US005831803A

United States Patent [19]

Wynn et al.

[11] Patent Number: 5,831,803

[45] Date of Patent: Nov. 3, 1998

[54] **OVERCURRENT PROTECTION CIRCUIT**

[75] Inventors: **Craig Wynn**, Palo Alto; **St. Elmo Nickols, III**, Los Gatos, both of Calif.

[73] Assignee: **Raychem Corporation**, Menlo Park, Calif.

[21] Appl. No.: **867,682**

[22] Filed: **Jun. 2, 1997**

[51] **Int. Cl.**[6] **H02H 3/00**

[52] **U.S. Cl.** **361/7**; 361/9; 361/93; 361/106; 361/166; 361/187

[58] **Field of Search** ..... 361/93, 79, 58, 361/166, 187, 3, 5–9, 13, 106; 338/22 R

[56] **References Cited**

U.S. PATENT DOCUMENTS

5,666,254 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

Primary Examiner—Jeffrey A. Gaffin

Assistant Examiner—Michael J. Sherry

Attorney, Agent, or Firm—Timothy H. P. Richardson; Marguerite E. Gerstner; Herbert G. Burkard

[57] **ABSTRACT**

A circuit protection system employing arrangements of PTC devices and mechanical switches. The PTC device is not involved in the circuit until a fault is sensed. A current sensing relay senses an overcurrent and directs the current to the PTC device. As the voltage across the PTC device increases, a parallel arrangement of voltage sensing relays completes the operation of the protection system, and disconnects the load until the protection system is reset. The protection system may be reset manually or remotely.

7 Claims, 3 Drawing Sheets