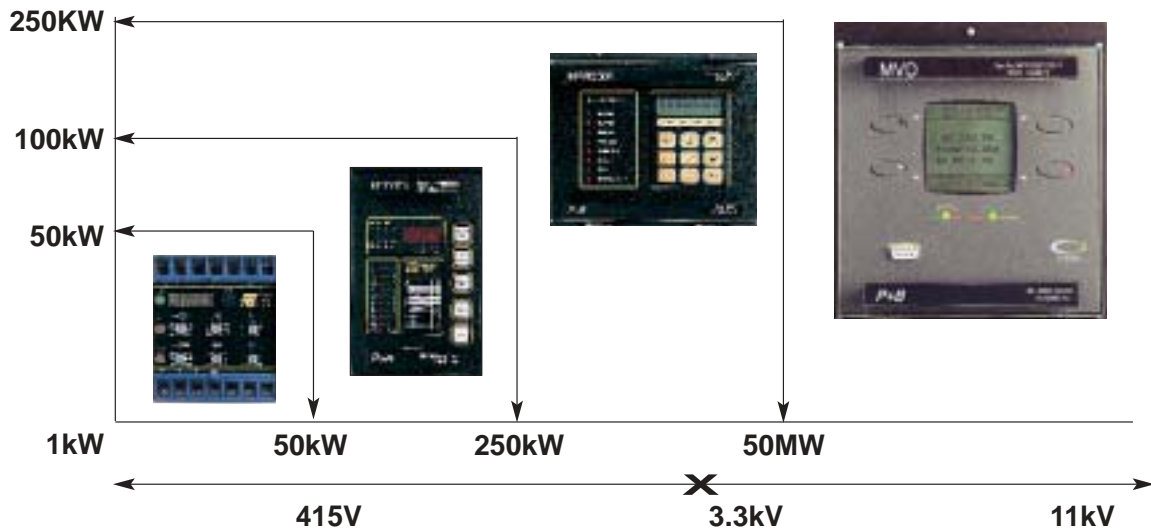


Motor Protection Selection Table



Relay Ref	MPR10	MPR3E5	MPR2000 & MPC2000D	MVD
Relay Type	Switch Set	Digital	Digital LCD	Digital Graphical LCD with Screen Saver
ANSI No.s	37/46/49/51/51n	37/46/49/50/51/50n/51n/74	23/27/30/37/38/46/48/49/50/51/50n/51/50n/51n/59	23/27/30/37/38/46/48/49/50/51/50n/51/50n/51n/59
Case size	DIN	100	200	150
Functions	Thermal Overload Locked Rotor/Stall Earth Fault (Ground) Negative Phase Sequence Undercurrent	Thermal Overload Locked Rotor/Stall High Set Overcurrent Low Set Overcurrent Phase Loss Starts Limitation Earth Fault (Ground) Negative Phase Sequence Incorrect Phase Rotation Undercurrent	Thermal Overload Locked Rotor/Stall High Set Overcurrent Low Set Overcurrent Phase Loss Starts Limitation Earth Fault (Ground) Unbalanced Incorrect Phase Rotation Undercurrent Excess Start Time 3 Ph Undervoltage 3 Ph Overvoltage Phase Sequence 3/5 Channel RTD or Thermistor Protection	Thermal Overload Locked Rotor/Stall Low/High Set Overcurrent Phase Loss & Sequence Unbalance/Undercurrent Earth Fault (Ground) Starts Limitation Excess Start Time 3 Ph Undervoltage 3 Ph Overvoltage Underfrequency Overfrequency 4/8/12/16 Channel RTD Phase Rotation Backspin
Data Displayed		Amps L1, L2, L3 % FLC Thermal Capacity Used Earth Amps Number of Starts Hours Run Last Start Amps Last Start Time Fault Type Memorised Faults Amps/Phase	Amps L1, L2, L3 % FLC Thermal Capacity Used Earth Amps Number of Starts Hours Run Last Start Amps Last Start Time Last Fault /Alarm Type Memorised Faults Amps/Volts/Temp Power KW/VA Power Factor Time to Trip/Start Line Volts Phase Volts RTD Temp Channel 1-5	Amps L1, L2, L3 % FLC Thermal Capacity Used Earth Amps Number of Starts Hours Run - Total/Since Last Time How Motor Started - Local/Remote/Serial Starting Characteristic - Last Start/Ref Start Last Start Amps/Time Last Fault/Alarm/Fault History Memorised Amps/Volts/Temp at time of Fault Power Kw/kVA/kVAR Power Factor Time to Trip/Start Line Volts/Phase Volts RTD Temp Channels Time Stamping Disturbance Recording 1 - 8 Seconds
Settings	Is/In 0.6 - 1.1 In t 6x 0-25s lu 40-80% Is le 10-50% Is	t 6x 1-120s FLC 0.5-1.25 Ct Primary CT Primary 0.5-2500A Hot/Cold Ratio 20-100% Thermal Pre-Alarm 50-99% Earth Fault Trip Current 5-40% FLC Earth Fault Trip Time 0-1s NPS Current 15,30% Low Set O/C 200, 300, 400% FLC Low Set O/C Time 0.5-5s High Set O/C 200-2000% In High Set O/C Time 0-1s Undercurrent 20-95% FLC Undercurrent Time 1-120s No of Starts/Hour 1-20 Start Inhibit 1-60m	t6x 0.5-120s FLC 1-2500A CT Primary 1-2500A E/F CT Primary 1-2500A Hot/Cold Ratio 20-100% Thermal Pre-Alarm 50-99% Load Increase Alarm 60-150% FLC Cool Time Factor 1-15 Unbalance 10-40%, Max Time 20-120s Earth Current 1-100%flc, Time 0-1s Low Set O/C 100-500% FLC, Time 0.5-10s High Set O/C 400-1200% In, Time 0-4s Undercurrent 10-90% FLC, Time 1-60s Max Start Time 1-250s No of Starts/Hour 1-10 Start Period/Inhibit Period 1-30 Minutes Undervoltage 50-95% Vn, Time 0.2-10s Overvoltage 100-120% Vn, Time 1-100s RTD/Thermistor Thermistor Type NPC PTC Channel 1 Alarm Res, Channel 2 Alarm Res, Channel 3-5 Alarm Res, Channel 1 Trip Res, Channel 2 Trip Res, Channel 3-5 Trip Res.	t6x 0.1-120s FLC 50-200% of CT Primary CT Primary 1-1500A E/F CT Primary 1-1000A Hot/Cold Ratio 20-80% Thermal Pre-Alarm 95% Load Increase Alarm 105-150% Cool Time Factor 25-2000% Unbalance 10-40% Max Time 1-60s Earth Current 5-40% Time 0.1-5s (SEF Option) High Set O/C 150-750% FLC, Time 0.3-10s Undercurrent 50-95% FLC, Time 1-60s Max Start Time 1-250s No of Starts per Hour 1-30 Start Period/Inhibit Period 1-120min Undervoltage 50-95% 0.1-60s Overvoltage 105-120% 1-60s RTD 1,4,8,12,16 channel 0-250°C Thermistor 1 Channel NPC/PTC Time 10-250s Over/Under Frequency 40-70Hz 1-60s Backspin Time 1-60s External Fault Trips 1-10 Time 0-60s
RS485	Yes (optional)	Yes	Yes	Yes

For Details of the Supervision & Microvision Motor Protection Controllers Refer To Page 12