

SANUPS

ONLINE UPS

A11J



SANYO DENKI

Online UPS

A11J



Parallel Operation

[Number of phases, wires] Input/Output voltage	Output capacity		Battery runtime (at 0.8 output power factor)	I/O connector
	(kVA)	(kW)		
[Single-phase 2-wire] 200 V model 200/208/220/230/240 V	5	4.5		Terminal block
	10	9		
	15	13.5		
	20	17		

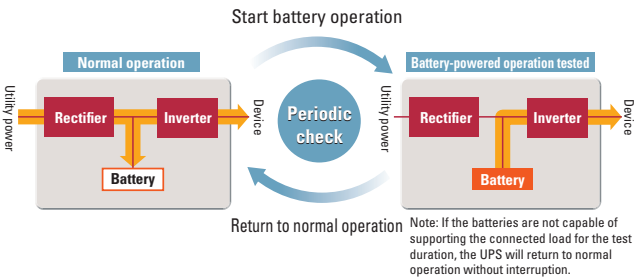
Parallel Redundant Operation

[Number of phases, wires] Input/Output voltage	Output capacity		Battery runtime (at 0.8 output power factor)	I/O connector
	(kVA)	(kW)		
[Single-phase 2-wire] 200 V model 200/208/220/230/240 V	5	4.5		Terminal block
	10	9		
	15	13.5		

Features

Enhanced Reliability with Self-Diagnosis

- Battery self-tests can be performed automatically at regular intervals, ensuring reliable operation in the event of a power failure.
- Battery testing requires no power interruption to loads.
Battery test interval can be set by the user.



Features

Scalable Capacity in Space-Saving Design

Total capacity can scale up to 20 kVA as your business grows, providing more power with no increase in footprint.



Compatible with High Power Factor Loads

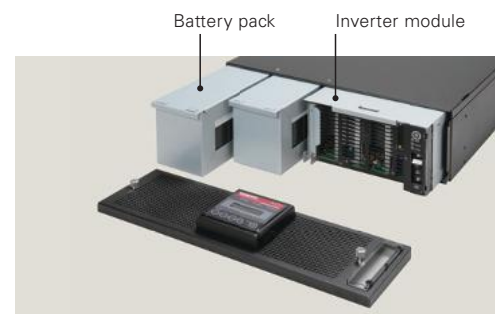
- With 0.9 output power factor, A11J can protect high power devices such as servers, measuring devices, and medical equipment without the need to oversize the UPS.

Output power **5 kVA** → **4.5 kW_{max.}**

Output power **20 kVA** → **17 kW_{max.}**

Easy Maintenance

- Front-access module design allows users to replace battery packs and inverter module easily.
- Maintenance can be performed without interrupting the inverter power to critical loads during parallel redundant operation.



Network Options

■ LAN interface card

When equipped in our UPSs, this card enables 24/7 monitoring of UPS operations and status, and sends e-mail notifications to system administrators for quick actions via network in the event of a power failure.

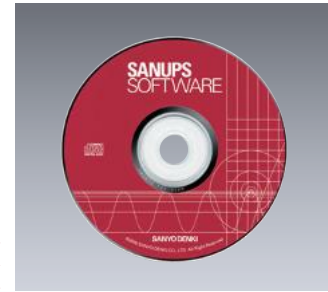


■ SANUPS SOFTWARE

SANUPS SOFTWARE enables real-time monitoring of UPS status via Web, and alerts the customer/administrator when a problem is detected. Various settings are possible such as scheduled power on/off, providing improved reliability and better management of your UPS system.

for Windows

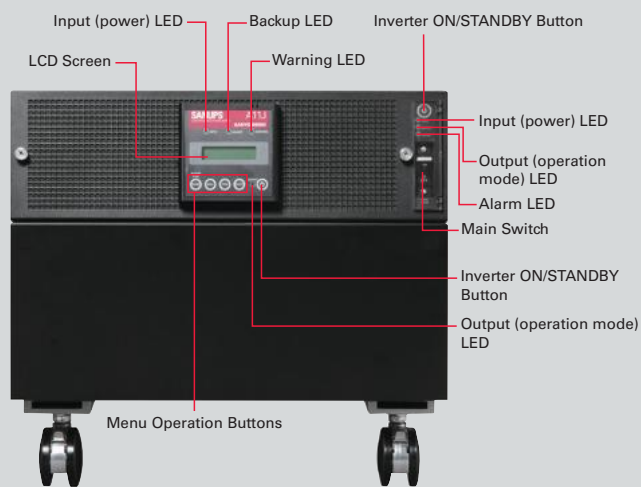
for Multiple OS (Windows, Unix, and Linux)



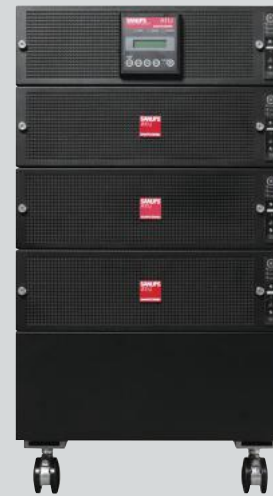
Note: Visit our website for the latest list of supported operating systems.

Views and Part Names

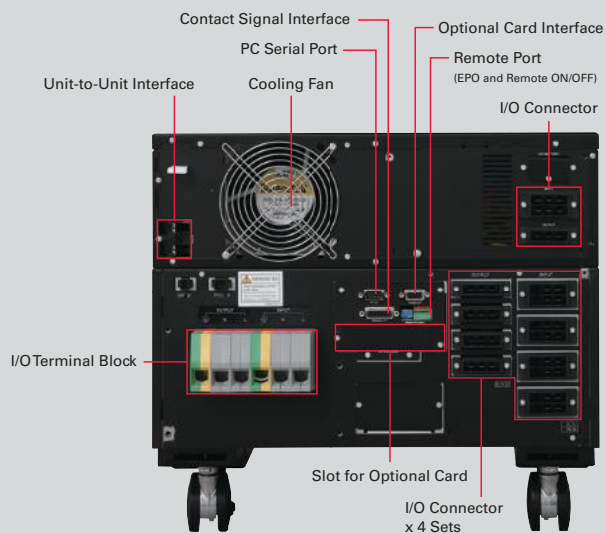
5 kVA, Front View Model: A11J502US002



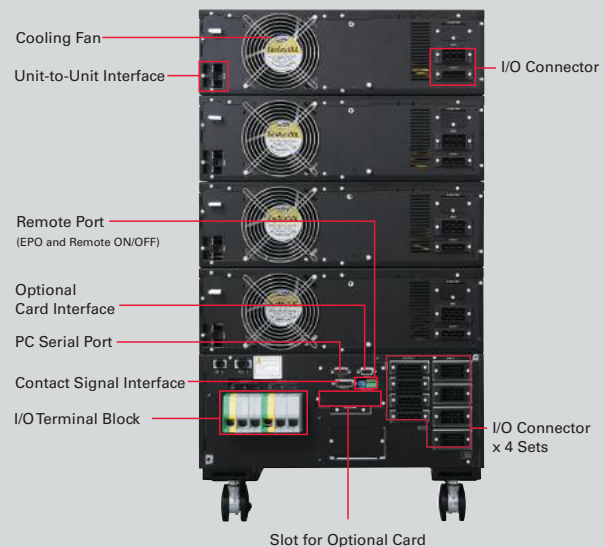
20 kVA, Front View Model: A11J203US002



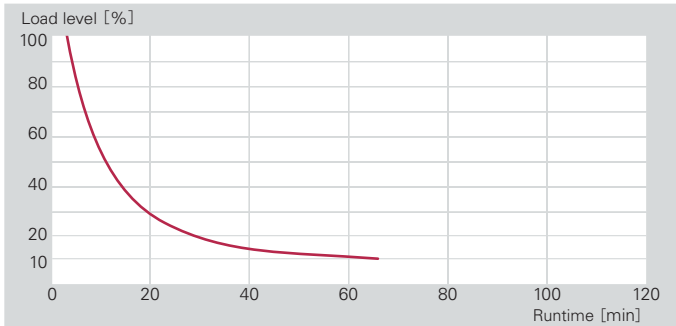
5 kVA, Back View Model: A11J502US002



20 kVA, Back View Model: A11J203US002



Load Level vs Runtime



Note: At 25°C ambient temp. and load power factor of 0.8, under new, fully charged battery conditions.

Options

Item	Model	Description
LAN interface card	PRLANIF011-US	This card enables 24/7 monitoring of UPS operations and status, and sends e-mail notifications to system administrators for quick actions via network in the event of a power failure.
	PRLANIF013-US (Environmental monitoring)	Combined with our temperature sensor (PRLANSN001) and humidity sensor (PRLANSN002), this model enables you to monitor UPS ambient temperature and humidity.
SANUPS SOFTWARE	PMS50□00E (Windows version without cable) PMS51□00E (Multi-OS version* without cable)	This software can automatically shut down protected computer systems in a coordinated manner and stop the UPS in the event of power failure. (□'s in model numbers denote software revision characters.)

* Supports Windows, Unix, and Linux.

Specifications

Specifications Table UL/CE certified

Output capacity **5kVA, 10kVA, 15kVA, 20kVA** Size **3U**

Model (UL-registered no.)			A11J502US002	A11J103US002	
Type (Order no.)			A11J502SA002U	A11J103SA002U	
Rated power capacity (Apparent power/Active power)	N configuration		5 kVA / 4.5 kW	10 kVA / 9 kW	
	N+1 configuration		—	5 kVA / 4.5 kW	
System	Topology		True online double conversion		
	Cooling method		Forced air cooling		
	Inverter		High-frequency PWM		
UPS classification according to IEC standard			VFI-SS-111		
AC input	Number of phases/wires		Single-phase 2-wire		
	Rated voltage		200/208/220/230/240 V (Selectable. Factory setting: 200 V)		
	Voltage range ⁽²⁾		Rated voltage -40% to +15%		
	Rated frequency		50/60 Hz (Auto-detection/Fixed frequency settings selectable. ⁽²⁾ Factory setting: Auto-detection setting)		
	Required capacity (Max. capacity at full charge)	N configuration	5.5 kVA or less	11 kVA or less	
		N+1 configuration	—	6.2 kVA or less	
Power factor		0.95 or greater (at rated input voltage with input voltage harmonic distortion < 1%.)			
AC output	Number of phases/wires		Single-phase 2-wire		
	Rated voltage (same as input)		200/208/220/230/240 V (Factory setting: 200 V)		
	Voltage regulation		±2% of rated voltage		
	Rated frequency (same as input)		50/60 Hz		
	Frequency regulation ⁽²⁾	At normal operation (utility-synchronous)	±1, ±3, ±5% of rated frequency (factory setting: 3%)		
		At free run (assynchronous)	± 0.5% of rated frequency		
	Voltage waveform		Pure sine wave		
	Voltage harmonic distortion		< 3% / 8% (Linear load/Rectifier load, at rated output)		
	Transient voltage regulation	Abrupt load change		±5% (for 0 ⇄ 100% load step changes)	
		Loss or return of input power		±5%	
		Input voltage change		±5% (±10% abrupt change)	
	Power factor	N configuration	0.9 lagging (0.7 lagging to 1.0 load power factor)		
		N+1 configuration	0.9 lagging (0.7 lagging to 1.0 load power factor)		
	Overcurrent protection (automatic switch to bypass ⁽³⁾)	N configuration	110% or greater		
		N+1 configuration	—	220% or greater	
	Overload capacity	Inverter (1 min) / (Instantly)	N configuration	110% / 118%	
			N+1 configuration	—	
		Bypass (30 s) / (2 cycles)	N configuration	200% / 800%	
			N+1 configuration	—	
Battery	Type	Small-sized valve-regulated lead-acid (VRLA) battery			
	Number of batteries (12 V per battery)	16	32		
	Rated capacity of a battery	5 Ah			
	Runtime	5 min (at ambient temp. 25°C and 80% load, under initial battery conditions)			
Input leakage current		12 mA or less	15 mA or less		
Acoustic noise (1 m from front of UPS, A-weighted)		45 dB or less	50 dB or less		
Heat dissipation (at rated output after fully charged)		350 W	730 W		
Operating environment	Ambient temperature		0 to 40°C		
	Relative humidity		20 to 90% (Non-condensing)		
I/O connector / wiring, etc. ⁽⁴⁾	I/O connector		Field wiring terminal block. Compatible wire gage: 6 to 1/0 AWG		
	Input wire		14 mm² (6 AWG)	22 mm² (4 AWG)	
	Output wire		14 mm² (6 AWG)	22 mm² (4 AWG)	
	Grounding wire		14 mm² (6 AWG)	14 mm² (6 AWG)	
	I/O breaker capacity		35 A (UL 489 listed unit)	70 A (UL 489 listed unit)	
Safety standard		UL 1778 5th edition (E226092), CSA C22.2 No. 107.3-14 (3rd edition), CE marking (EN 62040-1:2008/A1:2013)			
EMC standard	Emission	EN 62040-2:2006 Category C3, EN 55022:2010, FCC Part 15 Subpart B Class A			
	Immunity	EN 62040-2:2006, EN 55024:2010			

Note 1. If expanding the UPS capacity, confirm wire sizes and capacity of input breakers beforehand.

2. Japanese and English operating manuals are included with UL/CE certified models.

⁽¹⁾ AC input voltage range changes depending on the load level.

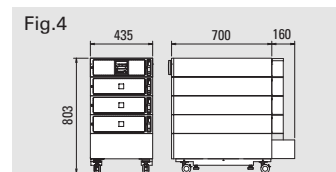
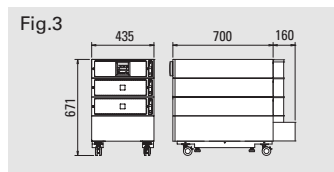
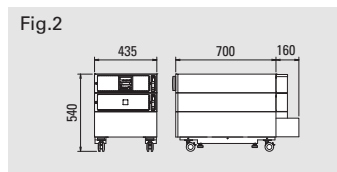
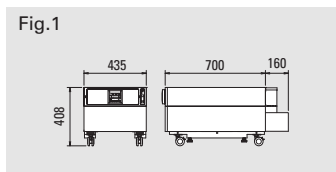
At load level < 70%: -40% to +15%

At load level > 70%: -20% to +15%

Note that at a load level less than 70%, the lower limit value is -40% when leaving the range and -20% when returning.

Dimensions: mm

Model	A11J502US002	A11J103US002	A11J153US002	A11J203US002
Dimensions	Fig.1	Fig.2	Fig.3	Fig.4
Width	435	435	435	435
Depth (UPS unit + terminal block cover)	700+160	700+160	700+160	700+160
Height	408	540	671	803
Mass	91 kg	152 kg	213 kg	274 kg



Paint color: Black (Munsell N1.5)

	A11J153US002	A11J203US002	Model (UL-registered no.)		
	A11J153SA002U	A11J203SA002U	Type (Order no.)		
	15 kVA / 13.5 kW	20 kVA / 17 kW	N configuration	Rated power capacity (Apparent power/Active power)	
	10 kVA / 9 kW	15 kVA / 13.5 kW	N+1 configuration		
	True online double conversion		Topology	System	
	Forced air cooling		Cooling method		
	High-frequency PWM		Inverter	UPS classification according to IEC standard	
	VFI-SS-111				
	Single-phase 2-wire		Number of phases/wires	AC input	
	200/208/220/230/240 V (Selectable. Factory setting: 200 V)		Rated voltage		
	Rated voltage -40% to +15%		Voltage range ⁽²⁾		
	50/60 Hz (Auto-detection/Fixed frequency settings selectable. ⁽²⁾ Factory setting: Auto-detection setting)		Rated frequency		
	16.5 kVA or less	19.8 kVA or less	N configuration	Required capacity (Max. capacity at full charge)	
	11.7 kVA or less	17.2 kVA or less	N+1 configuration		
	0.95 or greater (at rated input voltage with input voltage harmonic distortion < 1%.)		Power factor	AC output	
	Single-phase 2-wire		Number of phases/wires		
	200/208/220/230/240 V (Factory setting: 200 V)		Rated voltage (same as input)		
	±2% of rated voltage		Voltage regulation		
	50/60 Hz		Rated frequency (same as input)		
	±1, ±3, ±5% of rated frequency (factory setting: 3%)		At normal operation (utility-synchronous)	Frequency regulation ⁽²⁾	
	± 0.5% of rated frequency		At free run (assynchronous)		
	Pure sine wave		Voltage waveform		
	<3% / 8% (Linear load/Rectifier load, at rated output)		Voltage harmonic distortion		
	±5% (for 0 ⇔ 100% load step changes)		Abrupt load change	Transient voltage regulation	
	±5%		Loss or return of input power		
	±5% (±10% abrupt change)		Input voltage change		
	0.9 lagging (0.7 lagging to 1.0 load power factor)	0.85 lagging (0.7 lagging to 1.0 load power factor)	N configuration	Power factor	
	0.9 lagging (0.7 lagging to 1.0 load power factor)		N+1 configuration		
	110% or greater		N configuration	Overcurrent protection (automatic switch to bypass ⁽³⁾)	
	165% or greater	147% or greater	N+1 configuration		
	110% / 118%		N configuration	Inverter (1 min) / (Instantly) Overload capacity	
	165% / 177%	147% / 157%	N+1 configuration		
	200% / 800%		N configuration		
	300% / 1200%	267% / 1067%	N+1 configuration		
	Small-sized valve-regulated lead-acid (VRLA) battery		Type	Battery	
	48	64	Number of batteries (12 V per battery)		
	5 Ah		Rated capacity of a battery		
	5 min (at ambient temp. 25°C and 80% load, under initial battery conditions)		Runtime		
	20 mA or less	25 mA or less	Input leakage current	Acoustic noise (1 m from front of UPS, A-weighted)	
	50 dB or less				
	1100 W	1500 W	Heat dissipation (at rated output after fully charged)	Operating environment	
	0 to 40°C		Ambient temperature		
	20 to 90% (Non-condensing)		Relative humidity	I/O connector / wiring, etc. ⁽⁴⁾	
	Field wiring terminal block. Compatible wire gage: 6 to 1/0 AWG		I/O connector		
	50 mm ² (1 AWG)	60 mm ² (1/0 AWG)	Input wire		
	50 mm ² (1 AWG)	60 mm ² (1/0 AWG)	Output wire		
	22 mm ² (4 AWG)	38 mm ² (2 AWG)	Grounding wire		
	100 A (UL 489 listed unit)	125 A (UL 489 listed unit)	I/O breaker capacity		
	UL 1778 5th edition (E226092), CSA C22.2 No. 107.3-14 (3rd edition), CE marking (EN 62040-1:2008/A1:2013)		Safety standard	EMC standard	
	EN 62040-2:2006 Category C3, EN 55022:2010, FCC Part 15 Subpart B Class A		Emission		
	EN 62040-2:2006, EN 55024:2010		Immunity		

⁽²⁾ When selecting automatic frequency detection setting, available frequency synchronizing ranges are ±1%, ±3% (factory setting), or ±5%.

Allowable frequency range is ±8% at this setting.

When fixed frequency setting is selected, output frequency is fixed to either 50 Hz or 60 Hz regardless of input frequency. Allowable frequency range is from 40 to 120 Hz at this setting.

Note that when returning from outside the allowable range, the range limits will be ±8% for both settings.

Also, for the inverter to start running, the input frequency must be within the set synchronizing frequency range (±1%, ±3%, or ±5%).

⁽³⁾ Uninterrupted transfer to bypass operation is only possible when all of the following conditions are true: automatic frequency detection setting is selected; input frequency is within the synchronizing range; input voltage is within the allowable range.

⁽⁴⁾ Communications:

1. Dry contact signal: D-Sub15 female, fixed mounting screws: M3

2. PC port: D-Sub9 male, fixed mounting screws: #4-40UNC

Remote control: One-touch terminal block connector, compatible wire size from 26 to 20 AWG