

Protection Quick Reference Guide

Function	Description	M-3311A	M-3410A	M-3425A	M-3520	M-7651A	M-7679
21	Phase Distance			S	○		
24	Overexcitation	○		S			
25	Sync Check		S	S	S	S	S
27	Undervoltage	○	S	S	S	S	S
27B	Bus Side Voltage Supervision					S	S
27G	Undervoltage (Neutral)		S		S		
27PP	Phase to Phase Undervoltage					S	S
27TN	Third Harmonic Undervoltage (Neutral)			S			
32	Directional Power		S	S	S	S	S
40	Loss of Field		S	S		S	
46(DT/IT)	Negative Sequence Overcurrent	S	S	S	S	S	S
47	Negative Sequence Overvoltage		S		S	S	S
49	Winding thermal protection	S		S			
50/27	Inadvertent Energizing			S			
50BF	Breaker Failure	S		S		S	S
50DT	Definite time overcurrent for split-phase differential			S			
50(G/N)	Instantaneous/Definite Time Overcurrent (Neutral)	S		S	S	S	S
50GS	Sensitive Ground Pickup					○	○
50P	Instantaneous/Definite Time Overcurrent	S		S	S	S	S
50PAF	Arc Flash Overcurrent					○	
51G	Inverse Time Ground Overcurrent	S			S	S	S
51N	Inverse Time Residual Overcurrent	S	S	S		S	S
51GS	Sensitive Ground Inverse Time Overcurrent					○	○
51P	Phase Inverse Time Overcurrent	S				S	S
51V	Inverse Time Overcurrent (3-Phase with Voltage Control or Restraint)		S	S	S	S	S
59	Phase Overvoltage	○	S	S	S	S	S
59D	Third Harmonic Voltage Differential			S			
59G	Ground Overvoltage	○	S		S	as 59Vz1	
59N	Residual Overvoltage			S		S	S
59I	Peak Overvoltage		S		S	S	S

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59PP	Phase to Phase Overvoltage					S	S
60FL	VT Fuse-Loss Detection		S	S	S	S	S
64(F/B)	Field Ground/Brush Lift-Off Detection			○			
64S	100% Stator Ground Fault by 20Hz Injection			○			
67P	Phase Directional Overcurrent				S	S	S
67G	Ground Directional Overcurrent					S	S
67GS	Sensitive Ground Directional Overcurrent					○	○
67N	Residual Directional Overcurrent			S	S	S	S
67Q	Negative Sequence Directional Overcurrent					S	S
78	Out of Step Protection (Mho Characteristic)			S	○		
79	Reconnect Enable Time Delay		S		S	○	S
81(O/U)	Overfrequency/Underfrequency	○	S	S	S	S	S
81A	Underfrequency Accumulation			S			
81R	Rate of Change of Frequency			S	○	S	S
87	Phase Current Differential	S		S			
87GD	Ground (zero sequence) Differential	S		S			
87H	Phase Differential High Set Overcurrent	S					
87T	Phase Differential (Harmonic Restrained)	S					
AR	Auto Restoration		S		S	S	S
BM	Breaker Monitoring	S		S		S	S
CCM	Close Circuit Monitoring					S	S
HLT/MM	Hot-Line Tag/Maintenance Mode					S	S
TCM	Trip (Aux Input) Circuit Monitor	S		S		S	S
TF	Through Fault	S					
THD/TDD	Total Harmonic Distortion / Total Demand Distortion					S	S



S = Standard Feature

○ = Optional Feature