

Title (en)

IMPROVEMENTS RELATING TO ELECTRIC HEATING ELEMENTS

Title (de)

VERBESSERUNGEN AN ELEKTRISCH GEHEISSTE ELEMENTEN

Title (fr)

AMELIORATION D'ELEMENTS DE CHAUFFAGE ELECTRIQUES

Publication

EP 1145598 A3 20020911 (EN)

Application

EP 99939537 A 19990812

Priority

- GB 9902664 W 19990812
- GB 9817594 A 19980812

Abstract (en)

[origin: GB2340713A] Thick film heating elements forming a heating element track into parallel-connected main heater and sensor portions, the sensor portion surrounding the main heater portion 2 and comprising a plurality of parallel-connected track portions 3 having NTC characteristics and connected in series therewith a track portion 5 having a PTC characteristic. A bimetallic thermally-responsive control arranged to sense the temperature of the PTC track portion and to switch off at least the main heater portion if it overheats. The arrangement permits protection if heater is on a slope, a single NTC portion is also disclosed.

IPC 1-7

H05B 3/14; H05B 3/26; H05B 3/28

IPC 8 full level

H05B 1/02 (2006.01)

CPC (source: EP)

H05B 1/0213 (2013.01); **H05B 1/0269** (2013.01); **H05B 2203/013** (2013.01); **H05B 2203/017** (2013.01); **H05B 2203/019** (2013.01);
H05B 2203/02 (2013.01)

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 0010364 A2 20000224; WO 0010364 A3 20011108; AT E245335 T1 20030815; AU 5380699 A 20000306; CN 1143596 C 20040324;
CN 1344482 A 20020410; DE 69909654 D1 20030821; DE 69909654 T2 20040415; EP 1145598 A2 20011017; EP 1145598 A3 20020911;
EP 1145598 B1 20030716; GB 2340713 A 20000223; GB 2340713 B 20030312; GB 9817594 D0 19981007

DOCDB simple family (application)

GB 9902664 W 19990812; AT 99939537 T 19990812; AU 5380699 A 19990812; CN 99812063 A 19990812; DE 69909654 T 19990812;
EP 99939537 A 19990812; GB 9817594 A 19980812