

Title (en)  
IGNITION SYSTEM FOR AN INTERNAL COMBUSTION ENGINE

Title (de)  
ZÜNDSYSTEM FÜR VERBRENNUNGSMOTOR

Title (fr)  
SYSTEME D'ALLUMAGE POUR MOTEUR A COMBUSTION INTERNE

Publication  
**EP 1887217 A2 20080213 (EN)**

Application  
**EP 06747762 A 20060425**

Priority  
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Abstract (en)  
This device relates to automobile construction, namely spark ignition systems of internal-combustion engines. The invention makes it possible to increase reliability of the engine performance, especially under conditions of low temperatures and elevated humidity. The ignition coil in the ignition system is so designed that the wave impedance  $\hat{A}$  of the oscillatory circuit formed by the inductance and effective capacitance in the secondary winding, with allowance for the leakage currents, lies in the range  $1.4 \cdot U_{br} / I_{max} < \hat{A} < 4.5 \cdot U_{br} / I_{max}$ , where  $U_{br}$  is the minimum value of the voltage in the discharge gap, for which a breakdown is guaranteed, and  $I_{max}$  is the maximum admissible current of the spark discharge, for which a spark is not converted to a low-voltage arc discharge. The value of the wave impedance  $\hat{A}$  in this range conforms to the parameters of the spark discharge (breakdown voltage and discharge current), which decreases undesirable energy losses in the ignition system and increases the spark power.

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