

Title (en)
Glow sensor-metal tip

Title (de)
Metallspitze für Glühensor

Title (fr)
Métal pour extrémité de capteur d'incandescence

Publication
EP 0989370 A2 20000329 (EN)

Application
EP 99203034 A 19990917

Priority
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Abstract (en)
A glow sensor (10, 60, 100, 130, 140, 154) provides functions of both a diesel engine glow plug and an ion sensor for sensing engine combustion initiation and characteristics. The sensor includes a tubular metal sheath (14, 64) supported by various embodiments of electrical insulating and retaining means in a metal shell (12, 62) mountable in an engine cylinder head. The metal sheath (14, 64) includes a heating element (24) in a glow tip (22) at an inner end of the sheath (14, 64) which, in use, extends into an engine combustion chamber or pre-chamber and is connected by a conductor with a source of electric voltage. In use, the voltage produces a current carried by electrons generated by ionization of the combustion chamber gases during combustion. The current varies with the degree of ionization and the amount of electrons generated during various phases of the combustion event. The resulting information is usable in controlling engine operation or evaluating its operation for test purposes. Various construction features of disclosed embodiments include isolated or non-isolated heating coils for electric heaters (24) within the glow tip (22) with various arrangements for internally connecting and grounding the electrical elements in the glow sensor (10, 60, 100, 130, 140, 154). <IMAGE>

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Cited by
EP1243858A1; EP1243859A1; EP1041343A1; JP2018100804A; EP1162407A1; EP2886960A1; CN108798965A; DE10248045B4; US6392199B1; CN108869139A; US6646230B2; US6252200B1; US6459072B1; WO2015097044A1; US6646229B2; JP5806211B2

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