



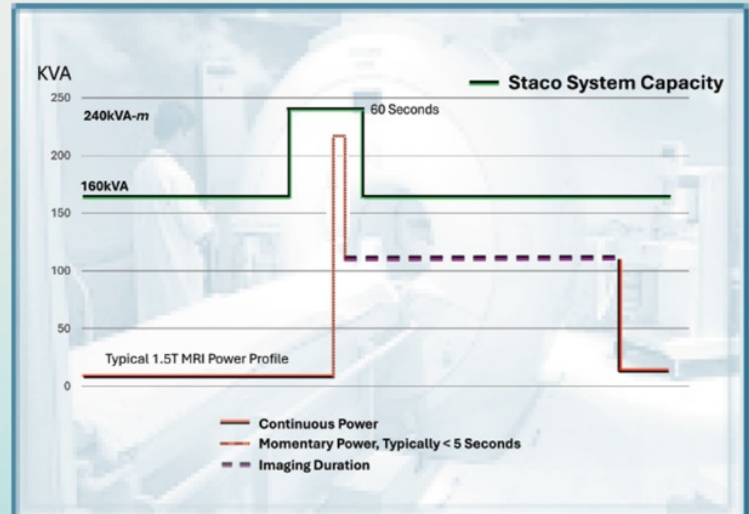
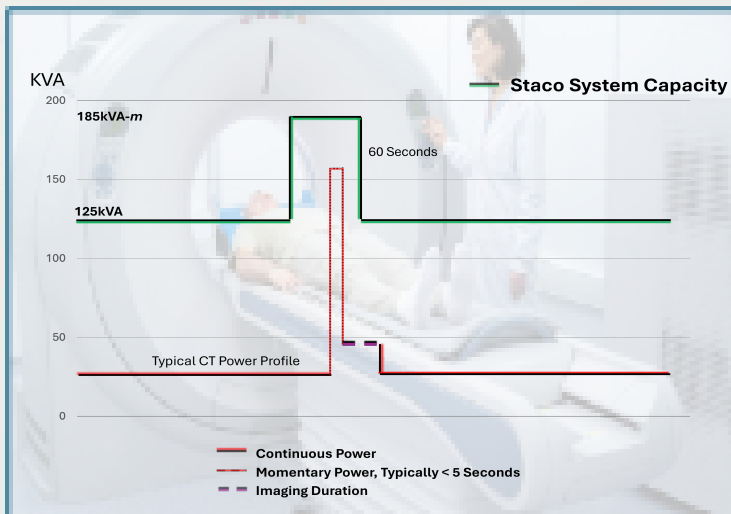
STACO FLU-*m*

Medical imaging systems

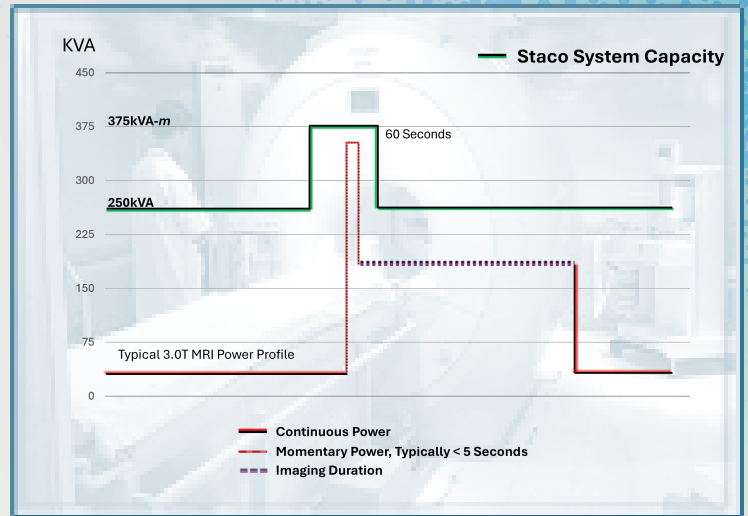
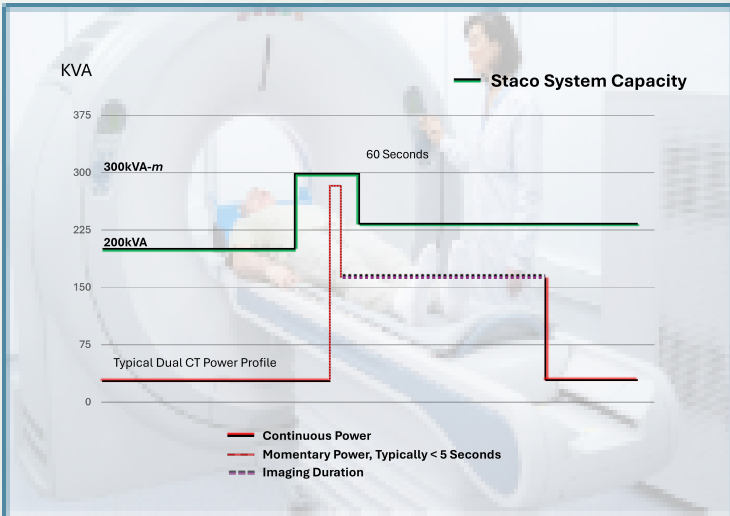
Uninterruptible power supplies

MAIN FEATURES INCLUDE

- Input voltage tolerance: +15%, -20% (typical)
- Output voltage regulation: +/- 1% (typical)
- Output frequency: +/- 1%
- Phase asymmetry voltage: +/- 0.05%
- Advanced local monitoring and network capacity
- Internal bypass
- Guarantee of 2 years
- UL 1778
- UPS designed for strong pulses and spikes



Power quality is critical to imaging performance



Model	System Capacity	V Input	V Output	System Battery	External Bypass (OPT)
FLU-Pm				Per System	
	A: 185kVAm - 125kVA	2Y: 208/120	2Y: 208/120	A: 4m Full Load	X: None
	B: 240kVAm - 160kVA	4Y: 480/277	4Y: 480/277	B: 4m Full Load	Y: Yes
	C: 300kVAm - 200kVA	4D: 480		C: 3m Full Load	
	D: 375kVAm - 250kVA			D: 2m Full Load	

m: Momentary power

WHY STACO ENERGYPRODUCTS?

Staco Energy specializes in solving complex energy problems, offering customized solutions to challenges unique solutions such as demanding application designs, harsh environments, and non-standard physical space requirements. Since 1937, customers around the world have trusted Staco Energy as their provider of customized solutions for a wide range of electrical power problems. Our expertise ranges from state-of-the-art power conditioners and uninterruptible power supplies for medical imaging equipment, to lighting inverters and harmonic correction equipment, as well as the world's most stable voltage control systems. We have the technology and knowledge to protect and manage your business effectively. Headquartered in Miamisburg, Ohio, Staco Energy Products is a wholly owned subsidiary of Components Corporation of America, located in Dallas, Texas.



**STACO
ENERGY
PRODUCTS CO.**

© 2022, Staco Energy Products Co.
Medical Imaging Solutions

CONTACT US

Toll-free: 866.261.1191 | sales@stacoenergy.com | www.stacoenergy.com

TOGETHER WE HAVE THE POWER



MORE FEATURES

2-LEVEL IGBT WITH DPS PROCESSING

Reduces the impact of the UPS on the local power supply. Simplifies installation when there is limited power capacity, such as available utility capacity or generator size.

SINGLE OR DOUBLE ENTRY

Prime power and secondary bypass power increase the resilience of system configurations individual or parallel.

HIGH PERFORMANCE FILTER

Protects upstream power supplies from harmonics and reactive power generated by loads.

MENU SELECT SHOW

The simple display is easy to see and intuitive to use.

PARALLEL UP TO 8 UNITS

Provides redundancy for mission-critical applications.

SEISMIC CERTIFICATION

For environments requiring seismic certification, FirstLine® P is available with an optional OSHPD certified mounting system that makes the UPS and battery cabinets OSHPD certified (65-250kVA)

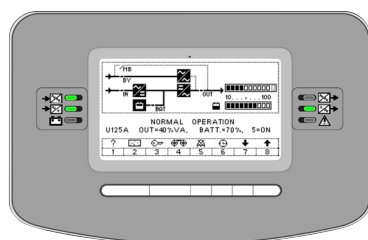
WORLD SERVICE PROGRAM

Factory-trained service personnel maximize equipment life. Comprehensive start-up and preventative maintenance services reduce cost of ownership.

BATTERY CARE SYSTEM

FirstLine® P uses a battery care system that optimizes battery performance while extending battery life.

FRONT PANEL DISPLAY



WARRANTY

ELECTRONICS

A full two-year on-site warranty (Continental U.S., Canada, or Mexico)

BATTERY

With a comprehensive, three-year limited warranty, the battery system ensures your batteries are protected against system failure now and in the future. (Warranty provided by the battery manufacturer.) Extended warranties, customized service plans, and preventative maintenance are also available. See our warranty statement for details.



FIRSTLINE P UPS

In the event of an AC power failure, the FirstLine® P UPS will automatically transfer to battery power and continue to provide uninterrupted power for the duration you select. When power returns, the FirstLine® P UPS will automatically recharge the batteries for the next unexpected power outage or interruption.

AC INPUT PERFORMANCE

FirstLine® P is another evolution of the FirstLine® series along with advantages offered by an IGBT-based rectifier/inverter assembly. This feature reduces the impact of the UPS on the local power supply and simplifies installation where there is limited power capacity in the form of available utility supply or generator size. FirstLine® P is

classified as a “zero impact source” and provides:

- Low input current distortion: $\leq 3\%$
- High input power factor 0.99
- Power output function that ensures the progressive start of the rectifier
- Delayed start in phase with return of power supply electrical, when multiple UPSs are connected to the system. FirstLine® P It also plays the role of a high-performance filter, protecting your upstream power supply from any harmonics and reactive power generated by the fed loads.

FLEXIBILITY

FirstLine® P models feature a galvanically isolated output transformer (between load and battery power) for increased versatility and installation options. The UPS can be powered from two separate power sources (primary power and a secondary power source), helping to increase the resilience of system configurations.

MAIN FEATURES

- Efficiency of $\geq 96\%$ at full load and up to 98% in ECO/hot energy saving mode
- Reduced weight
- The battery temperature sensor module monitors the environmental conditions of the internal battery cabinet connected to the UPS and displayed on the front panel of the UPS.

The entire FirstLine® P range is suitable for a wide variety of applications thanks to the flexibility of configurations, accessories, options, and choice of performance levels. The UPS supports capacitive loads, such as blade servers, without any reduction in active power, ranging from 0.9 conductors to 0.8 conductors and up to 0.8 capacitive power. Efficient and reliable power supply for critical applications is guaranteed by operating in redundancy and parallel power mode with up to 8 units (N or N+1).



The FirstLine® P UPS is shown with an external battery cabinet.



COMMUNICATION OPTIONS

SNMP CARD

UPSMON monitoring and shutdown software allows single-unit UPS management over a LAN using any of the major network communications protocols: TCP/IP, HTTP, and network interface (SNMP). An SNMP card allows the UPS to be easily integrated into medium- to large-scale networks and provides reliable communications between the UPS and the management systems employed.

BATTERY SENSOR MODULE

Monitors the environmental conditions inside the battery cabinet connected to the UPS and displayed on the front panel of the UPS.

EXPANSION CARD

Provides additional remote alarm functions. The card contains 6 outputs: potential-free contacts for alarms (programmable from the display panel) and capable of switching up to 30 V AC or DC at UP to 1 Amp, 2 inputs (programmable from the panel), and (1) auxiliary input maximum of 12 V DC 100 mA. (2) Additional slots shall be available for a total of 12 additional contacts.

REMOTE MONITORING PANEL

Provides remote UPS monitoring and control (same functions as on the UPS) and a detailed overview of the UPS status in real time. It is compatible with all FirstLine P UPSs and can display values for specific UPS inputs and outputs.

supplies and battery pack measurements. It has a high-definition graphic display and can report in seven languages: English, Spanish, French, Chinese, German, Italian, and Russian. It includes three independent serial ports, one of which allows UPS monitoring via the MODBUS/JBUS protocol (either on an RS485 or RS232 serial line). The others can be used with devices such as the SNMP card or a PC with communication software.

MONITORING SOFTWARE

Centralizes UPS management using network interface communications (SNMP). It is ideal for administrators of medium-to-large data centers and networks. It utilizes the RFC 1628 Management Information Base (MIB) and ensures UPS management wherever they are located.

COMMUNICATION SOFTWARE

Used with the SNMP card to monitor and shut down multiple UPSs, it provides efficient, easy-to-use management using bar graph displays to show key operating information such as input voltage, UPS load percentage, and battery charge percentage. The software also provides detailed information on fault conditions and UPS operating characteristics. It has been developed with a client/server architecture that makes it flexible and easy to use, and offers multilingual and online support.

OTHER OPTIONS

TOP OR SIDE CABLE ENTRY

A cabinet expansion or "attachment" is offered to accommodate top or side cable entry.

EXTERNAL MAINTENANCE BYPASS, 3 SWITCHES WITH ELECTRONIC INTERLOCKS

External maintenance bypass allows complete isolation of the UPS during maintenance or UPS replacement.

POWER DISTRIBUTION UNIT (PDU)

A wide range of service programs is available to meet all user requirements. Consult the factory.

BATTERY MONITORING SYSTEM (BMS)

FirstLine BMS is a system that monitors and records battery cycle data for each battery string or container. It provides a clean, cable-free installation.

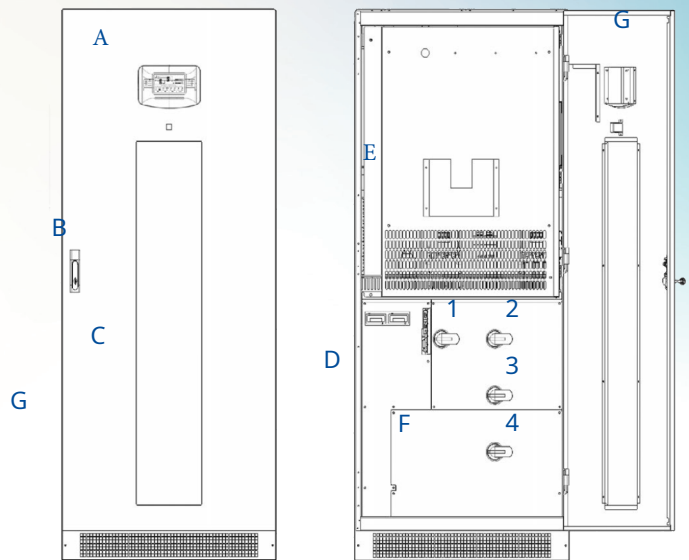
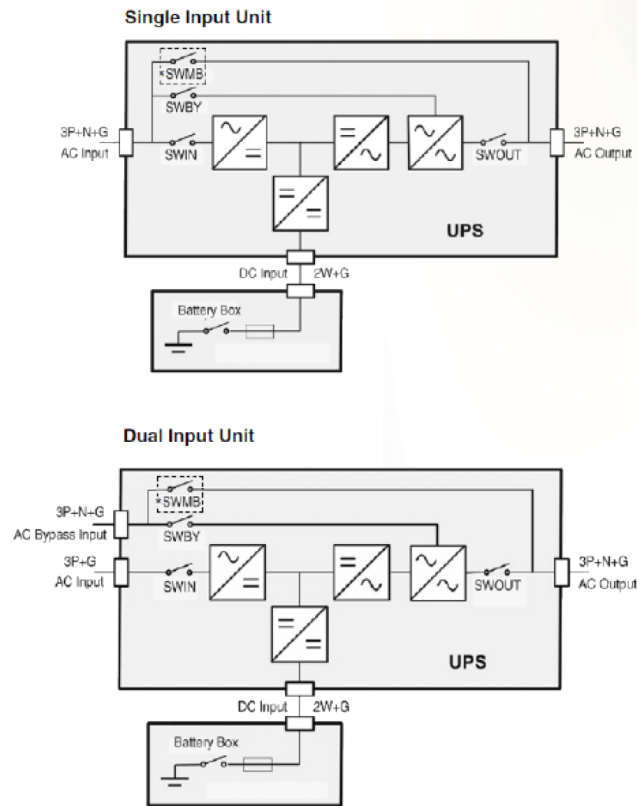
CABINET FOR SPECIAL ENVIRONMENTS

UPS and accessories mounted and pre-wired internally, with AC cooling inside any NEMA type (12, 3R, 4X) enclosure.

SEISMIC CERTIFICATION

Seismic certification and site-specific documentation. All units are bolt-down capable without the use of brackets.

Electrical data	UPS Power (KVA / KW)									
	65 / 58.5	80 / 72	100 / 90	125 / 112.5	160 / 144	200/180	250/225	300/300	400/400	500/450
Entrance										
Nominal voltage	480VAC 3 phases, 3 or 4 wires + Grd, (208V optional with input transformer)									
Nominal voltage range without battery contribution	- 10%, +15%									
Voltage range in battery mode	+ 40%/-15%									
Input frequency range	From 45 to 65Hz									
Nominal current absorbed (480V)	78	96	120	150	188	235	294	361	481	601
Maximum current absorbed during full charge and battery recharge (Amperes)	89	109	136	160	212	265	331	433	640	640
Power factor at nominal voltage (480V) and battery charged from 25% to 100% of the load	> 0.99									
Current harmonic distortion (THDi) (with main distortion < 2%) • 100% load • Load 75% • Load 50% • Load 25%	≤ 3% ≤ 5% ≤ 8% ≤ 8%							≤ 3% ≤ 3% ≤ 5% ≤ 8%		
Progressive rectifier (Input)	from 0 to 30 seconds (Configurable)									
Rectifier soft start delay (power input delay timer)	from 0 to 120 seconds (Configurable)									
DC intermediate circuit										
Number of cells	240									
Investor										
Static variation	± 1 %									
Dynamic variation	± 5%									
Crest factor	3:1									
Voltage distortion with linear load	1% (typical), 2% (max)									
Voltage distortion with nonlinear load	< 3 %									
Frequency stability with inverter synchronized to the bypass line	± 2% (± 1% to ± 6% of the control panel)									
Frequency stability with inverter not synchronized to the bypass line	± 0.05% 1Hz/sec (Parallel units can be calibrated from 0.1 to 1Hz/s)									
Rate of change of frequency	≤ 1%									
Phase voltage asymmetry with balanced and unbalanced load	120 ± 1 °el									
Phase shift of voltages with balanced and unbalanced loads										
Overload in relation to nominal power • Three-phase • Monophasic	110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute, 200% for 7 seconds									
Inverter efficiency	95%									
Bypass										
Bypass	480VAC three-phase (with or without neutral)									
Nominal voltage tolerance	± 15% (can be adjusted from ± 10% to ± 25% from the control panel)									
Nominal frequency	60 Hz									
Frequency tolerance	± 2% (can be adjusted up to ± 6% from the control panel)									
System										
AC/AC efficiency at full load	96%									
Efficiency with UPS in POWER SAVING mode	98%									
Full load thermal rejection BTU/h	15,033	18,500	23,120	28,900	36,800	46,100	57,700	58,800	78,410	98,000
Maximum current dispersion	300mA Maximum									
Mechanic										
Dimensions	UPS power (kVA/kW)									
	65 / 58.5	80 / 72	100 / 90	125 / 112.5	160 / 144	200/180	250/225	300/300	400/400	500/450
Height x Width x Depth — inches (mm)										
- 00	75.02 x 31.43 x 33.47 (1905.5 x 798.2 x 850.0)				75.02 x 39.37 x 33.47 (1905.5 x 1000.0 x 850.0)			74.80 x 59.06 x 39.37 ((1900.0 x 1500.0 x 1000.0)		
- T	-				75.02 x 55.12 x 33.47 (1905.5 x 1400.0 x 850.0)					
- CEC	75.02 x 31.43 x 33.47 (1905.5 x 1198.2 x 850.0)									
- T-CEC	-				-					
Weight: lbs, / [kg]										
- 00	1,499 / 680		1,609 / 730	1,742 / 790	1,984 900	2,205 / 1,000	2,425 / 1,100	4,190 / 1,900	4,741 / 2,150	
- T	-				2,236 / 1,055	2,546 / 1,155	2,767 / 1,255	4,200 / 1,905	4,751 / 2,155	
- CEC	1,749 / 793		1,859 / 843	1,992 / 904	2,234 / 1,013	2,455 / 1,114	2,675 / 1,213	4,410 / 2,000	4,961 / 2,250	
- T-CEC	-				-			4,420 / 2,005	4,971 / 2,255	
NEMA 1 freestanding enclosure, black powder coat painted with textured finish, bottom access for conduit entries										
Environmental										
Room temperature	0° C to 40° C									
Storage temperature	- 20° C to 70° C									
Relative humidity	0 - 95% non-condensing									
Altitude	3,281 feet without dermatosis									
Audible noise	65 dBA at 1 meter				68 dBA at 1 meter			72 dBA at 1 meter		



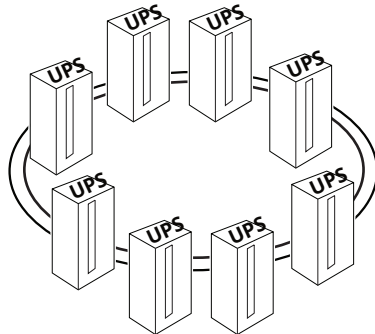
- A Control panel with graphic display
- B Door handle
- C Ventilation Vents
- D Communication Area
- E Front cover panel with ventilation vents
- F Switch cover panel
- G Door

- 1 Input isolation switch
- 2 Output isolation switch
- 3 Maintenance isolation switch
- 4 Branch circuit isolation switch

FirstLine P 65—500kVA Part Numbers

Model	kVA/kW
¹ FLU-065-00	65VA/58.5kW
¹ FLU-080-00	80kVA/72kW
¹ FLU-100-00	100kVA/90kW
¹ FLU-125-00	125kVA/112.5kW
¹ FLU-160-00	160kVA/144kW
¹ FLU-200-00	200kVA/180kW
¹ FLU-250-00	250kVA/225kW
FLU-300-00	300kVA/300kW
FLU-400-00	400kVA/400kW
FLU-500-00	500kVA/450kW

¹ For OSHPD, add "-S" to the model number.
Superior entrance available.



FirstLine® P up to eight units in parallel

Standards

- Underwriters Laboratories, Listed to UL1778 (designed for 60950); c-UL to CSA C22.2
- NEMA PE-1
- ASME
- ASA-C-39,1-1984
- FCC Part 15, Class B
- National Electrical Code
- IEEE 587 ANSI C 62.41-1980
- ISO 9001
- Model Building Code or IBC (International Building Code) AF Ratings, Site Specific



STACO SERVICE

FIELD SERVICE PROGRAM

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

- New companies
- Preventive maintenance
- Spare parts
- Battery analysis, upgrade, and replacement
- On-site training
- Material and time service

WHY CHOOSE STACO ENERGY PRODUCTS?

BECAUSE WE ARE YOUR CUSTOMIZED ENERGY SOLUTIONS PROVIDER!

We are experts in addressing unique application design demands, environmental concerns, and the need to meet non-standard physical space requirements by offering the "not so ordinary." We always have the technology you need to protect and manage your business, as well as the knowledge to keep it running, from state-of-the-art uninterruptible power supplies, power conditioners, and harmonic and power factor correction equipment, to the world's most stable voltage control systems.

Since 1937, customers around the world have trusted Staco Energy to provide customized solutions for a wide variety 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



Contact us:
Toll-Free Number in the U.S.: 866-261-1191
Phone: 937-253-1191
Email: sales@stacoenergy.com