

List of Figures

Figures	Page No.
3.1 Basic principle of distance protection operation	10
3.2 Balanced beam principle	10
3.3 Distance Protection Zones	11
3.4 Load encroachment	12
3.5 Effect of arc resistance	12
3.6 Permissive under-reach solid scheme	13
3.7 Permissive under-reach Trip logic scheme	14
4.1 Block diagrams of switched scheme distance relays	19
4.2 Block diagrams of full scheme distance relay	19
4.3 Plain impedance relay characteristics	22
4.4 Mho relay characteristic	23
4.5 Typical application for the offset mho relay	24
4.6 Quadrilateral characteristic	24
4.7 Current and voltage relationships for single phase to earth fault	26
4.8 Current and voltage relationships for three phase faults	26
4.9 Current and voltage relationships for double phase to earth fault	26
4.10 Current and voltage relationships for double phase to phase fault	27
4.11 Effect of infeed and earthing arrangements on earth fault distance measurements when the system earthed at one point only behind the relaying point	31
4.12 Effect of infeed and earthing arrangements on earth fault distance measurements when the system earthed at one point only in front of the relaying point	31
4.13 Effect of infeed and earthing arrangements on earth fault distance measurements when the system earthed at one point only in front of the relaying point but with relaying point at receiving end	32
5.1 Photo of REL 511*2.3	33