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Fault management in an i.c. engine piezoelectric fuel injection system

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Abstract of GB2476105 (A)

A piezoelectric injection system 15, eg for a diesel engine, comprises a VDC power supply 24 for supplying a power circuit 17 provided with a DC-DC converter having high-side and low-side drivers 20, 21 connected at a switching node 22, the drivers being electrically connected to at least a piezoelectric injector 16. The value of an electric parameter representative of the operation the injection system is monitored and compared with a predetermined reference parameter value,

and emergency means 32 are activated when the monitored parameter value exceeds the respective reference value. The electric parameter may be the current flowing through the piezoelectric actuator 19 and/or the low-side driver 21, sensed by current sensor 30, or the voltage across the piezoelectric actuator. The emergency means 32 may interrupt the operation of the drivers 20, 21, discharge the piezoelectric injector or disconnect the injector from the power circuit 17.

