

Title (en)  
Ignition system for internal combustion engines

Title (de)  
Zündsystem für innere Brennkraftmaschine

Title (fr)  
Système d'allumage pour moteur à combustion interne

Publication  
**EP 0766003 A3 19980812 (EN)**

Application  
**EP 96420302 A 19960924**

Priority  
JP 25420395 A 19950929

Abstract (en)  
[origin: EP0766003A2] An ignition control apparatus comprises: an overvoltage protection circuit (10) having a thyristor (11) connected to an input terminal (B), for preventing an overvoltage from passing to subsequent circuits by shutting off the thyristor (11) when an overvoltage is input thereto; a DC-DC converter (20A) having a field effect transistor (22) and a gate drive circuit (23A) for driving the gate thereof, connected in series to the overvoltage protection circuit (10), for stepping up and outputting the output voltage from the overvoltage protection circuit (10); a parallel connection section (50) comprising a diode (51) and a resistor (52) for connecting the input terminal (B) and the gate drive circuit (23A), but not through the overvoltage protection circuit (10); a capacitor (30) which is charged by an output from the DC-DC converter (20A); and a thyristor (40) for discharging an electrical load charged into the capacitor (30), in accordance with a trigger pulse from an external section. <IMAGE>

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**F02P 1/08; F02P 3/08**

IPC 8 full level  
**F02P 3/08** (2006.01); **F02B 61/02** (2006.01); **F02P 1/08** (2006.01); **F02P 11/02** (2006.01); **F02P 15/12** (2006.01)

CPC (source: EP KR)  
**F02B 61/02** (2013.01 - EP); **F02P 1/086** (2013.01 - EP); **F02P 3/08** (2013.01 - KR); **F02P 11/02** (2013.01 - EP); **F02P 15/12** (2013.01 - EP)

Citation (search report)  
• [A] GB 2189840 A 19871104 - AISIN SEIKI  
• [A] US 4537174 A 19850827 - NAGASAWA MASAO [JP]  
• [A] PATENT ABSTRACTS OF JAPAN vol. 010, no. 261 (M - 514) 5 September 1986 (1986-09-05)

Cited by  
CN102570380A; DE10311900B4; US2013016448A1; US8659860B2; US9817426B2; EP2238677A1

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ES 2162002 T3 20011216; IN 191303 B 20031115; JP 3059084 B2 20000704; JP H0988782 A 19970331; KR 100242333 B1 20000302;  
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