

Power Quality References

- 1. *The Dranetz-BMI Field Handbook for Power Quality Analysis***
Published by Dranetz-BMI, 1000 New Durham Road, Edison, New Jersey 08818. Copyright 1998. Dranetz-BMI is a major manufacturer of power quality monitors. Chapters include: Fundamentals; Planning and Performing a Power Quality Survey, Waveforms; Power Monitor Setups; and a Glossary of Terms. 283 pages.
- 2. *Electrical Power Systems Quality***
Authors: Roger C. Dugan, Mark F. McGranaghan, and H. Wayne Beaty. Published by McGraw-Hill, 1996.
With the proliferation of high-efficiency electrical power loads, and their concomitant sensitivity to disturbances, understanding the causes of power quality problems-- and learning how to prevent them--is today taking on paramount importance. This hardbound book is available through bookstores.
- 3. *Electrical Design Library series by National Electrical Contractors Association***
'Diagnosing Power Quality Problems' (302574) 12/91. 'Effective Grounding of Electronic Equipment' (302567) 12/89. 'Design to Improve Power Quality' (302577) 12/92. Order from NECA, 3 Bethesda Metro Center, Suite 1100, Bethesda, MD 20814-5372.
- 4. *Evaluation of Transient Voltage Suppressors for Saving Electric Energy***
Report published by Electric Power Research Institute, EM-1722, February 1981. Test failed to prove that transient voltage suppressors alone will save electrical energy. The principal being that the energy contained in the transients is relatively small. Electric Power Research Institute is located in Palo Alto, CA.
- 5. *Guide for the Design of Semiconductor Equipment to Meet Voltage Sag Immunity Standards***
Publisher is Sematech (<http://www.sematech.org/>), a consortium of semiconductor manufacturers. Available for free, this publication is classified as a Technology Transfer document #99063760A-TR (<http://www.sematech.org/docubase/document/3760btr.pdf>). This guide is based on years of utility/industry cooperative research to define the problem and find embedded solutions.
- 6. *Guideline on Electrical Power for ADP Installations, Federal Information Processing Standards Publication, FIPS PUB 94, September 21, 1983***
Issued by the National Bureau of Standards. This recommended Guideline for Federal agencies identifies and describes the electrical environment for safe, reliable operation of automatic data processing (ADP) systems. The electrical environment in and immediately outside the computer room is considered. The Guideline describes the fundamentals that underlie the power, grounding, and life-safety requirements, and provides a guide and checklist for specifying and preparing ADP sites, and evaluating their suitability. For sale by the National Technical Information Service, U.S. Department of Commerce.

7. *Grounding and Shielding in Facilities*

Authors: Ralph Morrison and Warren H. Lewis.

Published by John Wiley & Sons, 1990.

Abstract from book: Emphasizing field theory to explain phenomena rather than circuit theory, the book shows how grounding and shielding can be employed efficiently in key facilities, complex facilities, and in adverse environments. And, it solves the overall conflict between safety and performance in this area by carefully defining the language of power engineers and that of the National Electrical Code. *Available from bookstores.*

8. *Harmonic Considerations for Electrical Distribution Feeders, March 1988*

Oak Ridge National Laboratory, ORNL/Sub/81-95011/4. Roger C. Dugan, McGraw-Edison Power Systems. Available from U.S. Government Printing Office.

9. *Uninterruptible Power Supplies*

Author: David C. Griffith.

Published by Marcel Dekker, Inc. 1989.

Abstract from book: Provides step-by-step guidance through the selection, installation, operation, and maintenance of power conditioners. It presents a wide range of solutions to power problems with sensitive, critical equipment from proper wiring techniques to complex multiunit uninterruptible power systems. It explains solid-state and rotary solutions for ac and dc power. It provides guide specifications, as well as sizing and matching information. *Available in bookstores.*

10. *EC&M – the magazine of Electric Design, Construction & Maintenance*, covers power distribution, harmonics, grounding, motors, lighting, the National Electrical Code and other topics vital to those entrusted with electrical design, maintenance and construction.

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