

PIERBORNE

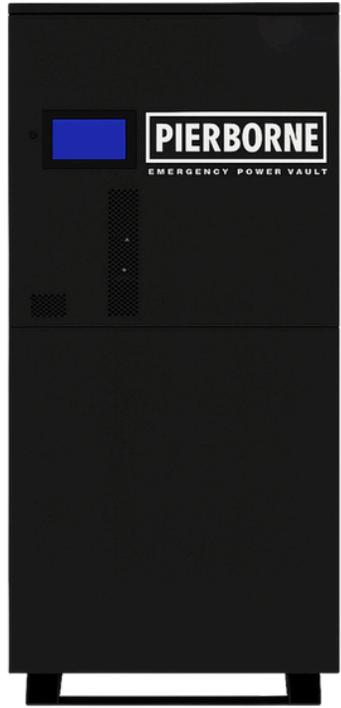
UL924 SEL INVERTER

SINGLE PHASE EMERGENCY LIGHTING INVERTER SYSTEM
0.675 kW-10.0 kW | 120/208/240/277/480V



APPLICATIONS

- ✓ Educational Facilities
- ✓ Healthcare Facilities
- ✓ Bridges & Tollbooths
- ✓ Sports Arenas
- ✓ Retail Stores & Movie Theaters
- ✓ Transit Infrastructure
- ✓ Hotels & Casinos
- ✓ Office and Industrial Complexes
- ✓ Government Buildings
- ✓ Data Centers, Colocations & Mission Critical



The **SAFE CHOICE** for your emergency egress building lighting support



SEL

The SEL full range of centralized lighting inverters extends from 0.675 kW to 10 kW and provides secure, conditioned back up power for all emergency lighting applications.

The Voltage and Frequency Independent (VFI) design ensures a continual clean supply of power and provides exceptional voltage regulation, allowing drivers and ballasts on the SEL-protected circuit to be fully operational when most need-ed. With the highest level of power protection available, a full range of power capacities to fit installation needs, and one of the best warranties in the industry, the SEL is the ideal solution for all emergency lighting requirements. The complete range of the SEL can also have a secondary UL 1778 listing, required for UPS applications.

HIGHEST LEVEL OF SECURE POWER PROTECTION AVAILABLE

All SEL Emergency Lighting Inverters are designed to the highest, most secure, and dependable power protection topology.

0.675 TO 2.7 KW LINE INTERACTIVE TOPOLOGY

The 0.675 to 2.7 kW SEL line interactive design allows power efficiencies up to 95% while keeping emergency loads fully energized.

4.2 KW TO 10 KW DOUBLE CONVERSION TOPOLOGY

The SEL 4.2 kW to 10 kW double conversion design protects against power fluctuations, including frequency and harmonic variations on the utility line, fully protecting the attached devices.

UNINTERRUPTIBLE TRANSFER TO BATTERY

When the utility power drops below acceptable voltage or fails altogether, the SEL will seamlessly continue delivering clean, reliable power to the protected load(s).

FULLY AUTOMATIC NFPA 101 SELF DIAGNOSTICS AND TESTING

The SEL system conducts fully automatic self tests annually, monthly, and weekly to fulfill rigorous test requirements of NFPA 101. Test results are stored locally, and can be communicated remotely.

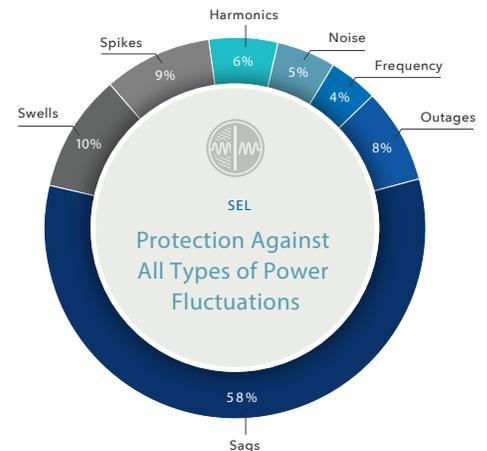
SITE FLEXIBILITY

MULTIPLE VOLTAGE CONFIGURATIONS

Capable of operation in 120/208/240/277/480V, the SEL allows the user to operate with multiple output voltages via a single cabinet.

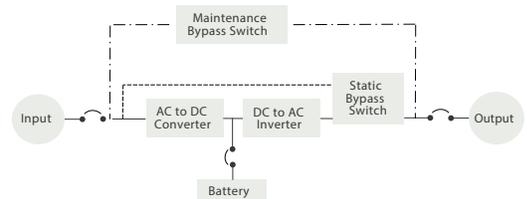
MULTIPLE COMMUNICATION OPTIONS

As site capabilities vary, so do the SEL communication capabilities. The user may view inverter operating status and parameters via web-enabled SNMP, relay contacts, MODBUS or optional Form C contacts to alert the user to status changes. Serial and USB ports are included as standard for local and/or remote monitoring.



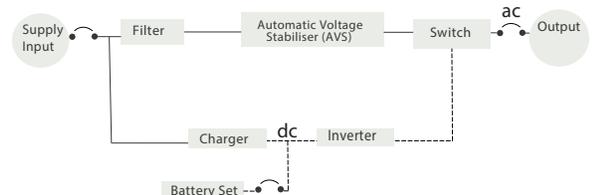
DOUBLE CONVERSION TOPOLOGY: 4.2-10 KW

Operation: — Normal --- Standby - - - Maintenance



LINE INTERACTIVE TECHNOLOGY: 0.675-2.7 KW

Operation: — Normal --- Standby





OPTIONS

PROTECTIVE OUTPUT CIRCUIT BREAKERS

Up to 10 output breakers available for 0.675 - 2.7 kW and up to 20 for 4.2 - 10 kW. Breaker combinations may be made for distribution of varying load types and sizes (e.g. combination of 20A and 30A; combination of single and 2-pole).

90 MINUTE BATTERY AND ALTERNATE RUNTIMES

Fully designed and certified to meet stringent UL924 agency requirements, the SEL 924 can also be offered with user-defined battery configurations under the UL924 OUST provision with battery runtimes less than or greater than the standard spec rating of 90 minutes.

NORMALLY OFF/NORMALLY OFF HOLD

Normally Off = no output power is delivered from the inverter until the utility fails or goes out of inverter tolerance. Normally Off Hold = no output power delivered until utility fails. When utility is restored, the user may define a grace period before the inverter output power is turned off. The load remains supported by the inverter for a period after the utility returns to protect against any fluctuating 'ghost' utility return.

SITE INTEGRATION

LOW INPUT DISTORTION

The SEL IGBT rectifier design delivers a low input total harmonic distortion (THDi) and high input power factor. An attached generator set may be sized 1:1 to the UPS capacity. Input, output and bypass breakers and installation cabling size-and cost-are reduced. The inverter may be sized on actual load requirements.

INTEGRATED INTERNAL WRAP-AROUND BYPASS

In the event of overload or over-temperature, the inverter will continue to supply power to the load as long as utility is present. The inverter may be isolated from the circuit for routine maintenance without risking disruption to the attached load.

MINI FRAME OPTION FOR SMALLER FOOTPRINT INSTALLATIONS (0.675-1.35 kW)

For wall mounting and reducing overall space required, the SEL comes with a Mini Frame Cabinet option. This design simplifies the system for low power applications making installation easy and accessible. Overall height is reduced by 22 inches, while the depth is reduced down to 15 inches and weight is reduced significantly. Touchscreen user interface, NFPA testing, alternate run times, and seismic kits are not available with this cabinet.

INTUITIVE USER INTERFACE

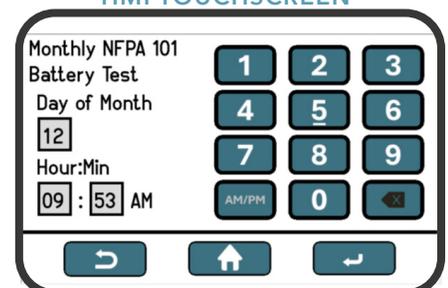
MULTIFUNCTION LCD USER TOUCHSCREEN INTERFACE

Displays clear immediate operational data including voltage, frequency, load, and battery status. Easy navigation and intuitive programming capabilities to adjust for specific site or load requirements. User programming available for setting up and scheduling automatic testing.

SERVICE SCREEN

Troubleshooting at a glance. The event log captures the prior 999 events. In addition, settings, controls, and measurements of the inverter, are immediately accessible and adjustable. Easy access to NFPA 101 Automatic Testing results as required by code.

HMI TOUCHSCREEN



PRODUCT SELECTION CONVENTION

EXAMPLE MODEL NUMBER

SEL 013 1 1 5 A 2 A A X 05 C 02 Q DM

Model	Capacity	Voltage			Options					Output Protection Devices				DM
Model	Capacity ^{5,6,7}	Input Voltage	Output Voltage		Cabinet	Communication ⁴	Maintenance Bypass	Runtime	Normally Off Hold	Output Circuit Breakers				Custom Options
			1	2						Output Voltage 1		Output Voltage 2		
										Qty	Type ¹	Qty	Type ²	
SEL	006 0.675 kW	1 120VAC	1 120VAC	0 Single Output	A NEMA 1	1 None	A Standard	A 90 mins	X None	00-20	X None	00-20	X None	— None
	009 0.900 kW	2 208VAC	2 208VAC		B NEMA 12	2 SNMP Card	B Internal Maintenance Bypass Switch	B 120 mins	1 Output 1		A 15A, 1-Pole		A 15A, 1-Pole	DF Dead front panels
	013 1.35kW	3 240VAC	3 240VAC	1 120VAC	C NEMA 3R	3 Dry Contacts ⁸ (serial)		C 60 mins			B 20A, 1-Pole		B 20A, 1-Pole	LB Batteries shipped separately
	018 1.8 kW	4 480VAC	4 480VAC	2 208VAC	D NEMA 4X	4 Dry Contacts ⁸ (hardwired)		D 240 mins			C 25A, 1-Pole		C 25A, 1-Pole	78 UL 1778 Only
	027 2.7 kW	5 277VAC	5 277VAC	3 240VAC	E MINI FRAME	5 Environmental Kit + SNMP Card		E 180 mins			D 30A, 1-Pole		D 30A, 1-Pole	DM Dimmer dry contacts ³
	042 4.2 kW			5 277VAC				F 30 mins			E 35A, 1-Pole		E 35A, 1-Pole	OM OCB Monitoring
	060 6.0 kW										F 40A, 1-Pole		F 40A, 1-Pole	
	080 8.0 kW										G 50A, 1-Pole		G 50A, 1-Pole	
	100 10.0 kW										H 60A, 1-Pole		H 60A, 1-Pole	
											K 15A, 2-Pole		K 15A, 2-Pole	
											L 20A, 2-Pole		L 20A, 2-Pole	
											M 25A, 2-Pole		M 25A, 2-Pole	
											N 30A, 2-Pole		N 30A, 2-Pole	
											P 35A, 2-Pole		P 35A, 2-Pole	
											Q 40A, 2-Pole		Q 40A, 2-Pole	
											R 50A, 2-Pole		R 50A, 2-Pole	
											S 60A, 2-Pole		S 60A, 2-Pole	
											T 80A, 2-Pole		T 80A, 2-Pole	

¹ Up to 10 poles can be housed on the 0.675 - 2.7 kW inverters
² Up to 20 poles can be housed on the 4.2 - 18.0 kW inverter
³ Dimmer Option uses 3 Pole Positions; allows for 1 zone override
⁴ Only One Communication Selection
⁵ 0.675-2.7 kW "Line Interactive"
⁶ 4.2-10 kW "Double Conversion"
⁷ USL series for 10.8, 16.0, 18.0 kW.
⁸ Standard on all units; For Mini-Frame, all Dry Contacts are optional



Mini Frame

Small Frame

Medium Frame

Frame Size	Mini			Small					Medium			
Kw Capacity	0.675	0.9	1.35	0.675	0.9	1.35	1.8	2.7	4.2	6	8	10
Dimensions: W" x D" x H"	25" x 15" x 33.7"			25.2" x 25.23" x 58.31"					30.2" x 31" x 71.32"			
90 Minute Max Weight: lbs	300	355	405	700 lbs	755 lbs	805 lbs	965 lbs	1060 lbs	1604 lbs	1978 lbs	2146 lbs	2296 lbs

Frame Size	Mini			Small					Medium			
Kw Capacity, Single Phase	0.675	0.9	1.35	0.675	0.9	1.35	1.8	2.7	4.2	6	8	10
Topology	Line Interactive								Double Conversion			
Input												
Voltage	120/208/240/277/480VAC											
Protection	Input Circuit Breaker											
Frequency Range	54-66 Hz								56-64 Hz			
Power Factor	≤0.99 at 100% load											
Output												
Voltage	120/208/240/277/347/480VAC Multi-tap Transformer for multiple output voltages											
AC Voltage Regulation	±10%								±1%			
Frequency	60Hz ±1%											
Overload Withstand	100-110%: 20 sec/110-125%: 10 sec/ > 150%: 1 sec								100-110%: 10 min/ 110-130%: 1 min / >130%: 1 sec			
Transfer Time to Battery	6 ms								0 ms			
Waveform	Pure sinewave, all operating modes											
Protection	Optional distribution circuit breakers											
Battery												
Battery Type	Sealed valve regulated lead calcium, 12V											
Battery Quantity	3			6			12		20			
Charge Current	3A								4A			
Recharge	12-24 hours typical (90 minute battery) / 42 hours maximum											
Disconnect	DC breaker											
Protection	End of discharge cutoff voltage; temperature compensated charging											
Environment												
Operating Temperature	32-104 °F (0-40 °C) ; battery life decreased when > 77°F (25°C											
Operating Humidity	0-95% non-condensing											
Operating Altitude	3280ft (1000m) ¹											
Communication												
Smart Communication Port	RS232 and USB communication as standard											
Certifications												
Safety Conformity	UL924 OUST and UL1778											
Seismic Certification & Radiated Emission	IBC: Category D via calculations, FCC Part 15 Class A											
Options												
Distributed Circuit Breakers (maximum)	6			10			20					
Manual Bypass Switch	Integrated											
Communications Card	TCP/IP with SNMP, ModBus, & BACNET											
Dry Contacts	Active-open or Active-closed 1A (24Vdc) dry contacts with Output Dry Contacts Communication Options											
Standards												
Listing	Conformance to NFPA 101, NFPA 70, NEC and OSHA regulations. Compliant with City of New York and City of Chicago requirements. Adherent to Buy America Act											
¹ Above 1000m, output power must be derated 1% per additional 100m ² Always reference Spec Control Drawing (SCD) for the most current & accurate dimensions and weights ³ Including batteries once installed												

WARRANTY

ELECTRONICS

A full Year with Telephone Startup is standard. Two Years with purchase of Factory Field Startup.

BATTERY

A full One Year Warranty on the Battery System ensures that your batteries are protected from system failure now and in the future. Extended warranties, customized service plans and preventative maintenance are also available. Please refer to our warranty statement for complete details.