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Descrizione fisica	1 online resource (1 v.) : ill
Disciplina	629.8/9
Soggetti	Process control - Data processing
Coggotti	Digital control systems - Design and construction
	Microprocessors
	Mechanical Engineering - General
	Industrial & Management Engineering
	Mechanical Engineering
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Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	System modelling The PIC microcontroller Programming PIC
	microcontrollers in C Microcontroller project development
	characteristics System stability Discrete controller design
	Controller realization Liquid level digital control system : a case
	study.
Sommario/riassunto	Combines the theory and the practice of applied digital control This
	book presents the theory and application of microcontroller based
	which can be used to control real-time systems. Low-cost, single chip
	and easy to program, they have traditionally been programmed using
	the assembly language of the target processor. Recent developments in
	this field mean that it is now possible to program these devices using
	nign-level languages such as BASIC, PASCAL, or C. As a result, very complex control algorithms can be developed and implemented on the
	microcontrollers. Presenting a detailed treatment of how

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microcontrollers can be programmed and used in digital control applications, this book: Introduces the basic principles of the theory of digital control systems. Provides several working examples of real working mechanical, electrical and fluid systems. Covers the implementation of control algorithms using microcontrollers. Examines the advantages and disadvantages of various realization techniques. Describes the use of MATLAB in the analysis and design of control systems. Explains the sampling process, z-transforms, and the time response of discrete-time systems in detail. Practising engineers in industry involved with the design and implementation of computer control systems will find Microcontroller Based Applied Digital Control an invaluable resource. In addition, researchers and students in control engineering and electrical engineering will find this book an excellent research tool.