

# SANUPS A22A

Online UPS

Ver. 1.2  
English



# SANUPS A22A

Modular UPS with capacity scalability in 5 kVA increments

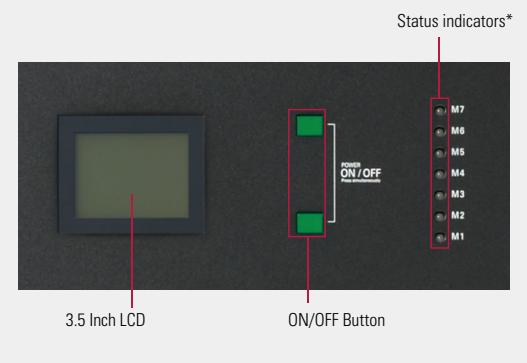


## Lineup

[No. of phases/wires] Input voltage	[No. of phases/wires] Output voltage	Output capacity [kVA]	Battery backup time*
[3-phase 4-wire] 400 V <sub>model</sub> 380/400/415 VAC	[3-phase 4-wire]	5 to 50	10, 30, 60, 90 min
	400 V <sub>model</sub>	55 to 70	10, 30, 60 min
	380/400/415 VAC	75 to 105	10, 30 min
[Single-phase 2-wire] 200 V <sub>model</sub> 220/230/240 VAC	[Single-phase 2-wire]	5 to 50	10, 30, 60, 90 min
	200 V <sub>model</sub>	55	10, 30, 60 min

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

## Operating Panel



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

## 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.

## Easy Maintenance

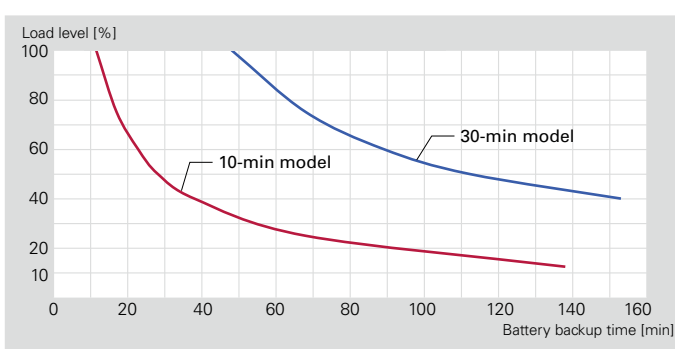
- Front-access design allows users to install and remove batteries and inverter modules easily.
- Maintenance can be performed without interrupting the inverter power to critical loads during parallel redundant operation. In addition, power can continue to be supplied even if an outage occurs during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



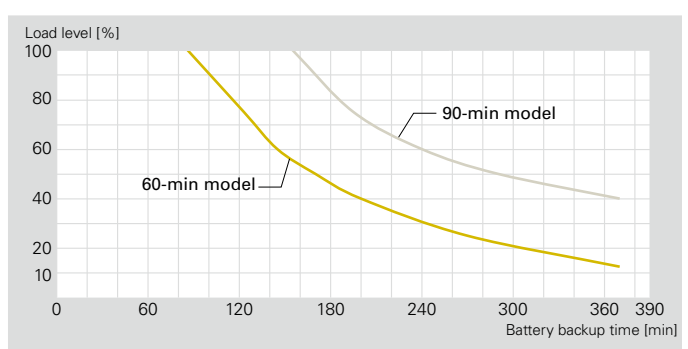
**Inverter Module Specifications**

Item	Specifications		Remarks		
Technology	Topology	Double conversion online			
	Cooling method	Forced air cooling			
	Inverter	High-frequency PWM			
	Inverter structure	Modular			
	Battery structure	Modular			
AC Input	No. of phases/wires	3-phase 4-wire			
	Rated voltage	380/400/415 VAC			
	Input voltage range	Within -40% to +15% of rated voltage	At load levels < 70%. The lower limit is -40% when leaving the range and -20% when returning.		
		Within -20% to +15% of rated voltage	At load levels ≥ 70%		
	Rated frequency	50/60 Hz (auto-sensing)			
	Frequency range	Within ± 8% of rated frequency			
Power factor	0.97 or greater		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 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		
		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 fluctuation	Within ± 3% of rated voltage	Within ± 5% of rated voltage	For 0 ⇔ 100% load step changes
					At rated output
For abrupt input voltage 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 UPS, A-weighting		
Operating environment	Ambient temperature	0 to +40°C	During operation		
	Relative humidity	-15 to +40°C	During storage, transportation		
		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				
Operating altitude	2,000 m or less				
Standards	CE (Low Voltage Directive, EMC Directive): EN 62040-1,-2 RoHS directive				
<b>Battery</b>					
Battery type	Small-sized valve-regulated lead-acid (VRLA) battery				
Battery configuration	12 V, 102 Wh (9 Ah) equivalent				
Batteries per inverter module	16				

**Load Level vs Backup Time**



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



**Network Options**

Item	Model no.	Remarks	
LAN interface card	IPv4/IPv6, Modbus TCP supported	<b>PRLANIF022A</b>	When installed in the optional card slot of a UPS, 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.
	IPv4/IPv6, Modbus TCP/RTU supported	<b>PRLANIF024A</b>	
	IPv4/IPv6, environmental monitoring supported	<b>PRLANIF013B-US</b>	Combined with our temperature sensor (PRLANSN001) and humidity sensor (PRLANSN002), this model enables monitoring of UPS ambient temperature and humidity.

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

Cabinet Configurations and Dimensions

3-phase 4-wire 400 V models

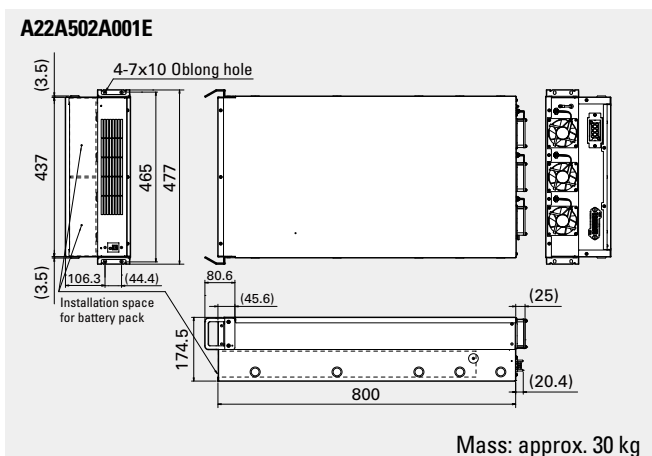
UPS capacity [kVA]		5				10				15				20				5				10				15				20				25				30				35			
Battery backup time [min]		10	30	60	90	10	30	10	10	10	30	60	90	10	30	60	10	30	10	10	10	30	10	10	10	30	10	10	10	30	10	10	10	30	10	10	10	30	10	10					
Cabinet	Model no.	PDA22AT04NA001E																PDA22AT07NA001E																											
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																							
Cabinet dimensions [mm]	Half-size																																												
Cabinet mass <sup>(2)</sup>		Approx. 125 kg																Approx. 160 kg																											

UPS capacity [kVA]		30		35		40		45		55		60		65		70	
Battery backup time [min]		90		90		60		60		30		30		30		30	
Cabinet	Model no.	PDA22AT28NA001E															
Inverter module [Qty]	A22A502A001E <sup>(1)</sup>	6		7		8		9		11		12		13		14	
Battery module [Qty]	BCA22AA00E	18		21		16		18		11		12		13		14	
Battery pack [Qty]	BPA22AA00E	84		98		80		90		66		72		78		84	
Cabinet dimensions [mm]																	
Cabinet mass <sup>(2)</sup>		Approx. 640 kg															

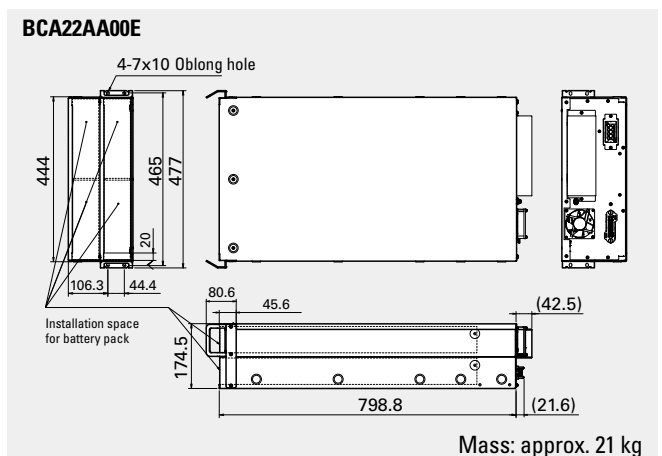
(1) Parallel redundant operation is recommended for increased reliability of the supplied power.  
 (2) Not including the weight of modules, battery packs, or cables between units.

Dimensions (Unit: mm)

Inverter module (single unit)



Battery module (single unit)



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
PDA22AT14NA001E															PDA22AT21NA001E														
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

Cable hole for external terminal

Cable hole for external terminal

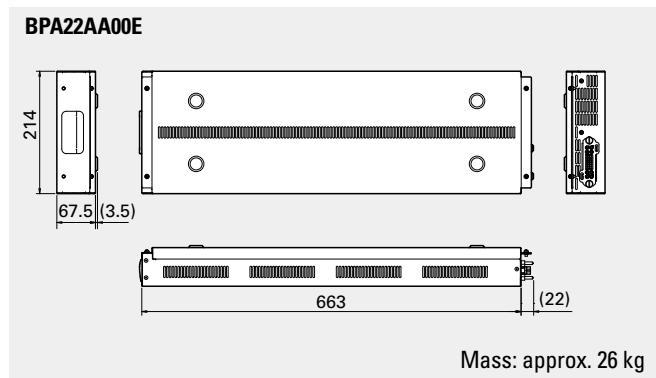
40		50		55		75		80		85		45	50	60	65	70	90	95	100	105
90		60		60		30		30		30		90	90	60	60	60	30	30	30	30
PDA22AT35NA001E											PDA22AT42NA001E									
8		10		11		15		16		17		9	10	12	13	14	18	19	20	21
24		20		22		15		16		17		27	30	24	26	28	18	19	20	21
112		100		110		90		96		102		126	140	120	130	140	108	114	120	126

Cable hole for external terminal

Cable hole for external terminal

Paint color: Black (Munsell N1.5)

Battery pack



Cabinet Configurations and Dimensions

Single-phase 2-wire 200 V models

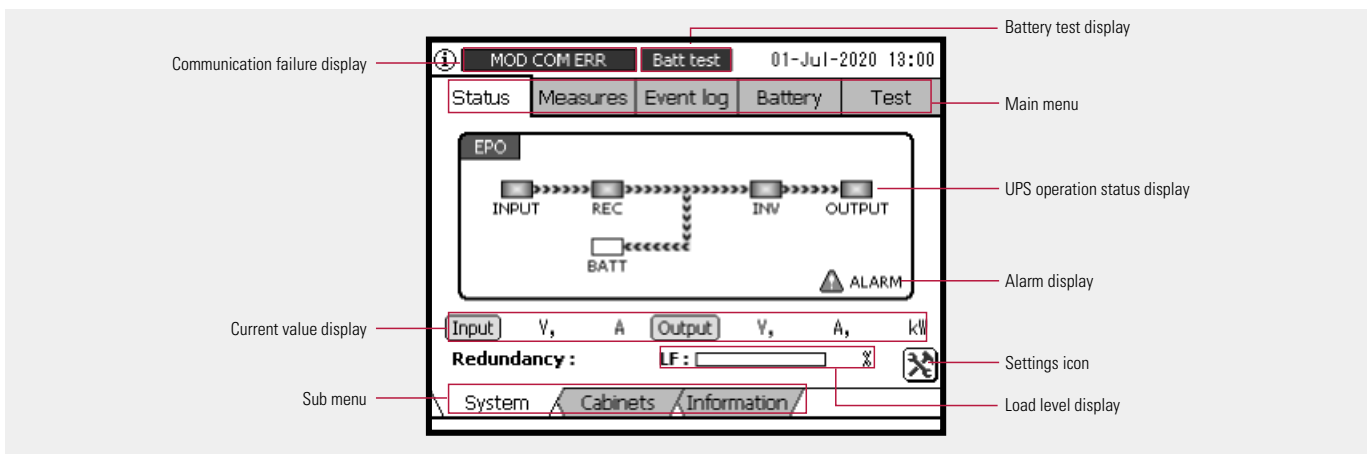
UPS capacity [kVA]		5				10				15				20				5				10				15				20				25				30				35			
Battery backup time [min]		10	30	60	90	10	30	10	10	10	30	60	90	10	30	60	10	30	10	10	10	30	10	10	10	30	10	10	10	30	10	10	10	30	10	10	10	30	10	10					
Cabinet	Model no.	PDA22AS04NA001E																PDA22AS07NA001E																											
Inverter module [Qty]	A22A502A001E <sup>(1)</sup>	1	1	1	1	2	2	3	4	1	1	1	1	2	2	2	3	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	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																							
Cabinet dimensions [mm]																																													
Cabinet mass <sup>(2)</sup>		Approx. 125 kg																Approx. 160 kg																											

UPS capacity [kVA]		30				35				40				45				55			
Battery backup time [min]		90				90				60				60				30			
Cabinet	Model no.	PDA22AS28NA001E																			
Inverter module [Qty]	A22A502A001E <sup>(1)</sup>	6				7				8				9				11			
Battery module [Qty]	BCA22AA00E	18				21				16				18				11			
Battery pack [Qty]	BPA22AA00E	84				98				80				90				66			
Cabinet dimensions [mm]																					
Cabinet mass <sup>(2)</sup>		Approx. 640 kg																			

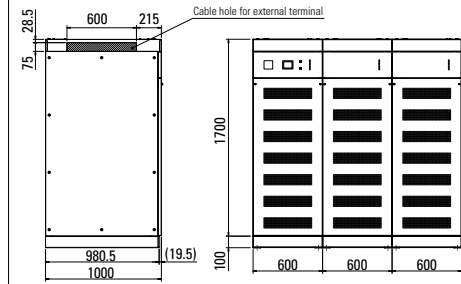
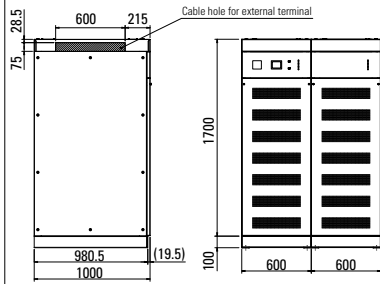
(1) Parallel redundant operation is recommended for increased reliability of the supplied power.  
 (2) Not including the weight of modules, battery packs, or cables between units.

LCD Panel

Main screen



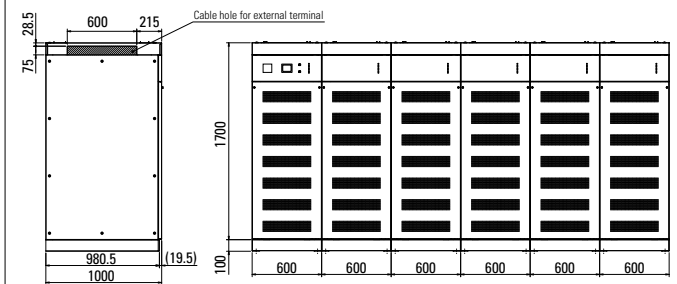
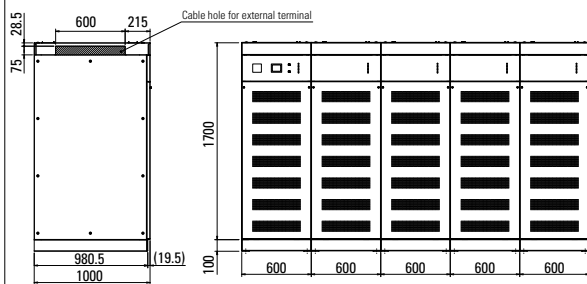
10	15		20		25	30	35	40	45	50	55	20	25		30	35	40	45	50
90	60	90	30	60	30	30	30	10	10	10	10	90	60	90	60	60	30	30	30
PDA22AS14NA001E												PDA22AS21NA001E							
2	3	3	4	4	5	6	7	8	9	10	11	4	5	5	6	7	8	9	10
6	6	9	4	8	5	6	7	0	0	0	0	12	10	15	12	14	8	9	10
28	30	42	24	40	30	36	42	16	18	20	22	56	50	70	60	70	48	54	60



Approx. 320 kg

Approx. 480 kg

40		50		55		45		50
90		60		60		90		90
PDA22AS35NA001E					PDA22AS42NA001E			
8		10		11		9		10
24		20		22		27		30
112		100		110		126		140



Approx. 800 kg

Approx. 960 kg

Paint color: Black (Munsell N1.5)

### Module information display

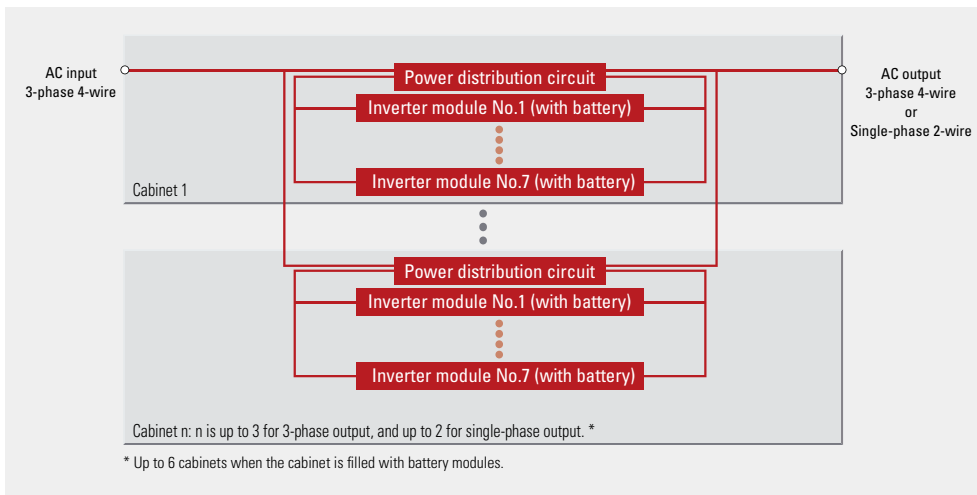
Tap here to display the information of CAB4 and subsequent cabinets

Module information display for each cabinet

Module selection

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

## Circuit Block Diagram



### ■ 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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