

Title (en)

Hot surface ignition controller for fuel oil burner

Title (de)

Steuervorrichtung zur heissen Oberflächenzündung für Heizölbrenner

Title (fr)

Dispositif de commande de l'allumage à surface chaude pour brûleur à mazout

Publication

EP 1033535 A3 20020807 (EN)

Application

EP 99302385 A 19990326

Priority

US 26271099 A 19990303

Abstract (en)

[origin: EP1033535A2] A fuel oil burner utilizing a hot surface ignition with an ignitor that is fully sintered and has essentially no porosity, a voltage phase regulator circuit for applying rectified half-wave AC line voltage, full-wave rectified AC, or either half-wave or full-wave rectified AC line voltage to the ignitor to supply power thereto, and AC line voltage to a blower motor, an AC-to-DC converter, a DC voltage preregulator, and a DC voltage regulator for providing twelve volts DC for operation of a control circuit that has a first time constant circuit for preheating the ignitor and maintaining the ignitor at consistent ignition temperature for a predetermined ignition trial time period and a second time constant circuit for driving second and third motor drive circuits. The third motor drive circuit energizes the start winding of the blower motor and the second motor drive circuit energizes the main winding of the blower motor thus starting the motor and providing fuel to the combustion chamber during a predetermined time concurrent with the ignition trial period. At that time, a third time constant circuit either maintains the fan blower motor in its energized state, if a flame of sufficient magnitude and frequency is detected, or de-energizes the blower motor, if the flame is not detected in less than one second after the ignitor is de-energized. A lock-up circuit is provided such that if no flame is detected, restart is accomplished only by first removing power and then reapplying power to the unit. The unit can be restarted in this manner even if there is a flame in the combustion chamber. Also, a shutdown circuit is provided if the flame detector shorts during burner operation.

IPC 1-7

F23N 5/20; **F23N 3/08**

IPC 8 full level

F23N 5/20 (2006.01); **F23N 5/08** (2006.01)

CPC (source: EP)

F23N 5/203 (2013.01); **F23N 5/08** (2013.01); **F23N 2227/02** (2020.01); **F23N 2227/42** (2020.01); **F23N 2229/00** (2020.01); **F23N 2233/08** (2020.01); **F23N 2239/06** (2020.01)

Citation (search report)

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- [Y] US 3767354 A 19731023 - WRIGHT J
- [Y] GB 2027869 A 19800227 - BOSCH GMBH ROBERT
- [A] US 5470223 A 19951128 - MCCOY HUGH W [US]

Cited by

EP1816398A1; WO2008037450A1; US9410525B2

Designated contracting state (EPC)

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