

Title (en)

Safety control devices for gas valves.

Title (de)

Sicherheitssteuervorrichtungen für Gasventile.

Title (fr)

Perfectionnements aux dispositifs pour commander avec sécurité des vannes de gaz.

Publication

EP 0023870 A1 19810211 (FR)

Application

EP 80401137 A 19800731

Priority

FR 7919806 A 19790801

Abstract (en)

1. Control device for opening a gate (1) able to deliver a pressurized combustible gas, said control being made by closing an electric switch (3) and setting normally in action, successively, excitation of a first relay contactor (2) intended to open the gate (1) by feeding it with an electric voltage (10), actuation of an igniter (5) of said gas, detection (6) of the flame corresponding to the so ignited gas, automatic closing of said gate (1) if said detection is not actual at the end of an opening period T₀ of said gate and excitation, in the contrary case, of a second relay contactor (7) with several movable contacts (71 , 72) mounted so as to stop the working of the igniter (5) and to maintain the electrical feed of the gate (1), beyond the period T₀ , by an alternating voltage (8) rectified through contacts (21 , 71) and a rectifier (9), a protection circuit-breaker (14) being mounted so as to be blown out and to consequently cut said feed (8) if one of the movable contacts (71 , 72) of the second relay contactor (7) is in an inadequate position on starting, characterized in that, in view of automatically blowing out said circuit breaker (14) when any one said movable contacts (71 , 72) of the second relay contactor (7) is in its working position while the first contactor (2) is in its resting position, each of said movable contacts (71 , 72), in its working position, serially connects the voltage source (8), the circuit-breaker (14), one closed contact (21) of the first relay contactor (2) in its resting position and rectifier means (respectively 15, 16 and 17, 18) allowing flowing of a rectified current in the sense opposite to that of the current which normally feeds the gate (1) beyond each period T₀ .

Abstract (fr)

Il s'agit de commander avec sécurité l'ouverture d'une vanne (1) de gaz combustible destiné à alimenter un brûleur. La fermeture d'un interrupteur (3) commande successivement l'excitation d'un premier contacteur (2) qui alimente électriquement et ouvre la vanne, puis l'allumage (en 5) du gaz délivré par cette vanne, puis la détection (en 6) de la flamme correspondante, laquelle détection a pour effet d'exciter un second contacteur (7) propre à relayer le premier pour alimenter la vanne. Des diodes (15 à 18) sanctionnent, par rupture d'un fusible (14), les collages indésirables des contacts mobiles du contacteur (7) et l'excitation du contacteur (2) n'est rendue optiquement possible (flèche 0) que si le circuit d'un disjoncteur thermique (21) de surveillance est intact. Applications préférées: chauffe-eau et chaudières de chauffage central à eau chaude.

IPC 1-7

F23N 5/20; **F23N 5/24**

IPC 8 full level

F23N 5/20 (2006.01); **F23N 5/24** (2006.01); **F23N 5/26** (2006.01)

CPC (source: EP)

F23N 5/20 (2013.01); **F23N 5/245** (2013.01)

Citation (search report)

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- US 3270800 A 19660906 - DEZIEL FRED T, et al
- FR 2284091 A1 19760402 - DANFOSS AS [DK]

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CN113883415A

Designated contracting state (EPC)

AT BE CH DE GB IT NL

DOCDB simple family (publication)

EP 0023870 A1 19810211; **EP 0023870 B1 19850410**; AT E12682 T1 19850415; DE 3070452 D1 19850515; FR 2462660 A1 19810213; FR 2462660 B1 19820903; JP S5623632 A 19810306

DOCDB simple family (application)

EP 80401137 A 19800731; AT 80401137 T 19800731; DE 3070452 T 19800731; FR 7919806 A 19790801; JP 10583180 A 19800731