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Wynn et al.

[54] **OVERCURRENT PROTECTION SYSTEMS**

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[*] Notice: This patent is subject to a terminal disclaimer.

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,012,669 3/1977 Gelfand et al. 361/97
5,666,244 9/1997 Thomas et al. 361/8
5,689,395 11/1997 Duffy et al. 361/93
5,737,160 4/1998 Duffy 361/3
5,831,803 11/1998 Wynn et al. 361/7

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[57]   **ABSTRACT**

An overcurrent protection system containing (1) a current sensing means; (2) a first switch coupled to the current sensing means; (3) a voltage sensing means; (4) a PTC device; and (5) a second switch coupled to the voltage sensing means. In one type of system, the second switch is connected in series with a parallel combination of the first switch and the PTC device; and the voltage sensing means is connected in parallel with a series combination of (i) the second switch and (ii) the parallel combination of the first switch and the PTC device. In another type of system, the first switch, the PTC device and the voltage sensing means are connected in parallel with each other; and the second switch (i) is a switch which latches in the open position and (ii) is connected in series with the parallel combination of the first switch, the PTC device and the voltage sensing means.

13 Claims, 2 Drawing Sheets