

TRANSFORMER PROTECTION AND MONITORING FEATURES

TRANSFORMER PROTECTION AND MONITORING	SEL-487E	SEL-387E	SEL-387	SEL-387A	SEL-787	SEL-787-3E/-3S/-4X	SEL-587	SEL-2414
APPLICATIONS								
Breaker Failure Protection	•	f	f	f	•	•	f	f
Transformer and Machine Current Differential	•	•	•	•	•	•	•	
Low-Impedance Bus Differential	•	•	•					
Underfrequency Load Shedding	•	f			+	+		
Undervoltage Load Shedding	•	f			+	+		
Three-Phase Current Inputs	5	3	4	2	2	3 or 4	2	+
Three-Phase Voltage Inputs	2	1			1*	1*		1*
PROTECTION								
24 Overexcitation (Volts/Hertz)	•	•				+		
25 Synchronism Check	•					+		
27/59 Under-/Overvoltage	•	•				+		
32 Directional Power	•					+		
46 Current Unbalance	•							
49 Equipment Thermal Monitoring	•		+	•	•	•		
50FO Flashover Protection	f	f			f	f		
50 (N,G) Overcurrent (Neutral, Ground)	•	•	•	•	•	•	•	
50P Phase Overcurrent, 50Q Negative-Sequence Overcurrent	•	•	•	•	•	•	•	
51 (N,G) Time-Overcurrent (Neutral, Ground)	•	•	•	•	•	•	•	
51P Phase Time-Overcurrent	•	•	•	•	•	•	•	
51Q Negative-Sequence Time-Overcurrent	•	•	•	•	•	•	•	
67 (P,G,Q) Directional Overcurrent (Phase, Ground, Neg. Seq.)	•							
81 Under-/Overfrequency	•	•				+		
81R Change-in-Rate-of-Frequency	f					+		
87 Current Differential	•	•	•	•	•	•	•	
REF Restricted Earth Fault	•	•	•	+	+	•		
INSTRUMENTATION AND CONTROL								
SELogic® Control Equations	•	•	•	•	•	•	•	•
Voltage Check on Closing	f	f			f	f		
Transformer Cooling Fan Control	f				f	f		•
Nonvolatile Latch Control Switches	•	•	•	•	•	•	•	•
SELogic Remote Control Switches	•	•	•	•	•	•	•	•
SELogic Local Control Switches	•	•	•	•	•	•	•	•
Display Points	•	•	•	•	•	•	•	•
Multiple Settings Groups	•	•	•	•	•	•	•	•
Substation Battery Monitor	•	•	•	•		+		f
Breaker Wear Monitor	•	•	•	•		•		
Event Report (Multicycle Data)	•	•	•	•	•	•	•	•
Sequential Events Recorder	•	•	•	•	•	•	•	•
Instantaneous and Demand Meter	•	•	•	•	•	•	•	•
Load and Temperature Profile Report	•				•	•		•
RTD (Resistance Temperature Detector) Inputs					+	+		+
Built-In Web Server	•	•						
IEEE C37.118 Synchrophasors	•				•	•		
IEC 61850	+	+			+	+		+
Simple Network Time Protocol (SNTP)	•				•	•		
Parallel Redundancy Protocol (PRP)	•							
Through-Fault Monitor	•	•	+	•	•	•	•	•
Thermal Model/SEL-2600 RTD Module Communications	•		+	•	•	•		



• Standard Feature + Model Option f This function may be created using relay elements, device word bits, analog quantities, and timers.