

Title (en)  
ELECTRONIC POSITION SENSOR ASSEMBLY AND CONTROL SYSTEM

Publication  
**EP 0342376 A3 19910403 (EN)**

Application  
**EP 89107080 A 19890420**

Priority  
US 19423788 A 19880516

Abstract (en)  
[origin: EP0342376A2] An electronic position sensor assembly and engine control system (10) in which two sensing elements (13, 14) in a dual sensor (12) provide separate, independent position signals (A, B) related to multi-cylinder engine cycle position by sensing the angular position of a engine-rotated slotted wheel (11). The sensing elements provide identical sensing signals shifted from each other by a predetermined angular amount (d). In response to the simultaneous providing of a pulse by both sensing elements, a first reference signal (at 22) identifying a reference cylinder is provided for controlling electronic distribution of spark timing and/or fuel injection signals to engine cylinders (17-20). In response to a selected one of the sensing elements producing a pulse which has a predetermined longer duration than a preceding produced pulse, a second reference signal (after 50) is produced indicative of top-dead center engine cylinder cycle position for one of the cylinders. In response to detecting a fault in the position signal produced by the one selected sensing element, a switch (27) selects the other of the sensing elements for utilization in producing the second reference signal, and a substitute reference signal circuit (40) provides a substitute first reference signal. A less expensive and more reliable engine position sensor assembly and engine control system is provided since proper system operation is maintained despite a fault in one of the position signals.

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Citation (search report)  
• [A] US 4145608 A 19790320 - SHIRASAKI SHINJI, et al  
• [A] EP 0240858 A1 19871014 - HITACHI LTD [JP]  
• [A] US 4442822 A 19840417 - KONDO TETSUYA [JP], et al  
• [A] FR 2374528 A1 19780713 - CII [FR]  
• [A] EP 0231751 A1 19870812 - HITACHI LTD [JP]  
• [A] DE 2458946 A1 19760616 - SIEMENS AG  
• [A] WO 8202927 A1 19820902 - MOTOROLA INC [US]

Cited by  
US5806488A; CN114953150A; WO9413949A1

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**EP 0342376 A2 19891123**; **EP 0342376 A3 19910403**; **EP 0342376 B1 19960214**; AT E134251 T1 19960215; DE 68925658 D1 19960328; DE 68925658 T2 19960919; DE 68929420 D1 20020905; DE 68929420 T2 20021205; EP 0682180 A2 19951115; EP 0682180 A3 19960124; EP 0879956 A1 19981125; EP 0879956 B1 20020731

DOCDB simple family (application)  
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