STACO ENERGY® PRODUCTS CO.

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

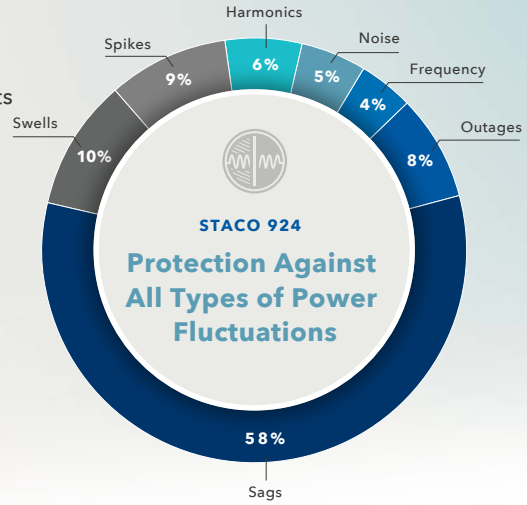
The Staco 924 full range of centralized lighting inverters extends from 0.75kW to 27kW and provides secure, conditioned back up power for all emergency lighting applications.

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.

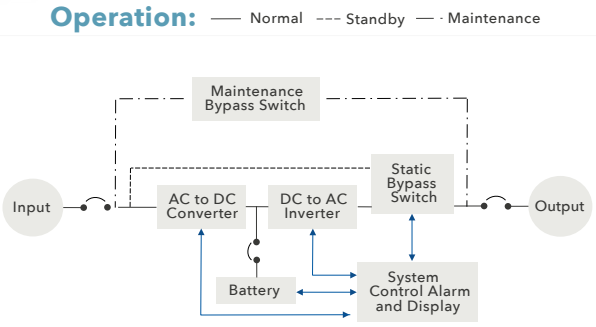
SITE FLEXIBILITY

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.



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 1	Output Voltage 2	Cabinet	Communication[4]	Maintenance Bypass	Runtime	Normally Off Hold	Output Circuit Breakers Qty	Output Circuit Breakers Type[1]	Output Circuit Breakers Qty	Output Circuit Breakers Type[2]	Dimmer Option[3]	Custom Options
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[5]	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[5]
	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		02 Batteries installed at factory[5]
	017 1.75 kW	4 480VAC	4 480VAC	3 240VAC	D NEMA 4X	4 Relay Card (hardwired)		D 240 mins	3 Output 1 & 2		Z 15A, 1 Pole		2 15A, 1 Pole		LB Batteries shipped separately
	024 2.5 kW	5 277VAC	5 277VAC	5 277VAC		5 Environmental Kit		E 45 mins			8 15A, 2 Pole		A 15A, 2 Pole		
	030 3.0 kW					6 External SNMP & Relay Card (serial)[6]					C 20A, 1 Pole		L 20A, 1 Pole		
	042 4.2 kW					7 External SNMP & Relay Card (hardwired)[6]					E 20A, 2 Pole		N 20A, 2 Pole		
	060 6.0 kW					8 External SNMP & Environmental Kit[6]					G 30A, 1 Pole		Q 30A, 1 Pole		
	080 8.0 kW										J 30A, 2 Pole		S 30A, 2 Pole		
	100 10.0 kW										V 10A, 1 Pole[7]		Y 10A, 1 Pole[7]		
	108 10.8 kW										5 10A, 2 Pole[7]		7 10A, 2 Pole[7]		
	160 16.0 kW										1 15A, 1 Pole[7]		3 15A, 1 Pole[7]		
	180 18.0 kW										9 15A, 2 Pole[7]		B 15A, 2 Pole[7]		
	240 24.0 kW										D 20A, 1 Pole[7]		M 20A, 1 Pole[7]		
	270 27.0 kW										F 20A, 2 Pole[7]		P 20A, 2 Pole[7]		
											H 30A, 1 Pole[7]		R 30A, 1 Pole[7]		
											K 30A, 2 Pole[7]		T 30A, 2 Pole[7]		

[1] Up to 10 poles can be housed on the 0.75 - 3.0 kW inverters
[2] Up to 20 poles can be housed on the 4.2 - 27.0 kW inverter
[3] Dimmer Option uses 3 Pole Positions
[4] Only One Communication Selection
[5] Large Cabinet Only
[6] External SNMP Card requires external 120V source
[7] 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[1]	16[1]	18[1]	24[2]	27[2]
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[3]															
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

[1] 2 paralleled units
[2] 3 paralleled units
[2] 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[1]	16[1]	18[1]	24[2]	27[2]
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)[3]														
Communication															
Smart Communication Port	RS232 and USB communication as standard														
Certifications															
Safety Confirmity	UL924 (10th edition), UL1778, IEC/EN 62040-1														
EMI Conducted & Radiated Emmission	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[4]															
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 90.24 x 31 (1448 x 2292 x 787)			57 x 141.25 x 31 (1448 x 3588 x 787)	
MAX Installed Weight (lbs)[5]	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														

[1] 2 paralleled units
[2] 3 paralleled units
[3] Above 1000m, output power must be derated 1% per additional 100m
[4] Always reference Spec Control Drawing (SCD) for the most current & accurate dimensions and weights
[5] 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 emergencyrepairs 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

STACO ENERGY® PRODUCTS CO.

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Contact Us:
US Toll Free: 866-261-1191
Phone: 937-253-1191
E-mail: sales@stacoenergy.com