

## RAPTOR (3:3,3:1,1:1) Rack/Tower Series 10-20kVA



### Overview

The RAPTOR (3:3, 3:1, 1:1) Rack/Tower UPS Series with 10-20kVA that can achieve N+X power redundancy for enterprise applications.

Designed for server room and data center applications, the Online RAPTOR (3:3,3:1,1:1) Rack/Tower UPS Series adopts double conversion topology to provide seamless Pure Sine Wave output. The products are compatible with generators to prolong power continuity. The UPSs also adopt ECO Mode to save on energy costs, Smart Battery Management (SBM) to extend battery lifespan, and multifunction LCD readout to display UPS status. The power management software allows users to easily control and monitor the UPS system.

### Features

- Support 3/3 and 3/1 and 1/1 operation
- N+X parallel redundancy, support maximum 4 units in parallel
- Online double conversion with DSP control
- Input current harmonic: < 3%
- Wide input voltage range: 100~300(L-N)/Vac 208~478Vac(L-L)
- Wide input frequency range 40~70Hz
- Optimization battery group, the quantity of battery 30~50pcs is settable
- Maximum charging current up to 20A (Settable)
- Dual input source
- Generator compatible
- ECO mode operation for energy saving
- Intelligent fan speed regulation
- Self-testing when UPS startup
- 50/60Hz frequency converter mode
- Cold start
- Control Logic: UPS Inverter and PFC are controlled by DSP.
- The output can meet 100% unbalanced load
- Multiple protection function: short-circuit, overload, overheat, battery undervoltage and overvoltage, output low voltage and fan fault alarm
- Multiple communication interface: USB, RS232, RS485, Parallel port, Dry contact, Intelligent slot, SNMP card (Optional), Relay card (Optional)
- Automatically switches to battery mode upon power failure

### Application

#### Raptor 10~20kVA, Tower models

##### application areas

- Data Network: Mid - range Servers (Windows and Linux), Wi-Fi Applications & Data networks
- Small Data Center Rooms
- Voice Networks: Cellular Sites, Voice Over IP (VOIP), Very small Aperture Terminals (VSAT) PBX And IT-enabled PBX Automation industries
- Process Automation Equipment: Programmable Logic Controllers (PLS) and Cash Machines (ATM)

##### Advanced protection for :

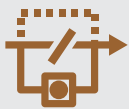
- Infrastructure
- Industrial and Medical IT
- Networking
- Storage
- Telecom

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We are committed to established international standards. We can provide customers with complete Datacenter & Power solutions as well as OEM/ODM services. We can cover even from medium to small business, factory & industrial, military & government, home office & personal use.



Online (Double Conversion) UPS Topology



Remote Management Capability



Three-Phase Design



UPS Parallel Expansion



ECO Mode



Dual Input

Model Name	RAPTOR-33P-020-0-RT
Power Rating	20 kVA / 20 kW
GENERAL	
Phase	3 Phase/3 Phase, 3 Phase/1 Phase, 1 Phase/1 Phase
ECO Technology	Online ECO Mode Efficiency > 98.5%
Parallel Expansion	Max. Units up to 4
Form Factor	Rack / Tower
INPUT	
Nominal Voltage	380/400/415Vac (3Ph+N+PE) or 220/230/240Vac (L+N+PE)
Input Voltage Range	100~300Vac(L-N)/208~478Vac(L-L) (50% load); 305~478Vac (Full load)
Harmonic distortion	THDi ≤3% Linear load
Power factor	≥ 0.99
Frequency Range	40~70Hz (50/60Hz, 50±10Hz, 60±10Hz)
Frequency Detection	Auto-sensing
Dual Power Inputs	Yes
OUTPUT	
Voltage	380/400/415Vac (3Ph+N+PE) or 220/230/240Vac (L+N+PE)
Voltage Regulation	±1%
Output Voltage Setting	Configurable
Output Frequency	(50 ± 0.1%, 60 ± 0.1%)Hz
Power Factor	1
Crest factor	3:1
Overload capability (line mode)	≤ 110% 60min, 110~125% 10min, ≤126~150% 1 min, > 150% immediately turn to bypass
Backfeed Protection	Yes
Transfer Time	0ms
Harmonic distortion	THDv < 2% Linear load, THDv < 5% Non linear load
Efficiency AC-AC	Up to 96.5%
Output waveform	Pure Sinewave
BATTERY	
Voltage	±180/192/204/216/228/240/252/264/276/288/300Vdc (30/32/34/36/38/40/42/44/46/48/50pcs settable)
Type	12VDC - VRLA, Gel, NiCad, Lithium-ion Battery Compatibility
Runtime@100%Load(min)	Depend on the capacity of external batteries
Runtime@50%Load(min)	Depend on the capacity of external batteries
Charging current (Max.)	20A
INDICATORS	
LED display	Battery mode, Line mode, Bypass mode, ECO mode, Battery low voltage, Overload & UPS fault
LCD display	Input frequency, Input voltage, Output frequency, Output voltage, Load percentage, Battery voltage, Inner temperature & Remaining battery backup time
Alarm	Battery mode : beeping every 4 seconds; Battery low : beeping every second; Overload : beeping twice every second; Fault : continuously beeping
PHYSICAL & STANDARDS & ENVIRONMENT	
Dimension(WxDxH)/Weight	444 x 581 x 132 (3U) mm / 33kg
SAFETY	IEC/EN 62040-1, IEC/EN 62477-1
EMC	IEC/EN 62040-2 (IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-2-2)
Environment	Operating temperature : 0°C - 40°C; Storage temperature : -25°C~55°C; Humidity range : 0~95%(Non condensing) Altitude : < 1500m, derating required when >1500m; Noise level < 58dB @1 Meter, IP Rating : IP20

1. Specifications are subject to change without prior notice  
2. Data above are typical values for reference only, not as a basis for engineering design

## Raptor Series 10~20kVA Rack/Tower Models Battery Pack Specification

Model Name	RAPTOR-EBC40N240RT4U
GENERAL	
Battery Type	VRLA (Lead acid maintenance free battery)
Battery recharging time	6-8 hours (To 90% of full capacity)
Typical battery life	3-5 years, depend on discharging cycle and ambient temperature
System voltage	±240VDC
Battery quantity	1×±20 PCS
Capacity	9Ah x 12V
PHYSICAL	
Dimension WxDxH	483 x 862 x 176 (4U)
Net weight	154kg
ENVIRONMENT	
Safety	CE
Operating environment	0°C - 40°C
Relative humidity	0~95% (Non condensing)
Noise level	< 40dB at 1 Meter

Note: Specifications are subject to change without prior notice

## Runtime Table

	External Battery Pack Quantity	Runtime at different loads (mins) with RAPTOR-EBC40N240RT4U			
		25%	50%	75%	100%
20kVA	1	28.6	12.0	7.5	5.2
	2	66.5	29.3	18.4	12.1
	3	105.2	48.5	30.2	21.0
	4	144.3	68.2	43.6	30.5
	5	173.0	81.5	51.3	36.4
	6	211.4	77.6	62.0	42.7
	7	249.7	109.5	70.3	48.5
	8	289.2	136.5	87.1	61.0
	9	318.0	150.5	95.5	67.0
	10	346.3	163.3	102.5	72.8
	11	384.5	159.1	113.5	79.5