1. Record Nr. UNINA9910299620303321

Autore	Islam Md. Rabiul
Titolo	Power Converters for Medium Voltage Networks / / by Md. Rabiul Islam, Youguang Guo, Jianguo Zhu
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2014
ISBN	3-662-44529-8
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (312 p.)
Collana	Green Energy and Technology, , 1865-3529
Disciplina	621.042 621.317 621.3815
Soggetti	Renewable energy resources Power electronics Electronic circuits Energy systems Renewable and Green Energy Power Electronics, Electrical Machines and Networks Circuits and Systems Energy Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Power Converters for Small to Large-Scale Photovoltaic Power Plants -- Power Converter Topologies for Grid Integrated Medium-Voltage Applications -- Design and Characterization of High-Frequency Magnetic-Links Used in Power Electronic Converters -- FPGA-Based Digital Switching Controller for Multilevel Converters -- Experimental Validation of 1-kV Modular Multilevel Cascaded Converter with High-Frequency Magnetic-Link -- Design and Analysis of 11 kV and 33 kV Modular Multilevel Cascaded Converters -- Conclusions and Future Works.
Sommario/riassunto	This book examines a number of topics, mainly in connection with advances in semiconductor devices and magnetic materials and developments in medium and large-scale renewable power plant

technologies, grid integration techniques and new converter topologies, including advanced digital control systems for medium-voltage networks. The book’s individual chapters provide an extensive compilation of fundamental theories and in-depth information on current research and development trends, while also exploring new approaches to overcoming some critical limitations of conventional grid integration technologies. Its main objective is to present the design and implementation processes for medium-voltage converters, allowing the direct grid integration of renewable power plants without the need for step-up transformers.