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DC Circuit Breaker Technologies State of Art

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Message from the Guest Editor

Dear Colleagues,

Recently, DC systems have been used in various fields such as DC transmission & distribution systems, PV generations, Battery Energy Storage Systems, Electric Ships, Electric railways, Electric vehicles, and data centers. Circuit breakers are essential for the safe use of these DC systems and products. The circuit breaker has a duty to safely cut off the fault current caused by the short circuit and ground fault on the load side as well as the normal load current. In the existing AC system, the current is self-zero in every half cycle of system frequency, so when the circuit is interrupted, the breaking arc is extinguished in 1/4 cycle when the proper electrode gap-distance is secured. However, since the current zero point is not naturally formed in the DC system, there is a difficulty to extinguish the breaking arc by forcibly forming the current zero point when the circuit is interrupted...

Prof. Hyosung Kim

Guest Editor



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