A Modular Multilevel Converter (MMC) sub-module

Abstract

Disclosed herein is a sub-module structure for a two-terminal Modular Multilevel Converter (MMC). The two-terminal MMC comprises a plurality of series connected modular multilevel sub-modules. Each modular multilevel sub-module is configured such that capacitors are selectively placed in parallel to each other for all voltage levels. As a result, number of switching transitions between redundant states is reduced. Further, the sub-module structure can decreases overall current rating requirement of the devices in the MMC.