

Online UPS

# SANUPS A22A



Modular UPS system

Scalable capacity with 5 kVA modules

Lineup

| [No. of phases/wires]<br>Input voltage           | [No. of phases/wires]<br>Output voltage               | Output capacity<br>[kVA] | Battery backup time* |
|--|---|--------------------------|----------------------|
| 3-phase 4-wire<br>400 V model<br>380/400/415 VAC | 3-phase 4-wire<br>400 V model<br>380/400/415 VAC      | 5 to 105                 | 10 minutes           |
|  | Single-phase 2-wire<br>200 V model<br>220/230/240 VAC | 5 to 55                  |                      |

\* Reference values at 25°C ambient temperature and load power factor of 0.75, using new, fully charged batteries.



### High Efficiency

- Achieves high efficiency levels of up to 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 optional expansion 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 reliability of the power supply.

### Wide Input Voltage Range

- With a wide input voltage range of 240 to 460 V\* and a wide input frequency range of 46 to 54 Hz,\*\* the SANUPS A22A can deal with unstable power sources.

This prevents unnecessary battery operation, minimizing battery drain.

\* Input voltage range value when input voltage is set to 400 V.

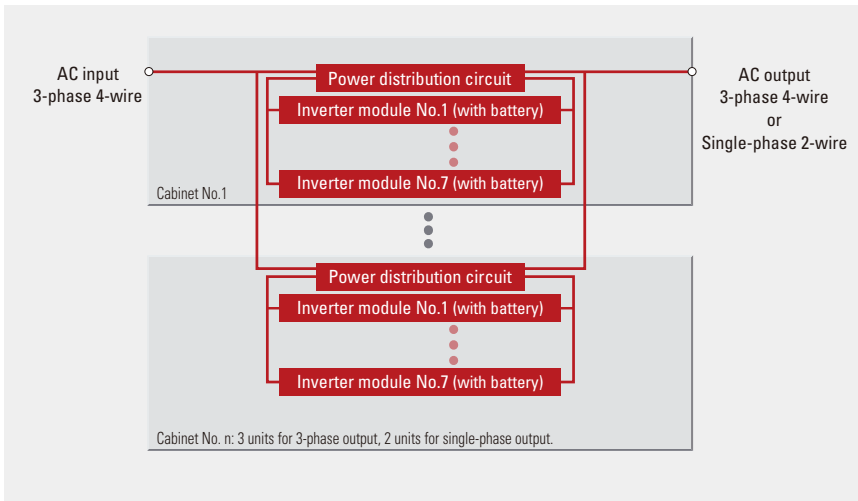
\*\* Input frequency range value when input frequency is set to 50 Hz.

### Easy Maintenance

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



## Circuit block diagram



## Model list

### 3-phase 4-wire 400 V Model

| UPS capacity               |                      | 5 kVA                  | 10 kVA | 15 kVA | 20 kVA | 5 kVA                  | 10 kVA | 15 kVA | 20 kVA | 25 kVA | 30 kVA | 35 kVA |
|----------------------------|----------------------|------------------------|--------|--------|--------|------------------------|--------|--------|--------|--------|--------|--------|
| Cabinet                    | Model no.            | <b>PDA22AT04NA001E</b> |        |        |        | <b>PDA22AT07NA001E</b> |        |        |        |        |        |        |
| Inverter module (Quantity) | <b>A22A502A001E*</b> | 1                      | 2      | 3      | 4      | 1                      | 2      | 3      | 4      | 5      | 6      | 7      |
| Battery pack (Quantity)    | <b>BPA22AA00E</b>    | 2                      | 4      | 6      | 8      | 2                      | 4      | 6      | 8      | 10     | 12     | 14     |

Appearance



Half-size



### Single-phase 2-wire 200 V Model

| UPS capacity               |                      | 5 kVA                  | 10 kVA | 15 kVA | 20 kVA | 5 kVA                  | 10 kVA | 15 kVA | 20 kVA | 25 kVA | 30 kVA | 35 kVA |
|----------------------------|----------------------|------------------------|--------|--------|--------|------------------------|--------|--------|--------|--------|--------|--------|
| Cabinet                    | Model no.            | <b>PDA22AS04NA001E</b> |        |        |        | <b>PDA22AS07NA001E</b> |        |        |        |        |        |        |
| Inverter module (Quantity) | <b>A22A502A001E*</b> | 1                      | 2      | 3      | 4      | 1                      | 2      | 3      | 4      | 5      | 6      | 7      |
| Battery pack (Quantity)    | <b>BPA22AA00E</b>    | 2                      | 4      | 6      | 8      | 2                      | 4      | 6      | 8      | 10     | 12     | 14     |

Appearance



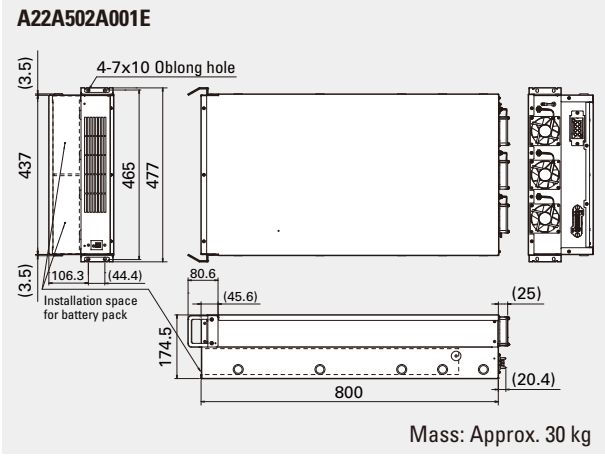
Half-size



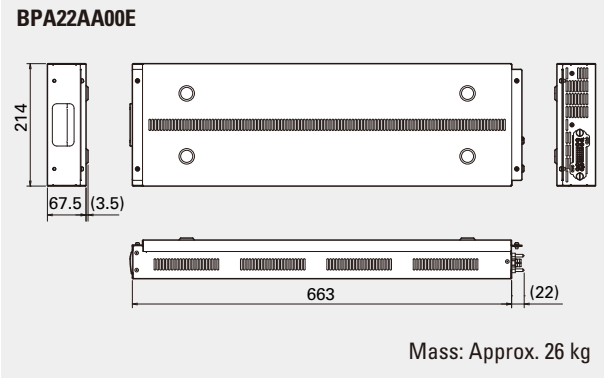
\* A parallel redundant configuration is recommended for improving the reliability of the power supply.

**Dimensions (Unit: mm)**

**Inverter module 5 kVA**



**Battery pack**

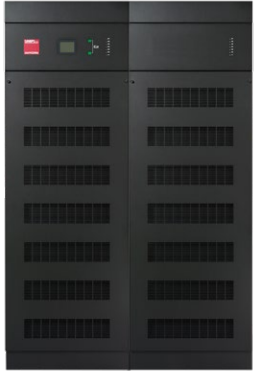


| Item    | Dimensions [mm] |     |              | Mass [kg]      |             |
|---------|-----------------|-----|--------------|----------------|-------------|
|         | W               | D   | H            |                |             |
| Cabinet |                 |     | 1700 + 100 * | Approx. 160 ** |             |
|         | (Half-size)     | 600 | 1000         | 1150 + 100 *   | Approx. 125 |

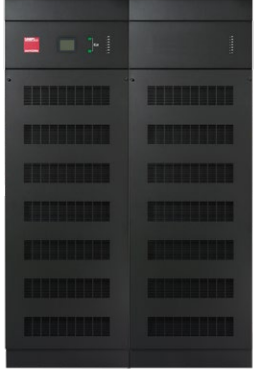
\* Base  
\*\* Does not include inter-cabinet wiring

Paint color: Black (Munsell N1.5)

| 40 kVA                 | 45 kVA | 50 kVA | 55 kVA | 60 kVA | 65 kVA | 70 kVA | 75 kVA                 | 80 kVA | 85 kVA | 90 kVA | 95 kVA | 100 kVA | 105 kVA |
|------------------------|--------|--------|--------|--------|--------|--------|------------------------|--------|--------|--------|--------|---------|---------|
| <b>PDA22AT14NA001E</b> |        |        |        |        |        |        | <b>PDA22AT21NA001E</b> |        |        |        |        |         |         |
| 8                      | 9      | 10     | 11     | 12     | 13     | 14     | 15                     | 16     | 17     | 18     | 19     | 20      | 21      |
| 16                     | 18     | 20     | 22     | 24     | 26     | 28     | 30                     | 32     | 34     | 36     | 38     | 40      | 42      |



| 40 kVA                 | 45 kVA | 50 kVA | 55 kVA |
|------------------------|--------|--------|--------|
| <b>PDA22AS14NA001E</b> |        |        |        |
| 8                      | 9      | 10     | 11     |
| 16                     | 18     | 20     | 22     |



## Inverter module specifications

| Item                          | Specifications   |  | Remarks   |   |   |
|-------------------------------|--|--|---|---|---|
| Technology                    | UPS topology   | Double conversion online               |   |   |   |
|                               | Cooling method   | Forced air cooling                     |   |   |   |
|                               | Inverter type  | High-frequency PWM                     |   |   |   |
|                               | Inverter structure   | Modular                                |   |   |   |
|                               | Battery structure  | Modular                                |   |   |   |
| AC input                      | No. of phases/wires  | 3-phase 4-wire                         |   |   |   |
|                               | Rated voltage  | 380/400/415 V                          |   |   |   |
|                               | Allowable voltage range  | Within -40 to +15% of rated voltage    | At load level < 70%. The -40% becomes -20% for recovery voltage                         |   |   |
|                               |  | Within -20 % to +15% of rated voltage  | At load level ≥ 70%   |   |   |
|                               | Rated frequency  | 50/60 Hz (auto-sensing)                |   |   |   |
|                               | Frequency range  | Within ±8% of rated frequency          |   |   |   |
| Power factor                  | 0.97 or more   |  | At rated output, when input voltage harmonic distortion is less than 1%                 |   |   |
| AC output                     | Rated capacity   | 5 kVA / 5 kW                           |   | Apparent power / active power             |   |
|                               | No. of phases/wires  | 3-phase 4-wire                         | Single-phase 2-wire   |   |   |
|                               |  | Rated voltage                          | 380/400/415 V   | 220/230/240 V                             |   |
|                               | 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, or 5% of rated frequency |   | Configurable                              |   |
|                               |  | Within ±0.5% of rated frequency        |   | At 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 fluctuation  | For abrupt load change                 | Within ±3% of rated voltage   | Within ±5% of rated voltage               | For 0 ⇔ 100% load step changes                |
|                               |  | Loss or return of input power          |   |   | At rated output                               |
|                               |  | Input voltage during rapid change      |   |   | For ±10% rapid voltage changes                |
| Load power factor             | 0.7 (lagging) to 1.0   |  |   |   |   |
| Overload capability           | 120% (30 min)  |  |   |   |   |
|                               | 150% (1 min)   |  |   |   |   |
| Overcurrent protection        | Drop (instantaneous), inverter shutdown                                    |  |   |   |   |
| Efficiency                    | 94.5%  |  | At rated output   |   |   |
| Acoustic noise                | 55 dB or less  |  | 1 m from front of device, A-weighting   |   |   |
| 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  |  |   |   |   |
| Operating altitude            | 2,000 m or less  |  |   |   |   |
| Standards                     | CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2<br>RoHS Directive |  |   |   |   |
| <b>Battery</b>                |  |  |   |   |   |
| Battery type                  | Small-sized valve-regulated lead-acid (VRLA) battery                       |  |   |   |   |
| Battery configuration         | 12 V / 9 Ah  |  |   |   |   |
| Batteries per inverter module | 16   |  |   |   |   |
| Backup time                   | 10 min   |  | 25°C ambient temperature, load power factor of 0.75, using new, fully charged batteries |   |   |

## Network options

| Item                           | Model no.                          | Remarks  |
|--------------------------------|------------------------------------|--|
| LAN interface card with Modbus | Modbus TCP                         | When installed in the optional card slot, 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. |
|                                | Modbus TCP/RTU                     |  |
| LAN interface card             | Environment monitoring, IPv6 model | Combined with our temperature sensor (PRLANSN001) and humidity sensor (PRLANSN002), this model enables you to monitor UPS ambient temperature and humidity.  |



### ■ 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.

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