

1. Record Nr.	UNISA996426341103316
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Titolo	Industrial process automation systems : design and implementation // Y. Jaganmohan Reddy
Pubbl/distr/stampa	Oxford, England ; ; Waltham, Massachusetts : , : Butterworth-Heinemann, , 2015 ©2015
ISBN	0-12-810265-9 0-12-801098-3
Edizione	[1st edition]
Descrizione fisica	1 online resource (668 p.)
Disciplina	670.427
Soggetti	Process control - Automation Expert systems (Computer science) - Industrial applications Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Title Page; Copyright Page; Contents; Chapter 1 - Industrial Automation; 1.1 - Introduction; 1.2 - Innovators; 1.3 - Industrial revolutions; 1.4 - Evolution of automation from needs perspectives; 1.5 - Evolution of automation from technology perspectives; 1.6 - Challenges three decades back; 1.7 - Current challenges; 1.8 - Technology trends; 1.8.1 - Transmission media & Technology; 1.9 - Device connectivity; 1.10 - Automation system controllers; 1.10.1 - Control logics; 1.10.2 - Objectives of the plant information and control systems 1.11 - The generic duties of an automation system in hierarchical form 1.12 - Functional requirements of an integrated information and automation systems: A generic list; 1.13 - Conceptual/functional topology of an automation system; 1.13.1 - Physical architecture; Further readings; Chapter 2 - The Programmable Logic Controller; 2.1 - Introduction to the programmable logic controller; 2.2 - Hardware; 2.2.1 - Functional components of a PLC; 2.3 - Internal architecture; 2.3.1 - Sourcing and sinking; 2.3.2 - Programming PLCs; 2.4 - I/O devices; 2.4.1 - Input devices; 2.4.1.1 - Mechanical switches

2.4.1.2 - Proximity switches; 2.4.1.3 - Photoelectric sensors and switches; 2.4.1.4 - Encoders; 2.4.1.5 - Temperature sensors; 2.4.1.6 - Resistive temperature detector; 2.4.1.7 - Thermodiodes and thermotransistors; 2.4.1.8 - Pressure sensors; 2.4.1.9 - Output devices; Relay; 2.4.1.10 - Directional control valves; 2.4.1.11 - Motors; 2.5 - I/O processing; 2.5.1 - Output units; 2.5.2 - Remote connections; 2.5.3 - Serial and parallel communications; 2.5.4 - Distributed systems; 2.5.5 - I/O addresses; 2.6 - Ladder and function block programming; 2.6.1 - Ladder diagrams  
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3.4.1 - Field Communication

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## Sommario/riassunto

Industrial Process Automation Systems: Design and Implementation is a clear guide to the practicalities of modern industrial automation systems. Bridging the gap between theory and technician-level coverage, it offers a pragmatic approach to the subject based on industrial experience, taking in the latest technologies and professional practices. Its comprehensive coverage of concepts and applications provides engineers with the knowledge they need before referring to vendor documentation, while clear guidelines for implementing process control options and worked examples of deployments trans

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