1. Record Nr. UNINA9910822339603321

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Titolo	Innovative testing and measurement solutions for smart grid / / Qi Huang, Shi Jing, Jianbo Yi, University of Electronic Science and Technology of China, Wei Zhen, Sichuan Electric Power Research Institute
Pubbl/distr/stampa	Hoboken : , : Wiley and Sons, Inc., , 2015 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2015]
ISBN	1-118-88995-9 1-118-88997-5
Descrizione fisica	1 online resource (738 p.)
Classificazione	TEC031000
Disciplina	621.31028/7
Soggetti	Smart power grids - Testing
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 at the end of each chapters and index.
Nota di contenuto	Title page; Table of Contents; About the Authors; Foreword; Preface; Acknowledgments; 1 Introduction; 1.1 The Concept and Worldwide Development of Smart Grid; 1.2 Importance and Necessity of Measurement and Test in Smart Grid; 1.3 State of Art in Measurement and Test of Smart Grid; 1.4 Outline of the Book; References; Part One: Sensor, Measurement and Data Management; 2 New Types of Sensors for Smart Grid; 2.1 Introduction; 2.2 Application of Advanced Magnetic Sensor in Smart Grid; 2.3 Application of Fiber Optic Sensor in Smart Grid; References. 3 Synchronized Wide Area Measurement for Smart Grid3.1 Introduction; 3.2 Time Synchronization in Substation; 3.3 Dynamic Visualization of Power System Synchronphasor; 3.4 On-line Measurement of Low Frequency Oscillation Based on WAMS; 3.5 Wide Area Situational Awareness; References; 4 Measurement of Energy, Power Quality and Efficiency in Smart Grid; 4.1 Smart Meter and AMI for Smart Grid; 4.2 Measurement for Power Quality in Smart Grid; 4.3 Measurement for Integration of Distributed Generation; References; 5 Data Management in Smart Grid; 5.1 Introduction. 5.2 Data and Data Processing in Smart Grid5.3 Sensor Network for

Integration of Smart Grid Data; 5.4 Introduction to Smart Grid Data Cloud; References; Part Two: Advanced Test Technologies for Smart Grid; 6 Test of Secondary Systems in Smart Substation; 6.1 Introduction -- Smart Substation; 6.2 Whole-view Test of Secondary System in Smart Substation; 6.3 Development of Real-time Test Technology; References; 7 Test of Auxiliary Monitoring System in Smart Substation; 7.1 Introduction -- Auxiliary Monitoring and Control System in Smart Substation.
7.2 Test of Video Surveillance System in Smart Substation7.3 Test of the Video Linkage System; References; 8 Test on Dynamic Performance of Electronic Instrument Transformers; 8.1 Introduction; 8.2 Detailed Modeling of Rogowski Coil and Numerical Analysis; 8.3 Test System Design and Implementation; References; 9 Future Vision; 9.1 Summary of the Results; 9.2 Future Vision; Index; End User License Agreement.

Sommario/riassunto

Focuses on sensor applications and smart meters in the newly developing interconnected smart grid- Focuses on sensor applications and smart meters in the newly developing interconnected smart grid- Presents the most updated technological developments in the measurement and testing of power systems within the smart grid environment- Reflects the modernization of electric utility power systems with the extensive use of computer, sensor, and data communications technologies, providing benefits to energy consumers and utility companies alike- The leading author heads a group of researchers focusing on the construction of smart grid and smart substation for Sichuan Power Grid, one of the largest in China's power system.