## **Reduced Switch Count Asymmetrical Multilevel Inverter Topology**

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**Abstract :** Researchers have become interested in multilevel inverters (MLI) because of their potential for medium- and highpower applications. MLIs are becoming more popular as a result of their ability to generate higher voltage levels, minimal power losses, small size, and low price. These inverters used in high voltage and high-power applications because the stress on the switch is low. Even though many traditional topologies, such as the cascaded H-bridge MLI, the flying capacitor MLI, and the diode clamped MLI, exist, they all have some drawbacks. A complicated control system is needed for the flying capacitor MLI to balance the voltage across the capacitor and diode clamped MLI requires more no of diodes when no of levels increases. Even though the cascaded H-Bridge MLI is popular in terms of modularity and simple control, it requires more no of isolated DC source. Therefore, a topology with fewer devices has always been necessary for greater efficiency and reliability. A new single-phase MLI topology has been introduced to minimize the required switch count in the circuit and increase output levels. With 3 dc voltage sources, 8 switches, and 13 levels at the output, this new single- phase MLI topology was developed. To demonstrate the proposed converter's superiority over the other MLI topologies currently in use, a thorough analysis of the proposed topology will be conducted.

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