



FIRSTLINE XD

THREE PHASE INPUT/SINGLE PHASE OUTPUT INDUSTRIAL, DOUBLE CONVERSION, ON-LINE UPS

10 - 40 KVA

APPLICATIONS INCLUDE

- Oil and Gas
- Chemical Processing
- Utility, Switchgear
- Process Industries - paper, cement, smelters, semiconductors, mining
- Railways and Metros
- Marine
- Military
- Light Industrial Process Manufacturing - food, beverage, bottling, packaging, pharmaceuticals

PRODUCT FEATURES

- **Up to 94% Efficient**
Lower energy costs and carbon footprint. Hot Standby Economy Mode Available
- **Compact & Reliable**
Up to 480VAC models allows for 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





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.

DUAL INPUT

Main power and secondary emergency standby power increase resilience of single or parallel system configuration.

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.

FREQUENCY CONVERSION

208/120V units can be set as a 50Hz Frequency Converter.

WORLDWIDE SERVICE PROGRAM

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

BATTERY CARE SYSTEM

FirstLine® XD uses the Battery Care System which optimizes battery performance while extending battery life.

WARRANTY

ELECTRONICS

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

VRLA BATTERY (For system in operating conditions below 40°C only)

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



FIRSTLINE XD UPS

In the event of an AC power failure, the FirstLine® XD UPS will automatically transfer to battery power and continue to provide power without any interruption for the full amount of time you select. When power returns, the FirstLine® XD UPS will automatically recharge the batteries for the next unexpected power outage or disturbance.

AC INPUT PERFORMANCE

FirstLine® XD 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 UPS 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® XD is classed as a "Zero Impact Source" and provides:

- Low input current distortion <1% @ full load
- 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 UPS are connected in the system. The FirstLine® XD 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

FirstLine® XD models can be supplied from two power circuits, dual feed configuration, rectifier input and bypass input. This increases the resilience of the UPS system. Custom Options allowing for better filtration of the air and corrosion protection that will prolong the life of the UPS in harsh environments.

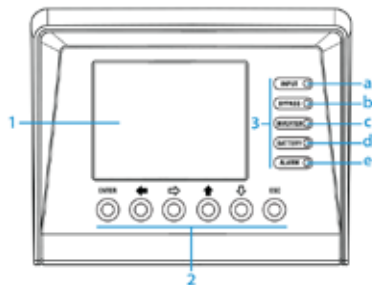
MAIN CHARACTERISTICS

- Flexible custom design options
- Efficiency up to 94%
- 50°C operational temperature for units without internal batteries
- Conformal and anti-fungal coating
- Reduced weight
- Short lead times
- Double electronic and galvanic protection of the load from the battery
- Redundant fan forced ventilation

The entire FirstLine® XD is suitable for a wide range of light or heavy industrial applications thanks to the flexibility of configurations, accessories, options, and choice of performance levels. The UPS is compatible with capacitive loads, such as blade servers, without any reduction in active power, ranging from 0.9 lag to 0.8 lag and up to 0.8 capacitive power with a low derating equal to 15% of the active power (kW). 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+1).

FIRSTLINE XD UPS TECHNICAL SPECIFICATIONS

| UPS Rating kVA/kW | 10/9 | 15/13.5 | 20/18 | 30/27 | 40/36 |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| Input | | | | | |
| Topology | On-Line Double Conversion | | | | |
| Voltage* - Three Phase | 3 Phase, 208Y/120 or 480Y/277, 208Δ or 480Δ | | | | |
| Range | +15% / -20% Battery Discharge@-15% with full load | | | | |
| Frequency* | 60Hz +/- 5.0 Hz | | | | |
| Power Factor | 0.99 at 100% load, 0.98 minimum at 50% load | | | | |
| Current Distortion (THD) | <1% @100% Load, <2% @ 50% Load, <5% @ 10% Load | | | | |
| Input Current A (208Y/120) | Nominal: 27 Maximum: 33 | Nominal: 41 Maximum: 49 | Nominal: 54 Maximum: 65 | Nominal: 81 Maximum: 98 | Nominal: 109 Maximum: 130 |
| Input Current Inrush | Walk-In from 25% maximum to 100% full load rating in 5 seconds | | | | |
| Output | | | | | |
| Voltage* - Single Phase | 1 Phase, 120 or 277, 2-wire | | | | |
| 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) | | | | |
| Frequency* (inverter synchronous) | 60Hz (tracks frequency of static bypass source) +/- 0.5, 1.0, 2.0, 5.0 Hz (user settable) | | | | |
| Frequency Slew Rate (inverter synchronized to static bypass) | Adjustable 0.1 to ± 10 Hz per second | | | | |
| Free Running Frequency* (on battery or asynchronous) | 60Hz +/- 0.01Hz | | | | |
| Voltage Distortion THD | Less than 1% (Linear load), less than 2% with crest factor 2.5 to 1 | | | | |
| Inverter Overload | 125% for 10 minutes, 150% for 60 seconds | | | | |
| Bypass Overload | 400% for 10 seconds, 1000% for half line cycle | | | | |
| Bypass Input - Range Synchronization Voltage | +12% / -15% | | | | |
| Bypass Input Frequency Tracking Range | +/- 5Hz | | | | |
| Overall Efficiency | Up to 94% | | | | |
| Output Current (A) @120VAC | 83 | 125 | 167 | 250 | 333 |
| Heat Rejection (BTU/Hr) @120VAC | 2,400 | 3,500 | 4,700 | 7,000 | 9,300 |
| Battery | | | | | |
| Battery Type | Internal Sealed Maintenance Free Lead Acid VRLA - 36 Batteries, Center Tap Design (NI-CAD compatible) Flooded lead acid temperature compensated. | | | | |
| Voltage | 432 volts DC nominal, 486VDC float | | | | |
| Environmental | | | | | |
| Altitude | De-rate load capability above 1000 meters, 1% per 100 meters | | | | |
| Operating Temperature Range | 32°F (0°C) to 104°F (40°C) for units with internal batteries or 32°F (0°C) to 122°F (50°C) for units without internal batteries (Be mindful of battery requirements) | | | | |
| Storage Temperature Range | 5°F (-15°C) to 104°F (40°C) for units with internal batteries or -13°F (-25°C) to 158°F (70°C) for units without internal batteries (Be mindful of battery requirements) | | | | |
| Audible Noise @ 3 feet "A" weighted scale | <75dBA | | | | |
| Conformal Coated PCB | UL V-0, MIL-46058C, IPC-CC-830B | | | | |
| Fungal Coated | ASTM D 5638, MIL-V-1736-2 & UL-1446 | | | | |
| Dimensions and Weights** | | | | | |
| H" x W" x D" / [mm] | 77.66 x 23.13 x 34.74 / [1972.6] x [587.4] x [882.4] | | | | |
| lbs. / [kg] | Minimum 688 / [312] Maximum 1178 / [534] | Minimum 688 / [312] Maximum 1278 / [580] | Minimum 688 / [312] Maximum 1398 / [634] | Minimum 688 / [312] Maximum 1608 / [729] | Minimum 688 / [312] Maximum 1712 / [777] |
| Communications | | | | | |
| SNMP/WEB (Standard) | SNMP Card with NetAgent Software | | | | |
| Modbus (Standard) | Monitoring & Control via RS-485/RTU 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 Subpart J 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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