



## Electrical Control for Machines, 6E

*By Peter R. Giuliani, Leo Chartrand, Kenneth Rexford*

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Now in its sixth edition, *Electrical Control for Machines* continues to provide an extraordinarily complete introduction to the range of technologies found in today's state-of-the-art industrial systems. By providing readers with a practical understanding of the logic and safety conditions required for efficient control of a single machine or a complex system, the authors define the field of industrial electrical controls in a manner that reflects the changes occurring in today's manufacturing and process industries. Central to the book is the belief that programmable, expandable, reliable, and versatile manufacturing systems require a conceptual understanding at the system level as well as detailed knowledge at the equipment level. In-depth discussions of state-of-the-art process and machine control devices, circuits, and systems for all types of industries are included, along with thorough explanations of how electrical and electronic components function in typical motion, pressure, temperature, sequential, safety, and quality control systems. Ideal for industrial process engineers, maintenance technicians, and engineering technology students, this edition is thoroughly updated and now features an introduction to the operation, configuration, and programming of programmable logic controls (PLCs) as well as new coverage of the expanding use of networks within industrial processes. Knowledge of basic theories of electricity and electrical circuits is assumed, and an entire chapter is devoted to discussion of safety and safety considerations.

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#### About the Author

Mr. Chartrand holds a Bachelor of Science degree in electrical engineering from Queen's university in Kingston Ontario. He has been teaching digital courses for 20 years at Niagara College in Welland , Ontario. Mr. Chartrand has made industry contributions with various designs including interfacing an infrared camera to a PC, creating a digital circuit board used as a PC training system, and designing a control pendant for an air-filled medical bed. He also worked as a plant engineer for General Motors.

Mr. Rexford received his professional degree from the College of Engineering at the University of Cincinnati and is a registered Professional Electrical Engineer in Ohio.

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