Title (en)

Flame safety thermocouple and thermocouple body

Title (de)

Thermoelementsicherheitsvorrichtung für flammenkontrolle und thermoelementkörper

Title (fr)

Thermocouple de contrôle de présence de flamme et corps dudit thermocouple

Publication

EP 1621814 A2 20060201 (EN)

Application

EP 05380106 A 20050526

Priority

ES 200401863 U 20040730

Abstract (en)

The flame safety thermocouple (10) is adapted to a cooker gas burner (BU) with both a long flame (F1) and a short flame (F2). The sensing head (11,12) encloses a hot junction (HJ1) at an upper end (1) of small mass, and it comprises a frustoconical portion (12) which has a flame reception wall of a given axial length L2 and an angle of divergence alpha-2 (±2) adapted to the form of the short flame (F2), wherefore the temperature gradient is low between said flame reception wall (12) and the hot junction (HJ1). The outer sleeve (13) is connected to a larger diameter tubular base (14) for the cold junction (CJ2), a low thermal resistance from the sensing head (11-12) being obtained through said tubular base (14), and thereby a rapid deactivation of the actuator after the flame is extinguished. One embodiment of the thermocouple (10) has a secondary hot junction (HJ2) of opposite polarity, welded on the inner thermoelectric rod (15) and positioned under the sleeve segment L3 exposed to the ambient air.

IPC 8 full level

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CPC (source: EP)

F23D 14/06 (2013.01); **F23D 14/725** (2013.01); **F24C 3/103** (2013.01)

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CN110566965A; US9885484B2; US10119726B2; US10969143B2; US10088852B2; US11592852B2; US10670302B2; US10132510B2; US10989421B2; US9920930B2; US10738998B2; US9799201B2; US10049555B2; US10692351B2; WO2023180603A1

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