



Generate New Advances Based on Solid Principles

SYNCHRONOUS GENERATORS

CRC Press
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FEATURES

- Provides a comprehensive survey of all types of synchronous generators in a convenient, unified reference
- Covers the various topologies, steady state, transients, modeling, performance, control, design, and testing
- Offers a detailed discussion of the major prime movers for generators, modeling of transients, and their use in active power control of electrical generators
- Includes self-contained coverage of synchronous generators not available in any other single source

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Solutions for the World's Ever-Growing Need for Electrical Power

Surveying the technologies used to satisfy the world's demand for open, efficient, and clean electricity, **Synchronous Generators** provides an in-depth examination of synchronous generators for both stand-alone and grid-connected applications. Part of *The Electric Generators Handbook, Two-Volume Set*, this book offers authoritative, tightly focused treatment of the topologies, steady state and transients modeling, performance, control, design, and testing of stand-alone and grid-connected generators in synchronous operation.

Synchronous Generators offers a thorough introduction to electrical energy and electricity generation, including the basic principles of electric generators. The book devotes a chapter to the most representative prime mover models for transients used in active control of various generators. Then, individual chapters explore the topologies and steady state of large and medium-power synchronous generators; modeling and transients; control in power systems; design, including simple cases; and testing. Numerous examples, sample results, and illustrations highlight the concepts.

The promise of renewable, sustainable energy rests on our ability to design innovative power systems that are able to harness energy from a variety of sources. **Synchronous Generators** supplies the tools necessary to design, validate, and deploy the right power generation technologies to fulfill tomorrow's complex energy needs.

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