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Titolo	Control and Communication for Demand Response with Thermostatically Controlled Loads / / by Kai Ma, Pei Liu, Jie Yang, Xinping Guan
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ISBN	981-19-6876-4
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (197 pages)
Disciplina	517.5
Soggetti	Electric power distribution Automatic control Energy Grids and Networks Control and Systems Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Switched Control Strategies of Aggregated Commercial HVAC Systems for Demand Response -- Hybrid control strategy of Aggregated TCLs for Demand Response -- Fuzzy Neural Network Control strategy of TCLs for Demand Response -- Optimal Control of TCLs Consumer Cost Based on Tracking Differentiator -- Optimizing Regulation of Aggregated TCLs Based on Multi-Swarm PSO -- Communication Network and Cost Modeling -- Bandwidth Allocation for Cooperative Relaying Network -- Distributed Power Allocation and Relay Selection for Cooperative Relaying Network -- Centralized Power Allocation and Relay Selection for Cooperative Relaying Network -- Interference Management and Power Control for Cognitive Radio Network -- Power Allocation for a Relaying-Based Cognitive Radio Network -- Spectrum Allocation and Power allocation for a Relaying-Based Cognitive Radio Network.
Sommario/riassunto	The book focuses on control and communication for demand response with thermostatically controlled loads. This is achieved by providing in-depth study on a number of major topics such as load control, optimization strategies, communication network model, resource allocation methods, system design, implementation, and performance

evaluation. Two major cost modeling methods are established in detail, which are cost modeling based on Taguchi Loss Function and cost modeling based on regulation errors. The comprehensive and systematic treatment of issues in optimization strategies and resource allocation for demand response are one of the major features of the book, which is particularly suited for readers who are interested to learn solutions in control and communication. The book can benefit researchers, engineers, and graduate students in fields of control theory, automation, communication engineering and economics, etc.
