

# Power Systems Division

Toshihiko Sato

This document summarizes the main product developments for the Power Systems Division in 2008.

Sanyo Denki has developed the parallel processing uninterruptible power supply "SANUPS E33A" which allows complete individual parallel control via parallel processing, the voltage dip compensators "SANUPS C23A" to provide uninterrupted power through momentary outages

and voltage drops, and the high-efficiency, high-reliability inverter "SANUPS D11A" that allows bypass power supply.

In the field of revolving power supply systems, we have developed a mobile generator that allows easy switching between 3-phase, 3-wire 210 V output operation and single-phase, 3-wire 210/105 V output operation.

Additionally, we have developed a power-receiving monitoring control system to automate switching between commercial and reserve power during stoppage and re-supply of commercial power.

The following information provides an overview and features for each product.

## ■ Development of the Parallel Processing Uninterruptible Power Supply "SANUPS E33A"

We have developed the "SANUPS E33A" low-energy high-quality, high-reliability 400 V large capacity UPS using parallel processing method.

The new model offers high efficiency and quality like its predecessor, the "SANUPS E23A", and has achieved high reliability due to the complete individual parallel control made

possible by the first-in-the-industry parallel processing method.

The parallel units we have brought into production are 100 kVA, 200 kVA, and 300 kVA. We have also brought into production parallel redundant operation units of 100 kVA and 200 kVA. The base of all of these units is a 100 kVA UPS.



## ■ Development of the Voltage Dip Compensator "SANUPS C23A"

We have developed the "SANUPS C23A" low-energy high-quality, high-reliability voltage dip compensator using parallel processing.

The "SANUPS C23A" achieves 97% conversion efficiency which is an industry-leading and offers reduced running costs by adopting the long-life electric double layer capacitor.

Additionally, the "SANUPS C23A"

can provide uninterrupted power even during momentary power outages and voltage drops. For example, this protects against malfunction and failure of equipment when using for factory power.

We have brought devices with output capacity of 10, 20, 30, 50, 100, and 200 kVA into production.



## ■ Development of the Inverter “SANUPS D11A”

We have developed the high-efficiency and high-reliability “SANUPS D11A.”

Complete individual control allows parallel redundant operation in this inverter, which is based on a 1 kVA (1 kW) inverter. This device achieves 86% of industry-leading efficiency as parallel inverter operation. The unit connects via plug-in, making front-face maintenance possible and facilitate the

installation and maintenance work.

There is also a bypass power supply function so that even if there occurs the inverter failure, it will switch to the AC input bypass circuit with no interruption.

We have manufactured parallel operation types from 1 to 6 kVA and parallel redundant operation types



## ■ Development of an Output Switching Type 100 kVA Mobile Generator

We have developed a mobile generator that allows easy switching between 100 kVA, 3-phase, 3-wire, 210 V output and 45 kVA, single-phase, 3-wire 210/105 V output with a simple switch.

This device realizes versatility, mobility and usability, such as an easy switching between outputs, it's body size that allows operation with a regular license, and compact storage for output

cables.

Achieved the reduction in environmental load, size and weight by adopting the clean generator engine conformed to emission regulations of Ministry of Land, Infrastructure, Transport and Tourism, Switching the generator connection, and transformer-less circuit.



## ■ Development of a New Power-Receiving Monitoring and Control System

Sanyo Denki has presented a power-receiving monitoring and control system aimed at telecommunications companies.

Power-receiving monitoring control system automatically switches between commercial and reserve power during stoppage and re-supply of commercial power.

With the diversification of the electrical power situation in recent years, we have renewed the system as “Power-receiving monitoring control 2” in order to improve power supply reliability and meet the demands of new power receiving and distribution

systems.

Compare with conventional product, the new product has high agreeableness with emergency power generating system, high compatibility with power receiving and distribution control switches, power supply reliability to the load, and analyzability & maintainability when occurred the power supply trouble. The monitoring function now uses LAN interface and achieves improved functionality, such as remote program updates.

Additionally, volume has been reduced to a quarter of what it was before and power consumption has

been reduced by 13% with the same conditions, and achieved resource & energy saving.

Our new products allow load branch up to 3 circuits (C type) or 8 circuits (L type).



### Toshihiko Sato

Joined Sanyo Denki in 1977.  
Power Systems Division, 3rd Design Dept.  
Worked on the development and design of power supply systems.