

SANUPS E

HYBRID UPS

E11A



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HYBRID UPS



120V model

Input/Output	Output capacity			
AC120V Single-phase	1kVA (0.7kW)	1.5kVA (1.05kW)	2kVA (1.4kW)	3kVA (2.1kW)

208V model

Input/Output	Output capacity		
AC208V Single-phase	1kVA (0.7kW)	2kVA (1.4kW)	3kVA (2.1kW)

The advancement of technology has increased the demand for quality power. In a perfect world, commercial power would always be stable and normal, however, we live in a world in which electricity from local utilities typically experiences anomalies such as spikes, surges, electrical noise, load fluctuations, and outages.

To protect your investments in technology equipment from these problems, informed users rely on SANYO DENKI SANUPS E11A products to resolve these power issues and provide continuous, clean power to connected equipment. Not only does the SANYO DENKI SANUPS E11A create continuous and clean power, it is an intelligent device in which power is consumed only when power conditions are unfavorable, making the unit highly efficient.

The SANYO DENKI SANUPS E11A Hybrid UPS provide highly efficient power protection to everything from heavy machinery and manufacturing devices to complex server systems and sensitive communication equipment (Voice and Data). With over 40 years of UPS experience, SANYO DENKI ensures the superior quality of the SANUPS E11A Hybrid UPS and provides the product equipped with extra long life batteries and a 3 year warranty. The SANUPS E11A Hybrid UPS - a product truly in a class of its own.



1 Hybrid UPS-Energy conservation

2 Self battery check feature

3 UPS management Software



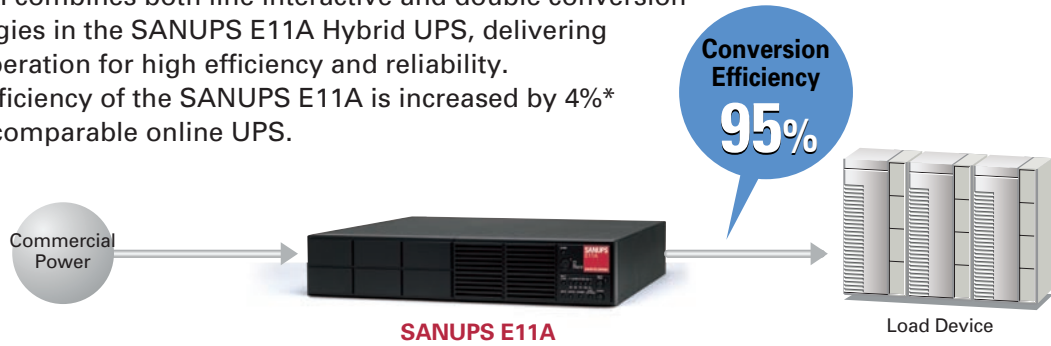
Mounted in a 19-inch rack
 ● Includes metal brackets for 19 inch rack installation.
 ● Rack support rail is optional.



Vertical Installation
 ● Includes vertical stand for upright installation.
 ● Rack support rail is optional.

1 Hybrid UPS-Energy conservation

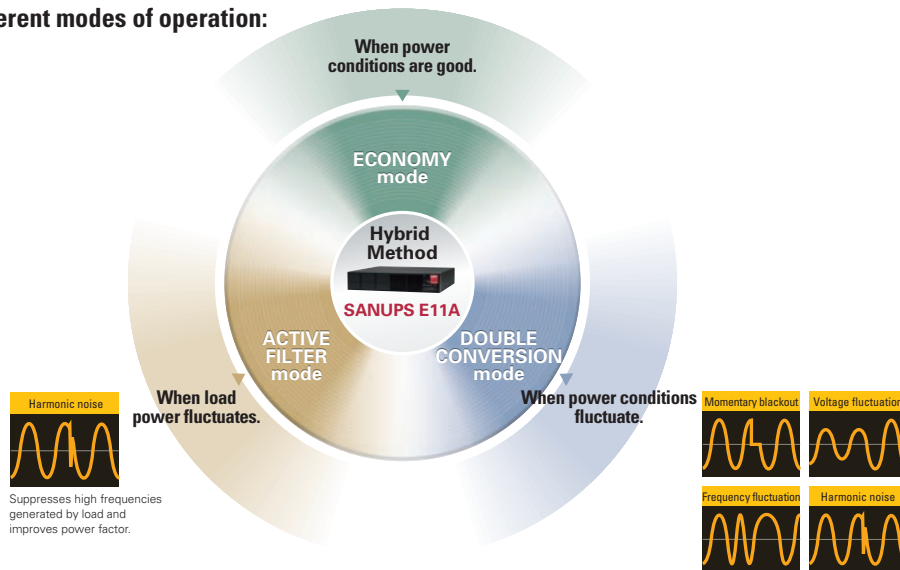
SANYO DENKI combines both line interactive and double conversion UPS technologies in the SANUPS E11A Hybrid UPS, delivering 3 modes of operation for high efficiency and reliability. Conversion efficiency of the SANUPS E11A is increased by 4%* compared to comparable online UPS.



* It is a result of comparing the performances with existing 1kVA UPS of our company.

- The Hybrid type SANUPS E11A automatically selects the most efficient mode of operation for any given power condition.
- Operating mode can be manually chosen and locked by the end user.

Three different modes of operation:

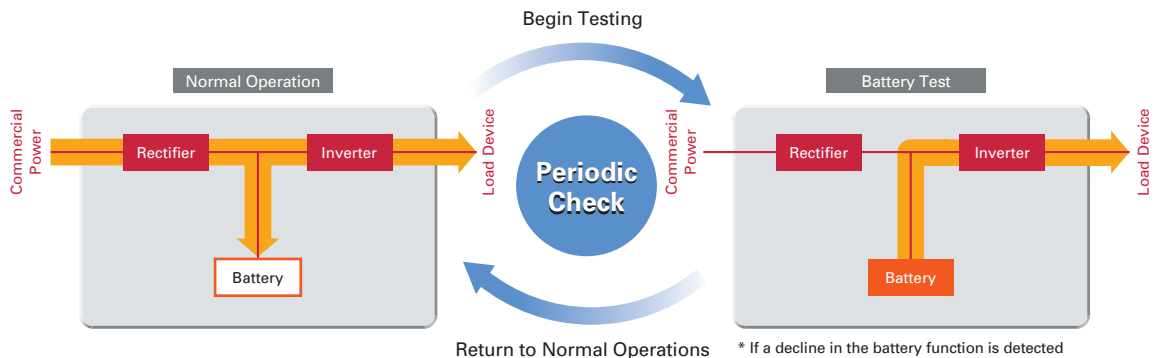


2 Self battery check feature

The SANUPS E11A automatically performs regular battery tests for operation during a power outage, and maintains peak battery conditions for reliable operation during an actual power outage.

* The frequency of the battery test is open to configuration. (Test frequency choices are 1, 3 and 6 months; the factory setting is 6 months.)

* A LAN interface card (optional) is necessary to transmit the battery test results to the user's PC.



* If a decline in the battery function is detected during test mode, normal operation will resume.

3 **UPS management Software**

To increase user control over equipment protection, our standalone Windows compatible UPS Management Software "SANUPS SOFTWARE STANDALONE" is provided as a standard accessory. Use it to improve the utility of the UPS, through useful functions such as monitoring UPS performance over a network connection and configuring shutdown settings.



OS

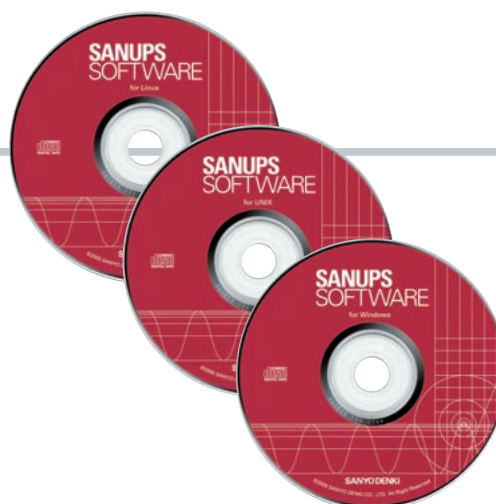
- Windows 2000
- Windows XP
- Windows Server 2003

Options

UPS control software

SANUPS SOFTWARE

Shuts down the system automatically and stops UPS. Smooth power supply control is ensured for one-to-one connection, one UPS for one computer, as well as connection with multiple computers. Also, control of the power supply and automatic operation of the computer using the schedule function can be carried out.



OS

for Windows

- Windows 2000
- Windows XP
- Windows XP Professional x64 Edition
- Windows Vista
- Windows Server 2003
- Windows Server 2003 x64 Edition

for UNIX

- Solaris 8, 9, 10 (SPARC)
- AIX 5.1, 5.2, 5.3
- HP-UX 11i (PA-RISC / Itanium2)

for Linux

- Red Hat Enterprise Linux v.3 (x86 / AMD64 / Intel EM64T)
- Red Hat Enterprise Linux v.4 (x86 / AMD64 / Intel EM64T)
- SUSE Linux Enterprise Server 9 (x86 / AMD64 / Intel EM64T)
- TurboLinux 10 Server (x86 / AMD64 / Intel EM64T)

Model

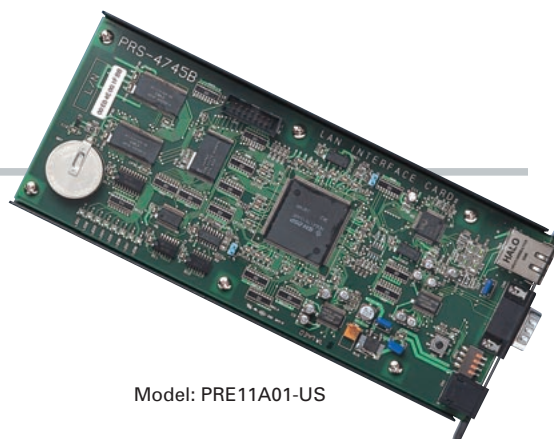
for Windows	PMS40B00E (without cable)
for Multiple OS*	PMS41B00E (without cable)

Note: Corresponds to all left OS.

UPS option

LAN interface card

This product has been developed to connect our UPS "SANUPS" directly with LAN*. This device makes it possible to monitor the power supply and report results, and therefore reaction to irregularities in the power supply can be made quickly. It can be arranged so that any trouble in the power supply is reported to the system manager by e-mail.



Model: PRE11A01-US

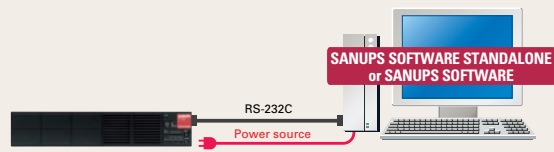
*LAN: Local Area Network

Example of use of the SANUPS software

Pattern 1 Serial/dry contact signal connection 1

For backing up a single personal computer with a UPS with a serial port or a UPS with contact output.

- Operable without network environment.
- It can be used for a firewall.



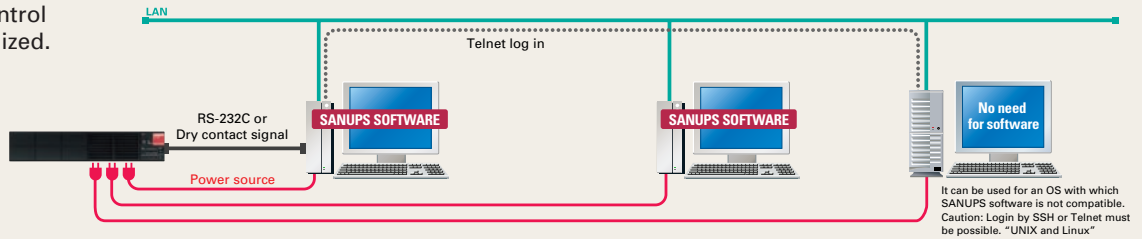
Dry contact signal connection cannot be used for SANUPS SOFTWARE STANDALONE.

Pattern 2 Serial/dry contact signal connection 2

For backing up multiple personal computers with a UPS with a serial port or a UPS with contact output.

- A low-cost UPS control system can be realized.

Caution: If the personal computer connected with a UPS with serial contact signal connection is not in operation, monitoring or control of other personal computers cannot be performed.

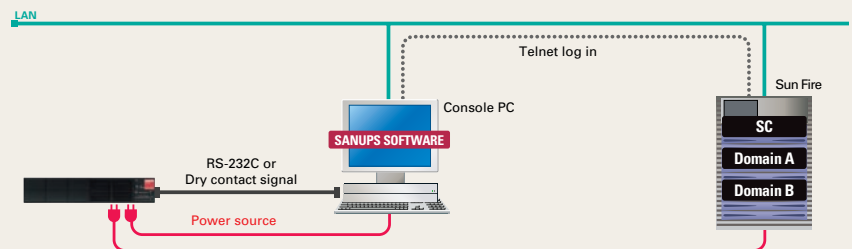


Pattern 3 Serial/dry contact signal connection 3

For backing up Sun Fire of Sun Microsystems mid-range server or higher with a UPS.

- Shuts down Sun Fire reliably.

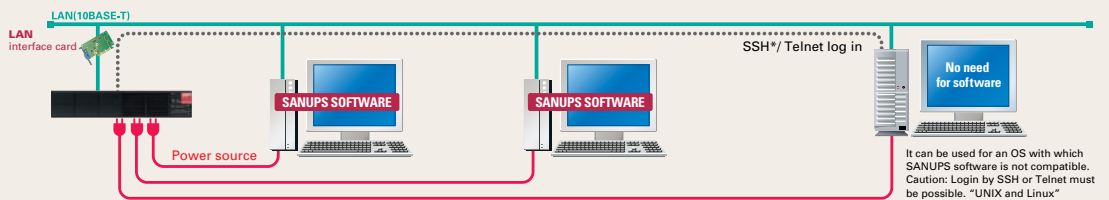
(Domain shutdown → Domain Power OFF → SC Power OFF/shutdown → Console PC shutdown → UPS stop)



Pattern 4 LAN connection 1

For backing up multiple personal computers/workstations with a UPS in which a LAN interface card (optional) is incorporated.

- Applicable to a clustering system.
- Remote ON/OFF control is possible.

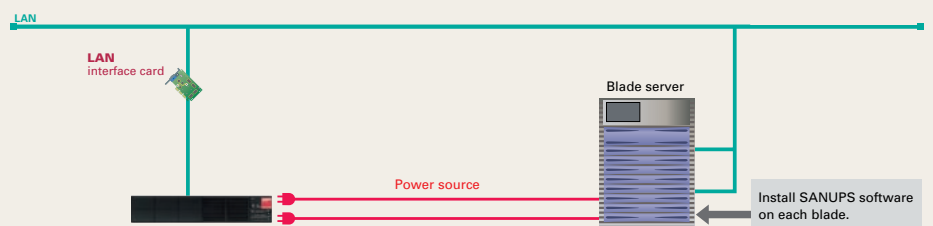


*SSH: "SSH" is an abbreviation of "Secure Shell".

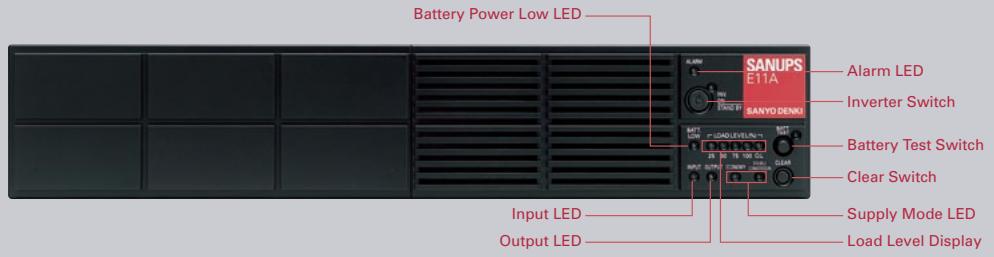
Pattern 5 LAN connection 2

For backing up a blade server with a UPS in which a LAN interface card optional is incorporated.

- Up to 50 blade can be shut down.



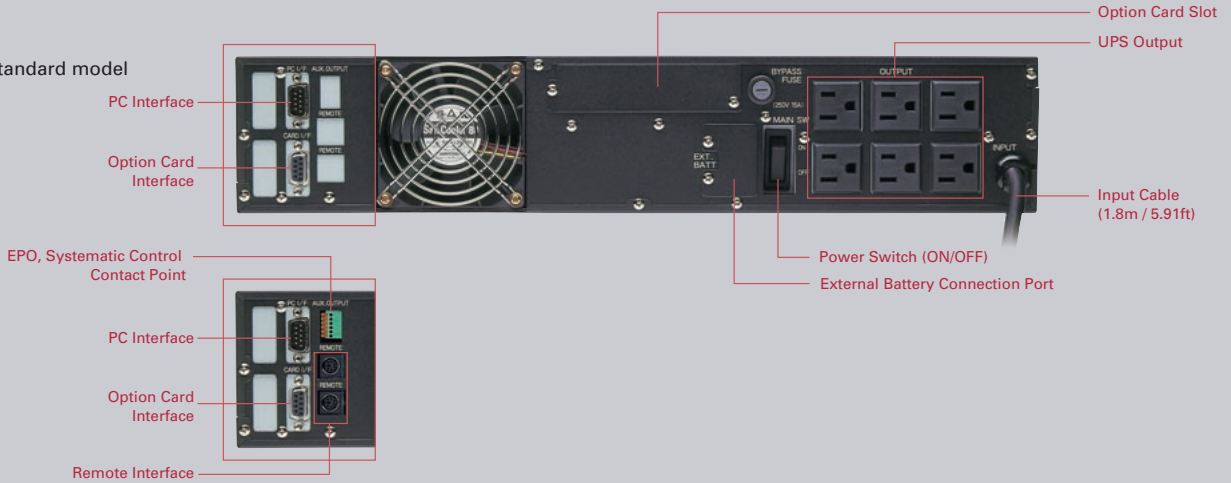
Front



Back

120V / 1kVA standard model shown here.

Expansion model

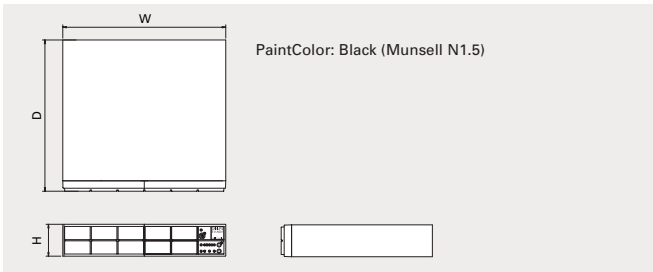


Interface & INPUT/OUTPUT Connection Chart

	Output (kVA)	Model	PC (RS-232C)	Remote	EPO*	Systematic Control Contact	LAN Interface Card (Option) Model: PRE11A01-US	Dry Contact signal Interface Card (Option) Model: PRE11A02-US	INPUT Plug / Receptacle	OUTPUT Receptacle		
120V model	1	E11A102A001US	Standard	○	—	—	○	—	NEMA 5-15P	NEMA 5-15R x6		
		E11A102A011US	Expansion	○	○	○	○	○				
	1.5	E11A152A001US	Standard	○	—	—	○	—				
		E11A152A011US	Expansion	○	○	○	○	○				
	2	E11A202A001US	Standard	○	—	—	○	—			NEMA 5-20P	NEMA 5-20R x4
		E11A202A011US	Expansion	○	○	○	○	○				
3	E11A302A001US	Standard	○	—	—	○	—	NEMA L5-30P	NEMA L5-30R x1			
	E11A302A011US	Expansion	○	○	○	○	○					
208V model	1	E11A102A002US	Standard	○	—	—	○	—	IEC60320-C14 Qty (1) IEC60320-C14 to NEMA L6-20P line cord option included.	IEC60320-C13 x4		
		E11A102A012US	Expansion	○	○	○	○	○				
	2	E11A202A002US	Standard	○	—	—	○	—				
		E11A202A012US	Expansion	○	○	○	○	○				
	3	E11A302A002US	Standard	○	—	—	○	—			IEC60320-C20 Qty (1) IEC60320-C20 to NEMA L6-20P line cord option included.	IEC60320-C19 x3
		E11A302A012US	Expansion	○	○	○	○	○				

*EPO=Emergency Power Off

External dimensions



Output power (kVA)	Dimensions			Mass (Weight)
	Width (W)	Depth (D)	Height (H)	
1kVA	440mm (17.32in)	408mm (16.06in)	86mm (3.39in)	17kg (37.5lbs)
1.5kVA		500mm (19.69in)		22kg (48.5lbs)
2kVA		565mm (22.24in)		29kg (63.9lbs)
3kVA (120V)		660mm (25.98in)		37kg (81.6lbs)
3kVA (208V)		750mm (29.53in)		39kg (86.0lbs)

Specifications

Item		E11A			Remarks	
		Economy mode	Active filter mode	Double conversion mode		
Output power		1kVA (0.7kW) / 1.5kVA (1.05kW) / 2kVA (1.4kW) / 3kVA (2.1kW)				
System	Topology	Hybrid				
	Cooling	Forced Air				
AC Input	Number of phase / wire		Single-phase / 2 wire			
	Nominal voltage	120V model	120V: 1kVA / 1.5kVA / 2kVA / 3kVA			
		208V model	208V: 1kVA / 2kVA / 3kVA			
	Voltage range		±8%	±5%	-20%, +15%	
	Frequency		60Hz			50/60Hz Auto-sensing
	Frequency range		±1, 3, 5% Max.		±8% Max.	User selectable
Power factor		0.7	0.85 Min.	0.95 Min.	<1% Input voltage distortion / lag	
AC Output	Number of phase / wire		Single-phase / 2 wire			
	Power factor		0.7		lag	
	Nominal voltage	120V model	120V: 1kVA / 1.5kVA / 2kVA / 3kVA			
		208V model	208V: 1kVA / 2kVA / 3kVA			
	Voltage regulation		±8% Max.	±5% Max.	±2% Max.	
	Frequency		60Hz			Same as input frequency
	Frequency range	On Normal Operation	±1,3,5% Max.		±1% Max.	User selectable
		On Battery Operation	-		±0.5% Max.	
	Voltage distortion	Linear load	-		3% Max.	During rated operations
		Non-linear load	-		7% Max.	During rated operations / 100% rectifier load
Transient voltage regulation	Input Voltage step	±5% Max.			Power failure: feedback or supply fluctuation	
	100% step load	-		±5% Max.	0%: at the time of 100% sudden fluctuation	
Overcurrent capacity		Greater than 200% (30 second interval)		105% (200ms)	Rated load power factor / at rated input	
		Greater than 800% (2 cycle)		-		
Overcurrent protection		Fuse Protection (1kVA), Breaker Protection (1.5, 2, 3kVA)		Bypass Non-Hit Change (Auto Return)		
Battery	Type	Maintenance Free Sealed Lead-Acid Battery (small)				
	Backup time	5 minutes (3kVA 120Vmodel: 3.5 minutes)			Ambient Temp. of 25°C, under rated load	
Acoustic noise		1kVA/1.5kVA: 40dB Max., 2kVA/3kVA: 45dB Max.			At 1m (40in) from the front of unit	
Nominal heat dissipation		Double conversion mode 120V model 1kVA: 125W, 1.5kVA: 200W, 2kVA: 250W, 3kVA: 410W 208V model 1kVA: 125W, 2kVA: 270W, 3kVA: 450W				
Environment	Operating temperature	0 to 40°C (32 to 104°F)				
	Relative humidity	20 to 90%			Non-condensing	
Standard of safety		UL1778-Fourth Edition(File # E226092), CE , FCC Part15 Subpart B Class A				

A momentary power interruption lasting less than 3 ms occurs when switching from Economy Mode or Active Filter Mode to battery power. The unit can also be fixed to the Double Conversion Mode for applications that require zero transfer time from utility power to battery power. Please contact your local sales representative for additional input and output voltage options.

Run-time chart

Item		E11A102A□□□	E11A152A□□□	E11A202A□□□	E11A302A□□1	E11A302A□□2
Maximum Output (VA)		1000	1500	2000	3000	3000
Maximum Output (W)		700	1050	1400	2100	2100
VA	W	Run-time (min)				
100	70	87	134	150	230	240
200	140	48	71	87	120	150
300	210	30	48	61	75	87
400	280	20	34	48	55	71
500	350	15	24	37	49	69
600	420	12	20	30	39	48
700	490	9	17	25	32	40
800	560	7	14	20	26	34
900	630	6	12	18	23	31
1000	700	5	10	15	20	28
1200	840		7	12	16	20
1400	980		6	9	13	17
1500	1050		5	8	11	16
1600	1120			7	10	14
1800	1260			6	9	12
2000	1400			5	8	10
2200	1540				7	9
2400	1680				6	8
2600	1820				5	7
2800	1960				4	6
3000	2100				3.5	5

The above run-time value assumes a load power factor = 0.7. (lag)

Figures should be used for reference only. Actual backup times depend on charging conditions, ambient temperature, years in use, etc.

Options

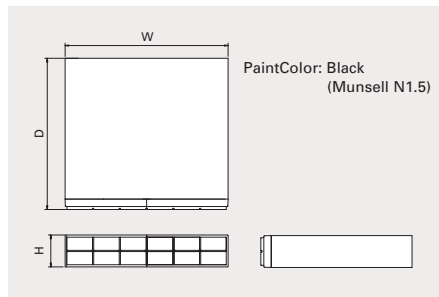
Item	Model	
Rack support rail	RM030US	Used for mounting the UPS onto a 19 inch rack. Supports depth of 555mm-913mm.
Remote switch	RSW006RUS	Used for remotely turning on or off outlets of the UPS. (Cable length approx. 10m)
Dry contact signal interface card	PRE11A02US	Transmits contact signals containing information on the operation status of the UPS. Use to interface with UPS surveillance systems or customer equipment.

External battery

Model		Dimensions			Mass (Weight)	Run-time (Min)						
		Width	Depth	Height		15	20	30	40	45	60	
BCE11A102A01US	For 1kVA 120V or 208V model	440mm (17.32in)	408mm (16.06in)	86mm (3.39in)	20kg (44.09lbs)	—	1unit	—	2unit	—	3unit	
BCE11A102A02US			508mm (20.00in)		29kg (63.93lbs)	—	—	1unit	—	—	2unit	
BCE11A152A01US			500mm (19.69in)		26kg (57.32lbs)	—	1unit	—	2unit	—	—	3unit
BCE11A152A02US	For 1.5kVA 120V	440mm (17.32in)	600mm (23.62in)	86mm (3.39in)	38kg (83.77lbs)	—	—	1unit	—	—	2unit	
BCE11A202A01US	For 2kVA 120V or 208V model		565mm (22.24in)		34kg (74.95lbs)	—	1unit	—	2unit	—	3unit	
BCE11A202A02US			630mm (24.80in)		47kg (103.62lbs)	—	—	1unit	—	—	2unit	
BCE11A302A03US	For 3kVA 120V model only	440mm (17.32in)	660mm (25.98in)	86mm (3.39in)	50kg (110.21lbs)	1unit	—	2unit	—	3unit	—	
BCE11A302A01US	For 3kVA 208V model only		750mm (29.53in)		52kg (114.61lbs)	—	—	1unit	—	2unit	—	3unit

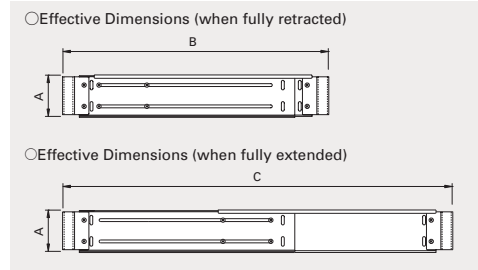
* The optional battery modules indicated by 01US or 03US at the end of the model number enable the internal battery to be replaced from the front with the rack attached. With optional battery modules indicated by 02US at the end of the model number, the internal batteries within the rack cannot be replaced with the rack attached. It is necessary to remove the optional battery module from the rack, and then replace the batteries.

External dimensions



Support rail

External dimensions



A	B	C
86.6mm (3.41in)	555mm (21.85in)	913mm (35.94in)

ECO PRODUCTS



ECO PRODUCTS are designed with the goal of lessening environmental impact, from product development to disposal.

Notes when investigating use of this product in your applications

- Before starting installation, assembling and use, read the "Operation Manual" carefully and use the product correctly in your applications.
- When you are going to use this product in the following application, the special considerations are required for operation, running, maintenance and control. Be sure to consult with our company as a part of your investigations.
 - (a) Medical equipment and other equipment that are related directly to human life.
 - (b) Train or elevator that can give injury to human body.

- (c) Socially and publicly important computer systems
- (d) And other equipment that are related to safety of human life and that can affect severe effects on maintenance of public functions.
- For the applications that undergo vibration such as vehicles, ships and transportation facilities, please consult with our company.
- Never modify this product or give additional processing to this product.
- For the installation and maintenance work, please consult with our company or with specialized company.

※ For any inquiry or consultation, please contact our sales representative.

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