



FERM SERIES

MODULAR ONLINE UPS

20-200KVA (380V/400V/415V)

FERM series of Frog Engineering is modular online UPS for sensitive equipments. The single cabinet power rating covers from 20kVA to 200kVA. With the latest IGBT three-level and full DSP control technology, the FERM series delivers the best of combination of reliability, hot-swappable and flexibility.



Features

- Modular design
Up to 20 power modules in parallel online hot-swappable
- N+X redundancy
Independent charger
Independent charger for each module and intelligently control the whole charging process, prolong the life time of the battery
- Battery cold start
UPS can be powered on from the battery without utility
- Easy connection access
Top and bottom cable entry connection are supported, more convenient for site installation
- Modular design with transformer
Modular UPS up to 60kVA with in-built isolation transformer, meeting different requirement for customers
- High power density
200kVA with footprints of about 0.5m², saving valuable data center space
- Integrated IGBT design
Integrated IGBT in one module, less failure points with higher performance and reliability
- Friendly interface
Touch LCD display with abundant information
- Independent air channel
Cooling air runs in isolated channel, keeping PCB free of dust



Specification

MODEL		FERM200-20	FERM120-20	FERM060-20	
System Capacity		200kVA	120kVA	60kVA Power	
Module Capacity		20kVA/18kW			
Input	Dual Input	Optional			
	Phase	3 Phase+Neutral+Ground, 380V/400V/415V (line-line)			
	Input Voltage Range	304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min phase voltage			
	Rate Frequency	50/60Hz			
	Input Frequency Range	40Hz~70Hz			
	Input PF	>0.99			
	Input THDi	<3% (100% Linear load)			
Bypass	Rate Voltage	380/400/415Vac (line-line)			
	Rate Frequency	50/60Hz			
	Input Voltage Range	Settable, -40%~+25%			
	Bypass Frequency Range	Settable, ±1Hz, ±3Hz, ±5Hz			
	Bypass Overload	125% long term operation; 130% for 1 hour; 150% for 6 mins; 1000% for 100ms			
Output	Rate Voltage	208/380/400/415Vac (line-line)			
	Voltage Regulation	1% for balance load; 1.5% for unbalance load			
	Rate Frequency	50/60Hz			
	Frequency Precision	0.1%			
	Output PF	0.9			
	Output THDu	<1% , Linear load; <5.5%, Non-linear load			
	Crest Factor	3:1			
	Inverter Overload	110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms			
Battery	Voltage	±240Vdc			
	Battery Number	40pcs (Settable: even number from 32 to 44)			
	Voltage Precision	±1%			
	Charge Power	up to 20% * Output active power			
	Battery Cold Start	Standard			
System	Efficiency	AC Mode	95.0%		
		ECO Mode	99.0%		
		Battery Mode	95.0%		
	Display	5.7" touch screen LCD + LED + keyboard			
	IP Class	IP 20			
	Interface	RS232, RS485, Programmable Dry Contact			
	Option	SNMP Card, Parallel kit, SPD, LBS, Dust filter			
	Temperature	Operation: 0~40 °C Storage: -40~70 °C			
	Relative Humidity	0~95% Non-condensing			
	Altitude	<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise			
	Noise (1 meter)	55dB @ 50% load			
Applicable Standards	Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3				
Physical	Weight (kg)	Cabinet	180	150	105
		Power module	22		
	Dimension W*D*H(mm)	Cabinet	600*900*2000	600*900*1600	600*900*1100
		Power module	440*590*134		