Breaker Failure and Capacitor Bank Protection Features

selinc.com/products/comparisons/breaker-failure-and-capacitor-bank-protection

■ Standard feature + Model option

ƒ This function may be created using relay elements and timers

Features	SEL-352	SEL-451	SEL-487B	SEL-487V
Applications—Breaker Failure Protection				
Number of Breakers	1 (3-phase)	2 (3-phase)	21 (single-phase)	1 (3-phase)
50BF Breaker Failure Protection	■	■	■	■
50FO Flashover Protection	■	■		■
62 Breaker Failure Timer	■	*ƒ*	*ƒ*	*ƒ*
Point-on-Wave Open/Close (Voltage and Ambient Air Temperature Compensation)	+			
Applications—Capacitor Bank Protection and Control				
Capacitor Bank Protection		*ƒ**		■
Capacitor Bank Fault Location				■
Capacitor Bank Unbalance Compensation				■
Capacitor Bank Settings Assistant Tool				■
59T IEC 60871-1 Inverse-Time Overvoltage				■
60P Phase Current Unbalance				■
60N Neutral Current Unbalance				■
87V Phase Voltage Differential				■
87VN Neutral Voltage Differential				■
Automatic Voltage Control (Voltage/VAR/Power Factor)				+
Time-of-Day Control				+
Automatic Bank Sequencing Control				+
Applications—Other				
Underfrequency Load Shedding		*ƒ*		*ƒ*
Undervoltage Load Shedding	*ƒ*	*ƒ*	*ƒ*	*ƒ*
Bus Differential			■	
General Protection				
25 Synchronism Check	■	■		
26 Insertion Resistor Thermal	■			
27/59 Under-/Overvoltage	■	■	■	■
32/37P Power Elements	■	■	*ƒ*	■
37 Undercurrent Elements		*ƒ*	*ƒ*	■
46 Current Unbalance	■	*ƒ*	*ƒ*	■
47 Voltage Unbalance		*ƒ*		*ƒ*
49 IEC 60255-149 Thermal Model		■		■
49 Equipment Thermal Monitoring	+	■		■

*The SEL-487V is preferred for capacitor bank protection and control applications.

Breaker Failure and Capacitor Bank Protection Features, Continued

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Features	SEL-352	SEL-451	SEL-487B	SEL-487V
General Protection, Continued				
50 (N,G) Overcurrent (Neutral, Ground)	■	■	*ƒ*	■
50P Phase Overcurrent	■	■	■	■
50Q Negative-Sequence Time-Overcurrent		■		■
51 (N,G) Time-Overcurrent (Neutral, Group)		■	*ƒ*	■
51P Phase Time-Overcurrent		■	■	■
51Q Negative-Sequence Time-Overcurrent		■		■
67 Directional Overcurrent		■		■
81 Under-/Overfrequency		■		■
81R Frequency Rate of Change		■		■
87R Frequency Rate of Change				■
87 Current Differential			■	
Single-Pole Trip/Close	■		■	■
Instrumentation and Control				
Open-Pole Detection		■	*ƒ*	■
79 Automatic Reclosing	*ƒ*	■	*ƒ*	*ƒ*
Synchrophasor Real-Time Control		■		■
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 Recording		■		■
Event Report (Multicycle Data)	■	■	■	■
Sequential Events Recorder	■	■	■	■
Fundamental Metering	■	■	■	■
Demand Metering		■		
Energy Metering		■		
Harmonic Metering (Up to the 15th Harmonic)				■
RMS Meter	■	■		■
IEEE C37.118 Synchrophasors		■		■
IEC 61850		+	+	+
IEC 61850 9-2LE Sampled Values		+	+	

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Features	SEL-352	SEL-451	SEL-487B	SEL-487V
Instrumentation and Control, Continued				
Simple Network Time Protocol (SNTP)		■	■	■
Parallel Redundancy Protocol (PRP)		■	■	■
IEEE 1588 Precision Time Protocol Version 2 (PTPv2)		+	+	
Time-Domain Link (TIDL) Technology		+	+	
Built-In Web Server		■	■	■
SEL-2600 RTD Module Communication	+	■		■
Miscellaneous Features				
Connectorized (Quick Disconnect) Available	+	+	+	+