

## Special Issue

# DC Circuit Breaker Technologies State of Art

### Message from the Guest Editor

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...

### Guest Editor

Prof. Dr. Hyosung Kim

Department of EE & Control Engineering, Kongju National University,  
Gongju-si 314701, Korea

### Deadline for manuscript submissions

closed (10 August 2021)



## Energies

an Open Access Journal  
by MDPI

Impact Factor 3.2  
CiteScore 7.3



[mdpi.com/si/34236](https://mdpi.com/si/34236)

*Energies*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[energies@mdpi.com](mailto:energies@mdpi.com)

[mdpi.com/journal/  
energies](https://mdpi.com/journal/energies)





# Energies

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 7.3



[mdpi.com/journal/  
energies](https://mdpi.com/journal/energies)



## About the Journal

### Message from the Editor-in-Chief

*Energies* is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

---

### Editor-in-Chief

Prof. Dr. Enrico Sciubba

Department of Mechanical and Industrial Engineering, University  
Niccolò Cusano, 00166 Roma, Italy

---

### Author Benefits

#### Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

#### Journal Rank:

CiteScore - Q1 (Control and Optimization)