

Power Systems Division

Muneo Suita

The major product developments of the Power Systems Division in 1997 are outlined below.

In the field of photovoltaic power systems that help conserve the earth's environment through clean energy, we have developed a utility interactive inverter, the PMB, which requires no transformer and consists of the parallel-connected units.

In the field of uninterruptible power supplies (UPS), computer systems using a UPS are now much higher performance, smaller in size and consume less power, thus necessitating various changes to UPS systems. To meet the demand, we have developed the compact off-line UPS system "NSB-H1", the on-line 1 kVA UPS system "ASB10S1" and the enhanced model "ASC-S1".

In the field of engine generators, we have developed a simplified diagnostics system that enables preventive maintenance and monitoring of an engine generator from a remote location.

All the new products are energy efficient and environmentally friendly, as well as being highly reliable power supplies.

New "ASC-S1" standard mini UPS

We have introduced an entirely new model that replaces the existing mini on-line UPS and that is free from the effects of the commercial power source. The new model has the following new features in addition to the existing performance and functions:

- (1) Interfaces with various types of computer are possible by selecting optional cards.
- (2) The basic units can be used in common in the different models, so a series of products having different output capacity can be configured by combining the basic units. The parts, materials, structures, and so on are standardized and used in common. The maximum output has been increased up to 5 kVA. (The maximum output was 3 kVA, in the conventional "ASA-S1".)
- (3) The UPS is typically installed in the computer system rack, so for sake of convenience, all models of different capacity are designed to be small and lightweight to suit both floor installation and the standard 19-inch rack installation.



Compact UPS System of 1 kVA or Less "NSB-H1" and "ASB10S1"

The "NSB-H1" is a new compact backup power supply for personal computer equipment that is easy to connect. It is an off-line UPS system, coming in two different output capacities of 425 VA and 600 VA. This new power supply is easy to use and affordable, and in the standard installation is equipped with a long life battery (five years), UPS support for networked systems (shuts down when power failure occurs), and DC start function during power failure.



The "ASB10S1" is a compact, easy-to-use, low priced 1 kVA UPS that offers the basic performance required of an on-line UPS without momentary power breaks. It inherits the performance and functions of the previous model, including interface with computers, Long Life Fan and Battery, battery check, input higher harmonic countermeasures, and so forth.

Utility interactive inverter "PMB"

The utility interactive inverter for combination with a commercial power source for photovoltaic power system "SANSOLAR" is a further development from the multiple function inverter "PMA" that now supports different types of photovoltaic power systems. It was developed in 1966.

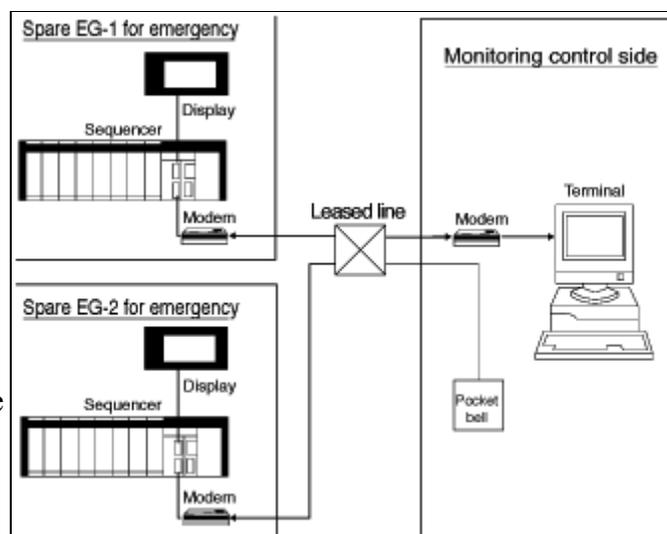
At this time, we increased the efficiency and expandability of the "PMB" utility interactive inverter. Its main features are as follows:

- (1) The basic unit is a 10 kW inverter; this is stacked in parallel to construct the desired system capacity from 10 kW to 100 kW.
- (2) The basic 10 kW inverter employs a DC detector and chopper and so has no main insulation transformer.
- (3) Various improvements include a function to control the number of operating units and thus improve efficiency during low output power operation, and an enlarged follow-up range for solar battery voltage deviations.



EG Simplified Diagnostics System

We have developed a simplified diagnostics system that can detect the operating status of the EG (Engine - Generator) system in order to increase the efficiency of preventive maintenance. Diagnostics and monitoring of engine generators are performed from a remote location using a sequencer. The results of the diagnostics and monitoring are sent back to the terminal of the monitoring control equipment via telephone line and are displayed on a screen.



When a trouble occurs, or in order to determine possible causes of trouble and thus prevent recurrence, any abnormal states that fulfill the preset information conditions trigger error messages that inform the occurrence of abnormality to the specified telephone number through a pager, tele-message system or the like.

Maintenance from the remote location is also possible by modifying the program of the sequencer.

Because this system consists of a software program and requires no hardware change, it can be applied to engine generators of different specifications.

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Joined company in 1961

Power Systems Division, 2nd Design Dept.

Worked on development and design of UPS system
