Cascade Multilevel Inverter for Utility Applications

Description
Cascade multilevel inverters use single-phase H-bridges and separate dc sources to synthesize single-phase or polyphase ac waveforms.

Technology Importance
• Circuit topology is modular and compact, which leads to lower manufacturing costs.
• Operation of multilevel inverter with fundamental frequency switching enables high efficiency and much lower EMI.
• Easy to incorporate redundant levels into design to significantly increase operating reliability.

Technology Applications
• Interface between distributed generation sources such as photovoltaics or fuel cells and an ac utility.
• Var, sag, and harmonic compensation or power flow control on a medium or high-voltage ac utility system.
• AC traction motor drive in an electric vehicle (EV) or hybrid electric vehicle (HEV).

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