

Power Systems Division

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The main products developed by the Power Systems Division in fiscal 1999 were as described below.

For medium-capacity uninterruptible power supplies (hereinafter referred to as "UPS"), we commercialized "SANUPS 030 AMB" (10-30kVA). Using a floating output converter developed by Sanyo Denki, this new product achieves a great reduction in size and weight, thus being able to be installed in limited office spaces.

Large-capacity UPSs require a high-quality, high-reliability power supply in order to run advanced telecommunications systems in a stable manner. We have therefore commercialized a common spare UPS system consisting of UPSs that function as common spares for multiple existing UPSs.

For small-capacity UPSs, we commercialized a constant direct-supply "2kVA OFF-LINE UPS." It requires only a small cost for running in case of natural resource and protective environment.

For engine generators, we commercialized a mobile power supply system supply to ensure a stable supply of power.

Medium-capacity UPS "AMB T3"

Traditional medium-capacity UPS "AMA T3" used a commercial frequency transformer to insulate the inputs and outputs. The new product incorporates a semiconductor-based insulation system for a great reduction in size and weight.

Here is a description of the features.

In the aforementioned insulation system and the use of IPM devices, we attempted to make a reduction in size and weight, resulting in reducing the floor space by 40% and the weight by 45%.

We used a unit structure that allows the power converter, battery, cooling fan and other components to be drawn out, resulting in higher maintainability.

The product comes with a serial interface as standard equipment. Installing the power supply management software "SAN GUARD III" on the computer allows the user to manage the UPSs. Putting a LAN card gives the user access to the power supply management software "SAN GUARD IV."

Details will be presented in the feature story in this issue.



Small-capacity OFF-LINE UPS

To meet the energy-saving requirement for protecting the global environment, we developed a constant commercial power supply type UPS (OFF-LINE UPS). It achieves a high operation efficiency.



Traditional OFF-LINE UPSs range from 425VA to 700VA. We have just developed an OFF-LINE UPS having an output capacity of 2kVA based on a new system.

The unit consists mainly of a power converter and an output switch with a bi-directional function. Normally, commercial power is fed to the load. In that case, the power converter functions as a high-power-factor converter, recharging the batteries. If commercial power gets into trouble, the system detects it instantaneously and the power converter switches to inverter operation and feeds the load.

Normally, commercial power is fed to the load through an output switch. The equipment is thus run at high efficiency, resulting hopefully in energy-saving.

The inputs can be selected between AC 100V and AC 200V. The user can enjoy the benefit of using his or her existing equipment without modification.

The external view and structure of the product are of the 19-inch rack mount type. It is so structured as to be used in combination with computer peripherals.

The main converter incorporates an IGBT module. The product is devoid of a transformer and incorporates fewer components, thus being resource-saving.

Details will be presented in the feature story in this issue.

Large-capacity Common Spare UPS System

Power supply systems for use in large telecommunications systems are required to achieve high quality and reliability.

With this system, a common spare UPS system is installed on the bypass side of multiple existing UPS systems. When any of the existing UPS systems troubles or needs maintenance or servicing or replacement, it can be switched to the common spare UPS without momentary power breaks. This makes it possible to continue feeding the load equipment by means of a high-quality UPS.

The common spare UPS system consists of a UPS, bypass line switch, system switch, and system monitoring panel.

The UPS is a commercial synchronous system based on commercial power as a spare power supply. It is an uninterruptible power supply system with a rated output of 1,500kVA that runs four 500kVA module inverters

The bypass line switch switches the power supply being inputted to the bypass of the existing UPS to the output or commercial power of the common spare UPS. It is normally set to the position of the common spare UPS.

The system switch can be switched to the common spare UPS when the existing UPS is replaced. This ensures power supply from the common spare UPS.

The system monitoring panel totally monitors the running status of the entire system.

Mobile Power Supply System

For mobile power supply systems consisting of a generator mounted in an automobile so that it can be moved to a place where it is needed to ensure a power supply, the product has already commercialized models ranging from 30 to 250kVA.

The mobile power supply system just developed incorporates parallel operation and interactive operation with the commercial line, thus being suited for temporary power supply for power installation projects and power supply for emergencies and disasters.

Here is a list of the features of the mobile power supply system.

1. Up to three mobile power supplies having an output capacity of 100kVA can be run in parallel.
2. Uninterruptible switchover and switch-back can be performed between a commercial power line and a mobile power supply.
3. The user can easily work according to operating guidance based on a touch panel.
4. The noise was reduced to a low level: 75dB or lower.



Tetsuji Ogiwara

Joined company in 1971

Power Systems Division, 1st Design Dept.

Worked on development and design of static power supplies
