

Power Systems Division

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The following introduces the major products developed by the Power Systems Division in 2010.

The high performance voltage dip compensator "SANUPS C33A" for 400 V systems was developed to provide power without momentary power breaks even if instantaneous

power outages or voltage dips occur by using the parallel processing method.

The 3 kW and 5 kW PV inverter "SANUPS P61A" and the 250 kW PV inverter "SANUPS P83D" were developed for use internationally. Both the P61A and P83D achieve

conversion efficiency that is among the top of its class in the industry and together these models expanded Sanyo Denki's lineup of PV inverters for international use to 3-250 kW.

■ Development of the High Performance Voltage Dip Compensator "SANUPS C33A"

The instantaneous voltage dip compensator "SANUPS C33A" for 400 V systems using the parallel processing method (hereafter known as the voltage dip compensator) was developed as 150 kVA and 300 kVA models.

"SANUPS C33A" is the first voltage dip compensator in the industry to achieve completely individual parallel operation control for high reliability. At the same time, operating the 150 kVA basic unit in parallel operation enables larger-capacity operations, easily strengthening our mid capacity lineup.

Furthermore, equipment costs can be reduced with a function that allows the device to reuse regenerative

electric power, actively working for energy conservation, and the peak-cut function that can suppress flicker.

The "SANUPS C33A" continues from the voltage dip compensator "SANUPS C23A" for 200 V systems with improvements to power quality, including measures for voltage dip, and efforts towards energy conservation, making it the best high performance power supply device for factories with many equipment with motors.

The dimensions of the 150 kVA basic unit are 700 mm (W) x 800 mm (D) x 1950 mm (H), making it the smallest voltage dip compensator of its class in the industry, while the mass is also downsized at only 550 kg.



■ Development of the Single Phase PV Inverter “SANUPS P61A”

The output capacity 3 kW and 5 kW single phase PV inverter “SANUPS P61A” was developed for international use.

The “SANUPS P61A” handles the single phase low voltage 220 VAC, 230 VAC, and 240 VAC that are used internationally. It is compliant with CE marking and Australian standards.

The “SANUPS P61A” achieves one of the top conversion efficiencies in the industry for the same class of PV inverters with conversion efficiency of 96% (maximum efficiency). Furthermore, the power that drives the control circuits is supplied entirely from solar cells, with a night-time standby power requirement of 0.2 W or less that shows consideration

for energy conservation even during standby mode.

The unit has adopted a natural cooling method that does not use a fan for cooling with a sealed body housing. As a result, the device has a dust and water protection that can withstand operation outdoors, achieving the protection class IP65. Furthermore, even though the device uses a natural cooling method, it still achieves one of the smallest sizes in the industry.

By using high frequency for switching in the converter and by using a fanless structure, the device achieves audible noise of 32 dB (A band, 1 m).

The device is also designed for a long life of 20 years with parts replacement.

The external communication circuit

uses the RS-485 communication method, and therefore it can be connected to the optional remote monitoring device “SANUPS PV Monitor”. By connecting the “SANUPS PV Monitor,” operators can remotely monitor the device or collect and analyze the radiometer or outdoor thermometer data.



■ Development of the 3-phase PV Inverter “SANUPS P83D”

The 250 kW output PV inverter “SANUPS P83D” was developed for international use.

The “SANUPS P83D” achieves one of the top conversion efficiencies in the industry for the same class of PV inverters with conversion efficiency of 97% (maximum efficiency). Furthermore, it achieves the EU efficiency of 96.2%, achieving a high conversion efficiency in a range from small loads to large loads.

The circuits use insulation transformer built in to the device, but with a volume of 2.4 m³ and installation area of 1.2 m², this model achieves small size and space saving that is the top of its class for 250 kW PV inverters. The device is also

designed for a long life of 20 years with regular maintenance and parts replacement.

The front door uses a linked output switch on the handle so that it will not open when the device is on. In addition, a door switch is built onto the door so that if the door ever happens to open during operation, the device will stop. Furthermore, an EMS (Emergency Stop) switch is built in to open the I/O circuit breaker in an emergency, realizing high safety features.

The device includes an optional 2 channel analog measurement input, so an outdoor thermometer and radiometer can be connected, and the measurement information from the

device can be monitored and recorded remotely with the optional “SANUPS PV Monitor”.



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Joined Sanyo Denki in 1984.

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Worked on the development and design of UPS.