

## Article Abstract

<b>Title:</b>	<b>Five-phase induction motor drive for weak and remote grid system</b>
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<b>Abstract:</b>	Multi-phase (more than three-phase) motor drive systems have attracted much attention in recent years due to some inherent advantages which they offer when compared to the three-phase counterpart. Presently the grid power available is only limited to three-phase so the supply to multi-phase motors is invariably given from power electronic converters. Thus the paper focuses on the inverter controlled five-phase induction motor drive system for variable speed applications. The paper presents inverter control method for five-phase variable speed induction motor drives. The proposed solution may be employed in the applications not requiring very precise position and speed control such as water pumping especially in weak grid system with poor power quality. The inverter is operated in different operating modes with conduction angle varying from 180° to 108° conduction modes and the performance is evaluated in terms of the harmonic contents in the output phase voltages . It is shown that optimum performance is achieved by operating inverter at 144° conduction mode. Experimental and analytical results are included in the paper.
<b>Keywords:</b>	Voltage source inverter, ten-step operation, conduction modes, power grid, Induction motor drive