1. Record Nr. UNINA9910672439803321

Titolo	Advanced Control and Protection of Modular Uninterruptible Power Supply Systems / / Jinghang Lu [and three others], editors
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2023] ©2023
ISBN	3-031-22178-8
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (227 pages)
Collana	Power Systems Series
Disciplina	621.317
Soggetti	Electric power systems - Control Microgrids (Smart power grids)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I: Introduction -- Part II: Front-end Rectifier Control of the Modular UPS System -- A Reduced-order Generalized Proportional Integral Observer-based Resonant Super-twisting Sliding Mode Control -- An Enhanced State Observer for DC-link Voltage Control of Three-phase AC/DC Converters -- Part III: Distributed Control and Protection of the Modular UPS System -- Regeneration Protection in Uninterruptible Power Supply -- DC-link Protection and Control in Modular Uninterruptible Power Supply -- Distributed Adaptive Virtual Impedance Control for Parallel-connected Voltage Source Inverters in Modular UPS System -- Distributed Average Integral Secondary Control for Modular UPS Systems-based Microgrids -- Overload and Short-circuit Protection Strategy for Voltage Source Inverter-based UPS -- Part IIII: Renewable Energy Integrated Control and Operation of the Modular UPS System -- Multimode Operation for Online Uninterruptible Power Supply System -- Distributed Hierarchical Control of AC Microgrid Operating in Grid-connected, Islanded and Their Transition Modes.
Sommario/riassunto	This book provides an in-depth introduction to all major control and stability issues related to microgrids. It is the first book to offer a comprehensive look into the methodologies and philosophies behind system modeling, coordinated control, and protection for developing reliable, robust, and efficient operation of modular uninterruptible

power supply systems. For each topic, a theoretical introduction and overview are backed by concrete programming examples that enable the reader to thoroughly understand the topic and develop and conduct simulation models. Complete coverage of modular uninterruptible power supply systems; Provides hands-on programming and simulation examples; Covers distributed dynamic control of modular UPS systems.