### **SANYO DENKI**

# **SANUPS** A22A

## **Online UPS**

Ver. 1 English

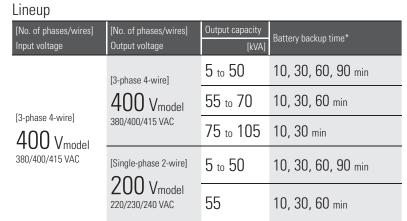




### **Online UPS**

## **SANUPS** A22A Modular UPS with capacity scalability in

## 5 kVA increments



\* At a 25°C ambient temperature, load power factor of 0.75, using new, fully charged batteries.

#### **High Efficiency**

• This UPS achieves a high efficiency of 94.5%. This reduces running costs and contributes to energy savings.

#### **Flexible System Configuration**

• 5 kVA modules allow users to select the output capacity to match the needs of the application.



• By adding battery modules, backup time during power outages can be extended.

#### **High Reliability**

- The double conversion online topology ensures a continuous supply of stable high quality power.
- Parallel redundant operation further improves the reliability of the power supply.

#### Wide Input Voltage Range

 This UPS has a wide input voltage range of 240 to 460 V<sup>(1)</sup> and a wide input frequency range of 46 to 54 Hz<sup>(2)</sup>.

This prevents unnecessary battery operation, minimizing battery drain.

The input voltage range when the rated input voltage is set to 400 V.
 The input frequency range when the rated input frequency is set to 50 Hz.

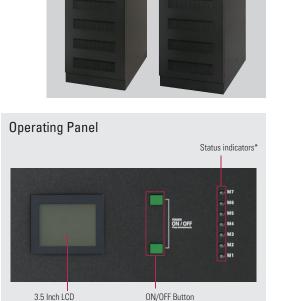
\* M1 to M4 only for half-size cabinets.

#### **Easy Maintenance**

- Front-access design allows users to install and remove batteries and inverter modules easily.
- Maintenance can be performed without interrupting the inverter power to critical loads during parallel redundant operation. In addition, power can continue to be supplied even if an outage occurs during maintenance.

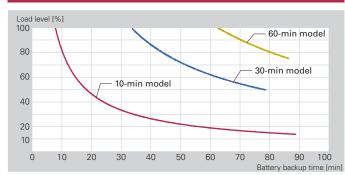






Interview          Interview <t< th=""><th>Inv</th><th>erter Module Sp</th><th>ecifications</th><th></th><th></th><th></th></t<>	Inv	erter Module Sp	ecifications								
Battery structure         Modular           Modular         Modular           Modular         Modular           Modular         Modular           Modular         Modular           Modular         Structure           Battery structure         Structure           Battery structure         Structure           Modular         Structure           Battery structure         Structure           Battery structure         Structure           Modular         Structure           Modular         Structure           Structure         Struct	Item			Specifications		Remarks					
No. of phases/vires         3-phase 4-wire           Rated voltage         At load levels < 70%. The lower limit is 40% when leaving the range and 20% when returning.	Teo	Topology		Double conversion online							
No. of phases/vires         3-phase 4-wire           Rated voltage         At load levels < 70%. The lower limit is 40% when leaving the range and 20% when returning.	chn	Cooling method		Forced air cooling							
No. of phases/wires         3-phase 4-wire           Battery structure         At load levels < 70%. The lower limit is 40% when leaving the range and 20% when returning.	olog	Inverter		High-frequency PWM							
No. of phase/wires         3-phase 4-wire           Bit det voltage         300/400/415 VAC           Input voltage range         Within 40% to +15% of rated voltage           Rated frequency         5000 Hz (nuto-sensing)           Frequency range         Within 20% to +15% of rated voltage           Power factor         0.97 or greater           At rated output, when input voltage harmonic distortion is less than 1%           No. of phase/wires         3-phase 4-wire           Bated frequency regulation         StVA / 5 kW           No. of phases/wires         3-phase 4-wire           Bated voltage         30000/415 VAC           Voltage regulation         Within ± 2% of rated voltage           Voltage regulation         Within ± 2% of rated voltage           Voltage regulation         Within ± 1/3% of rated frequency           Voltage regulation         Within ± 1/3% of rated frequency           Voltage harmonic distortion         2% of rated voltage           Transient voltage         For abrupt had change           Voltage harmonic distortion         2% of rated voltage           Transient voltage         For abrupt had change           Within ± 3% of rated voltage         Krine is 5% or less           Overload capability         100           Doverload capability	ΥĮ	Inverter structure		Modular							
Based voltage         330/400/415 VAC         At load levels < 70%. The lover finitii = 40% when returning.		Battery structure		Modular							
Number of the Construction of the Constend of the Construction of the Construction of the Construction	AC	No. of phases/wire	es a la companya de la compa	3-phase 4-wire							
Instruction         Minime Construction         Issue Margeneric         Issue Margeneric           Rated frequency         Store Late Late Late Late Late Late Late Lat	inp	Rated voltage		380/400/415 VAC							
Rated frequency         SURD Hz (anto-sensing)           Frequency range         Within ± 8% of rated frequency           Power factor         0.97 or greater           At rated capacity         SkNA / 5 kW           At act capacity         SkNA / 5 kW           No. of phases/wires         3-phase 4-wire           3 phase 4-wire         Single-phase 2-wire           Rated frequency         South / 15 kW           Voltage regulation         Within ± 2% of rated voltage           Within ± 12% of rated voltage         Same as the input frequency           For about the 2% of rated voltage         Same as the input frequency           Voltage regulation         Within ± 10/5% of rated frequency         Configuration           Voltage frequency regulation         Within ± 10/5% of rated frequency         Configuration           Voltage frequency regulation         Within ± 3% of rated voltage         Within ± 5% of rated voltage         For 0 + 10% load step changes           Huctuation         For abrupt load change         Within ± 3% of rated voltage         Within ± 5% of rated voltage         For 0 + 10% load step changes           Huctuation         For abrupt input voltage changes         10 to 10         For 4 + 10% rapid voltage changes           Load power factor         0.7 (legging) to 1.0         During operation         To r	ut	Input voltage rang	e	Within -40% to +15% of rated voltage	At load levels < 70%. The lower limit is -40% when leaving the range and -20% when returning.						
Frequency range         Within ± 8% of rated frequency         At rated output, when input voltage harmonic distortion is less than 1%           Rated capacity         5 kVA / 5 kW         Apparent power / active power           Bated capacity         5 kVA / 5 kW         Apparent power / active power           Mo. of phases/wires         3-phase 4-wire         Single-phase 2-wire           Rated voltage         30/400/415 VAC         220/230/240 VAC           Voltage regulation         Within ± 2% of rated voltage         Within ± 3% of rated voltage           Voltage regulation         Within ± 13% 5% of rated frequency         Configurable           Voltage harmonic distortion         2% or less / 5% of rated frequency         In battery operation           Voltage harmonic distortion         2% or less / 5% of rated voltage         Within ± 5% of rated voltage           For abrupt load change         Within ± 3% of rated voltage         Within ± 5% of rated voltage           In battery operation         02 (lagging) to 1.0         For abrupt input voltage changes           Voltage capability         120% (30 min)         100% (1 min)           Overcoare capability         120% (30 min)         100% (1 min)           Overcoare capability         56 d8 or less         1 m from front of UPS, A-weighting           Operating environment         Ambient temperature				Within -20% to +15% of rated voltage		At load levels ≥ 70%					
Power factor       0.97 or greater       At rated output, when input voltage harmonic distortion is less than 1% distortion is less than 1% distortion is less than 1%         A facted capacity       5 kVA / 5 kW       Apparent power / active power         A facted voltage       3-phase 4-wire       Single-phase 2-wire         A facted voltage       380/400/415 VAC       220/230/240 VAC         Voltage regulation       Within ± 2% of rated voltage       Within ± 3% of rated voltage         Rated frequency       50/60 Hz       Same as the input frequency         Frequency regulation       Within ± 1/3/5% of rated frequency       Configurable         Voltage harmonic distortion       2% or less / 5% or less       3% or less / 7% or less       At inter voltage / exciting inda, rated output         Frasient voltage       For abrupt load change       Within ± 3% of rated voltage       Within ± 5% of rated voltage         Voltage charmonic distortion       2% or less / 5% or less       3% or less / 7% or less       At rated output         For abrupt input voltage change       0.7 (lagging) to 1.0       Dower factor       For 0 ⇔ 100% load step changes         Load power factor       0.7 (lagging) to 1.0       Dower factor       During operation         Operating environment       Ambient temperature       55 dB or less       1 n from fornt of UPS, A-weighting         Opera		Rated frequency		50/60 Hz (auto-sensing)							
Acted         Construction         distortion is less than 1%           Rated capacity         5 kVA / 5 kW         Apparent power / active power           Mode of phases/wires         3-phase 4-wire         Single-phase 2-wire           Rated voltage         330/400/415 VAC         220/230/240 VAC           Voltage regulation         Within ± 20 5% of rated voltage         Within ± 3% of rated voltage           Rated frequency         5000 Hz         Configurable           Voltage harmonic distortion         2% or less / 5% or less         3% or less / 7% or less           Voltage harmonic distortion         2% or less / 5% or less         3% or less / 7% or less           Transient voltage         For abrupt load change         Within ± 3% of rated voltage           For abrupt load change         Within ± 3% of rated voltage         Within ± 5% of rated voltage           Load power factor         0.7 (lagging) to 1.0         For abrupt load changes         For 10% rapid voltage changes           Efficiency         945%         945%         At rated output           Acoustic noise         0 prog (instantaneous), inverter shutdown         For targotion           Efficiency         945%         At rated output           Acoustic noise         1 m from front of UPS, A-weighting           Operating environment         Ambient		Frequency range		Within $\pm$ 8% of rated frequency							
No. of phases/wires         3-phase 4-wire         Single-phase 2-wire           Rated voltage         380/400/415 VAC         2200/40 VAC           Within # 21% of rated voltage         Within # 21% of rated voltage         Same as the input frequency           Rated frequency regulation         Within # 13% of rated frequency         Configurable           Voltage harmonic distortion         2% or less / 5% or ress         3% or less / 7% or less         At linear load / rectifier load, rated output           Tansient voltage         For abrupt load change for loss/return of input power For loss/return of input power for loss/return of input voltage changes         Within ± 3% of rated voltage         Within ± 5% of rated voltage         For 0 $\Leftrightarrow$ 100% load step changes           Load power factor         0.7 (lagging) to 1.0         For ± 10% rapid voltage changes         For ± 10% rapid voltage changes           Divercurrent protection         Drop (instantaneous), inverter shutdown         Efficiency         At rated output           Acoustic noise         0 to +40°C         During operation         During operation           Efficiency         Ambient temperature         0 to +40°C         During operation           10 to 95% (non-condensing)         10 to 95% (non-condensing)         During operation           Efficiency         Ambient temperature         10 to 40°C         During operation		Power factor		0.97 or greater							
No. of phases/wires         3-phase 4-wire         Single-phase 2-wire           Rated voltage         380/400/415 VAC         2200/40 VAC           Within # 21% of rated voltage         Within # 21% of rated voltage         Same as the input frequency           Rated frequency regulation         Within # 13% of rated frequency         Configurable           Voltage harmonic distortion         2% or less / 5% or ress         3% or less / 7% or less         At linear load / rectifier load, rated output           Tansient voltage         For abrupt load change for loss/return of input power For loss/return of input power for loss/return of input voltage changes         Within ± 3% of rated voltage         Within ± 5% of rated voltage         For 0 $\Leftrightarrow$ 100% load step changes           Load power factor         0.7 (lagging) to 1.0         For ± 10% rapid voltage changes         For ± 10% rapid voltage changes           Divercurrent protection         Drop (instantaneous), inverter shutdown         Efficiency         At rated output           Acoustic noise         0 to +40°C         During operation         During operation           Efficiency         Ambient temperature         0 to +40°C         During operation           10 to 95% (non-condensing)         10 to 95% (non-condensing)         During operation           Efficiency         Ambient temperature         10 to 40°C         During operation	AC	Rated capacity		5 kVA / 5 kW		Apparent power / active power					
Voltage regulation         Within ± 2% of rated voltage         Within ± 3% of rated voltage           Rated frequency         50/60 Hz         Same as the input frequency           Frequency regulation         Within ± 1/3/5% of rated frequency         In battery operation           Voltage harmonic         distortion         2% or less / 5% or less         3% or less / 7% or less         At linear load / ractifier load, rated output           Transient voltage         For abrupt load change         Within ± 3% of rated voltage         Within ± 5% of rated voltage         At rated output           for lows/reduct         For loss/return of input power         0.7 (laging) to 1.0         At rated output           Overcurrent protection         0.7 (laging) to 1.0         In from front of UPS, A-weighting           Overcurrent protection         Drog (instantaneous), inverter shutdown         For 10% rapid voltage changes           Efficiency         45.5% (non-condensing)         In from front of UPS, A-weighting           Operating environment         Ambient temperature         0 to 440°C           Relative humidity         10 to 95% (non-condensing)         During operation           Installation location         In from front of UPS, A-weighting           Operating altitude         2,000 mor less         During operation, storage, transportation           Installation location	0L		IS	3-phase 4-wire	Single-phase 2-wire						
Valtage regulation         Within ± 2% of rated voltage         Within ± 3% of rated voltage           Rated frequency         50/60 Hz         Same as the input frequency           Frequency regulation         Within ± 1/3/5% of rated frequency         In battery operation           Voltage harmonic distortion         2% or less / 5% or less         3% or less / 7% or less         At linear load / ractifier load, rated output           Transient voltage         For abrupt load change         Within ± 3% of rated voltage         Within ± 5% of rated voltage         At rated output           Transient voltage         For loss/return of input power         0.7 (lagging) to 1.0         At rated output           Overcourrent protection         0 for less         120% (30 min)         In from front of UPS, A-weighting           Overcourrent protection ising         Oro (instantaneous), inverter shutdown         In from front of UPS, A-weighting           Operating environment         Ambient temperature         0 to 440°C         During operation           Instance.using         In from front of UPS, A-weighting         In from front of UPS, A-weighting           Operating environment         Ambient temperature         0 to 440°C         During operation           Instance.using         In form front of UPS, A-weighting         In form front of UPS, A-weighting           Operating environment         Am	tput	Rated voltage		380/400/415 VAC	220/230/240 VAC						
Frequency regulation         Within ± 1/3/5% of rated frequency         Configurable           Voltage harmonic distortion         2% or less / 5% or less         3% or less / 7% or less         At linear load / rectifier load, rated output           Transient voltage fluctuation         For abrupt load change         Within ± 3% of rated frequency         Within ± 5% of rated voltage           Load power factor         0.7 (lagging) to 1.0         At rated output           Overload capability         12% (30 min)         1           150% (1 min)         1         1           Overload capability         55 dB or less         1 m from front of UPS, A-weighting           Operating environment         Ambient temperature         0 to +40°C         During operation           Relative humidity         10 to 95% (non-condensing)         During operation         During operation           Expected service life (of the UPS unit excluding battery)         15 years (At a 25°C average ambient temperature. For reference purposes only.)         During operation, storage, transportation           Installation location         Indoors         CE (Low Voltage Directive): EN 62040-1,-2 RoHS directive)         Small-sized valve-regulated lead-acid (VRLA) battery           Battery type         Small-sized valve-regulated lead-acid (VRLA) battery         Ed tetry Vhore         Small-sized valve-regulated lead-acid (VRLA) battery		Voltage regulation		Within $\pm$ 2% of rated voltage	Within $\pm$ 3% of rated voltage						
Within ± 0.5% of rated frequency         In battery operation           Voltage harmonic distortion         2% or less / 5% or less         3% or less / 7% or less         At linear load / rectifier load, rated output           Transient voltage         For abrupt load change         Within ± 3% of rated voltage         Within ± 5% of rated voltage         For 0 ⇔ 100% load step changes           Load power factor         0.7 (lagging) to 1.0         At rated output         For ± 10% rapid voltage changes           Overload capability         120% (30 min)         In from front of UPS, A-weighting         In from front of UPS, A-weighting           Overcurrent protection         Drop (instantaneous), inverter shutdown         In from front of UPS, A-weighting         Ouring operation           Operating environment         Ambient temperature         0t + 40°C         During operation         During storage, transportation           Installation location         In doors         Operating altitude         2,000 m or less         CE (Low Voltage Directive): EN 62040-1,-2 RoHS directive         Relative kundicy           Battery type         Small-sized valve-regulated lead-acid (VRLA) battery         In Sature value         In 20, 12, 20, 20, 20, 20, 20, 20, 20, 20, 20, 2		Rated frequency		50/60 Hz		Same as the input frequency					
Voltage harmonic distortion         2% or less / 5% or less         3% or less / 7% or less         At linear load / rectifier load, rated output           Transient voltage fluctuation         For abrupt load change fluctuation         For abrupt load change for loss/return of input power For abrupt input voltage change         Within ± 3% of rated voltage         For 0 ⇔ 100% load step changes           Load power factor         0.7 (lagging) to 1.0         For 2 00% rated voltage changes         For 10% rapid voltage changes           Overcurrent protection         Drop (instantaneous), inverter shutdown         For 0 ⇔ 100% rated output         For 0 ⇔ 100% rapid voltage changes           Efficiency         94.5%         At rated output         At rated output           Acoustic noise         0 to +40°C         1 m from front of UPS, A-weighting           Operating environment Installation location         Ambient temperature         0 to +40°C         During operation           Installation location         Indoors         During operation         During operation           Operating altitude         2,000 m or less         EX (C low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive         EN 62040-1,-2 RoHS directive           Battery ype         Small-sized valve-regulated lead-acid (VRLA) battery         Extert V         Extert V		Frequency regulat	ion	Within $\pm$ 1/3/5% of rated frequency	Configurable						
Transient voltage fluctuation       For abrupt load change For loss/return of input power For abrupt input voltage change       Within ± 3% of rated voltage       Within ± 5% of rated voltage       For 0 ⇔ 100% load step changes         Load power factor       0.7 (lagging) to 1.0       At rated output       For ± 10% rapid voltage changes         Overload capability       120% (30 min)       1       Image: Step Step Step Step Step Step Step Step				Within $\pm$ 0.5% of rated frequency		In battery operation					
fuctuation         For loss/return of input power For abrupt input voltage change         At rated output For ± 10% rapid voltage changes           Load power factor Overload capability         0.7 (lagging) to 1.0		Voltage harmonic	distortion	2% or less / 5% or less	3% or less / 7% or less	At linear load / rectifier load, rated output					
Image: Construct of the product of the prod		Transient voltage	For abrupt load change	Within $\pm$ 3% of rated voltage	Within $\pm$ 5% of rated voltage	For 0 ⇔ 100% load step changes					
Load power factor       0.7 (lagging) to 1.0         Overload capability       120% (30 min)         150% (1 min)       150% (1 min)         Overcurrent protection       Drop (instantaneous), inverter shutdown         Efficiency       94.5%         Acoustic noise       55 dB or less         Operating environment       Ambient temperature         0 to +40°C       During operation         15 to +40°C       During storage, transportation         Relative humidity       10 to 95% (non-condensing)         Expected service life (of the UPS unit excluding battery)       15 years (At a 25°C average ambient temperature. For reference purposes only.)         Installation location       Indoors         Operating altitude       2,000 m or less         Standards       CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive         Battery       Small-sized valve-regulated lead-acid (VRLA) battery         Battery type       Small-sized valve-regulated lead-acid (VRLA) battery         Battery configuration       12 V, 102 Wh (9 Ah) equivalent		fluctuation	For loss/return of input power			At rated output					
Overload capability         120% (30 min)           150% (1 min)			For abrupt input voltage change			For $\pm$ 10% rapid voltage changes					
Image: Standards       150% (1 min)         Overcurrent protection       Drop (instantaneous), inverter shutdown         Efficiency       94.5%         Acoustic noise       55 dB or less         Operating environment       Ambient temperature         0 to +40°C       During operation         -15 to +40°C       During storage, transportation         Relative humidity       10 to 95% (non-condensing)       During operation, storage, transportation         Installation location       Indoors       Indoors         Operating altitude       2,000 m or less       CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive         Battery       Small-sized valve-regulated lead-acid (VRLA) battery       Small-sized valve-regulated lead-acid (VRLA) battery         Battery configuration       12 V, 102 Wh (9 Ah) equivalent       12 V, 102 Wh (9 Ah) equivalent		Load power factor		0.7 (lagging) to 1.0							
Overcurrent protection         Drop (instantaneous), inverter shutdown           Efficiency         94.5%         At rated output           Acoustic noise         55 dB or less         1 m from front of UPS, A-weighting           Operating environment         Ambient temperature         0 to +40°C         During operation           -15 to +40°C         During storage, transportation         During operation, storage, transportation           Expected service life (of the UPS unit excluding battery)         15 years (At a 25°C average ambient temperature. For reference purposes only.)         Installation location           Operating altitude         2,000 m or less         CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RelAS directive         RelAttery           Battery         Small-sized valve-regulated lead-acid (VRLA) battery         Small-sized valve-regulated lead-acid (VRLA) battery           Battery configuration         12 V, 102 Wh (9 Ah) equivalent         12 V, 102 Wh (9 Ah) equivalent		Overload capabilit	у	120% (30 min)							
Efficiency     94.5%     At rated output       Acoustic noise     55 dB or less     1 m from front of UPS, A-weighting       Operating environment     Ambient temperature     0 to +40°C     During operation       Is to +40°C     During storage, transportation     During operation       Relative humidity     10 to 95% (non-condensing)     During operation, storage, transportation       Installation location     Indoors     Indoors       Operating altitude     2,000 m or less     Et (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive       Standards     CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive     Small-sized valve-regulated lead-acid (VRLA) battery       Battery type     Small-sized valve-regulated lead-acid (VRLA) battery     Ist valve-regulated lead-acid (VRLA) battery				150% (1 min)							
Efficiency     94.5%     At rated output       Acoustic noise     55 dB or less     1 m from front of UPS, A-weighting       Operating environment     Ambient temperature     0 to +40°C     During operation       Is to +40°C     During storage, transportation     During operation       Relative humidity     10 to 95% (non-condensing)     During operation, storage, transportation       Installation location     Indoors     Indoors       Operating altitude     2,000 m or less     Et (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive       Standards     CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive     Small-sized valve-regulated lead-acid (VRLA) battery       Battery type     Small-sized valve-regulated lead-acid (VRLA) battery     Ist valve-regulated lead-acid (VRLA) battery	Overo	urrent protection		Drop (instantaneous), inverter shutdov	'n						
Operating environment         Ambient temperature         0 to +40°C         During operation           Ist or +40°C         During storage, transportation         During operation           Relative humidity         10 to 95% (non-condensing)         During operation, storage, transportation           Expected service life (of the UPS unit excluding battery)         15 years (At a 25°C average ambient temperature. For reference purposes only.)         Installation location           Installation location         Indoors         Expected service. ENC Directive. ENC Directive. EN 62040-1,-2 Rolls directive           Standards         CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 Rolls directive         Relative transportation           Battery         Small-sized valve-regulated lead-acid (VRLA) battery         Integration           Battery type         Small-sized valve-regulated lead-acid (VRLA) battery         Integration				94.5%		At rated output					
Installation location         Indoors         Indoors           Operating altitude         2,000 m or less         CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 Rold Strenctive         Relative number of the UPS unit excluding battery)           Installation location         Indoors         Indoors           Operating altitude         2,000 m or less         CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 Rold Strenctive           Battery         Small-sized valve-regulated lead-acid (VRLA) battery         Battery           Battery configuration         12 V, 102 Wh (9 Ah) equivalent         Low Voltage Directive	Acou	stic noise		55 dB or less		1 m from front of UPS, A-weighting					
Relative humidity         10 to 95% (non-condensing)         During operation, storage, transportation           Expected service life (of the UPS unit excluding battery)         15 years (At a 25°C average ambient temperature. For reference purposes only.)         Installation location         Indoors         Indoor	Opera	ating environment	Ambient temperature	0 to +40°C		During operation					
Expected service life (of the UPS unit excluding battery)       15 years (At a 25°C average ambient temperature. For reference purposes only.)         Installation location       Indoors         Operating altitude       2,000 m or less         Standards       CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive         Battery       Small-sized valve-regulated lead-acid (VRLA) battery         Battery configuration       12 V, 102 Wh (9 Ah) equivalent				-15 to +40°C		During storage, transportation					
Installation location     Indoors       Operating altitude     2,000 m or less       Standards     CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive       Battery       Battery type     Small-sized valve-regulated lead-acid (VRLA) battery       Battery configuration     12 V, 102 Wh (9 Ah) equivalent			Relative humidity	10 to 95% (non-condensing)		During operation, storage, transportation					
Operating altitude     2,000 m or less       Standards     CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive       Battery     Battery type       Battery configuration     Small-sized valve-regulated lead-acid (VRLA) battery       Battery configuration     12 V, 102 Wh (9 Ah) equivalent	Exped	ted service life (of	the UPS unit excluding battery)	15 years (At a 25°C average ambient te	mperature. For reference purposes only.)						
Standards     CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive       Battery     Small-sized valve-regulated lead-acid (VRLA) battery       Battery configuration     12 V, 102 Wh (9 Ah) equivalent	Instal	lation location		Indoors							
RoHS directive           Battery           Battery type           Small-sized valve-regulated lead-acid (VRLA) battery           Battery configuration           12 V, 102 Wh (9 Ah) equivalent	Opera	ating altitude		2,000 m or less							
Battery type         Small-sized valve-regulated lead-acid (VRLA) battery           Battery configuration         12 V, 102 Wh (9 Ah) equivalent	Stand	ards			/e): EN 62040-1,-2						
Battery type         Small-sized valve-regulated lead-acid (VRLA) battery           Battery configuration         12 V, 102 Wh (9 Ah) equivalent	Batte	ry		·							
Battery configuration     12 V, 102 Wh (9 Ah) equivalent		,		Small-sized valve-regulated lead-acid	(VRLA) battery						
		, ,	dule	16							

#### Load Level vs Backup Time



Note: At a 25°C ambient temperature and load power factor of 0.75, using new, fully charged batteries.

Network Options		
Item	Model no.	Remarks
LAN interface card		When installed in the optional card slot, this card enables 24/7 monitoring of UPS operations and status, and sends email notifications to system administrators for quick actions via network in the event of a power failure. Combined with a temperature and humidity sensor (Model no.: 9CT1-T, extension cable: CARD-CBL007), this card can also monitor the ambient temperature and humidity. Multiple servers (up to 50) can be shut down through communication protocols such as SSH, Telnet, and REST API.

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

## Online UPS SANUPS A22A

#### Cabinet Configurations and Dimensions

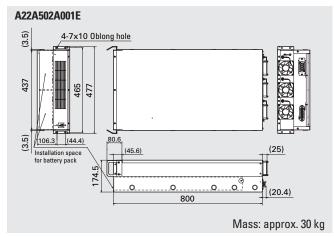
3-phase 4-wire 400 V	models																						
UPS capacity	[kVA]	5				10		15	20	5				10			15		20	25	30	35	
Battery backup time	[min]	10	30	60	90	10	30	10	10	10	30	60	90	10	30	60	10	30	10	10	10	10	
Cabinet	Model no.	PDA	22AT04	NA001	E					PDA	22AT0	7NA0	D1E										
Inverter module [Qty]	A22A502A001E <sup>(1)</sup>	1	1	1	1	2	2	3	4	1	1	1	1	2	2	2	3	3	4	5	6	7	
Battery module [Qty]	BCA22AA00E	0	1	2	3	0	2	0	0	0	1	2	3	0	2	4	0	3	0	0	0	0	
Battery pack [Qty]	BPA22AA00E	2	6	10	14	4	12	6	8	2	6	10	14	4	12	20	6	18	8	10	12	14	
		100 1150			<u>(19</u>	•				100 1700			<u>(19.</u>	5)	• 980.5 1000	· · · · · · · · · · · · · · · · · · ·							
Cabinet mass <sup>(2)</sup>			ox. 125								ox. 16				60								
UPS capacity	[kVA]	30		3			40											65		70			<u> </u>
Battery backup time	[min]	90		9			60			60			30		30			30		30			
Cabinet	Model no. A22A502A001E <sup>(1)</sup>	-	22AT28				8			9			11		10			10		1.4			
Inverter module [Qty]		6		7									11		12			13		14			<u> </u>
Battery module [Qty] Battery pack [Qty]	BCA22AA00E BPA22AA00E	18 84		2			16 80			18 90			11 66		12 72			13 78		84			<u> </u>
Cabinet dimensions [mm]		75 11 28.5	•		215	Cable h		ernal termin	- T		600												
Cabinet mass <sup>(2)</sup>																							<u> </u>

(1) Parallel redundant operation is recommended for increased reliability of the supplied power.

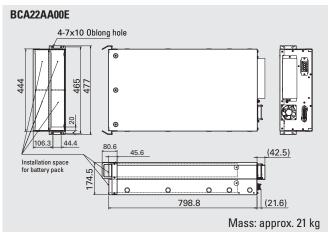
(2) Not including the weight of modules, battery packs, or cables between units.

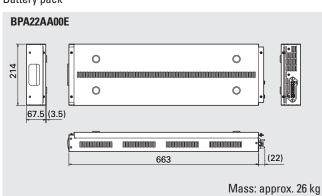
#### Dimensions (Unit: mm)

#### Inverter module (single unit)



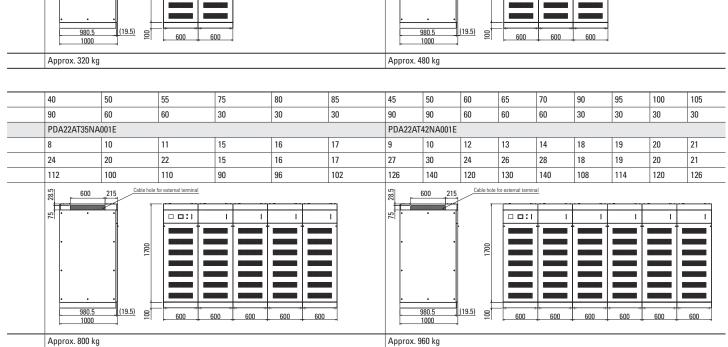
#### Battery module (single unit)





Battery pack

Paint color: Black (Munsell N1.5)



10	15		20		25	30	35	40	45	50	55	60	65	70	20	25		30	35	40	45	50	75	80	85	90	95	100	105
90	60	90	30	60	30	30	30	10	10	10	10	10	10	10	90	60	90	60	60	30	30	30	10	10	10	10	10	10	10
PD	A22A	T14NA00	1E												PDA	22AT21	NA001	E											
2	3	3	4	4	5	6	7	8	9	10	11	12	13	14	4	5	5	6	7	8	9	10	15	16	17	18	19	20	21
6	6	9	4	8	5	6	7	0	0	0	0	0	0	0	12	10	15	12	14	8	9	10	0	0	0	0	0	0	0
28	30	42	24	40	30	36	42	16	18	20	22	24	26	28	56	50	70	60	70	48	54	60	30	32	34	36	38	40	42
75	•	600 • • 980.5 1000	•	100 1700			600										.5	•	100 1700			600							

## Online UPS SANUPS A22A

#### Cabinet Configurations and Dimensions

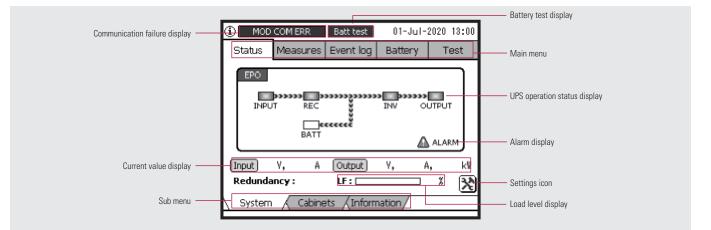
Single-phase <b>2</b> -wire <b>200</b>	V models																						
UPS capacity	[kVA]	5				10		15	20	5				10			15		20	25	30	35	
Battery backup time	[min]	10	30	60	90	10	30	10	10	10	30	60 9	0	10	30	60	10	30	10	10	10	10	
Cabinet	Model no.	PDA	22AS04	NA00	1E					PDA2	22AS07	NA001E											
Inverter module [Qty]	A22A502A001E <sup>(1)</sup>	1	1	1	1	2	2	3	4	1	1	1 1		2	2	2	3	3	4	5	6	7	
Battery module [Qty]	BCA22AA00E	0	1	2	3	0	2	0	0	0	1	2 3		0	2	4	0	3	0	0	0	0	
Battery pack [Qty]	BPA22AA00E	2	6	10	14	4	12	6	8	2	6	10 1	4	4	12	20	6	18	8	10	12	14	
		100			<u>(19</u>	.5)	• 980.5 1000	•		100 1700			(19.5)		• 980.5 1000	•							
Cabinet mass <sup>(2)</sup> UPS capacity	[kVA]	Appr 30	ox. 125	i kg		35				Appro 40	ox. 160	kg		4	15				55				<u> </u>
Battery backup time	[min]	90				90				60				6	60								
Cabinet	Model no.	PDA	22AS28	NA00	1E																		
Inverter module [Qty]	A22A502A001E <sup>(1)</sup>	6				7				-	8 9 11												
Battery module [Qty]	BCA22AA00E	18				11				8				9	9				11				
		10				21				8					) 18				11				
Battery pack [Qty]	BPA22AA00E	84								_				1									
Battery pack [Qty] Cabinet dimensions [mm]	BPA22AA00E		•	000 • • 80.5 000	215	21 98		rnal termina		16 80				1	18				11				

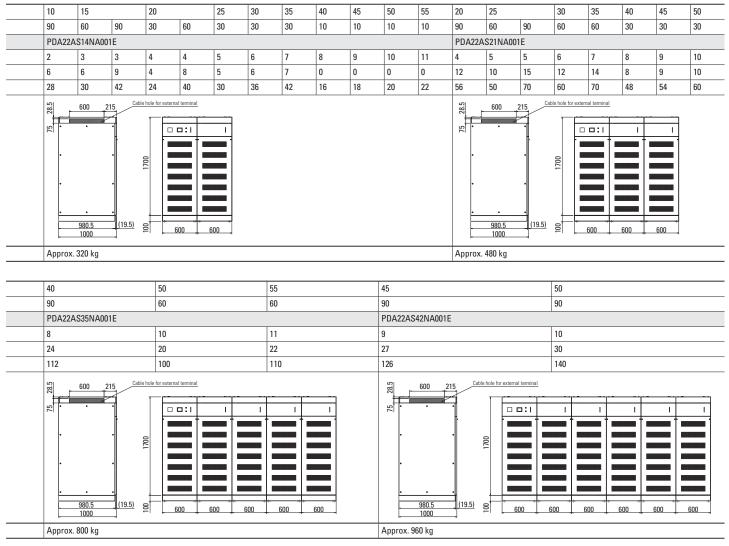
(1) Parallel redundant operation is recommended for increased reliability of the supplied power.

(2) Not including the weight of modules, battery packs, or cables between units.

#### LCD Panel

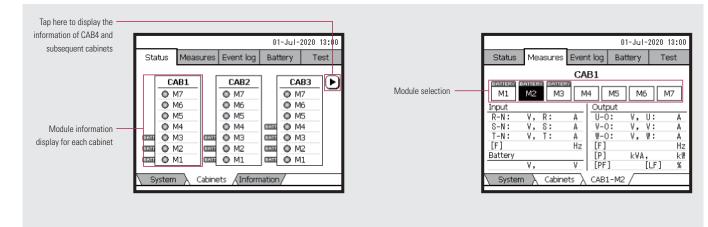
#### Main screen



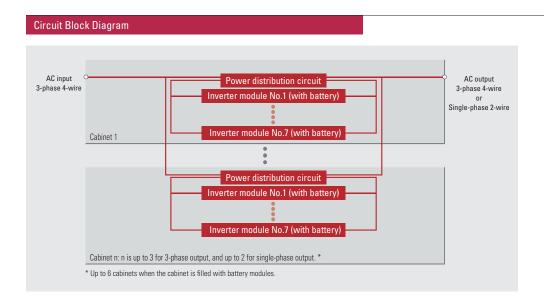


Paint color: Black (Munsell N1.5)

#### Module information display



Note: Only the information of CAB1 and M1 to M4 is displayed for half-size cabinets.





#### Eco Products

SANYO DENKI's ECO PRODUCTS are designed with the concept of lessening impact on the environment in the process from product development to waste. The product units and packaging materials are designed for reduced environmental impact. We have established our own assessment criteria on the environmental impacts applicable to all processes, ranging from design to manufacture. Those products that satisfy the criteria 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/

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