

Breaker Failure and Capacitor Bank Protection

Applications	SEL-352	SEL-451	SEL-487B	SEL-487V
Breaker Failure Protection, Number of Three-Phase Breakers	1	2	7	1
Bus Differential			■	
Shunt Capacitor Bank Protection		<i>f</i>		■
Underfrequency Load Shedding		<i>f</i>		<i>f</i>
Undervoltage Load Shedding	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>
Protection				
25 Synchronism Check	■	■		
27/59 Under-/Overvoltage	■	■	■	■
32/37 Power Elements	■	<i>f</i>	<i>f</i>	■
46 Current Unbalance	■	<i>f</i>	<i>f</i>	■
47 Voltage Unbalance		<i>f</i>	<i>f</i>	<i>f</i>
49 Equipment Thermal Monitoring	+	<i>f</i>		<i>f</i>
50FO Flashover Protection	■	■		■
50 (N,G) Overcurrent (Neutral, Ground)	■	■		■
50P Phase Overcurrent	■	■	■	■
50Q Negative-Sequence Time Overcurrent		■		■
51 (N,G) Time Overcurrent (Neutral, Ground)		■		■
51P Phase Time Overcurrent		■	■	■
51Q Negative-Sequence Time Overcurrent		■		■
60 (N,P) Current Unbalance (Neutral, Phase)				■
67 Directional Overcurrent		■		■
81 Under-/Overfrequency		■		■
81R Rate-of-Change of Frequency				■
87 Current Differential			■	
87V Voltage Differential	■	<i>f</i>		■
Single-Pole Trip/Close	■		■	

Instrumentation and Control	SEL-352	SEL-451	SEL-487B	SEL-487V
Open-Pole Detection		<i>f</i>	<i>f</i>	■
79 Automatic Reclosing	<i>f</i>	■	<i>f</i>	<i>f</i>
SELogic® Control Equations	■	■	■	■
Voltage Check on Closing		■		
Nonvolatile Latch Control Switches	■	■	■	■
SELogic Remote/Local Control Switches	■	■	■	■
Display Points	■	■	■	■
Multiple Settings Groups	■	■	■	■
Substation Battery Monitor	+	■	■	■
Breaker Wear Monitor	+	■		■
Voltage Sag, Swell, and Interruption (VSSI) Recording		■		■
Event Report (Multicycle Data)	■	■	■	■
Sequential Events Recorder	■	■	■	■
Instantaneous Meter	■	■	■	■
Demand Meter		■		■
Harmonic Metering				■
Software-Invertible Polarities		■		
IEC 60255-Compliant Thermal Model		■		
IEEE C37.118 Synchrophasors		■		■
IEC 61850		+	+	+
IEC 61850-9-2 Sampled Values Technology		+	+	
Built-In Web Server		■	■	■
Simple Network Time Protocol (SNTP)		■	■	■
Parallel Redundancy Protocol (PRP)		■	■	■
IEEE 1588 Precision Time Protocol Version 2 (PTPv2)		+	+	
Time-Domain Link (TiDL®) Technology		+	+	
SEL-2600 RTD Module Communications	+	■		■

Miscellaneous Features

Connectorized® (Quick Disconnect) Available	+	+	+	+
Synchrophasor Real-Time Control		■		■

■ Standard feature + Model option

f May be created using relay elements and timers