

Power Systems Division

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This document summarizes the main products that were developed by the Power Systems Division in 2009.

We developed the 100 kW PV inverter “SANUPS P83C” for international use, mainly in Southeast Asia.

We developed “SANUPS PV

Monitor” to make the photovoltaic power generation inverters network-compatible.

We developed the high-efficiency, high-reliability double-conversion inverter type uninterruptible power supply “SANUPS A11J”, and also developed a parallel-redundant-operation version in order to expand

the lineup.

For rotating power supply equipment, we developed a generator truck that can output 3-phase and single-phase power simultaneously.

The following pages provide overviews and features of each product.

■ Development of the Photovoltaic Power Generation System 100kW Inverter “SANUPS P83C”

We developed the 100 kW PV inverter “SANUPS P83C”, which is compatible with high-volume photovoltaic power generation systems on the international market.

The “SANUPS P83C” is compatible with 3-phase 4-wire, 400 V systems used internationally while achieving a maximum efficiency of 97.8%, which is the highest in the industry.

The “SANUPS P83C” comes in 2 versions: the high-voltage type (P83C104RH), which satisfies CE standards, and the low-voltage type (P83C104RL), which has passed the Korean accrediting organization’s general test for photovoltaic power generation inverters. Therefore, it is compatible with a variety of photovoltaic battery voltages.

The “SANUPS P83C” has a multiple-

unit-control function, which controls the quantity of operating inverters depending on the generation status of photovoltaic cells in generation systems where several inverters are operating in a grid-connected systems. This results in improved system efficiency. In addition, for surge suppression, the “SANUPS P83C” has reactive power control and active power output limitation functions, which increase reliability during grid-connected operations.

The “SANUPS P83C” takes up only 0.68 m², saving space, and it is built from extra durable parts, which will last ten years without replacement.

We now have PV inverters ranging from 10 kW to 100 kW for use internationally.



■ Development of the Photovoltaic Power Generation Inverter LAN Adaptor “SANUPS PV Monitor”

We developed the LAN adaptor “SANUPS PV Monitor” to make the photovoltaic power generation inverters network-compatible.

This unit can connect to our photovoltaic power generation inverters (27 units maximum) via RS-485 interface. In addition, it can collect necessary information to maintain or monitor the photovoltaic power generation system by connecting to a network via LAN interface.

Monitoring functions meet the needs for all users by including functions such as real-time display using the Web browser, event mail for email notifications of malfunctions, request mail for responding to information request emails, and an SNMP monitoring function for the network

management protocol SNMP.

Also, the “SANUPS PV Monitor” has a data collection function that collects measurement data for the whole photovoltaic power generation system (AC power, solar radiation, outdoor temperature) every 10 minutes and accumulates data in the internal memory. This can be used as an alternative to data collection analysis equipment. Information can be checked with the Web browser in trend graph form, and it also can be downloaded via network using FTP commands.

The display language for the Web screen can be set to Japanese, English, Traditional Chinese, Simplified Chinese, or Korean.

The power supply is compatible with the commercial power supply for multiple

countries, with rated power voltage of AC 100 to 240 V and an allowable voltage range of AC 85 to 264 V.

Also, the power supply cable is removable, making it possible to attach a power cable that is compatible with the type of outlet in the country of use.

The equipment can be installed stationary or hung on a wall.



■ Development of the Double-Conversion Inverter Type Uninterruptible Power Supply “SANUPS A11J”

We developed the high-efficiency, high-reliability uninterruptible power supply “SANUPS A11J”.

It achieved a high-efficiency of 93%, which is highest in the industry for double-conversion inverter type uninterruptible power supply, and therefore it can reduce the running cost and contribute to low energy consumption.

The reliability for feeding power has been increased by operating in parallel redundant. Furthermore, the UPS itself automatically tests the battery operation periodically and maintains operational status during power

outage, which helped realize the high-reliability. The “SANUPS A11J” also achieved a load power factor of 0.9, which is top in the industry, and makes it possible to supply enough power to high power factor equipment such as servers.

Since the battery or inverter can be removed from the front during the maintenance, the battery can be replaced while supplying the power to the inverter. Also, as it is equipped with a maintenance bypass circuit, maintenance can be carried out while supplying the power.

We have products ranging from 5

to 20 kVA for the parallel operation type and 5 to 15 kVA for the parallel redundant operation type.



■ Development of the 3-Phase/Single-Phase Simultaneous Output Generation Truck

We developed a generator truck that can output 3-phase 3-wire 210 V and single-phase 3-wire 210 V/105 V simultaneously. This product can supply 3-phase 3-wire 80 kVA (for 50 Hz), 3-phase 3-wire 100 kVA (for 60 Hz), and single-phase 3-wire 20 kVA simultaneously. Therefore, electricity maintenance services can be smoothly provided for users with various loads.

We made this product small and light (under 5,000 kg) by introducing transformerless circuits and bedless construction, and it can be driven with

new ordinary driver's license.

The noise level is reduced to 65 dB/5 m or less by improving the exhaust duct, and RoHS compatible parts and lead-free wiring are used. Thus, it is an environmentally friendly product.

In addition to the automatic opening and closing function of the exhaust cover and emergency shutdown function, there is an emergency call function in the enclosure in case of a confinement accident, making it a very safe product.

Furthermore, this product has an

operation sequence function and newly developed rotational cable storage bag, resulting in improved operability for users and a user-friendly product.



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Joined Sanyo Denki in 1984.

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Worked on the development and design of power systems.