

NASA TECH BRIEF



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Circuit Detects Voltage Decrease in Computer Power Supply

A rapid-response monitoring circuit has been designed to detect a voltage decrease or dropout in any single phase or up to all three phases simultaneously of a 3-phase 60 Hz power supply for a computer. Rapid detector response to small voltage decreases in the power supply is essential to prevent erroneous operation of the computer.

The circuit senses a decrease in the supply voltage and responds to this decrease in approximately 1.5 milliseconds. It can be adjusted to detect a 1 to 10 percent decrease of the instantaneous normal voltage in each cycle of the power supply. The circuit incorporates indicator lamps to indicate normal or below-normal voltage conditions and provides a digital pulse output for a chronological record on tape of voltage irregularities. The circuit may also be used to interrupt power to the computer (or other power-using equipment) in the event of a low voltage condition.

Notes:

1. This circuit would, in principle, be generally applicable to any situation requiring close monitoring of an ac supply voltage.
2. The circuit can be used to monitor two or more parallel ac power generators to prevent overloading of any one generator when a below normal output occurs.
3. Inquiries concerning details of the circuit may be directed to:

Technology Utilization Officer
Kennedy Space Center
Kennedy Space Center, Florida 32899
Reference: B68-10019

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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(KSC-67-120)

Category 01

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