

Falcon Series A 20-200Kva
POWERTECH Industrial Corporations USA

Modular UPS (3-Phase) Series

The Efficient Redundant Power System
for The Protection of Sensitive Equipment



Three-Phase
Design



UPS Parallel
Expansion



Generator
Compatible



Energy-saving



Dual input



Power
Management

APPLICATIONS

- Corporate Data Center
- Networking, Servers & Workstations
- Industrial Equipment

POWERTECH Industrial Corporations Falcon Series A Modular Three-Phase UPS is an online double conversion three-phase UPS, delivering complete power protection with the best combination of reliability, functionality, availability and flexibility. Designed to meet the strict power requirements of a wide range of sensitive equipment, the scalable and parallel design allows easy capacity expansion up to 200KVA on a single frame and two frames in parallel to reach the maximum 400KVA with 20KVA power module, and up to 300KVA on a single frame and three frames in parallel to reach the maximum 900KVA with 30KVA power module as the needs of your data center grow with time.

Modular Three-Phase UPS combines the integrated IGBT technology together with DSP control arithmetic to increase reliability through reduced component while enhancing the operating efficiency. Along with high input power factor and less than 3% input Total Harmonic Distortion (THDi), Modular UPS demonstrates a strong load adaptability for all kinds of load while reducing total cost of ownership and carbon footprint.

SERIES FEATURES

- Online double conversion topology
- High input power factor (>0.99), low input THDi (<3%)
- Strong load adaptability for linear and non-linear load
- N+1 power module redundancy
- Scalable design
- Digital paralleling technology, low circle current sharing between modules (<2%)
- Hot-swappable power and bypass modules
- Integrated IGBT modules
- Dual or single AC input connections
- Battery cold start function
- Conformal coated PCBs
- Independent charger for batteries
- Smart battery management
- Digital control rectifier, inverter, charger and discharger
- Independent controller of each module
- Friendly generator interface
- Totally front access, top and bottom cable connection
- Inbuilt touch screen LCD
- Remote management capability
- Extreme system efficiency
- Low total cost of ownership and carbon footprint
- Low noise system design



Multifunction LCD Control Panel

Administrators can easily access information including power module or system status, event logging, battery management system and even component diagnostic system to easily identify the faulty component during module or system failure.

Excellent Power Module Performance



DIGITAL CONTROL SYSTEM

Each power module is configured with two Digital Signal Processor (DSP) boards for digital control. DSP-based control and monitoring system provides intelligent management with great sensitivity to enhance efficiency and reliability while reducing component count.

ACTIVE CURRENT SHARING BETWEEN MODULES

Each power module is designed for parallel operation with active current sharing. The current difference between two modules is controlled within 2% event step on or step off 100% load hence massively increases the system reliability.

BATTERY COLD START UNIT

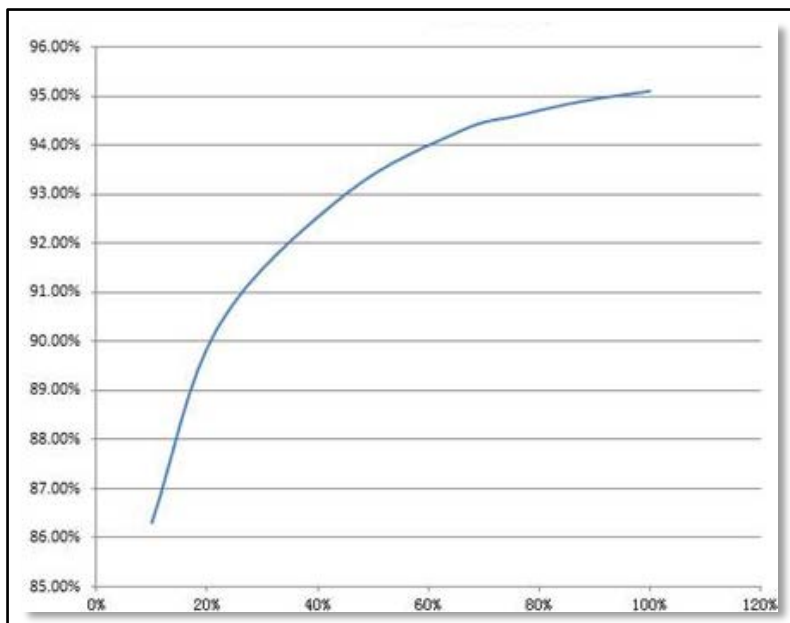
When there's no utility power available, the inbuilt battery cold start unit will switch the UPS onto battery power to turn on UPS from the battery.

OPTIONAL ACCESSORIES

- SNMP Communication Card
- Dust-proof Net
- Environmental Sensor
- Parallel Kit
- Battery Temperature Compensation Module



AC EFFICIENCY



TECHNICAL SPECIFICATIONS

Model Name	FSA60-20	FSA120-20	FSA200-20	FSAM20
Model Brief	3-Module Cabinet	6-Module Cabinet	10-Module Cabinet	20kVA Power Module
Configuration				
Capacity (KVA/ kWatts)	60 / 54	120 / 108	200 / 180	20 / 18
Main Input				
Input Voltage	380V/400V/415V(line to line), 220V/230V/240V(line to neutral)			
Input Frequency	50/60Hz			
Power Factor	>0.99			
Input Voltage Window	-40% ~ +25%			
Frequency Window	40-70HZ			
Battery				
Battery Voltage	±240VDC			
Charger Power	10%*Power (selectable from 0~20%)			
Charger Voltage Precision	1.5%			
Bypass				
Bypass Voltage	380V/400V/415V (line to line), 220V/230V/240V (line to neutral)			
Bypass Voltage Window	-20% ~ +15%, full load			
Bypass Overload Capability	<125%, long time operation 125%<load<130%, last for more than 1 hour 130%<load<150%, last for more than 6 minutes >1000%, last for more than 100ms			
Output				
Output Voltage	380V/400V/415V, three phase, 220V/230V/240V, one phase			
Voltage Precision	1% (balance load), 1.5% (unbalance load)			
Voltage THD (Total Harmonic Distortion)	THD<2% (linear load), THD<5% (non-linear load)			
Power Factor	0.9			
Phase Tolerance	120°±0.5° (balance and unbalance load)			
Crest Factor	3:1			
Overload Capability	<105%, long time operation 105%<load<110%, transfer to bypass after 1hour 110%<load<125%, transfer to bypass after 10 minutes 125%<load<150%, transfer to bypass after 1 minute >150%, transfer to bypass after 200ms			
System				
System Efficiency	Normal mode: 95%, ECO mode: 98%			
Battery Mode Efficiency	95%			
Display	LCD+LED, Touch screen and keyboard			
IP Class	IP20			
Interface (Communication Ports)	RS232, RS485, SNMP card, EPO, Dry contacts, Generator interface			
Installation / Connection	Top or bottom cable connection			
Operation Temperature	0 °C - 40 °C			
Storage Temperature	-20 °C - 70 °C			
Relative Humidity	0-95% (non-condensing)			
Noise (dB)	<55dB			
Physical				
Weight (kg)	105	145	179	22
Dimensions (H x W x D) (mm)	1100 x 600 x 900	1600 x 600 x 900	2000 x 600 x 900	134 x 440 x 590

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BATTERY RUNTIME

Watts on Load	16KW	32KW	48KW	64KW	80KW	96KW	112KW	128KW	144KW	160KW
FSA200-20 + CB65 * 1	72 Min.	25 Min.	17 Min.	12 Min.	8 Min.	5.5 Min.				
FSA200-20 + CB65 * 2	185 Min.	72 Min.	35 Min.	25 Min.	20 Min.	17 Min.	15 Min.	12 Min.	10 Min.	8 Min.
FSA200-20 + CB65 * 3	255 Min.	135 Min.	72 Min.	44 Min.	30 Min.	25 Min.	22 Min.	19 Min.	17 Min.	15 Min.
FSA200-20 + CB65 * 4	400 Min.	185 Min.	122 Min.	72 Min.	52 Min.	35 Min.	28 Min.	25 Min.	22 Min.	20 Min.