

# FERRUPS® Rackmount 50Hz

Unmatched reliability in configurable power protection for computers and telecommunications equipment

## Features

- ▶ Active Voltage Regulation converts power from almost any AC source into computer grade Power
- ▶ Eliminates harmful harmonic currents from entering a building's wiring, where they can disrupt computer operations
- ▶ Enhanced diagnostics initiates automatic startup and scheduled tests on the logic board, battery and other critical systems
- ▶ Provides regulated output voltage without drawing power from batteries keeping the batteries fully charged from unexpected blackouts
- ▶ Complete offering of power management software included to ensure data integrity

## Warranty

- ▶ 2-Year Limited Warranty
- ▶ \$25,000 Load Protection Guarantee (U.S. and Canada)



**Powerware FERRUPS®** uninterruptible power systems furnish unmatched reliability in configurable power protection for computers and telecommunications equipment. Patented ferroresonant technology delivers "bullet-proof" power protection, overcoming spikes, sags, surges, noise, and lightning. Powerware-exclusive SineSense™ provides clean, reliable power while conserving batteries during blackouts.

Extensive configurability and customization options make FERRUPS the ideal power protection solution with a wide range of voltages, frequencies, runtimes, power cords, and receptacles. FERRUPS prevents the backfeed of harmonic currents into building wiring which can disrupt computer operations. Redundant power paths assure high fault-tolerance and optimum uptime. Galvanic isolation separates input from output, filtering line noise and surges.

## Product Snapshot

Rating:	850 VA - 7kVA
Input Voltage:	220/230/240
Output Voltage:	220/230/240
Frequency:	50 Hz
Configuration:	Rackmount

FERRUPS also features precision voltage regulation with no battery discharge down to 38% below nominal (depending upon load); and over 80 user-programmable diagnostic and communications functions.

FERRUPS has won Midrange Systems' "Buyer's Choice" award six of the last eight years. FERRUPS models include free Powerware Software Suite power management software with connectivity cable, and are BestLink™ SNMP/WEB-ready for remote management. FERRUPS covers up to US\$25,000 for damage to connected equipment resulting from a spike or surge (U.S. and Canada only).

# FERRUPS® Rackmount 50 Hz Specifications

Model	850VA	1.15kVA	1.4kVA	1.8kVA	2.1kVA	3.1kVA	4.3kVA*	7kVA*
Part No.	QFES850VA	QFES1.15kVA	QFES1.4kVA	QFER1.8kVA	QFER2.1kVA	QFER3.1kVA	QFER4.3kVA	QFER7kVA
Capacity (kVA/kW)	.8/.6	1.15/.8	1.4/1	1.8/1.25	2.1/1.5	3.1/2.2	4.3/3	7/5
Input-Hardwired Connection	220=4.4A	220=4.9A	220=5.7A	220=7.9A	220=8.2A	220=13A	220=19A	220=27A
Circuit Breaker Requirement	230=4.2A	230=4.6A	230=5.4A	230=7.5A	230=7.8A	230=12A	230=18A	230=26A
(Contact factory for power cord options)	240=4.0A	240=4.4A	240=5.2A	240=7.2A	240=7.4A	240=12A	240=17A	20=24A
Output Connection	Hardwired output is standard. Contact factory for receptacle options.							
Efficiency % (on line)	85	88	88	90	90	91	90	90
Heat (on line) BTU/hr.	361	372	465	474	568	742	1138	1896
kW/hr.	0.106	0.109	0.136	0.139	0.166	0.217	0.333	0.556
Audible Noise (dBA)	48	50	50	50	50	51	50	52
Typical Runtime: full load (minutes)	11	19	14	31	24	14	26	12
half load	28	49	36	73	58	35	61	33
Weight lb (includes batteries)	108	141	154	216	227	245	509	600
kg	49	64	70	98	103	111	231	272
Dimensions inches	9.75 x 16 x 21.25				9.75 x 16 x 26.25†		19 x 16 x 26.25	
H x W x D mm	248 x 406 x 540				248 x 406 x 667		483 x 406 x 667	
Front Panel inches	10.5 x 19				10.5 x 19		19.25 x 19	
H x W mm	267 x 483				267 x 483		489 x 483	
Battery Pack inches	Internal				Internal		8.3 x 16.25 x 24.25	
H x W x D mm							211 x 413 x 616	

## Operation

Nominal Input Voltage	220/230/240							
Input Voltage Range	+15%, -20%							
Operating Frequency	50 Hz (on-line - ±0.01 Hz to ±3 Hz adjustable, on inverter - ±0.005 Hz)							
Nominal Output Voltage	220/230/240							
Output Voltage Regulation	±3% for input voltages +15%, -20% of nominal. +5%,-8.3% for any line, load or battery condition.							
Output Voltage Waveform	Sine Wave							
Output Voltage	THD 5% or less THD at rated kW load							
Overload Capacity	150% surge and 125% for 10 minutes on-line. 150% surge and 110% for 10 minutes on inverter.							
Transfer Time	0 ms							
Lightning, Surge, and Noise Protection	2000:1 spike attenuation using C62.41 and C62.45 Category A and Category B tests. Noise Rejection: Common Mode - >120 dB, Normal Mode - >60dB							
Efficiency % (on-line)	85	88	88	90	90	91	90	90
Heat (on-line) BTU/hr.	361	372	465	474	568	742	1138	1896
kW/hr.	0.106	0.10	0.13	0.166	0.166	0.217	0.333	0.556
Battery Charger (DC)	12V, 4A	12V, 4A		48V, 4A		48V, 5A		
Safety Certification	UL, CSA (CUL)							
EMI Compliance	FCC Class A, Complies with European Electromagnetic Compatibility Directive 89/336/EEC							
Testing Standards	ANSI/IEEE C62.41 (1980); ANSI/IEEE C62.45 (1987); IEC 801-2, 801-4, 801-5							
Communication	DB25 communication port with RS-232 serial communications, alarm and inverter contact closures, and EPO shutdown.†							

## Environmental

Operating Temperature	0° to 40° C							
Storage Temperature	-20° to +60° C (-20° to +40° C if battery not removed)							
Relative Humidity	5 to 95% without condensation							
Audible Noise (dBA)	48	50	50	50	50	51	50	52
Altitude	3050 m (10,000 ft.) maximum							

\* 8, 2.1 and 3.1kVA models can be configured with 21.25 inch depth. Consult factory. †4.3kVA and 7kVA models include front panel keypad and display. All specifications typical and are subject to change without notice.

Powerware offers a complete line of Uninterruptible Power Systems from 250VA to more than 4000kVA.

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