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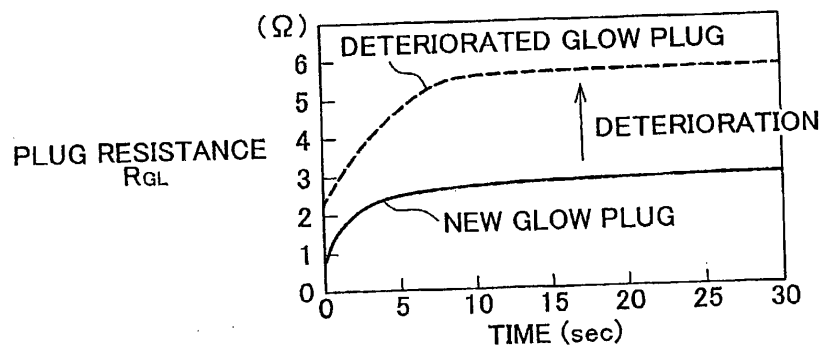
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(54) **Glow plug deterioration determination system**

(57) A glow plug deterioration determination system 1 includes: a glow plug 40; a GCU 30 that controls energization of the glow plug 40 from a power supply 10 by driving switch means T_1 to T_4 to open and close in accordance with a drive signal SI issued by an ECU 20; a self-diagnosis unit (DIU) 32 that detects an abnormality between the glow plug 40, the switch means T_1 to T_4 , and the GCU 30 and transmits a self-diagnosis signal DI

to the ECU 20; and current detecting means S_1 to S_4 for detecting a plug current I_{GL} flowing through the glow plug 40, wherein the DIU 32 includes deterioration level determining means 330 for determining whether the glow plug 40 is in a deteriorated condition by comparing a plug current converted voltage V_i that is proportionate to the plug current I_{GL} with a plurality of voltage thresholds V_{ref_1} to V_{ref_n} .

FIG. 3B





EUROPEAN SEARCH REPORT

Application Number
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			TECHNICAL FIELDS SEARCHED (IPC)
			F02P
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 September 2015	Examiner Röttger, Klaus
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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