

FORTRESS 33 20kVA

Three Phase Transformer-Based Online UPS

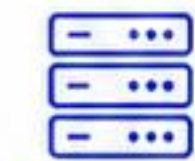
Reliable transformer-based backup power for industrial, commercial and critical-load applications.

KEY FEATURES

- Online double-conversion topology
- Transformer-based design
- 3-phase input / 3-phase output
- Rated capacity 20kVA / 16kW
- Rated voltage 380VAC
- Battery voltage 384VDC
- Support generator input
- LCD status display
- RS232 / RS485 / dry contact / intelligent slot
- Optional 60Hz, converter mode, ECO mode and EPO mode



APPLICATIONS



Server Room



Data Room



Telecom



Industry



Healthcare

GENERAL SPECIFICATIONS

Capacity	20kVA / 16kW
Topology	Online Double Conversion
Input / Output	3 Phase In / 3 Phase Out
Rated Input Voltage	380VAC
Rated Output Voltage	380VAC (line voltage)
Battery Voltage	384VDC
Display	LCD
Cooling	Force Air Cooling
Transfer Time (Line ↔ Battery)	0ms
Communication	RS232 / RS485 / Dry Contact / Intelligent Slot
Standard Options	60Hz / Converter Mode / ECO Mode / EPO Mode



For detailed electrical, battery and mechanical data, see the following pages.

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Technical Specifications — Input, Output & Battery

1. INPUT

Parameter	Value	Notes
Rated voltage	380VAC	Line voltage
Phase	3Φ + N + PE	Protective earth
Turn on voltage range	380VAC ±25%	Line voltage
Bypass voltage range	220VAC ±25%	Phase voltage
Bypass low loss	165VAC	
Bypass low comeback	Low loss -10VAC	
Bypass high loss	275VAC	
Bypass high comeback	High loss -10VAC	
Line low loss / comeback	(165 ±5)VAC / (180 ±5)VAC	
Line high loss / comeback	(275 ±5)VAC / (260 ±5)VAC	
Rated frequency	50Hz	Adjustable by software
Frequency low loss	(40~49) ±0.2Hz	Default 46Hz
Frequency low comeback	Frequency low loss +0.5Hz	
Frequency high loss	(51~60) ±0.2Hz	Default 54Hz
Frequency high comeback	Frequency high loss -0.5Hz	
Input power factor	0.7	At 220VAC, full R load
Generator	Support generator input	Generator rating ≥ 2 × UPS rating
Rated current	48A	
Rated protection	63A	

2. OUTPUT

Parameter	Value	Notes
Output power	20kVA / 16kW	
Rated voltage	380VAC	Line voltage
Voltage range	200 / 208 / 220 / 230 / 240VAC	Phase voltage, adjustable by software, 10% derating for 208VAC / 220VAC
Voltage regulation	±2%	
Voltage distortion	≤8%	Full RCD load
Voltage distortion	≤3%	Full R load
DC offset	≤100mV	
Transient response	≤9%	R load 0% → 100% → 0%
Transient response	≤6%	R load 20% → 100% → 20%
Transient recovery	≤60ms	Voltage recovery to 90%
Bypass output before turn-on	Yes	
Crest ratio	3:1	
Output frequency range (line mode)	Same as input frequency (46Hz~54Hz)	Or fixed 50Hz when input frequency >54Hz or <46Hz
Output frequency range (battery mode)	50 ±0.1Hz	
Slew rate	1Hz / sec	
Efficiency (line mode)	>82%	R load
Efficiency (battery mode)	>86%	R load
Overload 105% ±5% ≤ load	2 min	Then transfer to bypass and alarm
Overload 105% ±5% < load ≤ 125% ±5%	30 s	Then transfer to bypass and alarm
Overload 125% ±5% < load ≤ 150% ±5%	0.5 s	Then transfer to bypass and alarm
Load > 150% ±5%	Transfer to bypass and alarm	
Short protection	Yes	Cut off output and alarm after 3s
Transfer time line to battery	0ms	
Transfer time battery to line	0ms	
Transfer time line to bypass	<4ms	
Transfer time bypass to line	<4ms	

3. BATTERY & CHARGER

Parameter	Value	Notes
Battery rated voltage	384VDC	
Battery low alarm / comeback voltage	(361.6 ±4V) / (377.6 ±4V)	
Shutdown voltage / comeback voltage	(320 ±4V) / (336 ±4V)	
Overcharge protection	(475 ±4V)	
Battery test	Support	
Battery weak	Support	
Battery fault	Support	
Charger output voltage	(440 ±2) VDC	
Charge time	Determined by battery capacity	
Charge current	10A	Adjustable from front panel, max 25A



Specifications are subject to final configuration and project requirements.

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Communication, Environment, Standards & Mechanical Data

1. INTERFACE & CONTROL

Alarm silence	Support
DC power turn-on	Support
Automatic restart	Support

2. ALARM INDICATION

Battery mode	Beep / 4s
Battery low / charger fault	Beep / 1s
UPS fault	Continuously beep
Overload	Beep / 1s
Bypass mode	Beep / 2 min

3. COMMUNICATION & MONITORING

RS232 / RS485 interface	Support
Output dry contact	Support
Intelligent slot	Support
Monitor software	Appending with UPS

4. COOLING & DISPLAY

Cooling method	Force air cooling
Display	LCD displays UPS status
Float charge support	Support

8. OPTIONAL FUNCTIONS

60Hz	Support
Converter mode	Support
ECO mode	Support
EPO mode	Support

5. ENVIRONMENT

Working temperature	0°C ~ 40°C
Altitude	<1000m
Audible noise	≤70dB
Storage temperature	-15°C ~ 45°C
Working humidity	20% ~ 95%

6. STANDARDS

EMS / EMI	IEC EN62040-02
Conducted / Radiated / Anti-interference	IEC 61000-4-2, 4, 5 Level IV; IEC 61000-4-3 Level III
Safety	GB4943-2001 / IEC62040-1
Drop test	GB-T4857-18
Vibration test	B-WR1-129 (GB-T14715-93)

7. MECHANICAL FEATURES

Inlet	Wiring terminal block
Outlet	Wiring terminal block
External battery slot	Wiring terminal block
UPS net size (L × W × H)	830 × 455 × 1055 mm
Net weight	208 kg
Package size (L × W × H)	915 × 515 × 1215 mm
Package weight	250 kg



For application advice and project support, contact ZYKEVO.