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Nota di contenuto	Preface. -- Measurement systems. -- Instrumentation systems elements. -- Instrumentation case studies. -- Control Systems. -- Process controllers. -- Correction elements. -- PLC systems. -- Systems. -- Transfer function. -- Systems response. -- Frequency response. -- Nyquist diagrams. -- Controllers. -- Appendices: -- Errors. -- Differential equations. -- Laplace transform. -- Answers. -- Index
Sommario/riassunto	In a clear and readable style, Bill Bolton addresses the basic principles of modern instrumentation and control systems, including examples of the latest devices, techniques and applications. Unlike the majority of books in this field, only a minimal prior knowledge of mathematical methods is assumed. The book focuses on providing a comprehensive introduction to the subject, with Laplace presented in a simple and easily accessible form, complimented by an outline of the mathematics that would be required to progress to more advanced levels of study. Taking a highly practical approach, Bill Bolton combines underpinning theory with numerous case studies and applications throughout, to enable the reader to apply the content directly to real-world engineering contexts. Coverage includes smart instrumentation, DAQ, crucial health and safety considerations, and practical issues such as noise reduction, maintenance and testing. An introduction to PLCs and ladder programming is incorporated in the text, as well as new

information introducing the various software programmes used for simulation. Problems with a full answer section are also included, to aid the readers self-assessment and learning, and a companion website (for lecturers only) at http://textbooks.elsevier.com features an Instructors Manual including multiple choice questions, further assignments with detailed solutions, as well as additional teaching resources. The overall approach of this book makes it an ideal text for all introductory level undergraduate courses in control engineering and instrumentation. It is fully in line with latest syllabus requirements, and also covers, in full, the requirements of the Instrumentation & Control Principles and Control Systems & Automation units of the new Higher National Engineering syllabus from Edexcel. * Assumes minimal prior mathematical knowledge, creating a highly accessible student-centred text * Problems, case studies and applications included throughout, with a full set of answers at the back of the book, to aid student learning, and place theory in real-world engineering contexts * Free online lecturer resources featuring supporting notes, multiple-choice tests, lecturer handouts and further assignments and solutions