

Patents and Utility Models

Patents registered in 1997

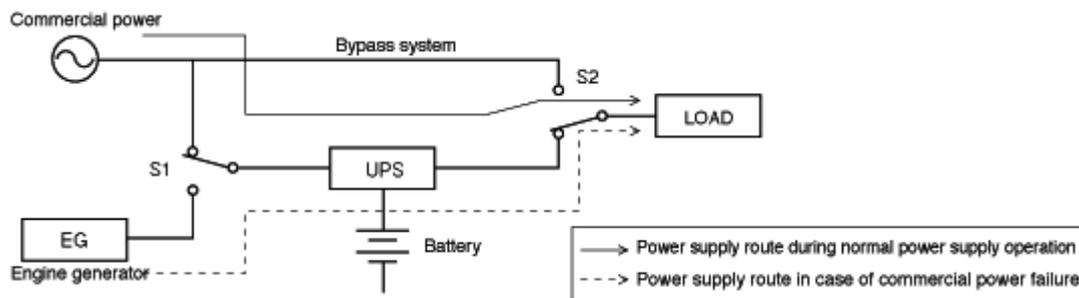
Registration number	Title	Inventor
2620393	Fan Motor	Kesatsugu Watanabe, Akira Sugawara
2612220	Rectifier	Yoshihiro Sekino, Yoshiaki Kobayashi Masahiko Okamura, Hiroshi Sakaba
2644940	Rotary Electric Device	Hidenori Morita, Moriyasu Katamachi
2673921	Uninterruptible Power Supply	Yoshihiro Sekino
2673926	Uninterruptible Power Supply	Yoshihiro Wada
2675225	Encoder for Brushless Motor	SANYO DENKI CO., LTD.
U.S. Patent 5,615,998	ELECTRONIC COMPONENT COOLING APPARATUS	Nobumasa Kodama, Jiro Watanabe
U.S. Patent 5,629,834	ELECTRONIC COMPONENT COOLING APPARATUS	Nobumasa Kodama, Toshiki Ogawara
U.S. Patent 5,650,678	BRUSHLESS DC MOTOR AND BEARING HOLDING THEREFOR	Shinjiro Yokozawa, Kesatsugu Watanabe

Rights of Utility Models Registered in 1997

Registration number	Title	Inventor
2566272	Rotary Encoder	Sakae Kishi, Hideyuki Ishii

Introducing Patents

Name of invention: Uninterruptible Power Supply
Patent No. 2673926



This invention relates to the UPS (uninterruptible power supply) that operates selectively on dual inputs: one is the commercial power having a large capacity and the other is an engine generator having large fluctuations of frequency and voltage. This invention is designed to improve the quality of power supplied to the load by changing the operating conditions of the UPS in accordance with the power receiving system, when overloading occurs.

The power is supplied by the route shown by the solid line during normal power supply operation. The UPS converts the electric power from the commercial power, to AC having a highly accurate sinusoidal voltage and frequency. If this system is overloaded for some reason, the switch S2 is activated to supply the electric power directly from the commercial power having a large capacity.

■ If the failure of the commercial power lasts for a long time, the engine generator is started up to supply power by the route shown by the dotted line. Because the commercial power cannot be used even when the system is overloaded, the overcurrent suppression function (voltage drooping characteristic; see Note 1) is activated in order to continue supplying power until the voltage drop exceeds the allowable limit.

When the overloading is removed, the voltage quality of the UPS returns to normal. Here, the power output of the engine generator is not suitable for direct supply to the load because its voltage level and frequency fluctuate greatly. This invention applies to the SANUPS-SS that combines an engine generator and UPS.

Note 1: Output is the product of (voltage)×(current). Therefore, when the electric current becomes excessive, its output can be decreased by lowering the voltage. In this way, overloading of the UPS or engine generator can be prevented.
