

SEL-700G-0, -1, -T, -W Generator and Inertie Protection Relay

Standard Features

- **Protection**
 - Thermal Elements
 - Overcurrent
 - Breaker Monitoring
 - Breaker Failure
- **Hardware**
 - 2 Digital Inputs (DI)
 - Slot A
 - 3 Digital Outputs (DO)
 - Slot A
 - Multimode Fiber ST (Port 2)
 - Slot B
 - IRIG-B Time Code Input
 - Slot B
- **Human Machine Interface (HMI)**
 - Display
 - Programmable Pushbuttons with Two Tri-Color LEDs each
 - 8 Target Tri-Color LEDs (6 Programmable)
- Operator Control Interface
- User Configurable Labels
- EIA-232 Port (Port F)
- Multi-language support
- **Protocols**
 - IEEE C37.118 Synchrophasors
 - Modbus RTU
 - SEL ASCII and Compressed ASCII
 - SEL Fast Meter, Fast Operate, Fast SER
 - SEL Fast Message
 - Ymodem File Transfer
 - SEL MIRRORING BITS Communications
 - Event Messenger
- **Other**
 - Instruction Manual CD
 - ACSELEATOR QuickSet SEL-5030 Software

Part Number:

0 7 0 0 G

Model Options

700G0, Basic Generator Protection with 87N, REF, 49T, 50/51, 51V/C, 46, BF, 27/59, 24, 64F, 67G/N, 32, 40, 60LOP, 81/81R	0																				
700G0+, Basic Generator Protection plus Gen 25, 64G, 21, 78, 78VS, Auto Synchronizer	0							7	4												
700G1, Basic Generator Protection plus 87, 21, 78, 78VS	1							7													
700G1+, Basic Generator Protection plus 87, Gen 25, 64G, 21, 78, 78VS, Auto Synchronizer	1							7													
700GT, Intertie Protection with 50/51, BF, 67P/Q/G, Tie 25, 27/59, 32, 60LOP, 81/81R	T							7													
700GT+, Intertie and Basic Generator Protection plus Auto Synchronizer	T							7													
700GW, Wind Generator Protection with Dual feeder 50/51, BF, 64F	W							7													

User Interface | Front Panel

English 2x16 LCD With Pushbuttons	0																				
English 5" Color Touchscreen With 8 Pushbuttons	A																				
Spanish 2x16 LCD With 8 Pushbuttons	1																				
Spanish 5" Color Touchscreen With 8 Pushbuttons	B																				

Slot A Power Supply Voltage | Slot A Digital Input Voltage

110-250 Vdc (110-240 Vac) 125 Vdc/Vac	1	A																			
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110-250 Vdc (110-240 Vac) 24 Vdc/Vac	1	B												
110-250 Vdc (110-240 Vac) 48 Vdc/Vac	1	C												
110-250 Vdc (110-240 Vac) 110 Vdc/Vac	1	D												
110-250 Vdc (110-240 Vac) 220 Vdc/Vac	1	G												
110-250 Vdc (110-240 Vac) 250 Vdc/Vac	1	H												
24-48 Vdc 125 Vdc/Vac	2	A												
24-48 Vdc 24 Vdc/Vac	2	B												
24-48 Vdc 48 Vdc/Vac	2	C												
24-48 Vdc 110 Vdc/Vac	2	D												
24-48 Vdc 220 Vdc/Vac	2	G												
24-48 Vdc 250 Vdc/Vac	2	H												

Ethernet (Port 1) | Rear Serial Port (Port 3)

o EIA-485 available only with No Ethernet or Single 10/100BASE-T Ethernet options in slot B

None EIA-232															0
None EIA-485															1
Single 10/100BASE-T EIA-232															2
Single 10/100BASE-T EIA-485															3
Single 100BASE-FX MM LC EIA-232															4
Dual 10/100BASE-T EIA-232															6
Dual 100BASE-FX MM LC EIA-232															8

IEC 61850 Protocol | DNP3 Protocol | IEC 60870-5-103 Protocol

o IEC 61850 available only for models with Ethernet options in Slot B

None															0
IEC 61850 Protocol															1
DNP3 Protocol															2
IEC 61850 Protocol DNP3 Protocol															3
IEC 60870-5-103 Protocol															4
IEC 61850 Protocol IEC 60870-5-103 Protocol															5
DNP3 Protocol IEC 60870-5-103 Protocol															6
IEC 61850 Protocol DNP3 Protocol IEC 60870-5-103 Protocol															7

Slot C | Slot C Digital Input Voltage

o Only one (1) 3 DI / 4 DO / 1 AO card per chassis

o Only one (1) 4 AI / 4 AO card per chassis

Empty																0	X
Serial Communications (EIA-232/485)																A	0
3 DI / 4 DO / 1 AO (4-20 mA Range) 125 Vdc/Vac																B	A
3 DI / 4 DO / 1 AO (4-20 mA Range) 24 Vdc/Vac																B	B
3 DI / 4 DO / 1 AO (4-20 mA Range) 48 Vdc/Vac																B	C
3 DI / 4 DO / 1 AO (4-20 mA Range) 110 Vdc/Vac																B	D
3 DI / 4 DO / 1 AO (4-20 mA Range) 220 Vdc/Vac																B	G

3 DI / 4 DO / 1 AO (4-20 mA Range) 250 Vdc/Vac																					B	H
4 DI / 4 DO Electromechanical 125 Vdc/Vac																					1	A
4 DI / 4 DO Electromechanical 24 Vdc/Vac																					1	B
4 DI / 4 DO Electromechanical 48 Vdc/Vac																					1	C
4 DI / 4 DO Electromechanical 110 Vdc/Vac																					1	D
4 DI / 4 DO Electromechanical 220 Vdc/Vac																					1	G
4 DI / 4 DO Electromechanical 250 Vdc/Vac																					1	H
4 DI / 4 DO Fast High Current Hybrid 125 Vdc/Vac																					C	A
4 DI / 4 DO Fast High Current Hybrid 24 Vdc/Vac																					C	B
4 DI / 4 DO Fast High Current Hybrid 48 Vdc/Vac																					C	C
4 DI / 4 DO Fast High Current Hybrid 110 Vdc/Vac																					C	D
4 DI / 4 DO Fast High Current Hybrid 220 Vdc/Vac																					C	G
4 DI / 4 DO Fast High Current Hybrid 250 Vdc/Vac																					C	H
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 125 Vdc/Vac																					D	A
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 24 Vdc/Vac																					D	B
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 48 Vdc/Vac																					D	C
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 110 Vdc/Vac																					D	D
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 220 Vdc/Vac																					D	G
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 250 Vdc/Vac																					D	H
8 DO Electromechanical (Form A)																					2	X
8 DI 125 Vdc/Vac																					3	A
8 DI 24 Vdc/Vac																					3	B
8 DI 48 Vdc/Vac																					3	C
8 DI 110 Vdc/Vac																					3	D
8 DI 220 Vdc/Vac																					3	G
8 DI 250 Vdc/Vac																					3	H
14 DI 125 Vdc/Vac																					4	A
14 DI 24 Vdc/Vac																					4	B
14 DI 48 Vdc/Vac																					4	C
14 DI 110 Vdc/Vac																					4	D
14 DI 220 Vdc/Vac																					4	G
14 DI 250 Vdc/Vac																					4	H
4 AI / 4 AO (±20 mA or ±10 V Range)																					6	X

Slot D | Slot D Digital Input Voltage

- o Only one (1) 3 DI / 4 DO / 1 AO card per chassis
- o Only one (1) 4 AI / 4 AO card per chassis

Empty																							0	X
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3 DI / 4 DO / 1 AO (4-20 mA Range) 125 Vdc/Vac							B	A							
3 DI / 4 DO / 1 AO (4-20 mA Range) 24 Vdc/Vac							B	B							
3 DI / 4 DO / 1 AO (4-20 mA Range) 48 Vdc/Vac							B	C							
3 DI / 4 DO / 1 AO (4-20 mA Range) 110 Vdc/Vac							B	D							
3 DI / 4 DO / 1 AO (4-20 mA Range) 220 Vdc/Vac							B	G							
3 DI / 4 DO / 1 AO (4-20 mA Range) 250 Vdc/Vac							B	H							
4 DI / 4 DO Electromechanical 125 Vdc/Vac							1	A							
4 DI / 4 DO Electromechanical 24 Vdc/Vac							1	B							
4 DI / 4 DO Electromechanical 48 Vdc/Vac							1	C							
4 DI / 4 DO Electromechanical 110 Vdc/Vac							1	D							
4 DI / 4 DO Electromechanical 220 Vdc/Vac							1	G							
4 DI / 4 DO Electromechanical 250 Vdc/Vac							1	H							
4 DI / 4 DO Fast High Current Hybrid 125 Vdc/Vac							C	A							
4 DI / 4 DO Fast High Current Hybrid 24 Vdc/Vac							C	B							
4 DI / 4 DO Fast High Current Hybrid 48 Vdc/Vac							C	C							
4 DI / 4 DO Fast High Current Hybrid 110 Vdc/Vac							C	D							
4 DI / 4 DO Fast High Current Hybrid 220 Vdc/Vac							C	G							
4 DI / 4 DO Fast High Current Hybrid 250 Vdc/Vac							C	H							
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 125 Vdc/Vac							D	A							
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 24 Vdc/Vac							D	B							
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 48 Vdc/Vac							D	C							
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 110 Vdc/Vac							D	D							
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 220 Vdc/Vac							D	G							
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 250 Vdc/Vac							D	H							
8 DO Electromechanical (Form A)							2	X							
8 DI 125 Vdc/Vac							3	A							
8 DI 24 Vdc/Vac							3	B							
8 DI 48 Vdc/Vac							3	C							
8 DI 110 Vdc/Vac							3	D							
8 DI 220 Vdc/Vac							3	G							
8 DI 250 Vdc/Vac							3	H							
14 DI 125 Vdc/Vac							4	A							
14 DI 24 Vdc/Vac							4	B							
14 DI 48 Vdc/Vac							4	C							
14 DI 110 Vdc/Vac							4	D							
14 DI 220 Vdc/Vac							4	G							

14 DI 250 Vdc/Vac																	4	H
4 AI / 4 AO (±20 mA or ±10 V Range)																	6	X
10 RTD Inputs																	9	X

Slot E | Slot E Digital Input Voltage

o Only one (1) 3 DI / 4 DO / 1 AO card per chassis

o Only one (1) 4 AI / 4 AO card per chassis

Empty																		0	X	
3 DI / 4 DO / 1 AO (4-20 mA Range) 125 Vdc/Vac																			B	A
3 DI / 4 DO / 1 AO (4-20 mA Range) 24 Vdc/Vac																			B	B
3 DI / 4 DO / 1 AO (4-20 mA Range) 48 Vdc/Vac																			B	C
3 DI / 4 DO / 1 AO (4-20 mA Range) 110 Vdc/Vac																			B	D
3 DI / 4 DO / 1 AO (4-20 mA Range) 220 Vdc/Vac																			B	G
3 DI / 4 DO / 1 AO (4-20 mA Range) 250 Vdc/Vac																			B	H
4 DI / 4 DO Electromechanical 125 Vdc/Vac																			1	A
4 DI / 4 DO Electromechanical 24 Vdc/Vac																			1	B
4 DI / 4 DO Electromechanical 48 Vdc/Vac																			1	C
4 DI / 4 DO Electromechanical 110 Vdc/Vac																			1	D
4 DI / 4 DO Electromechanical 220 Vdc/Vac																			1	G
4 DI / 4 DO Electromechanical 250 Vdc/Vac																			1	H
4 DI / 4 DO Fast High Current Hybrid 125 Vdc/Vac																			C	A
4 DI / 4 DO Fast High Current Hybrid 24 Vdc/Vac																			C	B
4 DI / 4 DO Fast High Current Hybrid 48 Vdc/Vac																			C	C
4 DI / 4 DO Fast High Current Hybrid 110 Vdc/Vac																			C	D
4 DI / 4 DO Fast High Current Hybrid 220 Vdc/Vac																			C	G
4 DI / 4 DO Fast High Current Hybrid 250 Vdc/Vac																			C	H
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 125 Vdc/Vac																			D	A
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 24 Vdc/Vac																			D	B
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 48 Vdc/Vac																			D	C
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 110 Vdc/Vac																			D	D
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 220 Vdc/Vac																			D	G
4 DI / 3 DO Electromechanical (2 Form C, 1 Form B) 250 Vdc/Vac																			D	H
8 DO Electromechanical (Form A)																			2	X
8 DI 125 Vdc/Vac																			3	A
8 DI 24 Vdc/Vac																			3	B
8 DI 48 Vdc/Vac																			3	C
8 DI 110 Vdc/Vac																			3	D

8 DI 220 Vdc/Vac						0									3	G				
8 DI 250 Vdc/Vac						0									3	H				
14 DI 125 Vdc/Vac						0									4	A				
14 DI 24 Vdc/Vac						0									4	B				
14 DI 48 Vdc/Vac						0									4	C				
14 DI 110 Vdc/Vac						0									4	D				
14 DI 220 Vdc/Vac						0									4	G				
14 DI 250 Vdc/Vac						0									4	H				
4 AI / 4 AO (±20 mA or ±10 V Range)						0									6	X				
3-Phase 1 Amp AC Current Input / 3-Phase AC Voltage (300 Vac) Input and Vsync Input (SELECT 3 ACI / 4 AVI)						T									7	1				
3-Phase 5 Amp AC Current Input / 3-Phase AC Voltage (300 Vac) Input and Vsync Input (SELECT 3 ACI / 4 AVI)						T									7	5				
3-Phase 1 Amp AC Current Input / Vsync Input and Vn (300 Vac) Input (SELECT 3 ACI / 2 AVI)						1									7	2				
3-Phase 5 Amp AC Current Input / Vsync Input and Vn (300 Vac) Input (SELECT 3 ACI / 2 AVI)						1									7	6				
3-Phase 1 Amp AC Current Input (SELECT 3 ACIE) o 700G1 and 700GW models only															7	3				
3-Phase 5 Amp AC Current Input (SELECT 3 ACIE) o 700G1 and 700GW models only															7	7				
Vsync Input and Vn Input (300 Vac) (SELECT 2 AVI)						0									7	4				

Slot Z Current and/or Voltage Inputs

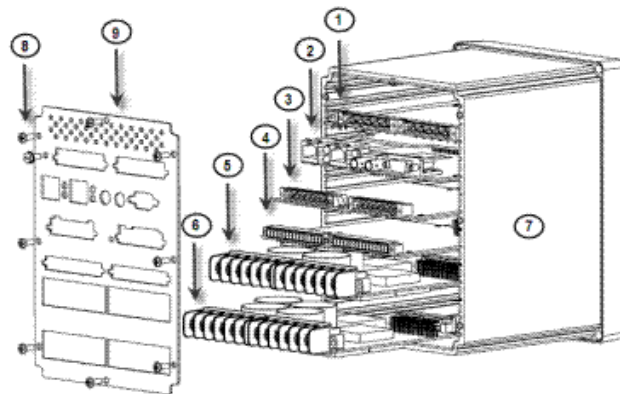
3-Phase 1 Amp AC Current Input / 1 Amp Neutral AC Current Input / 3-Phase AC Voltage (300 Vac) (SELECT 4 ACI / 3 AVI) o 700G0, 700G0+, 700G1, 700G1+, 700GT+ models only															8	1				
3-Phase 5 Amp AC Current Input / 5 Amp Neutral AC Current Input / 3-Phase AC Voltage (300 Vac) (SELECT ACI / 3 AVI) o 700G0, 700G0+, 700G1, 700G1+, 700GT+ models only															8	5				
3-Phase 1 Amp AC Current Input / 5 Amp Neutral AC Current Input / 3-Phase AC Voltage (300 Vac) (SELECT 4 ACI / 3 AVI) o 700G0, 700G0+, 700G1, 700G1+, 700GT+ models only															8	2				
3-Phase 5 Amp AC Current Input / 1 Amp Neutral AC Current Input / 3-Phase AC Voltage (300 Vac) (SELECT 4 ACI / 3 AVI) o 700G0, 700G0+, 700G1, 700G1+, 700GT+ models only															8	6				
3-Phase 1 Amp AC Current Input (SELECT 3 ACIZ)						W									8	3				
3-Phase 5 Amp AC Current Input (SELECT 3 ACIZ)						W									8	7				
1 Amp 1-Neutral AC Current Input (SELECT 1 ACI)						T									8	4				
5 Amp 1-Neutral AC Current Input (SELECT 1 ACI)						T									8	8				

Conformal Coat

None																				0
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- Download ACSELEATOR QuickSet SEL-5030 software for free at <https://www.selinc.com/software/solutions/>. ACSELEATOR QuickSet on CD (503001WX4) is available upon request.
- The SEL-700G comes standard with a CD manual. One complimentary printed instruction manual is available upon request with each product purchased.
- A configuration kit is provided for the front panel configurable labels (packaged in the shipping box). For additional kits, order SEL part number 9260136 (2 Sheet Kit) or 9260137 (25 Sheet Kit).
- For additional remote I/O capability, order SEL-2505 Remote I/O Module that is SEL-2812 compatible (ST option only).
- Order external AC powered RTD module SEL-2600A or external DC powered RTD module SEL-2600D using WI-5997 to interface remote external resistive temperature devices (RTD) or use internal RTD inputs option in Slot D.
- If 64F (Field Ground) Protection is desired, order Field Ground Module SEL-2664 (WI-5752) with SEL-C807 (WI-4132) Fiber-optic cable. Additionally, if using SEL-2664 on port 3 order SEL-2812Mx (WI-4600).
- The SEL-700G option cards are orderable separately for field installation. Use WI-5932 and contact your SEL representative to order option cards.
- For relay wire termination kits, please see Application Note AN2014-08 on the SEL website or contact SEL REP or CSR for ordering information.
- For SEL-700G Mounting Accessories including adapter plates, dust protectors, etc go to <https://selinc.com/applications/mountingselector/>.
- ACSELEATOR Bay Screen Builder SEL-5036 software is available with touchscreen models.
- All Digital Outputs are Form-A unless noted otherwise.

Chassis Card Slot Configuration Example



- | | |
|---|--------------------------------|
| ① SELECT Power Supply Card with I/O (Slot A) | ⑥ SELECT ACI/AVI Card (Slot Z) |
| ② SELECT Processor and Communications Card (Slot B) | ⑦ Device Case |
| ③ SELECT I/O Expansion Card (Slot C) | ⑧ Rear Panel Mounting Screws |
| ④ SELECT I/O Expansion Card (Slot D) | ⑨ Rear Panel |
| ⑤ SELECT I/O Expansion Card (Slot E) | |

Making Electric Power Safer, More Reliable, and More Economical®

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