



# STACO 924

## SINGLE PHASE EMERGENCY LIGHTING INVERTER SYSTEM (ELIS)

0.75 kW-27.0 | 120/208/240/277/480V

### APPLICATIONS INCLUDE

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

**The safe choice for your  
emergency egress building  
lighting support**





# STACO 924

The Staco 924 full range of centralized lighting inverters extends from 0.75kW to 27kW 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 Staco 924-protected circuit to be fully operational when most needed. 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 Staco 924 is the ideal solution for all emergency lighting requirements.

## HIGHEST LEVEL OF SECURE POWER PROTECTION AVAILABLE

### TRUE ON-LINE DOUBLE CONVERSION TOPOLOGY

All Staco 924 Emergency Lighting Inverters are designed to the highest, most secure, and dependable power protection topology. Unlike line interactive or fast transfer technologies, the Staco 924 double conversion design protects against ALL types of power fluctuations, including frequency and harmonics variations on the utility line, that may cause damage to attached devices.

### NO-BREAK TRANSFER TO BATTERY

When the utility power drops below acceptable voltage or fails altogether, the Staco 924 will seamlessly continue delivering clean, conditioned power to the protected load(s).

### PARALLEL FOR CAPACITY

The Staco 924 single units may be paralleled to increase power, providing up to 27kW available capacity.

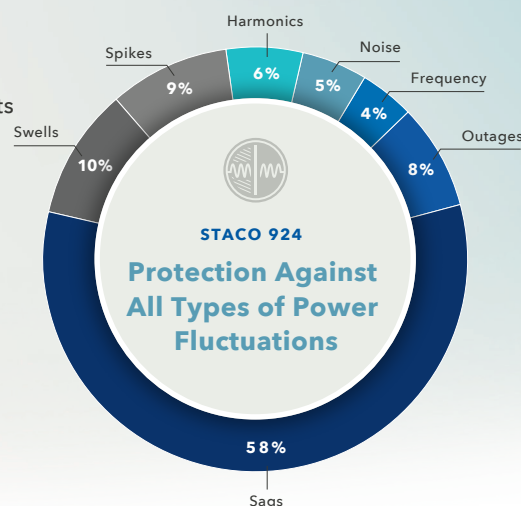
## SITE FLEXIBILITY

### MULTIPLE VOLTAGE CONFIGURATIONS

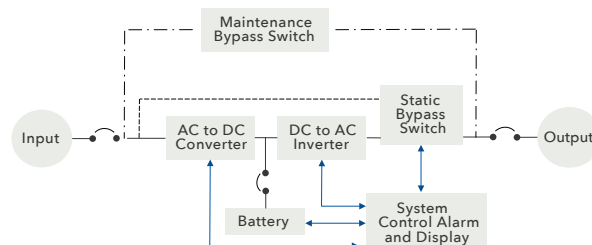
Capable of operation in 120/208/240/277/480V, the Staco 924 allows the user to operate with multiple output voltages via a single cabinet.

### MULTIPLE COMMUNICATION OPTIONS

As site capabilities vary, so do the Staco 924 communication capabilities. The user may view inverter operating status and parameters via web-enabled SNMP, relay contacts, MODBUS or optional C-contacts to alert the user to status changes. Serial and USB ports are included as standard for local and/or remote monitoring.



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







## OPTIONS

### PROTECTIVE OUTPUT CIRCUIT BREAKERS

Up to 10 output breakers available for 0.75 – 3 kW and up to 20 for 4.2 – 27 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 OUST

Fully designed and certified to meet stringent UL924 agency requirements, the Staco 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 ON

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 Staco 924 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.

### BACKFEED PROTECTION AND DC DISCONNECT PROTECTION

For maximum site safety, the Staco 924 includes a backfeed relay, eliminating the risk of any current feeding through the unit during maintenance operations. The DC breaker in the battery bank also removes any direct current risk for the installer, user, or service provider, to protect against any fluctuating 'ghost' utility return.

## INTUITIVE USER INTERFACE

### MULTIFUNCTION LCD USER 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.

### 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.



PRODUCT SELECTION CONVENTION

EXAMPLE MODEL NUMBER

USL 011 1 1 5 - A 2 A A X 05 C 02 Q A 00

Model	Capacity	Voltage			Options					Output Protection Devices					
Model	Capacity	Input Voltage	Output Voltage		Cabinet	Communication <sup>4</sup>	Maintenance Bypass	Runtime	Normally Off Hold	Output Circuit Breakers				Dimmer Option <sup>3</sup>	Custom Options
			1	2						Qty	Type <sup>1</sup>	Qty	Type <sup>2</sup>		
USL	007 0.75 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	A None	00 None
	009 0.95 kW	2 208VAC	2 208VAC	1 120VAC	B SEISMIC Kit <sup>5</sup>	2 SNMP Card	B Wrap Around	B 120 mins	1 Output 1		U 10A, 1 Pole		W 10A, 1 Pole	B Dimmer Dry Contacts	01 Dead front panels <sup>5</sup>
	011 1.15kW	3 240VAC	3 240VAC	2 208VAC	C NEMA 3R	3 Relay Card (serial)		C 60 mins	2 Output 2		4 10A, 2 Pole		6 10A, 2 Pole		
	017 1.75 kW	5 277VAC	4 277VAC	3 240VAC	D NEMA 4X	4 Relay Card (hardwired)		D 240 mins	3 Output 1 & 2		Z 15A, 1 Pole		2 15A, 1 Pole		02 Batteries installed at factory <sup>5</sup>
	024 2.5 kW	4 480VAC	5 480VAC	5 277VAC				E 45 mins			8 15A, 2 Pole		A 15A, 2 Pole		
	030 3.0 kW					5 Environmental Kit					C 20A, 1 Pole		L 20A, 1 Pole		
	042 4.2 kW					6 External SNMP & Relay Card (serial) <sup>6</sup>					E 20A, 2 Pole		N 20A, 2 Pole		LB Batteries shipped separately
	060 6.0 kW					7 External SNMP & Relay Card (hardwired) <sup>6</sup>					G 30A, 1 Pole		Q 30A, 1 Pole		
	080 8.0 kW					8 External SNMP & Environmental Kit <sup>6</sup>					J 30A, 2 Pole		S 30A, 2 Pole		
	100 10.0 kW										V 10A, 1 Pole <sup>7</sup>		Y 10A, 1 Pole <sup>7</sup>		
	108 10.8 kW										5 10A, 2 Pole <sup>7</sup>		7 10A, 2 Pole <sup>7</sup>		
	160 16.0 kW										1 15A, 1 Pole <sup>7</sup>		3 15A, 1 Pole <sup>7</sup>		
	180 18.0 kW										9 15A, 2 Pole <sup>7</sup>		B 15A, 2 Pole <sup>7</sup>		
	240 24.0 kW										D 20A, 1 Pole <sup>7</sup>		M 20A, 1 Pole <sup>7</sup>		
	270 27.0 kW										F 20A, 2 Pole <sup>7</sup>		P 20A, 2 Pole <sup>7</sup>		
										H 30A, 1 Pole <sup>7</sup>		R 30A, 1 Pole <sup>7</sup>			
										K 30A, 2 Pole <sup>7</sup>		T 30A, 2 Pole <sup>7</sup>			

<sup>1</sup> Up to 10 poles can be housed on the 0.75 - 3.0 kW inverters  
<sup>2</sup> Up to 20 poles can be housed on the 4.2 - 27.0 kW inverter  
<sup>3</sup> Dimmer Option uses 3 Pole Positions  
<sup>4</sup> Only One Communication Selection  
<sup>5</sup> Large Cabinet Only  
<sup>6</sup> External SNMP Card requires external 120V source  
<sup>7</sup> With Trip Alarm



Small Frame



Large Frame

Frame Size	Small						Large				Paralleled					
Kw Capacity	0.75	0.95	1.15	1.75	2.5	3	4.2	6	8	10	10.8 <sup>1</sup>	16 <sup>1</sup>	18 <sup>1</sup>	24 <sup>2</sup>	27 <sup>2</sup>	
Inverter																
Shipping Dimension H" x W" x D"	42.75 x 36 x 42						62.75 x 52.5 x 42				62.75 x 105 x 42		62.75 x 157.5 x 42			
MAX Shipping Weight (lbs)	295	311	314	331	377	493	871		877		1742	1754		2631		
Batteries <sup>3</sup>																
Shipping Dimension H" x W" x D"	14 x 38 x 44						13 x 38 x 44		14 x 38 x 44							
Shipping Weight (lbs)	122	139	181	277	415	463	550		823	1206	1384	1646	2412	2768	3618	4152
<sup>1</sup> 2 paralleled units <sup>2</sup> 3 paralleled units <sup>2</sup> Batteries ship separately but are installed integral to the inverter cabinet																

STACO 924 TECHNICAL SPECIFICATIONS

Frame Size	Small						Large				Paralleled					
Kw Capacity	0.75	0.95	1.15	1.75	2.5	3	4.2	6	8	10	10.8 <sup>1</sup>	16 <sup>1</sup>	18 <sup>1</sup>	24 <sup>2</sup>	27 <sup>2</sup>	
Input																
Voltage	120/208/240/277/480VAC															
Protection	Input Circuit Breaker															
Frequency Range	56-64 HZ															
Power Factor	≤0.99 at 100% load															
Output																
Voltage	120/208/240/277/480VAC Multi-tap Transformer for multiple output voltages															
AC Voltage Regulation	±1%															
Frequency	60Hz ±1%															
Overload Withstand	100-110%: 10 min/ 110-130%: 1 min / >130%: 1 sec															
Transfer Time to Battery	0 ms															
Waveform	Pure sinewave, all operating modes															
Protection	Optional distribution circuit breakers															
Battery																
Battery Type	Sealed valve regulated lead calcium, 12V															
Battery Quantity	2	3	4	6	20				2x20			3x20				
Charge Current	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)															
Operating Humidity	0-95% non-condensing															
Operating Altitude	3280ft (1000m) <sup>3</sup>															
Communication																
Smart Communication Port	RS232 and USB communication as standard															
Certifications																
Safety Conformity	UL924 (10th edition), UL1778, IEC/EN 62040-1															
EMI Conducted & Radiated Emission	IEC/EN 62040-2, FCC Part 15 Class A															
EMS	IEC/EN 61000-4-2, IEC/EN 61000-4-3, IEC/EN 61000-4-4, IEC/EN 61000-4-6, IEC/EN-4-8, IEC/EN 61000-2-2															
Surge	IEC/EN 61000-4-5 Level 4															
Options																
Distributed Circuit Breakers (maximum)	10						20									
Manual Bypass Switch	Integrated															
Communications Card	SNMP web-enabled network card; AS400 opto-isolated contacts card: MODBUS card															
Dry Contacts	Active-open or Active-closed 1A (24Vdc) dry contacts															
Physical <sup>4</sup>																
Dimensions H" x W" x D" (mm)	37 x 25.25 x 30.25 (940 x 641 x 768)						57 x 39.25 x 31 (1448 x 997 x 787)				57 x 78.5 x 31 (1448 x 1991 x 787)			57 x 117.75 x 31 (1448 x 2991 x 787)		
MAX Installed Weight (lbs) <sup>5</sup>	410	427	470	577	754	914	1374	1618	1999	2167	3236	3998	4334	5998	6500	
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															
<sup>1</sup> 2 paralleled units <sup>2</sup> 3 paralleled units <sup>3</sup> Above 1000m, output power must be derated 1% per additional 100m <sup>4</sup> Always reference Spec Control Drawing (SCD) for the most current & accurate dimensions and weights <sup>5</sup> 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.

# STACO SERVICE

## FIELD SERVICE PROGRAM

Staco specializes in providing choice and flexibility by developing tailored solutions for preventive and remedial maintenance services, as well as emergency repairs for all of our products. Staco Service is built upon a nationwide network of highly trained and motivated customer support engineers and technicians who can provide professional services and care throughout the life of your equipment.

- Start-Ups
- Preventive Maintenance
- Spare Parts
- Battery Analysis/Refresh/Replacement
- On-Site Training
- Time & Material Services

## WHY STACO ENERGY PRODUCTS?

### BECAUSE WE ARE YOUR TAILORED POWER SOLUTIONS PROVIDER!

Unique application design demands, harsh environment concerns, the need to meet non-standard physical space requirements; providing the "not so usual" is what we do best. From leading edge uninterruptible power supplies, power conditioners, power factor and harmonic correction equipment, to the world's most stable voltage control systems, we have the technology you need to protect and manage your business, and the knowledge to make it work for you.

Since 1937, customers worldwide have relied on Staco Energy as their tailored solutions provider, to solve a wide range of electrical power problems. Headquartered in Miamisburg, Ohio, Staco Energy Products is a wholly owned subsidiary of Components Corporation of America, located in Dallas, Texas.

### Voltage Control



### UPS & Emergency Lighting



### Power Factor & Harmonics



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PRODUCTS CO.<sup>®</sup>

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