

The B6 converter uses six switches divided equally among three phase legs. It has been commonly used as a three-phase rectifier or inverter, mostly under balanced conditions. Three-phase conversion, however, is not the only area where the B6 converter has been used. The same topology has been tried for single-phase power decoupling and single-phase ac–dc–ac conversion, where comparably lesser switches are needed. Although the basic modulation principle is still reliant on three modulating references for the three phase legs, requirements imposed on the modulating references are different and usually asymmetrical. How these asymmetrical references should be formulated to meet various performance specifications of a single-phase B6 converter is the theme of this paper. Simulation and experimental results have been obtained to verify the modulation schemes proposed.