

**TM31E Series PF 1.0 (PF 0.9 optional) Power range: 10kVA~20kVA**

**3:1 1:1**



Segment LCD

TFT colourful LCD

7 inch colourful LCD

Battery cabinet  
(Optional)

Optimized battery configuration  
7Ah/9Ah (12V)

**Features**

- N+X parallel redundancy, support maximum 4 units in parallel
- Online double conversion with DSP control
- Optimization battery group, the quantity of battery: 16/18/20pcs (32~40pcs supportable)
- Wide input voltage range: 208~478Vac
- Wide input frequency range: 40Hz~70Hz
- Input current harmonic: <3%
- Dual input source (Optional)
- Maximum charging current up to 18A (Settable)
- Support 3/1 and 1/1 operation
- Generator compatible
- ECO mode operation for energy saving
- Design with maintenance switch
- Cold start function
- Intelligent fan speed regulation
- Self-testing when UPS startup
- 50/60Hz frequency converter mode
- Colorful 2.4 inch TFT LCD display and 7 inch LCD display LCD are optional
- Multiple protection function: short-circuit, overload, overheat, battery overcharge and overdischarge, output low voltage and fan fault alarm
- Multiple communication interface: RS232/RS485/USB/EPO/Dry contact port (Relay card/SNMP card/Parallel cable/Battery temperature sensor optional)



ON LINE



TOWER



DATA CENTRE



E-MEDICAL



INDUSTRY



TRANSPORT



EMERGENCY

**TM31E**  
**Transform-less Online Tower UPS**

TM31E 10k H/S | TM31E 15k H/S | TM31E 20k H/S

## TM31E Technical Specifications:

		TM31E					
Model		TM31E 10k H	TM31E 10k S	TM31E 15k H	TM31E 15k S	TM31E 20k H	TM31E 20k S
Capacity		10kVA/10kW		15kVA/15kW		20kVA/20kW	
<b>INPUT</b>							
Nominal voltage		380/400/415Vac (3PH+N+PE) 220/230/240Vac (L+N+PE)					
Operating voltage range		208~478Vac; 120~276Vac					
Operating frequency range		40~70Hz (50/60Hz Auto-Sensing)					
Power factor		≥0.99					
Harmonic distortion (THDi)		≤3% Linear load					
Bypass voltage range		Max.voltage: 220V: +25% (Optional +10%, +15%, +20%) 230V: +20% (Optional +10%, +15%) 240V: +15% (Optional +10%) Min.voltage: -45% (Optional -10%, -20%, -30%)					
<b>FREQUENCY</b>							
Frequency protection range		50/60Hz±10%					
<b>OUTPUT</b>							
Output voltage		220/230/240Vac (L+N+PE)					
Voltage regulation		±1%					
Power factor		1.0					
Output frequency	Line mode	±1%/±2%/±4%/±5%/±10% of the rated frequency (Optional)					
	Bat. mode	(50/60±0.1%)Hz					
Transfer time	AC mode to Bat.mode	0ms					
	Inverter to Bypass	0ms					
Output waveform		Pure Sinewave					
Crest factor		3:1					
Harmonic distortion (THDv)		≤2% Linear load ≤5% Non linear load					
Overload	AC mode	Load≤110%: last 60min turn to bypass; ≤125%: last 10min turn to bypass; ≤150%: last 1min turn to bypass; ≥150%: shut down UPS immediately					
	Bat.mode	Load≤110%: last 10min; ≤125%: last 1min; ≤150%: last 5s; ≥150%: shut down UPS immediately					
	Bypass mode	Breaker 2×32A		Breaker 2×50A		Breaker 2×63A	
<b>EFFICIENCY</b>							
Efficiency		up to 93.5%			up to 94.5%		
<b>BATTERY</b>							
Battery voltage	Standard unit	Chassis 1: ±120Vdc (20pcs 9Ah) (20pcs 7Ah·2×20pcs 7/9Ah optional) Chassis 2: ±96Vdc (16pcs 9Ah)		±120Vdc (2×20pcs 9Ah) (2x20pcs 7Ah optional)			
	Long run unit	±96Vdc~±120Vdc (16~20pcs, 16pcs default, Standard unit and 20pcs no power derating; 18pcs output power factor 0.9; 16pcs output power factor 0.8) ±192/204/216/228/240Vdc (32/34/36/38/40pcs supportable)					
Charging current		14A (Max.)	1.35A (2.7A optional)	16A (Max.)	2.7A	18A (Max.)	2.7A
Charging current can be set according to battery capacity							
<b>PHYSICAL</b>							
Dimension W×D×H	Standard unit	Chassis 1: 250×900×868mm Chassis 2: 250×645×715mm		250×900×868mm			
	Long run unit	250×580×655mm					
Net weight	Standard unit	Chassis 1: 125kg (20pcs 9Ah) Chassis 2: 78kg (16pcs 9Ah)		180kg (2×20pcs 9Ah)		181kg (2×20pcs 9Ah)	
	Long run unit	33kg		37kg		38kg	
<b>ENVIRONMENTAL</b>							
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		<55dB at 1 Meter				<58dB at 1 Meter	
<b>STANDARDS</b>							
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)					

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

## TC 10-20kVA battery pack specification

Tower Cabinet	
Model	TM31E TC040120N
<b>BATTERY SYSTEM</b>	
Battery type	VRLA (Lead acid maintenance free battery)
Typical 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	±120Vdc
Battery quantity	2×20 PCS
Capacity	7Ah/9Ah (12V)
<b>PHYSICAL</b>	
Dimension W×D×H	250×619×616mm (With wheel)
Net weight	122kg/134kg
<b>ENVIRONMENT</b>	
Safety	CE
Operating environment	0°C~40°C
Relative humidity	0~95% (Non condensing)
Noise level	<40dB at 1 Meter

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Remark: TM31E TC040120N "TM31E" means series; "TC" means Tower cabinet; "40" means battery number inside the cabinet; "120" means the battery system voltage; "N" means battery with neutral connection.

Tower Cabinet	
Model	TM33E TC080120N
<b>BATTERY SYSTEM</b>	
Battery type	VRLA (Lead acid maintenance free battery)
Typical 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	±120Vdc
Battery quantity	4×20 PCS
Capacity	7Ah/9Ah (12V)
<b>PHYSICAL</b>	
Dimension W×D×H	250×900×868mm (With wheel)
Net weight	244kg/265kg
<b>ENVIRONMENT</b>	
Safety	CE
Operating environment	0°C~40°C
Relative humidity	0~95% (Non condensing)
Noise level	<40dB at 1 Meter

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3. Remark: TM33E TC080120N "TM33E" means series; "TC" means Tower cabinet; "80" means battery number inside the cabinet; "120" means the battery system voltage; "N" means battery with neutral connection

