

Power Electronics in Motor Drives : Principles, Application & Design

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This book is aimed at people who want to understand how AC drives (also known as inverter drives) work and how they are used in industry. It is much more about the practical design and application of drives than about the mathematical principles behind them. The key principles of power electronics are described and presented in a simple way, as are the basics of both DC and AC motors. The different parts of an AC drive are explained, together with the theoretical background and the practical design issues such as cooling and protection. An important part of the book gives details of the features and functions often found in AC drives, and gives practical advice on how and where to use these. A wide range of drive applications are described from fresh water pumping to baggage handling systems. The practical problems of using AC drives in industry are presented, and together with the application and function descriptions should prove useful and informative. Significant new standards are being introduced over the next few years, changing requirements for both users and manufacturers of drives and motors this book explains their importance. Also described is future drive technology, including a matrix inverter. The mathematics is kept to an essential minimum. Some basic understanding of mechanical and electrical theory is presumed, and a basic knowledge of single and three phase AC systems would be useful. Anyone who uses or installs drives, or is just interested in how these powerful electronic products operate and control modern industry, will find this book fascinating and informative.

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