



FIRSTLINE PLT/FC

THREE PHASE ON-LINE DOUBLE CONVERSION FREQUENCY CONVERTER

50 - 60 KVA PARALLEL UP TO 240 KVA

APPLICATIONS INCLUDE

- International Equipment
- Manufacturing Process
- Hospitals, Medical - PET, X-Ray
- Test Equipment
- Laboratories, Bio-tech
- Renewable Energy

PRODUCT FEATURES

- **Up to 94% Efficient**
Lower energy costs and carbon footprint
- **Compact & Reliable**
Internal transformers up to 600VAC models allowing for a smaller footprint. Cooler operation extends internal component life.
- **AC Input Performance**
High input power factor of 0.99. Low input current distortion of < 1% (THDi) @ full load. Soft Start Power walk-in function that ensures progressive rectifier start-up.
- **Upgrades to a UPS**
When your application changes, simply add batteries with no major re-wire required.





MORE FEATURES

IGBT AND DIGITAL SIGNAL PROCESSOR (DSP)

Reduces the impact of the Frequency Converter on the local supply. Simplifies installation where there is limited power capacity.

ADAPTIVE FEED CANCELLATION

Advanced control with AFC forward cancellation technology for low harmonic distortion.

MENU SELECT DISPLAY

User friendly display is easy to see and intuitive to use.

PARALLEL UP TO 4 UNITS

Provides redundancy for mission critical applications with no additional hardware. Parallel Kit, Communication through CANBUS Parallel Card.

SEISMIC CERTIFICATION

For environments requiring seismic certification, the FirstLine® PLT/FC is available.

WORLDWIDE SERVICE PROGRAM

Factory trained service personnel maximize equipment life. Full start-up service & preventive maintenance services lowers cost of ownership.

WARRANTY

ELECTRONICS

A full Two Year On-site Warranty (Continental U.S., Canada or Mexico)

BATTERY *IF BATTERIES ARE INCLUDED

Three (3) Year Full, Limited Warranty, on the Battery System ensures that your batteries are protected from system failure now and in the future. (Warranty provided by battery manufacturer.) Extended warranties, customized service and preventative maintenance plans are also available. Please refer to our warranty statement for complete details.



FIRSTLINE PLT/FC FREQUENCY CONVERTER

Provides the clean, regulated precision power for all your sensitive loads. Protects your application from sags and surges that would normally damage your expensive devices. The FirstLine® PLT/FC has an input range of +15% /-15% with instantaneous response to voltage fluctuations while maintaining the output within +/-2%.

AC INPUT PERFORMANCE

FirstLine® PLT/FC is a further evolution of the FirstLine® series with the added advantages offered by an IGBT-based rectifier/inverter assembly. This feature reduces the impact of the Frequency Converter on the local supply and simplifies installation where there is limited power capacity in the form of available electrical supply rating or generator size. The FirstLine® PLT/FC is classed as a "Zero Impact Source" and provides:

- Low input current distortion $\leq 3\%$
- High input power factor 0.99
- Power walk-in function that ensures progressive rectifier start up
- Delayed start up phased with the return of mains power supply, when several Frequency Converters are connected in the system. The FirstLine® PLT/FC also performs the role of a high performance filter, protecting its upstream power supply sources from any harmonics and reactive power generated by the loads powered.

FLEXIBILITY

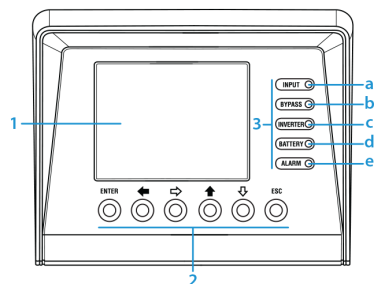
MAIN CHARACTERISTICS

- Efficiency $\geq 94\%$ at full load
- Reduced Weight
- The FirstLine® PLT/FC models can feature an output transformer with galvanic isolation to provide greater versatility and installation options.

The entire FirstLine® PLT/FC range is suitable for a wide range of applications thanks to the flexibility of configurations, accessories, options, and choice of performance levels. The Frequency Converter is compatible with capacitive loads, such as blade servers, without any reduction in active power, ranging from 0.9 lead to 0.8 lag and up to 0.8 capacitive power. Efficient and reliable power supply for mission critical applications is guaranteed by operating in redundancy and power parallel mode with up to 4 units (N or N+1).

FIRSTLINE PLT/FC TECHNICAL SPECIFICATIONS

UPS Rating KVA/KW	10/9	15/13.5	20/18	30/27	40/36	50/45	60/54
Input							
Topology	On-Line Double Conversion						
Voltage	208Y/120 VAC, Three Phase, 4 wire plus ground, or 220Y/127VAC configurable from the front panel Optional: 480Y277 VAC 4 wire plus ground, 480 VAC, 3 wire (Delta), 208VAC, 3 wire (Delta)						
Range	+15% / -15% with full load						
Frequency	60/50Hz +/- 5.0 Hz						
Power Factor	0.99 at 100% load, 0.98 minimum at 50% load						
Current Distortion	<1% @100% Load, <2% @ 50% Load, <5% @ 10% Load						
Input Current Inrush	Walk-In from 25% maximum to 100% full load rating in 5 seconds						
Output							
Voltage	208Y/120 VAC, Three Phase, 4 wire plus ground, or 220Y/127VAC configurable from the front panel Optional: 480Y277 VAC 4 wire plus ground, 480 VAC, 3 wire (Delta), 208VAC, 3 wire (Delta)						
Static Voltage Regulation	+/- 2%						
Voltage Transient Response	Voltage transient response shall not exceed the following, and shall recover to 95% within 10 milliseconds: a) <5% RMS for 100% step load b) +/- 1% (loss or return of AC input)						
Free Running Frequency (asynchronous)	60/50Hz +/- 0.01Hz						
Voltage Distortion THD	Less than 1% (Linear load), less than 2% with crest factor 2.5 to 1						
Overload	125% for 10 minutes, 150% for 60 seconds						
Overall Efficiency	Up to 94%						
Heat Rejection (BTU/Hr) @208VAC	3,412	5,118	6,824	10,237	13,649	21,000	25,000
Battery Optional							
Battery Type	Internal Sealed Maintenance Free Lead Acid VRLA - 36 Batteries, Center Tap Design (NI-CAD available).					External Battery Cabinet - 36 Batteries, Center Tap	
Voltage	432 volts DC nominal, 486VDC float						
Environmental							
Altitude	De-rate load capability above 1000 meters, 1% per 100 meters						
Operating Temperature	40 °C Maximum						
Audible Noise @ 3 feet "A" weighted scale	<75 dBA						
Dimensions and Weights							
Height x Width x Depth - Inches (mm)	72.41 x 23.13 x 34.47 / [1839.3] x [587.4] x [875.7]					76.75 x 34.13 x 34.47 / [1949.5] x [866.9] x [875.7]	
lbs. / [kg]	Minimum 659 / [299] Maximum 1179 / [807]				Minimum 659 / [299] Maximum 1889 / [857]	Minimum 850 / [386] Maximum 1860 / [844]	
Communications							
SNMP/WEB (Optional)	SNMP Card & UPS PowerView Pro Shutdown and Monitoring Software for Windows/Novell						
Modbus	Monitoring & Control via RS-485/RTU or TCP/IP Protocol/Read Holding and Write Registers						
Standards							
Agency	UL listed to 1778, CUL to CSA C22.2, NEMA PE-1, ASME, ASA-C-39.1-1984, FCC Part 15 Class B, NEC, OSHA, IEEE587, ANSI C 62.41-1980, ISO9000						



- 1 (LCD) Graphic LCD
- 2 ENT Key <ENTER>
ESC Key <ESC>
(↑) Key move up
(↓) Key move down
(→) Key move to right
(←) Key move to left
- 3 (a) Rectifier Input Voltage OK led (green)
(b) Output Voltage Unit from the Bypass led (orange)
(c) Inverter is Working led (green)
(d) Unit Working from Batteries-mains failure led (red)
(e) General Alarm-in case of any alarm of the unit led (green)

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 CUSTOM 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 custom 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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