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| **Title:** | A RELATIVE COMPARISON AMONG RECENT TOPOLOGIES OF SINGLE-PHASE NON-ISOLATED AC-DC BUCK-BOOST CONVERTER BASED ON OPEN-LOOP PERFORMANCE ANALYSIS | | |
| **Author(s) Name:** | Istiak Ahmed and Muhibul Haque Bhuyan | | |
| **Contact Email(s):** | muhibulhb@aiub.edu | | |
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| **Abstract:** |  |
| Abstract— In the present article, a family of power electronic single-phase, non-isolated ac-dc buck-boost converters based upon the open-loop performance analysis have been reviewed. In the literature, abundant kinds of ac-dc buck-boost converter topologies have been searched. Among them, a few important topologies are conversed here and matched with several parameters like voltage gain, efficiency, input power factor, total harmonic distortion, and the number  of component counts with the variation of load resistance and duty cycles. The assessment indicates that the input switched and switched capacitor buck-boost converters maintain an impressive input power factor of 0.99 at some specific load or duty cycles. In terms of efficiency, the high-efficiency buck-boost converter can provide over 99% efficiency. The switched capacitor buck-boost converter can provide the Total Harmonic Distortion (THD) of input current less than unity. | |