# Modern Industrial Electronics, Fifth Edition

*Timothy J. Maloney*
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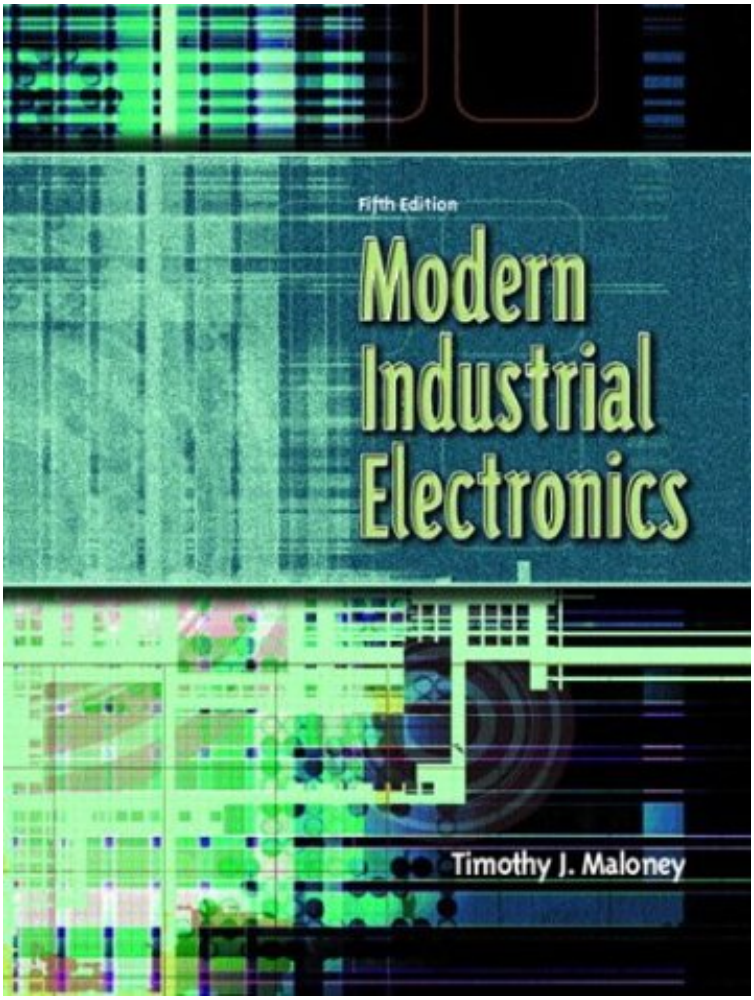




#1146982 in Books 2003-07-30Ingredients: Example IngredientsOriginal language:EnglishPDF # 1 9.90 x 1.90 x 7.90l, 4.28 #File Name: 0130487414992 pages | File size: 29.Mb

**Timothy J. Maloney : Modern Industrial Electronics, Fifth Edition** before purchasing it in order to gage whether or not it would be worth my time, and all praised Modern Industrial Electronics, Fifth Edition:

0 of 0 people found the following review helpful. Good content, garbage qualityBy Geetar BilderOk, the content is fine. No complaints there. But the physical book is horrible, horrible quality. Horrible. Horrible! The original hardcover version has light blue text in many of the drawings. In this paperback version, which is black and white, the light blue becomes a gray that is so light that it's literally unreadable half the time. Oh, and the pages begin falling out immediately. It wasn't just my copy, either. Same thing happened to everyone else's in the class.Try to find a used hardcover copy if you can. This piece of garbage is worth about $5 max.0 of 0 people found the following review helpful. Five StarsBy T P.Thank you0 of 0 people found the following review helpful. Terrible Quality for Expensive BookBy CB1503Had the book for a week and pages have already fallen out despite being new. I have a classmate that

bought the book new, half of his book broke from the binding. He returned it, got another new one and it still lost pages. Terrible quality was put into printing these books.

This book provides an explanation of whole-system structures and relationships rather than isolated circuits or devices. It is committed to showing how the devices of modern electronics are applied in realistic industrial applications, and makes every effort to help you reach the skill level needed for carrying out your job responsibilities. It thoroughly examines a wide variety of systemsfrom PLCs to industrial robotsand includes a wealth of background information regarding the economic importance and/or environmental impact of the production process involved in the system. A book for the Industrial Electronics Technician or Engineering Technologist who want current information showing how the devices of modern electronics are applied in realistic industrial applications.

From the PublisherThe long-awaited revision of this classic Industrial Electronics text -- with five new chapters, and now full-color! Unlike other technician-level texts, Modern Industrial Electronics doesn't limit its presentation to isolated devices or individual circuits, but strongly emphasizes the need for students to study and understand complete, real industrial systems as they exist in industry. The text thoroughly examines a wide variety of systems, from PLCs to industrial robots...and the author includes a wealth of background information regarding the economic importance and/or environmental impact of the production process involved in the system. Additionally, because he adopts the logical view that things will go wrong in any real system, the author also makes certain students find plenty of opportunities throughout the material to practice determining probable causes for system failures, and deciding upon specific steps to take to correct the problems.From the Back Cover This classic industrial electronics text is intended to be the core text for third- or fourth-semester electronic technology courses in industrial Electronics, industrial Process Control, Industrial Machinery, and Industrial Automation. Unlike other technician-level texts, Modern Industrial Electronics does not limit its presentation to isolated devices or individual circuits, but strongly emphasizes the need for students to study and understand actual and complete industrial systems. Now in its fifth edition, this highly successful book continues to provide complete and up-to-date information. It thoroughly examines a wide variety of systemsfrom transistor switches to industrial robotsand discusses such issues as the economic importance and/or environmental impact of the production process. Because the author adopts the logical view that things will go wrong in any real system, he ensures that students have plenty of opportunities throughout the book to determine probable causes and corrections for system failures. The "Troubleshooting on the job" section is a critical component of every chapter. Discussion has been expanded on the topic of electrical and magnetic noise in electronic measurement/transmission systems, and on shielding techniques for coping with it. The current-loop approach to signal transmission is explained and contrasted with voltage transmission. Some of the PLC program logic of this book is moderately complex, representative of actual industrial control processes; this is unlike the artificially simple logic o f other industrial texts. In the fifth edition such coverage is pushed further yet; to include program branching and subroutine applications. An instructor's manual (ISBN o-i3-048142-z) accompanies this text and is available free of char a to instructors using this book. Excerpt. Reprinted by permission. All rights reserved. Modern Industrial Electronics, Fifth Edition, provides a total-system view of the world of manufacturing and automated production for students of electrical and electronics technology. It maintains the original commitment, intact since the first edition, of showing how the devices of modern electronics are applied in realistic industrial applications. New topics covered in this edition are: Chapter 3, PLCs Program branchingJump instruction SubroutinesPassing parameters to a subroutine and returning parameters from a subroutine Chapter 8, Op Amps Voltage signal degradation caused by: (1) IR drop; (2) capacitively coupled electric noise, including switching transients; and (3) magnetically coupled noise Electric and magnetic shielding Proper grounding Current-loop signal transmission A WORD TO STUDENTS The capabilities of industrial manufacturing systems have expanded at a startling rate since the first edition of Modern Industrial Electronics was published in 1979. Part of the new capability has to do with more precise control over machines and processes, and part has to do with our greater ability to measure and make records of production variables. This expansion has two direct effects on you. First, it makes your work more demanding. Second, it gives you the opportunity for even greater satisfaction and personal reward, because anyone who can learn and master today's high-technology industrial controls is sought after by employers. As a technician or engineering technologist working in modern industry, you are a member of a select group, indispensable to your company's productivity and profitability. In fact, your work contribution has obvious impact on our entire society's productivity and economic security. What a compliment to you that you are entrusted with that responsibility. In this fifth edition, as in the previous four editions that your predecessors used to launch their careers, I have made every effort to help you reach the skill level needed for carrying out your job responsibilities. Toward that goal, this edition features a "Troubleshooting on the Job" exercise at the end of every chapter. These troubleshooting exercises require you to apply the knowledge that you have gained from that chapter to solve a problem. By carrying out the troubleshooting exercises individually or as a team, you will find yourself exercising your technical understanding, thinking imaginatively, and solving realistic problemsin other words, making the transition from classroom student to on-the-job technician or technologist in the

industrial arena. My best wishes for your working career. FEATURES OF THE TEXT Chapter-Opening Photograph Each chapter begins with a photograph and explanatory caption that depicts some modern industrial practice. Figure A shows the opening pages of Chapter 17. Use these presentations to get a feel for some of the interesting opportunities and work responsibilities in the field of industrial electronics. Descriptive captions and credits for the photographs are listed on page vii. Objectives The first edition, published in 1979, was the original college technology textbook that explicitly stated the learning objectives at the beginning of each chapter. That precedent is continued, naturally, in this fifth edition. As you are reading and studying, try to perform the task that each objective calls for. If you can perform these tasks, then you are learning what the book and the course have to offer. If you find that you cannot satisfy the objectives, ask further questions in class or consult in private with your instructor. Troubleshooting on the Job The final section of each chapter gives a "Troubleshooting on the Job" exercise that is representative of the duties that you will be performing when working as a technician or engineering aide. Figure B shows the Troubleshooting on the Job in Chapter 6, from pages 242-243, which requires you to devise a procedure for testing and troubleshooting a large-scale electrostatic ash precipitator. These assignments invariably require you to use the knowledge that you have learned from that chapter in an imaginative way. Your instructor may ask for your written or drawn solution to be done individually, or you may be placed in a two- or three-person team to work on the problem. Various solutions are possible in most cases; therefore you and others in the class will present your solutions to the entire class so that everyone can share the differing thoughts and approaches that were brought to bear on the problem. Examples When trying to understand new ideas, especially the use of new mathematical formulas, all people are helped by examples. In this text, examples are provided for all situations where numerical calculations are required. Summary At the end of each chapter, there is a list of the main ideas that were developed within that chapter. The chapter's mathematical formulas, if any, are also collected for your ready reference in solving the homework. Questions and Problems Numerous questions and problems, organized by chapter section, are provided to sharpen your understanding and exercise your problem-solving skills. Your instructor will assign some of them for homework. You may wish to tackle additional problems for your own satisfaction. The more you practice, the more you learn. Glossary Definitions of hundreds of terms used in industrial electronics are listed in the glossary. Most of these terms were introduced in this text, but some come from earlier course work in electricity and electronics. Use the glossary to refresh your memory or to verify your understanding of a word's meaning.