

Synopsis

This book is a comprehensive reference source for practicing engineers and students specializing in electric power engineering and industrial electronics. It will illustrate the state of the art in induction motors. Beginning with characteristics and basic dynamic models of induction motors, and progressing to low- and high- performance drive systems. The book will be rich in useful information, without an excessive mathematical burden. Computer simulations resulting in mock oscillograms of physical quantities are used for illustration of basic control concepts. The content of this book is divided into three basic parts: 1) control-oriented description of induction motors, 2) control methods, and systems, 3) control means. An induction motor is presented as an electromechanical power converter, and basic relations between the electrical, magnetic and mechanical quantities in the motor will be explained. Control methods and systems will be classified according to the controlled variables(torque, speed, flux), actuating variables(voltage, current), and dynamic performance (uncontrolled, low-performance, and high-performance). An overview of power electronic converters and information processing equipment used in the modern induction motor drives is included. Such systematic approach will give the readers a comprehensive overview of the field of induction motor control.

Book Information

Series: Engineering

Hardcover: 228 pages

Publisher: Academic Press; 1 edition (October 16, 2000)

Language: English

ISBN-10: 0127015108

ISBN-13: 978-0127015101

Product Dimensions: 6 x 0.6 x 9 inches

Shipping Weight: 1.2 pounds (View shipping rates and policies)

Average Customer Review: 4.0 out of 5 stars 1 customer review

Best Sellers Rank: #985,554 in Books (See Top 100 in Books) #131 in Books > Engineering & Transportation > Engineering > Energy Production & Extraction > Power Systems #156 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electric Machinery & Motors #220 in Books > Engineering & Transportation > Engineering > Energy Production & Extraction > Electric

Customer Reviews

"...a valuable resource...clear to those who are not experts in the field...an excellent reference for practicing engineers, including electrical, mechanical, and industrial engineers. The author's extensive experience clearly shows in the content."--Choice, October 2001

More than half of the total energy produced in developed countries is consumed by electric motors or, more precisely, converted into mechanical energy, freeing society from the tedious burden of physical labor. Among the many types of motors, induction machines still have the unparalleled popularity they did a century ago. At least 90% of industrial drive systems employ induction motors. Most of the motors are uncontrolled, but the share of adjustable speed induction motor drives fed from power electronic converters is steadily increasing, phasing out dc drives. It is estimated that more than \$50 billion could be saved annually by replacing all "dumb" motors with controlled ones. This book is devoted to various aspects of control of induction motors. In contrast to existing books on adjustable speed drives, a great effort has been made to make the covered topics easy to understand by nonspecialists. Although primarily written for professional electrical, mechanical, and industrial engineers, the book will be an essential graduate textbook and also an undergraduate reference source. This book is a comprehensive reference source for practicing engineers and students specializing in electric power engineering and industrial electronics. It illustrates the state of the art in induction motors, beginning with characteristics and basic dynamic models of induction motors, and progressing to low- and high-performance drive systems.

Great easy to use and read book. This book was required for a course of mine but I would recommend it to anyone who is starting to learn (to a great depth) of three phase induction motors and modern motor control theory. It wasn't too long ago that the control theory introduced in this book was not technically possible, at least not a feasible cost point, now the theory in this book is common place in implementation.

[Download to continue reading...](#)

Control of Induction Motors (Engineering) Doubly Fed Induction Machine: Modeling and Control for Wind Energy Generation (IEEE Press Series on Power Engineering) Motor Starting and Control Primer: An introduction to the starting techniques and control of electric motors Electric Motors and Control Systems (Engineering Technologies & the Trades) Doubly Fed Induction Machine: Modeling and Control for Wind Energy Generation ELECTRIC MOTORS-CONTROL DIAGRAM (SELF-STARTER UNIVERSITY) Package: Activities Manual for Electric Motors and Control Systems with Constructor Access Card Electric Motors and Control Systems Fluid Power Pumps

and Motors: Analysis, Design and Control Design of Brushless Permanent-Magnet Motors
(Monographs in Electrical and Electronic Engineering) Hypnotic Realities: The Induction of Clinical
Hypnosis and Forms of Indirect Suggestion The Logical Leap: Induction in Physics How to Build a
Permanent Magnet Generator from AC-Asynchronous (induction) Motor or Car Alternator: Make your
own power plant Design and Test of DC Voltage Link Conversion System and Brushless
Doubly-Fed Induction Generator for Variable-Speed Wind Energy Applications Ovulation Induction
and Controlled Ovarian Stimulation: A Practical Guide Lines of induction Causality, Electromagnetic
Induction, and Gravitation: A Different Approach to the Theory of Electromagnetic and Gravitational
Fields, 2nd edition Practical Induction Techniques of Hypnotic Induction NLP: Neuro Linguistic
Programming: Re-program your control over emotions and behavior, Mind Control - 3rd Edition
(Hypnosis, Meditation, Zen, Self-Hypnosis, Mind Control, CBT)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)