

Generator Protection Features

selinc.com/products/comparisons/generator-protection

■ Standard feature + Model option

f This function may be created using settings

Features	SEL-400G	SEL-300G	SEL-700G	SEL-700GT	SEL-700GW
Applications					
Generator Protection	■	■	■	+	
Unit/Overall (Generator + Generator Step-Up [GSU]) Differential Protection	■	+	■		
Independent GSU Transformer Protection	■				
Pumped-Storage Hydro Protection	■				
Integrated Synchronizer	+		+	+	
Breaker Failure Protection	■	<i>f</i>	■	■	
Equipment Thermal Monitoring	■	+	+	+	+
Generator Intertie Protection				■	
Feeder Protection					■
Protection					
21C Compensator Distance		■	+		
21P Phase Mho Distance	■	■			
24 Overexcitation (Volts/Hertz)	■	■	■	+	
25 Synchronism Check	■	+	+	■	
27/59 Under-/Overvoltage	■	■	■	■	
27I/59I Inverse-Time Undervoltage/Overvoltage	■		■	■	
32 Directional Power	■	■	■	■	
40 Impedance-Based Loss of Field	■	■	■	+	
40 Capability-Based Loss of Field	■				
46 Current Unbalance	■	■	■	+	
46 Harmonic Current Unbalance	■				
49 Thermal Model	■		■	+	
49R Thermal Overload (RTD)	■	■	■	■	■
50 (P,N,G) Overcurrent (Phase, Neutral, Ground)	■	■	■	■	■
50Q Negative-Sequence Overcurrent	■	■	■	■	■
51 (N,G) Time Overcurrent (Neutral, Ground)	■	■	■	■	■
51 (P,Q) Time Overcurrent (Phase, Neg. Seq.)	■			■	■
60 Loss of Potential	■	■	■	■	
60 Voltage Balance Loss of Potential	■				
60 (P,N) Independent Split-Phase (Phase, Neutral)	■				
64G 100 Percent Stator Ground	■	■	+		
64G Intermittent Ground Fault Detection	■				
64F Field Ground	■	■	■	+	
67 (N,G) Directional Overcurrent (Neutral, Ground)	■		■	■	

Generator Protection Features, Continued

selinc.com/products/comparisons/generator-protection

■ Standard feature + Model option

f This function may be created using settings

Features	SEL-400G	SEL-300G	SEL-700G	SEL-700GT	SEL-700GW
Protection, Continued					
67Q Negative-Sequence Directional Overcurrent	■			■	
78 Out of Step	■	■	■		
78 Dual Zone (Generator and System) Out of Step With Pole Slip Counters	■				
78VS Vector Shift			■	■	
81 Over-/Underfrequency	■	■	■	■	
81R Rate-of-Change of Frequency	■		■	+	
87 Stator Differential	■	+	+		
Transformer Differential	■				
REF Restricted Earth Fault	■		■	+	
Separate Neutral Overcurrent	■	■	■	+	
Inadvertent Energization	■	<i>f</i>	■	+	
Flashover Protection	■	<i>f</i>	<i>f</i>		
Instrumentation and Control					
SELogic Control Equations/Remote Control Switches	■	■	■	■	■
Nonvolatile Latch Control Switches	■	■	■	■	■
Multiple Settings Groups	■	■	■	■	■
Station Battery Monitor	■	■			
Breaker Wear Monitor	■	■	■	■	■
Event Report (Multicycle Data)/Sequential Events Recorder	■	■	■	■	■
Disturbance Recording (Up to 300 Seconds)	■				
Demand Meter	■	■	■	■	■
Load Profile Report	■		■	■	■
RTD (Resistance Temperature Detector) Inputs	+	+	+	+	+
Ethernet	+		+	+	+
Built-In Web Server	+		+	+	+
EtherNet/IP			+	+	+
IEEE 1588 Precision Time Protocol (PTP)	+		+	+	+
IEC 61850	+		+	+	+
IEC 61850 Edition 2	+		+	+	+
IEC 60870-5-103			+	+	+
Parallel Redundancy Protocol (PRP)	+		+	+	+
DNP3 Serial	■		+	+	+
DNP3 LAN/WAN	+		+	+	+

Generator Protection Features, Continued

selinc.com/products/comparisons/generator-protection

■ Standard feature + Model option

f This function may be created using settings

Features	SEL-400G	SEL-300G	SEL-700G	SEL-700GT	SEL-700GW
Instrumentation and Control, Continued					
Simple Network Time Protocol (SNTP)	+		■	■	■
Modbus TCP	+		+	+	+
Modbus RTU Outstation		+	■	■	■
IEEE C37.118 Synchrophasors	■		■	■	■
Synchrophasor Protocol Edition	C37.118 2011		C37.118 2005	C37.118 2005	C37.118 2005
MIRRORED BITS Communications	■		■	■	■
Miscellaneous					
Dual Frequency Zones (Generator and System)	■				
Frequency Tracking Range	5–120 Hz	20–70 Hz	15–70 Hz	15–70 Hz	15–70 Hz
Accepts Wye or Open-Delta Voltage Transformers	■	■	■	■	
Connectorized® (Quick Disconnect) Available	+	+			