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Titolo	Protection of Electrical Power Transmission Systems : Smart Grid – Microgrid, AI, and Cybersecurity // by Tariq Masood, Jamil Abdo, Arshad Ali, Atif Iqbal
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Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (381 pages)
Collana	Power Systems, , 1860-4676
Disciplina	621.31
Soggetti	Electric power production Electric power distribution Energy policy Renewable energy sources Electrical Power Engineering Energy Grids and Networks Energy Policy, Economics and Management Renewable Energy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- The Protection Overlay -- Non-Unit Protection of Distribution Feeders -- Protection Transducers -- Unit Protection of Distribution Feeders -- Transformer Protection -- Busbar Protection -- Motor Protection -- Embedded Generation Protection Systems -- Auto Reclose Relaying -- Coordinated Protection and Control -- Self-Assessment Question Answers Section -- Tutor Marked Assignments.
Sommario/riassunto	Protection of Electrical Power Transmission Systems: Smart Grid – Microgrid, AI, and Cybersecurity provides a thorough examination of power transmission system components, architecture, and common vulnerabilities. This classroom-tested textbook introduces the techniques and technologies used to protect transmission systems, explaining the concepts of Transducers, overcurrent relays, distance protection, current differential protection, auto-reclose for transmission systems, numeric protection, smart grid operations and control, micro grid operations and control, power transmission line

characteristics, Artificial Intelligence industrial application, cyber security and Information power system to ensure the power system remains protected even when the protection system fails. The book emphasizes that understanding the subject is best achieved by working with schemes and exploring the history behind their development, enabling readers to delve deeper into the specifics of the subject. Exercises and self-assessment questions addressing a broad range of technical questions are provided to ensure a comprehensive understanding of the design and manufacturing process to establish seamless topologies of protection control schemes. Coverage includes relevant regulations and standards to ensure compliance with industry requirements, emerging trends, and technologies to future-proof systems against evolving threats and leverage cutting-edge innovations. Provides a detailed examination of power transmission system components, architecture, and common vulnerabilities; Written in clear, straightforward language that is easily understood by undergraduate and graduate students and practicing engineers; Includes student exercises and self-assessment questions with solutions.
