Digital Sensors and Sensor Systems: Practical Design

Title: Digital Sensors and Sensor Systems: Practical Design
Author: Sergey Y. Yurish
Publisher: International Frequency Sensor Association (IFSA) Publishing
Format: printable pdf (Acrobat), 420 pages
Price: **110.00 EUR** (e-book in pdf format) and **135.00 EUR** (print hardcover book).
Pubdate: 11 November 2011
e-ISBN: 978-84-615-6957-1
ISBN: 978-84-616-0652-8
BN: 20111111-XX
BIC: TJFC

e-Book in pdf format:

Buy Now

Print book in hardcover:

Buy Now

We accept also a bank account money transfers and checks. Please contact by e-mail for details.
50 % discount for IFSA payment members

Download a Library Recommendation Form

Book Description

Semiconductor and integrated sensor design are heavily driven by technology scaling. Rapid advances in microelectronics and nano-technologies have brought new challenges to the digital, smart, intelligent sensors and sensor systems design.

Because such design approach based on the frequency (time)-to-digital conversion has not been adequately covered in the literature before, this unique book aims to fill a significant gap and presents new knowledge in this emerging area of modern sensors.

The goal of this book is to help the practicians achieve the best metrological and technical performances of digital sensors and sensor systems at low cost, and significantly to reduce time-to-market. It should be also useful for students, lectures and professors to provide a solid background of the novel concepts and design approach because of till now such topics have been covered adequately only in a few European and American universities.

Book features include:

- Each of chapter can be used independently and contains its own detailed list of references
- Easy-to-repeat experiments
- Practical orientation
- Dozens examples of various complete sensors and sensor systems for physical and chemical, electrical and non-electrical quantities
- Detailed description of technology driven and coming alternative to the ADC – a frequency (time)-to-digital conversion, well suited for technology scaling
- Easy design based on novel microelectronic components such as Universal Frequency-to-Digital Converters and Universal Sensors and Transducers Interfaces
- Describes engineering technique how to estimate a resulting, total error of designed sensor system

Digital Sensors and Sensor Systems: Practical Design will greatly benefit undergraduate and at PhD students, engineers, scientists and researchers in both industry and academia. It is especially suited as a reference guide for practicians, working for Original Equipment Manufacturers (OEM) electronics market (electronics/hardware), sensor industry, and using commercial-off-the-shelf components, as well as anyone facing new challenges in technologies, and those involved in the design and creation of new digital sensors and sensor systems, including smart and/or intelligent sensors for physical or chemical, electrical or non-electrical quantities.

Read a **book review.**

Contents:

Sensors System Integration Challenges. Digital Electronics: A Practical Approach. rulud09.net. Digital Electronics: A Practical Approach. Design of a High Performance MEMS Pressure Sensor Array with sensorsportal.com. Design of a High Performance MEMS Pressure Sensor Array with Folder digital - Lane Design. lanedesign.com.br. Folder digital - Lane Design. the global design practice - RTKL. rtkl.com.Â For this magazine there is no download available. Magazine: Digital Sensors and Sensor Systems: Practical Design. Close. Ã—. PDF | This chapter focuses on the development of sensors and sensor systems for harsh environments. Among various applications with high commercial impact, combustion optimisation and emission control in small-scale boilers is considered as an illustrative application which can ben...Â This chapter focuses on the development of sensors and sensor systems for harsh environments. Among various applications with high commercial impact, combustion optimisation and emission control in small-scale boilers is considered as an illustrative application which can ben efit from the employment of a multimeasurand sensor system able to cope with harsh environment conditions.

Smart sensors -. 9. Hardware design techniques -. 10. INDEXÂ Analog-Digital Conversion Handbook Digital Signal Processing Applications Using the ADSP-2100 Family. (Volume 1:1992, Volume 2:1994) Digital Signal Processing in VLSI DSP Laboratory Experiments Using the ADSP-2101 ADSP-2100 Family User's Manual. Published by analog devices.Â n Grounding in Mixed Signal Systems n Power Supply Noise Reduction and Filtering n Preventing RFI Rectification n Dealing With High Speed Logic n A Review of Shielding Concepts n Isolation Techniques n Overvoltage Protection n Electrostatic Discharge (ESD). Index. Practical design techniques for sensor signal conditioning. Introduction -. 1. PDF | Intelligent sensors and sensor systems are of great interest in many fields of industry, control systems, robotics, biomedical applications, etc. According to new sensors market studies (Freedonia Group), the US sensor demand will grow 4.3 percent annually through 2012 and...Â From Theory to Practical Design. Yurish S. Y. Technical University of Catalonia (UPC-Barcelona). Centro de DiseÃ±o dâ€™Equipos Industriales (CDEI), Barcelona, Spain. E-mail: syurish@sensorsportal.com.Â Nowadays, intelligent sensors and systems are extremely necessary for such applications, as electronic noses and. tongues, smart vision systems, personnel (human body) detection, authentication systems, building monitoring. system, etc.