



## Programmable Logic Controllers: A Practical Approach to IEC 61131-3 using CoDeSys

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### DESCRIPTION

Widely used across industrial and manufacturing automation, Programmable Logic Controllers (PLCs) perform a broad range of electromechanical tasks with multiple input and output arrangements, designed specifically to cope in severe environmental conditions such as automotive and chemical plants.

Programmable Logic Controllers: A Practical Approach using CoDeSys is a hands-on guide to rapidly gain proficiency in the development and operation of PLCs based on the IEC 61131-3 standard. Using the freely-available\* software tool CoDeSys, which is widely used in industrial design automation projects, the author takes a highly practical approach to PLC design using real-world examples. The design tool, CoDeSys, also features a built in simulator/soft PLC enabling the reader to undertake exercises and test the examples.

Key features:

- Introduces to programming techniques using IEC 61131-3 guidelines in the five PLC-recognised programming languages.
- Focuses on a methodical approach to programming, based on Boolean algebra, flowcharts, sequence diagrams and state-diagrams.
- Contains a useful methodology to solve problems, develop a structured code and document the programming code.
- Covers I/O like typical sensors, signals, signal formats, noise and cabling.
- Features Power Point slides covering all topics, example programs and solutions to end-of-chapter exercises via companion website.

No prior knowledge of programming PLCs is assumed making this text ideally suited to electronics engineering students pursuing a career in electronic design automation. Experienced PLC users in all fields of manufacturing will discover new possibilities and gain useful tips for more efficient and structured programming.

\* Register at [www.codesys.com](http://www.codesys.com)

[www.wiley.com/go/hanssen/logiccontrollers](http://www.wiley.com/go/hanssen/logiccontrollers)

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## ABOUT THE AUTHOR

**Dag H. Hanssen** works as an Assistant Professor in automation at the Institute of Engineering and Safety at the University of Tromsø. During the course of his 18 year long career with the university he has taught many different courses, but he now focusses on control technique, process automation and Application Development.

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