A Different Single-Phase Hybrid Five-Level Voltage-Source Inverter Using DC-Voltage Modules

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Abstract	This paper presents another circuit configuration of single-phase hybrid five-level voltage-source inverter obtained from the H-bridge inverter and DC-voltage modules. Some features are achieved by using the proposed inverter configuration such as its modular structure and minimum number of the power devices required to construct the inverter circuits. The proposed five-level inverter circuit is examined through computer simulation using PSIM software. Furthermore, laboratory experimental tests were also performed to verify the prototype of the proposed five-level inverter circuits. The computer simulation and experimental test results shows that the proposed hybrid five-level voltage source inverter works properly to generate a five-level voltage waveform and sinusoidal current with low harmonics contents.
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