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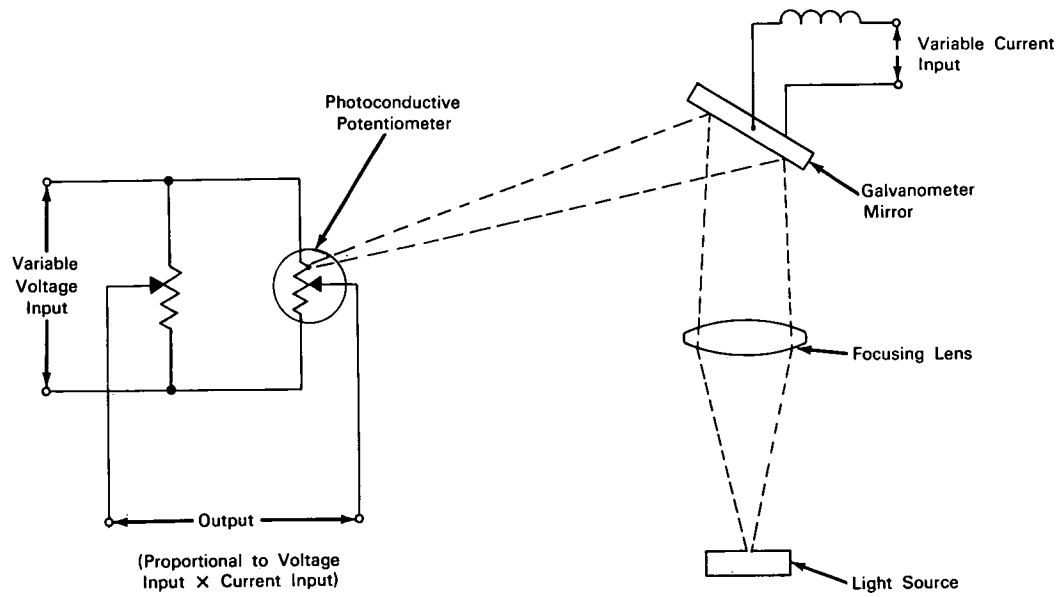
Light-Sensitive Potentiometer Measures Product of Two Variables



The problem: Providing an electrical circuit whose voltage output will be an accurate measure of the product of two variables represented by electrical inputs to the circuit (e.g., voltage and current). Hall effect multipliers, various meter movements, and mechanical servo systems used to form the product of two variables are subject to inaccuracies due to hysteresis, changes in reluctance, mechanical friction, contact resistance, and noise.

The solution: A circuit using a photoconductive (light-sensitive) potentiometer in conjunction with a beam of light reflected from a galvanometer mirror.

How it's done: The photoconductive potentiometer is mounted so that a focused beam of light reflected from the galvanometer mirror controls the resistance of the potentiometer. The output voltage from the potentiometer circuit is therefore directly proportional to the product of the input voltage across the potentiometer and the galvanometer current.

Note: Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Goddard Space Flight Center
Greenbelt, Maryland, 20771
Reference: B65-10076

Patent status: NASA encourages the immediate commercial use of this invention. Inquiries about obtaining rights for its commercial use may be made to NASA, Code AGP, Washington, D.C., 20546.

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