The operation of the hybrid circuit breaker is divided into eight intervals corresponding to four operation modes. It contains a normal mode (t0~t2) to transfer the power between the sides without any interruption, a breaking mode (t2~t5) to break the fault current, a discharging mode (t5~t6) to reduce the capacitor voltage to the rated voltage, and a reverse mode (t6~t7) to change the capacitor polarity. IS1: Residual DC current disconnector. IS2, S3: Fast mechanical switch current. IC: Auxiliary branches capacitor current. I MOV: Metal oxide varistors current. IT3: Reverse the polarity of capacitor thyristor current.