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		4.1 Introduction 4.2 Earthing devices; 4.3 Evaluation of earthing methods; 4.4 Effect of electric shock on human beings; 5. Fuses; 5.1 Historical; 5.2 Rewireable type; 5.3 Cartridge type; 5.4 Operating characteristics; 5.5 British standard 88:1952; 5.7 Application of selection of fuses; 5.9 Special types; 5.10 General; 5.11 Is-limiter; 6. Instrument transformers; 6.1 Purpose; 6.2 Basic theory of operation; 6.3 Voltage transformers; 6.4 Current transformers; 6.5 Application of current transformers; 6.6 Introducing relays; 6.7 Inverse definite minimum time lag (IDMTL) relay; 7. Circuit breakers

7.1 Introduction 7.3 Purpose of circuit breakers (switchgear); 7.4 Behavior under fault conditions; 7.5 Arc; 7.6 Types of circuit breakers; 7.7 Comparison of breaker types; 8. Tripping batteries; 8.1 Tripping batteries; 8.2 Construction of battery chargers; 8.3 Maintenance guide; 8.4 Trip circuit supervision; 8.5 Reasons why breakers and contactors fail to trip; 8.6 Capacitor storage trip units; 9. Relays; 9.1 Introduction; 9.2 Principle of the construction and operation of the electromechanical IDMTL relay; 9.3 Factors influencing choice of plug setting
9.5 Universal microprocessor overcurrent relay 9.6 Technical features of a modern microprocessor relay; 9.7 Type testing of static relays; 9.8 The future of protection for distribution systems; 9.9 The era of the IED; 9.10 Substation automation; 9.11 Communication capability; 10. Coordination by time grading; 10.1 Protection design parameters on medium- and low-voltage networks; 10.2 Sensitive earth fault protection; 11. Low-voltage networks; 11.1 Introduction; 11.2 Air circuit breakers; 11.3 Moulded case circuit breakers; 11.4 Application and selective coordination
11.5 Earth leakage protection 12. Mine underground distribution protection; 12.1 General; 12.2 Earth-leakage protection; 12.3 Pilot wire monitor; 12.4 Earth fault lockout; 12.5 Neutral earthing resistor monitor (NERM); 13. Principles of unit protection; 13.1 Protective relay systems; 13.2 Main or unit protection; 13.3 Back-up protection; 13.4 Methods of obtaining selectivity; 13.5 Differential protection; 13.6 Transformer differential protection; 13.7 Switchgear differential protection; 13.8 Feeder pilot-wire protection; 13.9 Time taken to clear faults
13.10 Recommended unit protection systems

Sommario/riassunto	Plant operators, electricians, field technicians and engineers will gain a practical understanding of the role and workings of power system protection systems from this work. An understanding of power systems and their optimized management will increase plant efficiency and performance as well as increasing safety levels. This book provides both the underpinning knowledge and basic calculations needed to understand, specify, use and maintain power protection systems, and the practical techniques required on a daily basis.After studying this book you will have an excellent knowledge of