

# SANUPS A11M-Li

Highly reliable parallel redundant UPS for use all over the world

## Lineup

[No. of phases/wires] Input/Output voltage	Output capacity		Battery backup time*
	[kVA]	[kW]	
[Single-phase 2-wire] 100 V model 100/110/115/120 V	1	0.8	4 min
	2	1.6	
	3	2.4	
	4	3.2	
[Single-phase 2-wire] 200 V model 200/208/220/230/240 V	5	4.0	
	6	4.8	
	7	5.6	
	8	6.4	

\* At 25°C ambient temperature and load power factor of 0.8, using new, fully charged batteries.



### High Reliability

- UPS units can be combined in a parallel redundant configuration. Even if one unit malfunctions, the remaining units can continue to supply stable power.

### Compliance with Safety Standards

- This UPS conforms to UL and EN safety standards and CE Marking. It can be used with confidence in various regions.

### Reduced Maintenance Work

- Our conventional UPSs<sup>(1)</sup> using lead-acid batteries require battery replacement about every 5 years. Thanks to Li-ion batteries, this UPS doesn't require battery replacement for 10 years.<sup>(2)</sup> Thus, the cost of battery replacement can be reduced.

(1) Conventional UPS: A11M (with lead-acid batteries)

(2) At a 30°C ambient temperature.

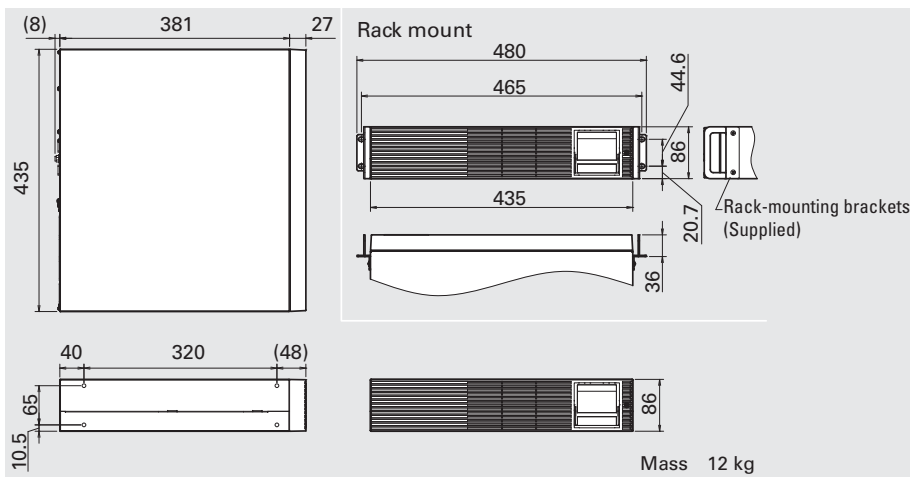
### Wide Operating Temperature Range

- The UPS has a wide operating temperature range of -10 to +55°C.

## Parallel Redundant Configurations

Single-unit/Parallel operation (N config.)	2 kVA (1.6 kW)	3 kVA (2.4 kW)	4 kVA (3.2 kW)	5 kVA (4.0 kW)	6 kVA (4.8 kW)	7 kVA (5.6 kW)	8 kVA (6.4 kW)
Parallel redundant operation (N+1 config.)	1 kVA (0.8 kW)	2 kVA (1.6 kW)	3 kVA (2.4 kW)	4 kVA (3.2 kW)	5 kVA (4.0 kW)	6 kVA (4.8 kW)	7 kVA (5.6 kW)

### UPS unit dimensions (Unit: mm)



Power distribution unit (PDU)



A PDU is used in combination with up to 8 UPS units.

## Specifications

### UL/CE certified models

Model no.	First UPS unit	A11ML102A001PD8UJ	A11ML102A002PD8UJ	Remarks
	PDU	PDA11M802A01	PDA11M802A02	
	Additional UPS units	A11ML102A0018UJ	A11ML102A0028UJ	
UL-registered no.	First UPS unit (including PDU)	A11ML102U001PDJ	A11ML102U002PDJ	
	Additional UPS units	A11ML102U001J	A11ML102U002J	
Rated output capacity (apparent power / active power)	N config.	2.0 to 8.0 kVA / 1.6 to 6.4 kW		
	N+1 config.	1.0 to 7.0 kVA / 0.8 to 5.6 kW		
Technology	Topology	Double conversion online		
	Cooling method	Forced air cooling		
AC input	No. of phases/wires	Single-phase 2-wire <sup>(1)</sup>		
	Rated voltage	100/110/115/120 V	200/208/220/230/240 V	Same as AC output
	Voltage range	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
		At load level ≥ 70%: 80 to 140 V		At load level ≥ 70%: 160 to 280 V
	Rated frequency	50/60 Hz (auto-sensing)		
	Frequency range <sup>(2)</sup>	Synchronization range	Within ±1/3/5% of rated frequency (Factory setting: ±3%)	
		Asynchronous operation range	40 to 120 Hz	
	Required capacity <sup>(3)</sup>	N config.	2.4 to 9.6 kVA	
		N+1 config.	1.2 to 8.4 kVA	
Input power factor	0.95 or greater			
AC output	No. of phases/wires	Single-phase 2-wire		
	Rated voltage	100/110/115/120 V (Factory setting: 100 V)	200/208/220/230/240 V (Factory setting: 200 V)	Selectable with settings
	Voltage regulation	Within ±5% of rated voltage		
	Rated frequency	50/60 Hz		Same as input frequency
	Frequency regulation	In grid-connected operation	Within ±1/3/5% of rated frequency (Factory setting: ±3%)	
		In battery operation	Within ±0.5% of rated frequency (Including during asynchronous operation)	
	Voltage harmonic distortion	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)	
		For abrupt load change	Within ±10% of rated voltage (For 0⇔100% load step changes at rated input)	
	Transient voltage fluctuation	For loss or return of input power	Within ±10% of rated voltage (At rated output)	
		For abrupt input voltage change	Within ±10% of rated voltage (For ±10% abrupt change)	
	Overcurrent protection	Automatic transfer to bypass (With automatic retransfer function)		
Overload capability	Inverter	105% (for 200 ms)		
	Bypass	200% (for 30 s), 800% (for 2 cycles)		
Battery	Type	Lithium-ion battery		
	Battery backup time <sup>(4)</sup>	4 min		N config.
	Expected life	Approx. 10 years		
	Battery self-test	Settings possible (Factory setting: "disabled")		
Interface	PC port	RS-232C, USB Type B <sup>(5)</sup> (Cannot be used at the same time)		
	Remote port	Remote ON/OFF		
	Dry contact	Optional dry contact interface card is required (Model no. PRCONIF007 / PRCONIF008)		
	Network support	Optional LAN interface card is required (Model no. PRLANIF02□A)		
Operating environment	Ambient temperature: -10 to +55°C; <sup>(6)</sup> relative humidity: 20 to 90% (non-condensing)			
Storage environment <sup>(7)</sup>	Ambient temperature: -15 to +60°C; relative humidity: 20 to 90% (non-condensing)			
EMC standard	VCCI Class A FCC Part 15 Subpart B Class A, EN 62040-2 C2:2010, EN 55022:2010 Class A, EN 62040-2:2006, EN 55024:2010			
Separate options				
Rack support rails <sup>(8)</sup>	RM030 (2U)			

(1) When grounding, connect the grounded phase of the AC input power to the UPS's W (N) input terminal (S-phase).

(2) The inverter is synchronized with AC input and allows an uninterrupted transfer to bypass provided that the input frequency is within ±3% of the rated frequency (1, 3, or 5% selectable).

(3) Max. capacity during battery recovery charging

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

(5) Use of USB interface requires driver installation.

(6) Battery charging will stop when battery temperature exceeds the specified operating temperature range.

(7) Avoid use or storage in +30°C or higher temperatures for extended periods of time, or the battery's life will be shortened. When a UPS is stored without being operated for a long period, the batteries require recharging once every six months.

(8) Used for mounting UPS units on a standard 19-inch rack.