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(54) **Sensorless rotor position monitoring in reluctance machines**

(57) A method of monitoring rotor position in a reluctance machine comprises determining the rate of change of current at a particular point at which current in the winding is arranged to freewheel. Preferably the point coincides with alignment of a rotor and a stator

pole such that the rate of change of current is predicted to be zero. The magnitude and polarity of any variation from the predicted rate of change indicates a rotor position removed from the actual rotor position and whether it is in advance of, or retreated from, the predicted position.

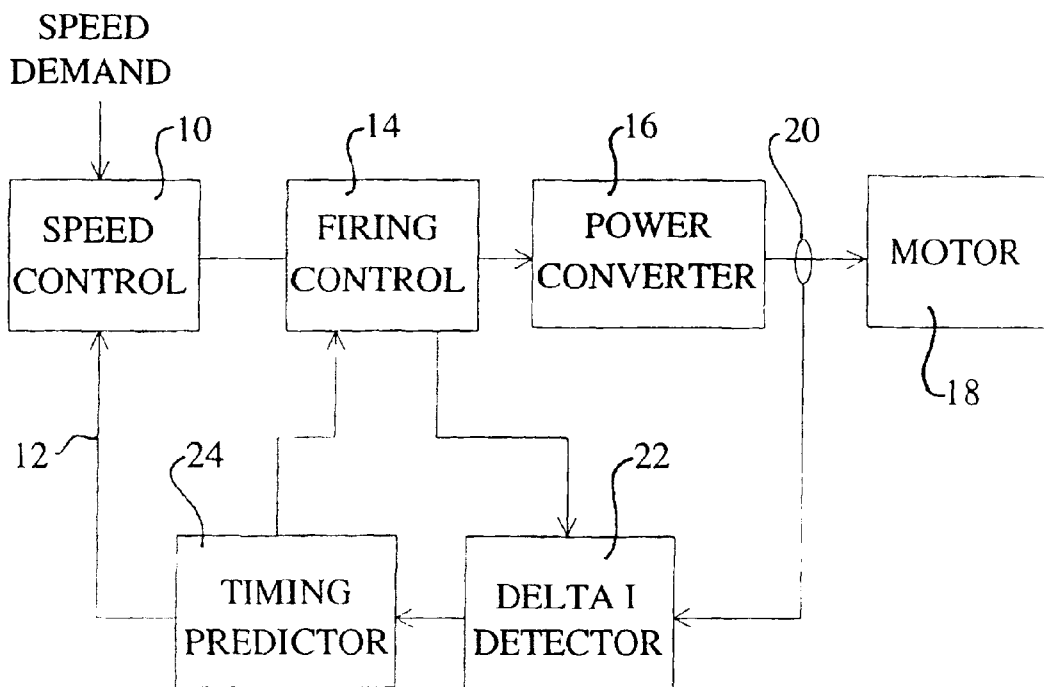


Fig. 8



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 30 8566

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
D,A	EP 0 573 198 A (SWITCHED RELUCTANCE DRIVES LTD) 8 December 1993 * abstract; figure 3 *	1-17	H02P7/05
A	POLLOCK C ET AL: "ACOUSTIC NOISE CANCELLATION TECHNIQUES FOR SWITCHED RELUCTANCE DRIVES" RECORD OF THE INDUSTRY APPLICATIONS CONFERENCE (IAS), ORLANDO, OCT. 8 - 12, 1995, vol. 1, 8 October 1995, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, pages 448-455, XP000550975 * the whole document *	1,10,13	
A	LYONS J P ET AL: "FLUX/CURRENT METHODS FOR SRM ROTOR POSITION ESTIMATION" PROCEEDINGS OF THE INDUSTRY APPLICATIONS SOCIETY ANNUAL MEETING, DEARBORN, SEPT. 28 - OCT. 1, 1991, vol. 1, 1 January 1991, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, pages 482-487, XP000280196 * the whole document *	1,10,13	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H02P
A	US 5 107 195 A (LYONS JAMES P ET AL) 21 April 1992 * abstract; figures 2,4 *	1,10,13	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 20 August 1997	Examiner Beyer, F
CATEGORY OF CITED DOCUMENTS		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	
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			

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