

Title (en)

DEVICE FOR IGNITING AN AIR-FUEL-MIXTURE IN AN INTERNAL COMBUSTION ENGINE BY MEANS OF A HIGH FREQUENCY ELECTRIC ENERGY SOURCE

Title (de)

VORRICHTUNG ZUM ZÜNDEN EINES LUFT-KRAFTSTOFF-GEMISCHS IN EINEM VERBRENNUNGSMOTOR MITTELS EINER HOCHFREQUENTEN ELEKTRISCHEN ENERGIEQUELLE

Title (fr)

DISPOSITIF POUR ENFLAMMER UN MÉLANGE AIR-CARBURANT DANS UN MOTEUR À COMBUSTION INTERNE AU MOYEN D'UNE SOURCE D'ÉNERGIE ÉLECTRIQUE HAUTE FRÉQUENCE

Publication

EP 1537329 B1 20120321 (DE)

Application

EP 03790742 A 20030825

Priority

- DE 0302828 W 20030825
- DE 10239410 A 20020828

Abstract (en)

[origin: WO2004020820A1] The invention relates to a device for igniting an air-fuel-mixture in an internal combustion engine by means of a high frequency electric energy source. Said device comprises a coaxial waveguide structure (5) into which the high frequency electric energy can be injected and which projects with an end thereof into the respective combustion chamber of a cylinder of the internal combustion engine. One end of the coaxial waveguide structure (5) is embodied as an igniter pin (7a) such that when a voltage potential occurs as a result of rapid and/or gradual cross-section modifications (21) of the inner (7) and/or outer conductor (6), a field structure (22) protruding into the internal combustion chamber and a free-standing plasma in the air-fuel-mixture can be produced on the inner conductor (7, 7a) protruding from the waveguide structure.

IPC 8 full level

F02P 3/01 (2006.01); **F02P 23/04** (2006.01); **F02P 9/00** (2006.01)

CPC (source: EP US)

F02P 23/045 (2013.01 - EP US); **F02P 9/007** (2013.01 - EP US)

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

WO 2004020820 A1 20040311; DE 10239410 A1 20040318; DE 10239410 B4 20041209; EP 1537329 A1 20050608; EP 1537329 B1 20120321; JP 2005536684 A 20051202; JP 4404770 B2 20100127; US 2006048732 A1 20060309; US 7204220 B2 20070417

DOCDB simple family (application)

DE 0302828 W 20030825; DE 10239410 A 20020828; EP 03790742 A 20030825; JP 2004531709 A 20030825; US 52168305 A 20050728