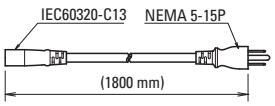
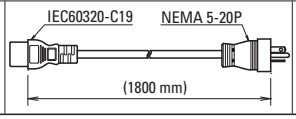
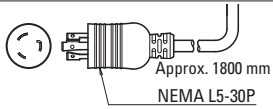
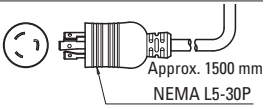
(7) Use of USB interface requires driver installation.

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

(9) 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.

(10) Used for mounting the UPS in a standard 19-inch rack.

(11) 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				

Downloaded from Arrow.com.

Specifications

200 V model **UL/CE 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 (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		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	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)
	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 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,[8] relative humidity: 20 to 90% (non-condensing)		
Storage environment[9]				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)		
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		
Floor mounting brackets				FM2UA00		
Rack support rails[10]				RM030		
Air filter[11]				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) At an operating temperature of 25°C.

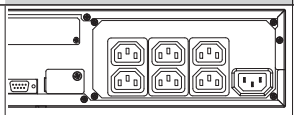
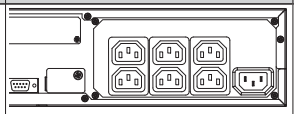
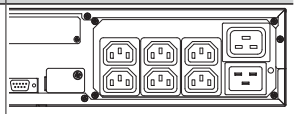
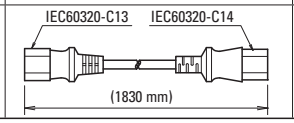
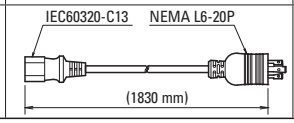
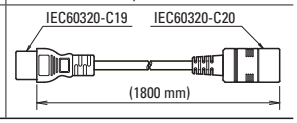
(7) Use of USB interface requires driver installation.

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

(9) 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.

(10) Used for mounting the UPS in a standard 19-inch rack.

(11) 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			

Downloaded from Arrow.com.

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		Technology
Forced air cooling			Cooling system		
Single-phase 2-wire(2)			No. of phases/wires		AC input
200/208/220/230/240 V			Rated voltage (Same as output)		
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 Double Conversion mode	Voltage range	
Within ±8% of rated voltage			In Economy mode		
50/60 Hz (auto-sensing(3))			Rated frequency		
Within ±1% of rated frequency (Synchronization range)			Fixed Double Conversion mode	Frequency range	
40 to 120 (Asynchronous operation range)					
Within ±1/3/5% of rated frequency (Factory setting is ±3%. Synchronization range)			In automatic transfer setting		
40 to 120 (Asynchronous operation range)					
2.2 kVA or less	3 kVA or less		Required capacity(4)		
0.95 or greater			Input power factor		
Single-phase 2-wire			No. of phases/wires		AC output
200/208/220/230/240 V (Factory setting: 200 V)			Rated voltage (Changeable with settings)		
Within ±2% of rated voltage			Fixed Double Conversion mode	Voltage regulation	
Within -10 to +8% of rated voltage			In Economy mode		
50/60 Hz			Rated frequency (same as input)		
Within ±1% of rated frequency			Fixed Double Conversion mode	In grid operation / Frequency regulation	
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	Voltage harmonic distortion (At rated output)	
8% or less			At rectifier load		
0.8 lagging (Variation range: 0.7 lagging to 1.0)			Rated	Load power factor	
Within ±5% of rated voltage (For 0⇔100% load step changes at rated input)			For abrupt load change	Transient voltage fluctuation	
Within ±5% of rated voltage (At rated output)			For loss/return of input power		
Within ±5% of rated voltage (For ±10% abrupt change)			For abrupt input voltage change		
Automatic transfer to bypass (With automatic retransfer function)			Overcurrent protection		
105% (for 200 ms)			In Double Conversion mode	Inverter / Overload capability	
200% (for 30 s), 800% (for 2 cycles)			Bypass		
Small-sized valve-regulated lead-acid (VRLA) battery			Type		Battery
3 min (5 min)			Battery backup time(5)		
Approx. 5 years			Expected life(6)		
34 W (4 series)	34 W (6 series)		Battery capacity (At 15-minute rate)		
Automatic			Battery self-test		
RS-232C, USB Type B(7) (Cannot be used at the same time)			PC port		Interface
Remote ON/OFF			Remote port		
Optional dry contact interface card is required			Dry contact output		
Optional LAN interface card is required			Network support		
55 dB			Acoustic noise (In Double Conversion mode)		
260 W	390 W		Heat dissipation (In Double Conversion mode at rated output, after battery charging completed)		
3.5 mA or less			Input leakage current		
Ambient temperature: -10 to +40°C,(8) relative humidity: 20 to 90% (non-condensing)			Operating environment		
Ambient temperature: -15 to +60°C, relative humidity: 20 to 90% (non-condensing)			Storage environment(9)		
UL 1778 5th edition (E226092), CSA C22.2 No. 107.3-14 (3rd edition), CE marking (EN 62040-1:2008/A1:2013)			Safety standards		
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			EMC standard		
			Separate options		
STAND2UA00	–		Vertical stands		
FM2UA00	FM2UA01		Floor mounting brackets		
RM030			Rack support rails(10)		
FL011			Air filter(11)		

(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) At an operating temperature of 25°C.

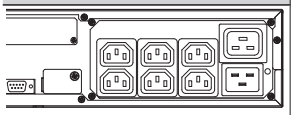
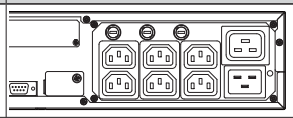
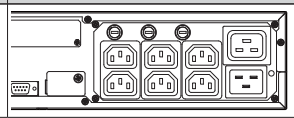
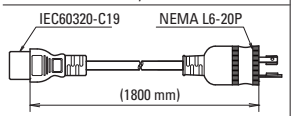
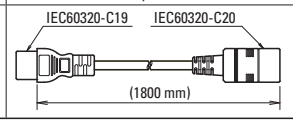
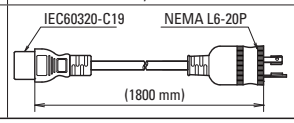
(7) Use of USB interface requires driver installation.

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

(9) 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.

(10) Used for mounting the UPS in a standard 19-inch rack.

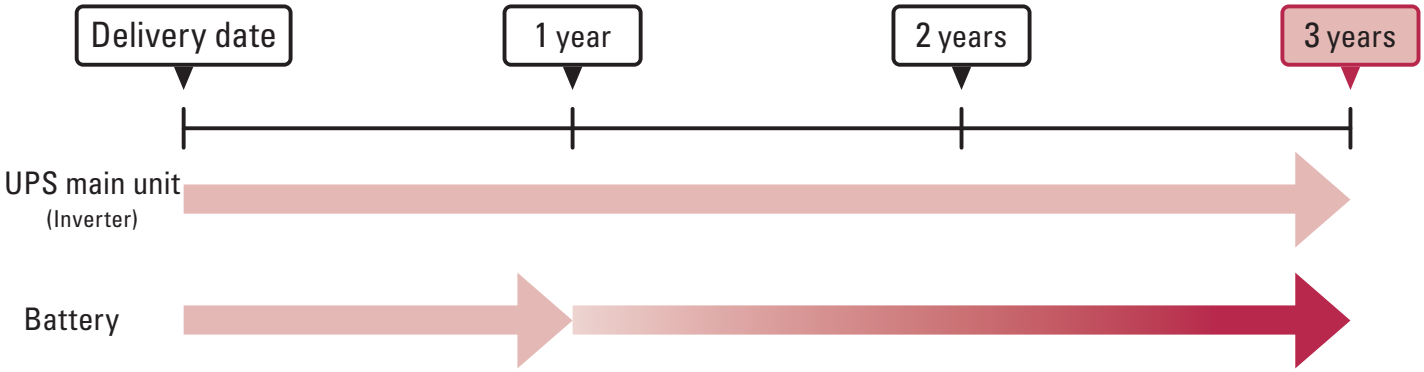
(11) A front side air intake filter for preventing dust ingress.

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
			Power input cable

Downloaded from Arrow.com.

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

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 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.

SANYO DENKI CO., LTD. 3-33-1 Minami-Otsuka, Toshima-ku, Tokyo 170-8451, Japan TEL: +81 3 5927 1020 https://www.sanyodenki.com/

The names of companies and/or their products specified in this document are the trade names, and/or trademarks and/or registered trademarks of such respective companies.
San Ace, SANUPS, and SANMOTION are trademarks of SANYO DENKI CO., LTD.
Specifications are subject to change without notice.

CATALOG No.P1041B010 '22.6

Downloaded from Arrow.com.