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[54] OVERCURRENT PROTECTION CIRCUIT

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[52] **U.S. Cl.** **361/93**; 361/103; 361/106; 361/115

[58] **Field of Search** 361/93, 115, 103, 361/106; 219/502

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[57] **ABSTRACT**

An overcurrent protection system which will give a rapid response to relatively small overcurrents. The system, which can be connected between an electrical power supply and an electrical load to form an operating circuit, and which when so connected protects the circuit from overcurrents, has a normal operating condition and a fault condition, and comprises: a circuit interruption element having, (1) a normal state which permits the flow of a normal current, I_{NORMAL}, when the system is in the normal operating condition, and (2) a fault state which permits the flow of at most a reduced current, substantially less than I_{NORMAL}, when the system is in the fault condition; and a control element, connected in series with the circuit interruption element, the control element having a variable resistance which (1) is low when the current in the system does not exceed the normal current, I_{NORMAL}, by a predetermined current amount, and (2) increases by at least a predetermined resistance amount when the current in the system exceeds the normal current, I_{NORMAL}, by the predetermined current amount; the circuit interruption element changing from its normal state to its fault state, thereby causing the system to change from its normal operating condition to its fault condition, when the resistance of the control element has increased by the predetermined resistance amount.

19 Claims, 4 Drawing Sheets