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Descrizione fisica	1 online resource (368 pages)
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Nota di contenuto	General Aspects of Conventional MMC. Review of High-Power Converters -- Fundamentals of Modular Multilevel Converter -- Classical Control of Modular Multilevel Converter -- Model Predictive Control of Modular Multilevel Converter -- Advanced Modular Multilevel Converters. Passive Cross-Connected Modular Multilevel Converters -- Active Cross-Connected Modular Multilevel Converters -- Star and Delta-Channel Modular Multilevel Converters -- Applications of Modular Multilevel Converters. Modular Multilevel Converter Based Medium-Voltage Motor Drives -- Role of Modular Multilevel Converters in The Power System -- Matlab Demo Projects -- IEEE Press Series on Power Engineering.
Sommario/riassunto	An invaluable academic reference for the area of high-power converters, covering all the latest developments in the field High-power multilevel converters are well known in industry and academia as one of the preferred choices for efficient power conversion. Over the past decade, several power converters have been developed and commercialized in the form of standard and customized products that power a wide range of industrial applications. Currently, the modular multilevel converter is a fast-growing technology and has received wide acceptance from both industry and academia. Providing adequate

technical background for graduate- and undergraduate-level teaching, this book includes a comprehensive analysis of the conventional and advanced modular multilevel converters employed in motor drives, HVDC systems, and power quality improvement. Modular Multilevel Converters: Analysis, Control, and Applications provides an overview of high-power converters, reference frame theory, classical control methods, pulse width modulation schemes, advanced model predictive control methods, modeling of ac drives, advanced drive control schemes, modeling and control of HVDC systems, active and reactive power control, power quality problems, reactive power, harmonics and unbalance compensation, modeling and control of static synchronous compensators (STATCOM) and unified power quality compensators. Furthermore, this book: . Explores technical challenges, modeling, and control of various modular multilevel converters in a wide range of applications such as transformer and transformerless motor drives, high voltage direct current transmission systems, and power quality improvement. Reflects the latest developments in high-power converters in medium-voltage motor drive systems. Offers design guidance with tables, charts, graphs, and MATLAB simulations Modular Multilevel Converters: Analysis, Control, and Applications is a valuable reference book for academic researchers, practicing engineers, and other professionals in the field of high power converters. It also serves well as a textbook for graduate-level students.

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