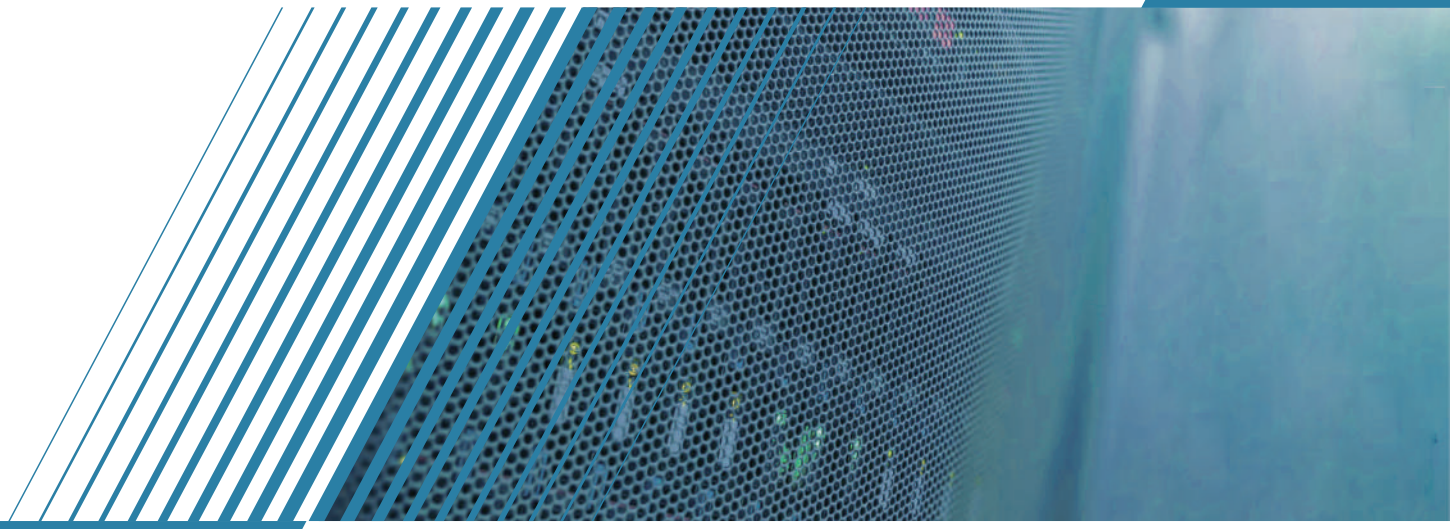
ATENCO POWER TECH CO. LTD



Solutions behind the power

3:3

94.5%
VFI efficiency*

≤3%
Input THDi

110/125/150%
Overload (60/10/1 min)

20-50
DC string range

7″
Touchscreen TFT

4× (N+X)
Parallel Redundancy

Clean Input. High Efficiency.

≤3% input THDi · up to 94.5% VFI efficiency · Unity PF 1.0 · IGBT topology · Parallel up to 4 · VRLA battery

DSP Control · Charger up to 20A · Dual-input optional · EPO & DC start · USB/RS232/RS485 · Generator compatible

Applications

Government · Telecom · Datacenter · Industrial · Transportation · Healthcare · Energy

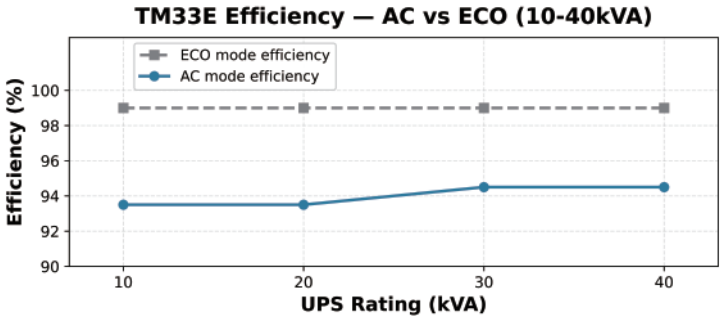
TM33E Series is a three-phase VFI online UPS (10-40kVA) with IGBT topology and DSP control for low input distortion (≤3% THDi) and high efficiency (up to 94.5%).
Parallel-optional up to 4 units with unity PF 1.0, generator-compatible operation, and a 7″ Touchscreen TFT HMI for clear control. Configurable DC strings for precise runtime: 10-30kVA: 16/18/20 blocks (Configurable to 30-50); 40kVA: 30-50 blocks; smart charging up to 20A. Optional dual-input, EPO/DC start, and ECO mode to reduce losses.
Open interfaces—USB/RS232/RS485, dry contacts, intelligent slot (SNMP/relay)—streamline commissioning, monitoring, and diagnostics.

Performance may vary by configuration and environment.

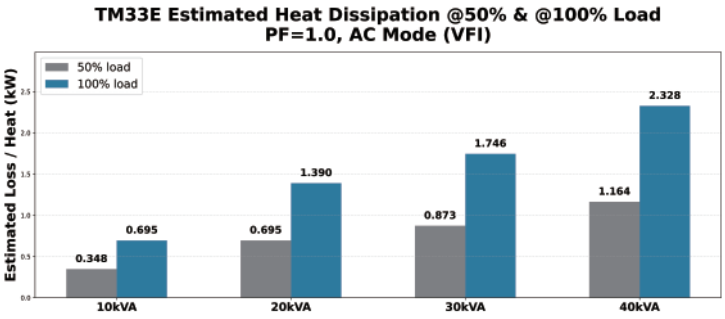
SCAN THE CODE
TO LEARN MORE

TM33E Key Features

- **True online double conversion** with DSP control
- **High efficiency**: ≥93.5% (10–20kVA) / ≥94.5% (30–40kVA); ECO mode up to 99%
- **Output power factor: 1.0** (full kW load support)
- **Input THDi**: ≤3% (100% non-linear load)
- **Parallel redundancy** (N+X): up to 4 units in parallel
- **7" touchscreen** TFT HMI (model-dependent)
- **Self-aging test mode**; automatic event & waveform recording
- **Generator compatible**; DC start function (cold start from battery)
- **Dual input source** (optional): separate input for bypass & rectifier
- **Integrated Emergency Power Off (EPO)**



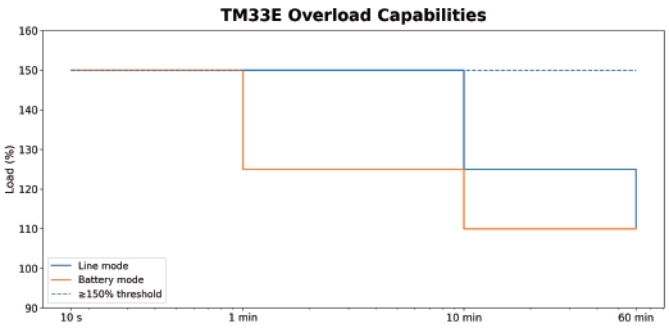
Performance & Power Quality



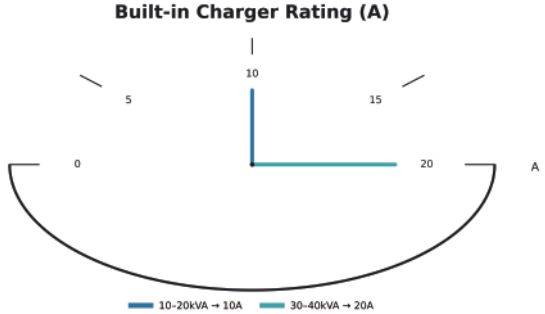
- **Nominal input voltage**: 380/400/415Vac (3PH+N+PE)
- **Operating input voltage range**: 208-478Vac (10-30kVA); 323-478Vac (40kVA)
- **Operating input frequency range**: 45-55Hz @ 50Hz / 54-66Hz @ 60Hz (auto sensing)
- **Input power factor: ≥0.99**
- **Output voltage**: 380/400/415 Vac (3PH+N+PE)
- **Voltage regulation**: ±1%
- **Output frequency**: Line mode sync with input; Battery mode (50/60 ±0.1) Hz
- **Crest factor**: 3:1
- **Output THD**: ≤2% (linear load) / ≤5% (non-linear load)
- **Transfer time**: Utility → Battery: 0 ms; Utility → bypass: 0 ms

Overload Capability

- **Line mode (AC present):**
  ≤110% → **60 min** · ≤125% → **10 min** · ≤150% → **1 min** · **>150%** → overload protection engages.
- **Battery mode (on inverter):**
  ≤110% → **10 min** · ≤125% → **1 min** · ≤150% → **10 s** · **>150%** → immediate protection trip.



Battery Flexibility & Smart Charging

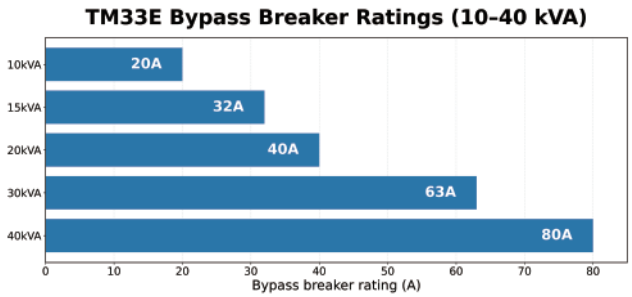


- **Configurable DC strings**: system supports **20-50 blocks** per string.
- **Rating defaults: 10-30kVA → 16/18/20 blocks** (field-configurable up to **30-50**); **40kVA → 30-50 blocks** per string.
- **Fast recharge**: built-in charger **up to 20A** for quicker battery recovery.
- **Extendable runtime**: internal-battery models plus matching **external battery packs (40/60/80 pcs)** to reach target backup time.
- **Battery management**: intelligent control and monitoring to protect batteries and optimize charge/discharge.

Note: Specifications are model-specific. Optionals (e.g., parallel kit, bigger charger, communications cards, accessories) are not supplied by default and vary by SKU/order.
Final deliverables and configurations are defined only by ATENCO's formal quotation and the customer's confirmed model/options.

Protections, Alarms & Bypass

- **Protections**: overload, short-circuit, input surge, fan fault, over-temperature, EPO.
- **Bypass window & sync**: selectable limits **220/230/240 Vac**; frequency-sync tracking **±10%**.
- **Alarm indications**: overload, mains abnormal, UPS fault, battery low, etc.
- **Noise level**: **≤55 dB** (10-30 kVA); **≤58 dB** (40 kVA).
- **Bypass mode breaker rating: 20A (10kVA) / 32A (15kVA) / 40A (20kVA) / 63A (30kVA) / 80A (40kVA).**

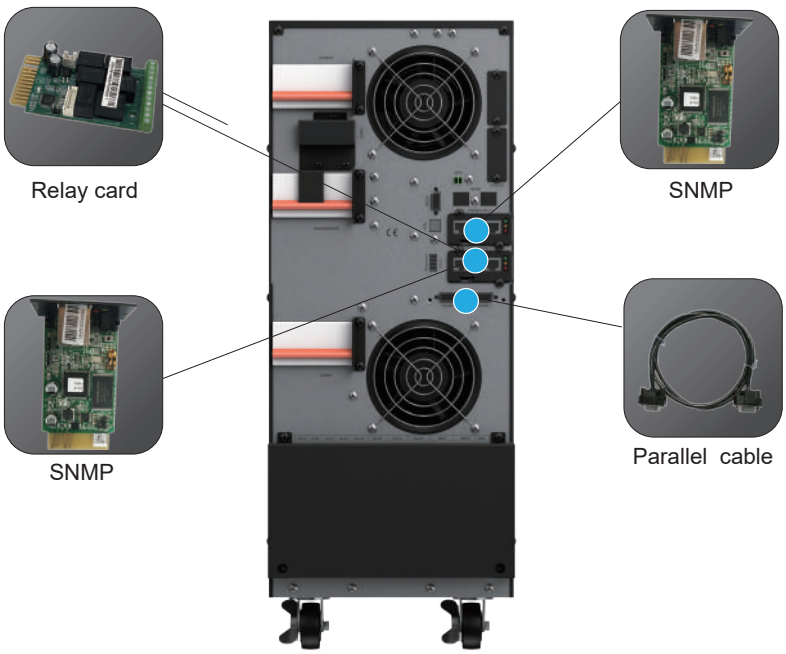


Environmental & Standards

- **Operating temperature**: 0°C-40°C; Storage temperature: -25°-55°C
- **Humidity range**: 0-95% (non-condensing)
- **Altitude**: <1500 m (derating required when >1500 m)
- **Safety**: IEC/EN 62040-1, IEC/EN 60950-1
- **EMC**: IEC/EN 62040-2 (IEC 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8)

Optional Accessories

- **Battery Cabinets**: scalable runtime with 40-80pcs 9Ah/12Ah VRLA blocks
- **SNMP Card (TM550)**: remote monitoring via Ethernet
- **Modbus / RS485 Card**: integration with BMS and SCADA systems
- **External Maintenance Bypass**: safe service without load interruption
- **Temperature Sensor**: dynamic charging adjustment for battery life extension

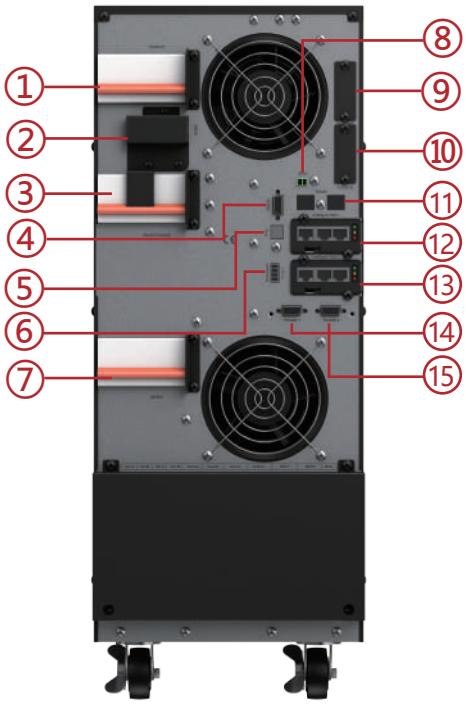


Note: Specifications are model-specific. Optionals (e.g., parallel kit, bigger charger, communications cards, accessories) are not supplied by default and vary by SKU/order.
Final deliverables and configurations are defined only by ATENCO's formal quotation and the customer's confirmed model/options.

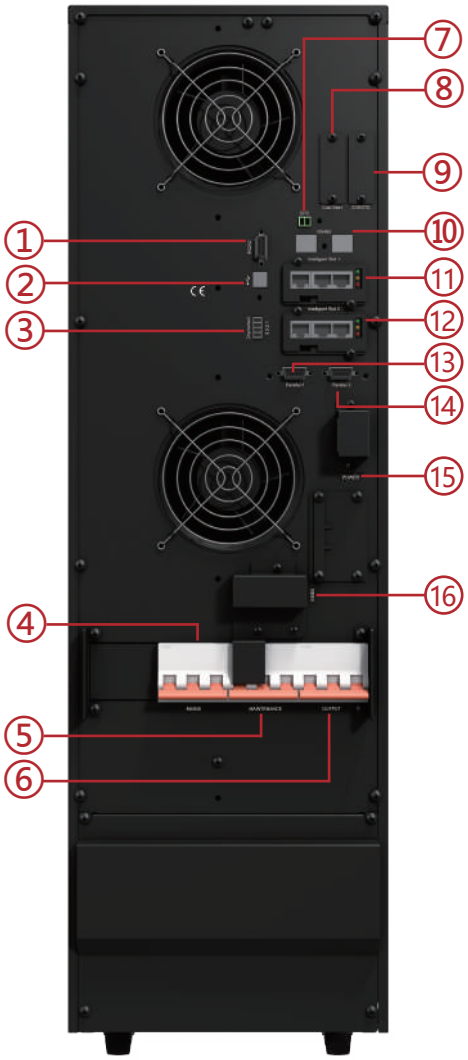
Rear Panel

TM33E 10~40kVA-L

1. Output Switch
2. External Maintenance Bypass Switch
3. Maintenance switch
4. RS232
5. USB port
6. Dry contact port
7. Input & Output terminals
8. EPO port
9. Cold start button
10. EVENTS port
11. RS485 port
12. Intelligent Slot 1 (SNMP card/ Relay card)
13. Intelligent Slot 2 (SNMP card/ Relay card)
14. Parallel port 1
15. Parallel port 2

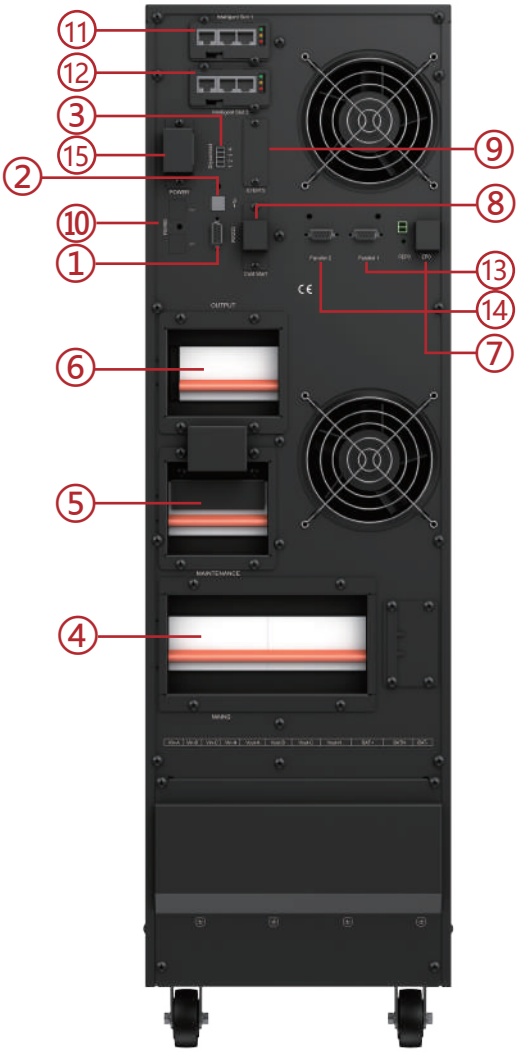


TM33E 10~20kVA-S



1. RS232
2. USB port
3. Dry contact port
4. I/P Switch
5. Maintenance switch
6. Output Switch
7. REPO port
8. Cold start button
9. EVENTS port
10. RS485 port
11. Intelligent Slot 1 (SNMP card/ Relay card)
12. Intelligent Slot 2 (SNMP card/ Relay card)
13. Parallel port 1
14. Parallel port 2
15. Power
16. External Maintenance Bypass Switch

TM33E 30~40kVA-S



TM33E Technical Specifications

ATENCO POWER TECH CO. LTD

		TM33E Series				
Model		**TM33E-10kVA-L TM33E-10kVA-S**	**TM33E-15kVA-L TM33E-15kVA-S**	**TM33E-20kVA-L TM33E-20kVA-S**	**TM33E-30kVA-L TM33E-30kVA-S**	**TM33E-40kVA-L TM33E-40kVA-S**
Capacity		10kVA/ 10kW	15kVA/ 15kW	20kVA / 20kW	30kVA/ 30kW	40kVA/40kW
INPUT						
Nominal voltage		380/400/415Vac (3PH+N+PE)				
Operating voltage range		208~478Vac				323~478Vac
Operating frequency range		45-55Hz at 50Hz/54-66Hz at 60Hz (auto sensing)				
Power factor		≥0.99				
Harmonic distortion (THDi)		≤3% (100% non-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 −20%, −30%) Frequency synchronize tracing range:±10%				
Generator input		Support				
OUTPUT						
Output voltage		380/400/415Vac (3Ph+N+PE)				
Voltage regulation		±1%				
Power factor		1				
Output frequency		Line Mode: synchronize with input; when input frequency＞±10%(±1%/±2%/±4%/±5% optional), output (50/60±0.1)Hz Battery Mode: (50/60±0.1)Hz				
Crest factor		3:1				
Harmonic distortion (THD)		≤2% with linear load ≤5% with non linear load				
Efficiency		≥93.5%		≥94.5%		
SYSTEM FEATURES						
Transfer time		Utility to Battery: 0ms; Utility to bypass: 0ms				
Overload	Line Mode	Load≤110%: last 60min, ≤125%: last 10min, ≤150%: last 1min, ≥150% to bypass				
	Bat. Mode	Load≤110%: last 10min, ≤125%: last 1 min, ≤150%: last 10S, ≥150% shut down UPS immediately				
	Bypass Mode	Breaker 20A	Breaker 32A	Breaker 40A	Breaker 63A	Breaker 80A
Alarm		overload, utility abnormal, UPS fault, battery low, etc.				
Protection		short circuit, overload, over temperature, battery low, fan fault alarm				
Communication		USB, RS485, Parallel port, Coupler dry contact, Intelligent slot, SNMP card (optional), Relay card (optional)				
ENVIRONMENTAL						
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			＜58dB	
STANDARDS						
Safety		IEC/EN 62040-1, IEC/EN 60950-1				
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)				

Nomenclature: TM33E–[kVA]–[S/L] — TM: Tower-mount; 33: 3-phase in/3-phase out; [kVA]: UPS rating; S: with internal battery model; L: external-battery only (no space for internal battery).

Disclaimer: Products are continuously improved and updated. As a result, actual product specifications may differ from promotional or technical materials due to asynchronous revisions. This document is provided for reference only and does not constitute an offer, warranty, or commitment.

TM33E Technical Specifications

	Standard Unit				
Model	**TM33E-10kVA-S**	**TM33E-15kVA-S**	**TM33E-20kVA-S**	**TM33E-30kVA-S**	**TM33E-40kVA-S**
Weight	95kgs	147kgs		225kgs	
Dimension W*H*D(mm)	250*868*900				
Battery DC Voltage	+/-120Vdc**				+/- 180Vdc
Built-in Charger	default 1.35A (Up to 10A)	default 2.7A (Up to 10A)		default 4A (Up to 20A)	default 2.7A (Up to 20A)
Built-in Battery Quantity	20pcs 12V/9AH(Max. 40pcs)	40pcs 12V/9AH		60pcs 12V/9AH	

	Long Backup Unit				
Model	**TM33E-10kVA-L**	**TM33E-15kVA-L**	**TM33E-20kVA-L**	**TM33E-30kVA-L**	**TM33E-40kVA-L**
Weight	42kgs	45kgs		66kgs	73kgs
Dimension W*H*D(mm)	250*868*900				
Battery DC Voltage	+/-96V / +/-108V / +/-120V				+/- 192V / +/- 204V / +/-216V / +/-228V / +/-240V
Built-in Charger	10A			20A	
Built-in Battery Quantity	N/A				

	Matching Battery Pack
Model	**TC080120N / TC080120N-B**
Weight	243kgs
Dimension W*H*D(mm)	250*868*900
Built-in Battery Quantity	80pcs 12V/9AH

Model remark: TC080120N-B: "TC" means Tower cabinet; "80" means battery number inside the cabinet; "120" means the battery system voltage; "N" means battery with neutral connection; "B" means the cabinet with internal battery.

Disclaimer: Products are continuously improved and updated. As a result, actual product specifications may differ from promotional or technical materials due to asynchronous revisions. This document is provided for reference only and does not constitute an offer, warranty, or commitment.

ATENCO POWER TECH CO. LTD

2 F.-7, No. 14, Xiwei St., Sanchong Dist., New Taipei City 241707, Taiwan
TEL：+886-2-2280-6939 info@atenco.com.tw
FAX：+886-2-2290-2939 www.atenco.com.tw