Electric Power Quality

DOWNLOAD HERE

1 Introduction. 1.1 Definition of Electric Power Quality. 1.2 Sources for Electric Power Quality Deterioration in a Power System. 1.3 Need for Assessment of Electric Power Quality. 1.4 Book at a Glance2 Electric Power Quality. 2.1 Introduction. 2.2 Electric Power Quality. 2.3 Classification of Power System Disturbances. 2.4 Power Quality Standards and Guidelines. Reference.3 Unbalance. 3.1 Introduction. 3.2 Unbalance in Three Phase Power System. 3.3 Sources of Unbalance. 3.4 Effect of Unbalance. Reference.4 Harmonics. 4.1 Introduction. 4.2 Fundamental wave. 4.3 Harmonics. 4.4 Sources of Harmonics. 4.5 Effects of Harmonics. 4.6 Harmonic Standard. Reference. 5 Transients. 5.1 Introduction. 5.2 Power System Transients. 5.3 Causes of power system transients. 5.4 Effects. Reference. 6 Sag, Swell, Interruption, Undervoltage and Overvoltage. 6.1 Introduction. 6.2 Sag. 6.3 Swell. 6.4 Interruption. 6.5 Sustained Interruption. 6.6 Undervoltage. 6.7 Overvoltage. Reference. 7 DC Offset, Electric Noise, Voltage Fluctuation, Flicker and Power Frequency Variation. 7.1 Introduction. 7.2 DC Offset. 7.3 Electric Noise. 7.4 Voltage Fluctuation. 7.5 Flicker. 7.6 Power Frequency Variations. 7.7 Discussion. Reference.8 Unbalance Assessment using Sequence Components. 8.1 Introduction. 8.2 Sequence Component. 8.3 Phase Currents and Voltages. 8.4 a Operator and Angle Representation in Complex Plane. 8.5 Currents and Voltages in terms of Sequence Components with a Operator. 8.6 Case Study on Unbalance. 8.7 Definition of Unbalance: An Alternate Approach. Reference. 9 Unbalance Assessment using Feature Pattern Extraction Method. 9.1 Introduction. 9.2 Feature Pattern Extraction Method. 9.3 Unbalance and FPEM. 9.4 CMS Rule Set for Unbalance Assessment by FPEM. 9.5 Algorithm for Unbalance Assessment. 9.6 Discussion. Reference.10 Useful Tools for Harmonic Assessment. 10.1 Introduction. 10.2 Fourier Series. 10.3 Fourier Transform. 10.4 Discrete Fourier Transform. 10.5 Fast Fourier Transform. 10.6 Hartley transform and Discrete Hartley Transform. 10.7 Wavelet Transform. 10.8 Discussion. Reference. 11 Harmonic Assessment using FPEM in V-V and I-I Planes. 11.1 Introduction. 11.2 Harmonic Assessment by FPEM. 11.3 Patterns in V-V planes in Presence of Harmonic. 11.4 CMS Rule for Determination of Highest order of Dominating Harmonics. 11.5 Limitation of FPEM for Harmonic Assessment in V-V and I-I Plane. 11.6 Algorithm for Real Power System Data.

11.7 Discussions. Reference.12 Clarke and Park Transformation. 12.1 Introduction. 12.2. Current Space Vector. 12.3 Stationary Reference Frame. Reference . 12.4 General Rotating Reference Frame. 12.5 d-q Rotating Reference Frame. 12.6 Transformation Matrices. 12.7 Discussion. Reference. 13 Harmonics Assessment by FPEM in Clarke and Park Planes. 13.1 Introduction. 13.2 Harmonic Analysis in Clarke Plane. 13.3 Harmonic Analysis in Park plane. 13.4 Discussion. Reference. 14 Harmonic Assessment by Area Based Technique in V-V and I-I Planes. 14.1. Introduction. 14.2. Area Based Technique (ABT). 14.3. Algorithm. 14.4 Discussion. Reference. 15 Harmonic Assessment by Area Based Technique in Clarke and Park Planes. 15.1 Introduction. 15.2 Voltage and Current in Clarke (a-b) Plane. 15.3 Reference Signal for Assessment of Fundamental Component. 15.4 Fundamental Components in Clarke Plane. 15.5 Harmonic Components in Clarke Plane. 15.6 CMS Equations for Total Harmonic Distortion in Clarke Plane. 15.7 Voltages and Currents in Park (d-q) Plane. 15.8 Reference Signal in Park Plane. 15.9 Fundamental Components in Park Plane. 15.10 Harmonic Components in Park Plane. 15.11. CMS Equations for Total Harmonic Distortion Factors. 15.12 Discussion. Reference. 16 Assessment of Power Components by FPEM and ABT. 16.1 Introduction. 16.2. Power Components by FPEM. 16.3 CMS Rule Set for Power Components by FPEM. 16.4 Limitations of CMS Rule Set for Power Components by FPEM. 16.5 Power Component Assessment by Area Based Technique. 16.6 Power Components of EAN/ISBN: 9789400706354 Publisher(s): Springer, Berlin, Springer Science & Business Media Format: ePub/PDF Author(s): Chattopadhyay, Surajit - Mitra, Madhuchhanda - Sengupta, Samarjit

DOWNLOAD HERE

Similar manuals:

Electric Power Quality